



# 67<sup>th</sup> PHILIPPINE ORTHOPAEDIC ASSOCIATION ANNUAL CONGRESS

Combined with:



2nd Paediatric Orthopaedic Society of North America (POSNA) - POA Course

16-19 November 2016

EDSA Shangri-La Hotel, Mandaluyong City, Philippines



POA @67: Reaching Out and Forging Bonds Worldwide

SOUVENIR PROGRAM



# POA 67th Annual Congress Souvenir Program

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## **PRESIDENT**

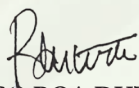
My warmest greetings to the Philippine Orthopaedic Association, Inc. as you hold your 67th Annual Congress.

Human flesh and bones play an indispensable role in all our activities, especially in the field of sports, performing arts, and other endeavors that require physical exertion. With our strong aspiration and constant perseverance, we have accomplished astonishing feats and deeds that left marks in our history.

I would like to commend the people behind this event, especially the members and officers of the Philippine Orthopaedic Association, for bringing new ideas that promote best practices and state of the art medical services. I laud you for keeping yourselves abreast with the latest developments in the field of orthopaedics that will help our people recover from their injuries, realize their potential, and reach their optimum capacity.

Let us rise up and stand side by side in ensuring the well-being and wellness of our people. Together, we can nurture strong nation builders who will pave the way towards sustainable progress and prosperity for the benefit of our country.

I wish you success in all your future endeavors.

  
**RODRIGO ROA DUTERTE**  
President  
Republic of the Philippines



## SECRETARY

My warmest greetings to the Philippine Orthopaedic Association (POA), Inc. as it holds its 67th Annual Congress.

With the passing of every year, the Philippine Orthopaedic Association has remained to be at the forefront of Orthopedic Surgery in the country. Being the only recognized umbrella organization of duly certified Filipino orthopedic surgeons, I have remained cognizant of your sustained efforts to maintain unity, harmony and focus amongst all your members who are representative of virtually every possible province, city, municipality and barangay in the Philippines.

Let us support the culture of change for the better as espoused by our President. Let us renew our efforts and strive even harder to give the Filipino people the best quality healthcare they deserve, with the Philippine Orthopedic Association creating better means for accessing Orthopedic care in the country, regardless of whether this comes from either a government or a private institution.

The values of integrity, excellence and compassion are aligned with the values espoused by the health sector, particularly the Department of Health. With this, I wish all the participants and organizers a fruitful day ahead. Let us continue to work together for our shared vision of "ALL for Health towards Health for ALL."

Congratulations and Mabuhay!

A handwritten signature in black ink that reads "Paulyne Rosell-Ubial".

**PAULYN JEAN B. ROSELL-UBIAL, MD, MPH, CESO II**  
Secretary  
Department of Health





## PRESIDENT

Warm greetings from the Philippine Medical Association!

**I**t delights me to know that the Philippine Orthopaedic Association, Inc. will be holding its 67th Annual Congress on November 16 to 19, 2016 at the EDSA Shangri-La Hotel with the theme entitled: “Fusing Knowledge and Technology to Address Orthopaedic Challenge”.

Your chosen theme aptly expresses your collective desire to continually improve on the technical and cognitive skills of members in your field of specialization as you pursue excellence and better health outcomes in orthopedic care. It delights me to know that the Board of Trustees of the Philippine Orthopaedic Association invited me to join your prestigious organization during the opening ceremonies. In closing, I would like, therefore, to congratulate the organizers for crafting a program of scientific activities and topics consistent with your chosen theme and for the successful realization of this year’s conference which promises to be enriching and memorable to everyone.

On behalf of the Philippine Medical Association, I would like to express, once more, my warmest regards and best wishes to the Organizers, Board of Trustees and members of the Philippine Orthopaedic Association!

**IRINEO C. BERNARDO III, M.D.**  
President  
Philippine Medical Association



## PRESIDENT

**T**he Board of Regents of the Philippine College of Surgeons join you in your celebration as we extend our warmest felicitations to the Officers, Fellows, surgeons-in-training and guests of the Philippine Orthopaedic Association on the occasion of your 67th Annual Congress on November 16-19, 2016 at the Edsa Shangri-La Hotel in Mandaluyong City. The theme “Fusing Knowledge and Technology to Address Orthopaedic Challenges” is a positive step towards aligning with our efforts to the realization of our shared Key Result Area (KRA) on Surgical Education / Training/ Research through robust continuing professional development programs.

I congratulate you for designing a program aimed at a levelled-up, state-of-the-art, cutting edge surgical practice and innovations towards a patient-centered, systems-based surgical care. Cognizant of the credibility and quality of your residency training programs, this activity will further guarantee evidence and outcome-based education and training of national and international standards. Kudos to the Organizers, the Officers and Fellows of the Philippine Orthopaedic Association!

Mabuhay and may you have an enriching and fruitful convention!

**GABRIEL L. MARTINEZ, MD, FPCS**  
President  
Philippine College of Surgeons



Republic of the Philippines  
City of Mandaluyong

## CITY MAYOR

When it comes to health and nutrition, I am certain about what is best for my constituents. It is an aspect truly closest to my heart. Certainly as it is being perceived to be one of my priority agenda, putting premiums to health is an essential component for a more progressive city.

Parallel to the same mission established by the **Philippine Orthopaedic Association, Incorporated**, I am enthused to be at one with the men and women who have devoted their expertise for the prevention, correction and treatment of injuries or disorders involving the skeletal system, associated muscles, joints and ligaments. The commence of the **67th Annual Congress** of the association will once again bring newest trends and innovations in the field, more particularly, raising the level of excellence in terms of treatment and prevention.

With the theme **"Fusing Knowledge and Technology to Address Orthopaedic Challenge,"** the event will surely establish another milestone in the development and enhancement of the field amidst the modern times.


Complacency has no room if we seek for excellence. Raising the bar in achieving quality performance at any endeavour, one has to take in to consideration the underlying factors that would contribute to the development of a certain field. Technology and the fast changing time have to be incorporated as essentials to this goal.

Not far from the fields of public service, giving the best and the pressing needs of our constituents shall be deemed urgent and no exceptions. Reinvention of thrust and incorporation of transparency and efficient delivery of public services have to be institutionalized as part of our vocation being a public servant.

I laud the men and women of the Philippine Orthopaedic Association for being one with us in the promotion of excellence and efficiency as we dire to take the broadest definition of development as a by-product of our mission to better serve the public most.

To all of you, may this congress bring you the much needed innovations worthy of your profession that saves and prevents our people from the pains of injuries and complications.

Mabuhay and God Bless.

  
CARMELITA A. ABALOS  
City Mayor





## PRESIDENT


**T**his year POA holds its 67th Annual Congress with the theme “Fusing Knowledge and Technology to Address Orthopaedic Challenges”. This theme recognizes the importance of combining basic and cutting-edge knowledge with new technology to develop innovative solutions that will effectively address the challenges of modern orthopaedic care.

The scientific session will deal with timely topics and latest advances in orthopaedics. Our Faculty includes world renowned local and foreign speakers. I thank them in advance for selflessly sharing their time, knowledge and expertise. The Social Program will enable the attendees to enjoy the vim and vigor of Manila, experience first-hand the inimitable Filipino hospitality and taste the pleasurable flavors of Filipino cuisine. All these will surely make the congress a truly memorable event for the attendees.

I thank Dr. Paul San Pedro, the Overall Chairman of the Organizing Committee, and his team for all their hard work that eventually produced an exciting and exceptional 67th POA Annual Congress. I gratefully acknowledge our Industry Partners for their support in spite of the new regulations brought forth by the implementation of the Mexico City and Kuala Lumpur Principles for Voluntary Codes of Ethics. It is this unwavering support that fuels the advancement of orthopaedic science and practice in the Philippines. I enjoy you to visit their booths at the Exhibition Hall.

Finally, I ardently thank you, my dear POA colleagues, for your presence, for your contributions and undying commitment to POA and our annual congress.

WELCOME TO MANILA, WELCOME TO POA, WELCOME TO OUR HEARTS!

  
**JULYN A. AGUILAR, MD, MHA, FPCS, FPOA**  
President  
Philippine Orthopaedic Association, Inc



## OVERALL CHAIRMAN

**O**n behalf of the Organizing Committee, I am honored to welcome you all to our 67th Annual Congress here at the EDSA Shangri-la Hotel, Mandaluyong City, Philippines from Nov. 16 to 19, 2016. This Congress is the Philippines' largest annual event devoted to the science and practice of Orthopaedics.

The theme "Fusing Knowledge and Technology to Address Orthopaedic Challenges" aptly describes what this meeting is all about - delegates will get to take a grasp of what the current technology and practices are in the orthopedic community which will be delivered mostly by our young and energetic local and international faculties.

This Congress is combined with the Paediatric Orthopaedic Society of North America, for which Dr. Julyn A. Aguilar, our President, painstakingly made it into fruition - a sequel to the 1st POA-POSNA Course held last Nov. 9-14, 2009. You will be expecting extensive paediatric sessions starting on the third day. Recognition also goes to subspecialty societies and AO Trauma Philippines for their participation in the plenary and instructional course lectures.

The Association also conveys its utmost gratitude to all the pharmaceutical industries, medical equipment and implant companies for their support for this annual activity. We do hope that this meeting will benefit everyone and that the delegates take home newly acquired knowledge, skills, acquaintances and a lot more.

Mabuhay!

**PAUL CESAR N. SAN PEDRO, MD, FPOA**  
Overall Chairman  
67th POA Annual Congress



Republic of the Philippines  
Department of Health  
**OFFICE OF THE SECRETARY**

07 July 2016

**DEPARTMENT CIRCULAR**

No. 2016 - 0181

**FOR: ALL UNDERSECRETARIES, ASSISTANT SECRETARIES; DIRECTORS OF BUREAUS, DOH-REGIONAL OFFICES, SERVICES AND SPECIALTY HOSPITALS; CHIEFS OF RETAINED HOSPITALS.**

**SUBJECT: 67<sup>th</sup> Annual Congress of the Philippine Orthopaedic Association, Inc. on November 16-19, 2016 at Edsa Shangri-la Hotel, Mandaluyong City.**

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The Philippine Orthopaedic Association, Inc. will hold its 67<sup>th</sup> Annual Congress on November 16-19, 2016 at Edsa Shangri-la Hotel, Mandaluyong City with the theme "Fusing Knowledge & Technology to Address Orthopaedic Challenge".

Attendance of concerned DOH employees to the said activity shall be on **Official Time**, and at no expense to the government except salaries.

All other transactions shall be in accordance with Department Order 2007-0053 "Guidelines on the Attendance to Conventions/Seminars/Conference and Similar Human Resource Development Activities Outside of the Department of Health" and "DO 2014-0094 Guidelines on the Allowable Rates of Payment for Human Resource Development Activities".

Attached is the letter of invitation with other details for your ready reference.

Dissemination of the information to all concerned is requested.

By Authority of the Secretary of Health:

**KENNETH G. RONQUILLO, MD, MPH, CESO III**  
Director IV, HHRDB  
Officer-in-Charge, Assistant Secretary  
Office for Policy and Health Systems

emr-POA-06-251



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Vice - President: Emmanuel P. Estrella, MD  
Secretary: Nathaniel S. Orillaza, Jr., MD  
Treasurer: John Hubert C. Pua, MD

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Vice - President: Emilia H. Tanchuling, MD  
Secretary: Janis Ann E. De Vera, MD  
Treasurer: Pamela Ann C. Ah, MD



POA 67th Annual Congress

# INDUCTEES



## New Fellows



**DEXTER G. ANTONIO, MD**  
JRRMMC



**ALVIN WESLEY A.  
ASISTORES, MD**  
POC



**JIMI C. BACLAYON, MD**  
CHH



**PEIMON B. BADIEE, MD**  
POC



**CARMELO C. BARCELONA,**  
MD  
POC



**MARK PHILIP B. BESA, MD**  
POC



**FRANSSEN A. BONDOC, MD**  
SLMC



**ADRIAN AMIEL T. BURGOS,**  
MD  
AFPMC



**BRIAN P.  
DORMITORIO, MD**  
UPPGH

## New Fellows



**TEOFREDO OLIVEROS C.  
ESPEJON, MD  
POC**



**MARK ANGELO P.  
FERNANDEZ, MD  
VSMC**



**LEONELL R. GARCIA, MD  
AFPMC**



**JONATHAN P. GASPAR, MD  
POC**



**CORNELIUS P. JOVER, MD  
POC**



**JEREMY JAMES C. MUNJI,  
MD  
UST**



**GILBERT L. OLA, MD  
POC**



**JULIUS G. PALLERA, MD  
DLSUMC**



**HUBERT R. PAULINO, MD  
POC**



## New Fellows



**L.IAN I. REGALADO, MD**  
TMC



**MAMER S. ROSARIO, MD**  
EAMC



**DONNEL ALEXIS T. RUBIO, MD**  
UPPGH



**ROBERTITO PAOLO B. SINDIONG, MD**  
POC



**PETER ALBERT B. SYSON, MD**  
POC



**CONSUELO AMPARO G. DE VERA, MD**  
TMC



**KENNETH ALEXIS M. YAP, MD**  
VSMCM



**GERONIMO D. YU, MD**  
VSMCM



## PROGRAM AT-A-GLANCE

TIME	NOV 16, [Wednesday]	NOV 17, [Thursday]	NOV 18, [Friday]	NOV 19, [Saturday]
0700				Plenary Session: Paediatrics (POSNA/POA Course)
0730	ICL 1: Trauma	ICL 4: Ilizarov		
	ICL 2: Foot & Ankle	ICL 5: Tumor		
0800	ICL 3: Sports Medicine]	ICL 6: Hand		
0830			Plenary Session: Paediatrics (POSNA/POA Course)	
0900	Special Plenary Lecture: Shoulder Ultrasound	Special Plenary Lecture: Robotic THA/TKA		AHSP Splinting Workshop
0930		Plenary Session: Infections		
1000				
1030			Mini Sympo (Cathay)	Ponsati Workshop
1100	Plenary Session: Shoulder	Mini Sympo (MSD)	Plenary Session: Paediatrics (POSNA/POA Course)	
1130				
1200		PBO Annual Meeting Special Plenary Lecture: Diagnostic Ultrasound		
1230	Lunch Sympo: Pain Management	Lunch Sympo: Fitness Quotient	Lunch Sympo: Wound Care	
0100				Closing Ceremony
0130	ADA Education Committee Meeting			
0200	Plenary Session: Hip & Knee	POA Annual Business Meeting	Ultrasound Imaging Workshop/ Free Paper Session/ PBO Free paper	Plenary Session: Paediatrics (POSNA/POA Course)
0230				
0300				
0330				
0400				
0430				
0500				
0530		Fitness Quotient Activities		
0600	Opening Ceremony			
0630				
0700		President's Night/ Alumni Night	Congress Banquet	
0730				
0930	Fellowship Night			
1000				
1030				

# PROGRAMME OF ACTIVITIES

NOVEMBER 16 (Wednesday)

## INSTRUCTIONAL COURSE LECTURES (ICL)

**ICL1: Complex Elbow Fractures** (Philippine Orthopaedic Trauma Society) [Batanes]

*Moderator: Joseph L. Lai*

- 7:00 – 7:45 Distal Humerus (MAG Belen)
- 7:45 – 8:30 Fracture Dislocation (NB Carilo)

**ICL2: Philippine Orthopaedic Foot & Ankle Society** [Mactan]

*Moderators: Roberto Gabriel L. Lopez/Jose Carlos C. Estil Jr.*

- 7:00 – 7:15 Flatfoot Treatment with Tendon Transfers (CAV Borbon)
- 7:15 – 7:30 FHL Transfer for Chronic Achilles Tears (JRB Paz)
- 7:30 – 7:45 Tendon Transfers for Dorsiflexion Paralysis (FA Acance)
- 7:45 – 8:00 Tendon Transfers for Club Foot Disorders (ACD Decenteceo)
- 8:00 – 8:30 Open Forum

**ICL3: Philippine Orthopaedic Society for Sports Medicine** [Kamia]

*Moderators: Drs. Janis Ann Espino-de Vera/Marc Anthony L. Castro*

- 7:00 – 7:15 Pediatric Knee Anatomy (RP Flores)
- 7:15 – 7:30 Current Concepts in Pediatric Sports Ligamentous Injuries (AD Villarico)
- 7:30 – 7:45 Ligament Reconstruction in the Pediatric Knee (CL Braganza)
- 7:45 – 8:00 Patellofemoral Syndromes in Pediatric Patients (DA Monicit)
- 8:00 – 8:15 MPL Reconstruction Using the Quadriceps Tendon (ELC Pasion)
- 8:15 – 8:30 Open Forum

## SPECIAL PLENARY LECTURE I:

*Moderator: Robert Y. Chan*

- 8:30 – 8:50 Ultrasound for Shoulder Pathologies: How Useful Is It For Orthopaedic Surgeons? (JA Bouffard)

**PLENARY SESSION I: Shoulder (Philippine Shoulder Society)** [Isla Ballroom]

*Moderator: Alberto Ma V. Molano*

- 9:00 – 9:15 Shoulder Trauma (PM Dizon)
- 9:15 – 9:30 Clavicular Injuries (JCS Paredes)
- 9:30 – 9:45 AC Joint Injuries (CAV Borbon)
- 9:45 – 10:00 Open Forum (working coffee break)

*Moderator: Orson V. Odulio*

- 10:00–10:15 Proximal Humerus Fractures, 3 & 4 Part (JC Ronquillo)
- 10:15–10:35 Anatomical Shoulder Replacement for Fractures (JH Oh)

10:35–10:55 Reverse Total Shoulder Replacement for Fractures (JH Oh)  
 10:55–11:10 Open Forum

*Moderator: Randolph M. Molo*

11:10-11:25 Shoulder Instability (RY Nuñez)  
 11:25-11:40 Traumatic Rotator Cuff Tears (JH Oh)  
 11:40-12:00 Open Forum

## LUNCH SYMPOSIUM I [Isla Ballroom]

*Moderator: Dr. Geoffrey R. Battad*

12:00–1:00 New Perspectives on Pain Management in Orthopaedics (L Kwong)

9:00 – 3:00 **ASEAN Orthopaedic Association Education Committee Meeting**  
 [Kamia]

## PLENARY SESSION II: Hip & Knee (Philippine Hip & Knee Society) [Isla Ballroom]

*Moderators: Raymond Alvin J. Kokseng, Jr./Jose Carlos C. Estil, Jr.*

1:15-1:30 Platelet Rich Plasma (PRP) in the Management of Knee Osteoarthritis  
 (ALR Raymundo)  
 1:30-1:45 Chondral Scaffold Use in Articular Cartilage Regeneration  
 (HR Valenzuela, Jr.)  
 1:45-2:00 Periprosthetic Joint Infection: Establishing Diagnosis Early and  
 Accurately (NT Paner)  
 2:00-2:15 Strategies for Revision Surgery after PJI: Dealing with Bone Loss and  
 Implant Selection (AGJ Tabberrah)  
 2:15-2:30 Outpatient Total Knee Replacement: How and when is it possible?  
 (C Mow)  
 2:30-2:45 Short Stay Total Knee Replacement: What is the Standard of Care?  
 (JFC Syquia)  
 2:45-3:15 Open Forum, PHKS Anniversary Presentation

5:00 PM **OPENING CEREMONY** [Isla Ballroom]

7:30 PM **FELLOWSHIP NIGHT** [Isla Ballroom]

1:30 – 4:00 **Residents Research Forum** [Mactan]

1:30 – 4:00 **Paediatric Orthopaedic Society of The Philippines (POSP)**  
**Interesting Case Presentation** [Batanes]

3:30 – 4:00 **Orientation of New Fellows** [Kamia]



## NOVEMBER 17 (Thursday)

### **ICL 4: Association for the Study and Application of the Methods of Ilizarov: Limb Deformity Evaluation and Management** [Kamia]

*Moderator: Frederick Patrick I. Nicomedez*

- 7:30-7:50 Defining the Axes of the Lower Extremity (GCE Balce)
- 7:50-8:10 Principles of Deformity Correction (DV Dungca)
- 8:10-8:30 Clinical Applications of Deformity Principles (JS Javier)

### **ICL 5: Giant Cell Tumor - Philippine Musculoskeletal Tumor Society** [Mactan]

*Moderator: Marie Jeanne L. Bertol*

- 7:00 – 7:15 Introduction/Clinicoradiologic Features/Diagnosis (CD Dimayuga)
- 7:15 – 7:30 Medical management (JVM Akol)
- 7:30 – 7:45 Surgical management (RS Claudio)
- 8:00 – 8:15 Pitfalls (EHM Wang)
- 8:15 – 8:30 Case presentation

### **ICL 6: Association of Hand Surgeons of the Philippines** [Batanes]

*Moderators: Henry M. Calleja/Justiniano B. Bai*

- 7:00 – 7:30 Acute Hand Infections: Are We Treating It Right? (E Brito)
- 7:30 – 8:00 Tuberculosis of the Hand: Should We Be Alarmed? (LD Detoyato)
- 8:00 – 8:30 Tropical Diabetic Hand Syndrome: Fact or Fiction? (EY Lee)

### **SPECIAL PLENARY LECTURE II** [Isla Ballroom]

*Moderator: Jose Antonio G. San Juan*

- 8:30- 8:45 Robotic Assisted THA/TKA: Is It the Future? (CS Mow)

### **PLENARY SESSION III: Musculoskeletal Infections: Challenges & Innovations**

[Isla Ballroom]

*Moderator: Edward A. Sarrosa/Ma. Adelwisa G. Belen*

- 8:45-9:00 Diagnostic Procedures for Musculoskeletal Infections: State of the Art (D Taneja)
- 9:00-9:15 Strategies to Avoid SSI and Best Practice Management (M To)
- 9:15-9:30 Antibiotic Stewardship in Orthopaedics (M To)
- 9:30-9:45 Ultrasound Imaging in Orthopaedic Infections (JA Bouffard)
- 9:45-10:00 Open Forum

### 10:00-10:30 **Mini-Symposium I (MSD)**

Post-Fracture Osteoporosis Care: the Pahrmaco - Preventive Role of Alendronate in Fragility Fractures (AC Cañete)

*Moderators: Jonathan C. Ronquillo/Juan Carlos S. Paredes*

- 10:30-10:45 Infection after Fracture Fixation (M To)
- 10:45-11:00 Treatment Algorithm for PJI: Current Recommendations (CS Mow)
- 11:00-11:15 Osteomyelitis: Dealing with Emerging and Resistant Pathogens (RO Estrada)
- 11:15-11:30 The Masquelet Technique for Tibial Defects (M To)

## SPECIAL PLENARY LECTURE III

*Moderators: Jonathan C. Ronquillo/Juan Carlos S. Paredes*

- 11:30-11:50 Diagnostic Ultrasound and Ultrasound Guided Intervention in Orthopaedics (JA Bouffard)
- 11:50-12:00 Open Forum

12:15 – 1:15 **LUNCH SYMPOSIUM II: Fitness Quotient** (EMT Eufemio)  
[Isla Ballroom]

*Moderator: Victor Felix S. Gaddi*

9:00 – 12:00 **PBO Annual Meeting with Training Programs** [Kamia]

1:30 – 4:00 **POA Annual Business Meeting** [Isla Ballroom]

4:00 **Fitness Quotient Activities** [Marquee]

7:00 **PRESIDENT'S NIGHT** (by invitation only) [Kamia]  
**ALUMNI NIGHT**

## NOVEMBER 18 (Friday)

### PLENARY SESSION IV: Paediatric Orthopaedics (POSNA/POA Course)

[Isla Ballroom]

*Moderators: Leopoldo J. Jiao III/Bobby Ng*

- 7:30-7:50 Blount's Disease: Pathology, Evaluation and Treatment for Langenskiold I-III (S Ibrahim)
- 7:50-8:05 Management of Langenskiold IV-VI Blount's: Treatment Strategies (R Brar)
- 8:05:8:20 Guided Growth for Angular Deformities (R Brar)
- 8:20-8:30 Open Forum

*Moderators: Deven Taneja/Reggie A. Torredes*

8:30-8:50 Acute Osteomyelitis in Children: Diagnosis, Imaging & Current Concepts of Treatment (C Carter)

8:50-9:10 Septic Arthritis of the Hip: Diagnosis, Imaging and Current Concepts of Treatment (R Brar)



# PROGRAMME OF ACTIVITIES

- 9:10-9:25 Osteoarticular TB: Diagnosis and Management (A Aroojis)  
9:25-10:00 Open Forum and Interactive Case Discussion (All Session Faculty)

- 10:00-10:30 **MINI-SYMPOSIUM (Cathay Drug)**  
Alendronate in Osteoporosis (P Bernardo)

*Moderators: Vicente R. Gomez/Frederick Patrick I. Nicomedez*

- 10:30-10:45 Slipped Capital Femoral Epiphysis: Diagnosis, Imaging & Assessment (A Mahadev)  
10:45-11:05 SCFE: Overview of Management (V Upasani)  
11:05-11:20 Dunn Procedure via Anterior Approach for Severe Unreducible SCFE (J Aguilar)  
11:20-11:30 Open Forum

*Moderators: Vicente R. Gomez/Frederick Patrick I. Nicomedez*

- 11:30-11:45 Stem Cells in Paediatric Orthopaedics: How Far Have We Gone? (EH Lee)  
11:45-12:00 Orthopaedic Manifestations of Non-Accidental Injuries: How Not To Miss It (A Mahadev)  
12:00-12:15 Open Forum

- 12:15-1:15 **LUNCH SYMPOSIUM II**  
Wound Care and Diabetic Limb Center : Butuan Orthopedic Institute Experience (JA Asuncion/JO Quiambao)  
Deconstructing NPWT - from basic science to clinical practice (A Ramadhinara)

## **PLENARY SESSIION V: Paediatric Orthopaedics (POSNA/POA COURSE)**

[Isla Ballroom]

*Moderators: Alaric Aroojis/Cirilo R. Tacata, Jr.*

- 1:30-1:45 LCPD: Evaluation, Imaging, Etiology and Stages (A Mahadev)  
1:45-2:00 Non-Surgical Management of LCPD: The Role of Bracing (V Upasani)  
2:00-2:15 Femur and Pelvic Osteotomies for LCPD (V Upasani)  
2:15-2:30 Medial Soft Tissue Releases for LCPD: The MAP Procedure (J Aguilar)  
2:30-2:45 Hip Joint Distraction Treatment for LCPD (B Ng)  
2:45-3:00 Open Forum

*Moderators: Sharaf Ibrahim/ Saw Aik*

- 3:00-3:15 Overview of DDH Management: What the Current Evidence Says (EH Lee)
- 3:15-3:35 Pelvic Osteotomies for Acetabular Dysplasia: How to Choose the Proper Osteotomy (A Aroojis)
- 3:35-3:50 Bernesse PAO: Indications and Technique (V. Upasani)
- 3:50-4:00 Open Forum (with working Coffee Break)

*Moderators: Ma. Josephine B. De Peralta/Leopoldo J. Jiao III*

- 4:00-4:15 Ponseti Casting in Older Children: Tips and Tricks (J Aguilar)
- 4:15-4:30 Ponseti Casting for Syndromic Clubfoot: How Different is It? (C Sabatini)
- 4:30-4:45 Casting for Congenital Vertical Talus: Concept and Technique (C Sabatini)
- 4:45-5:00 Open Forum

7:00 **Congress Banquet** [Isla Ballroom]

- 1:30-5:30 **Ultrasound Imaging Workshop (Philippine Society of Musculoskeletal Ultrasonology)** [Batanes]  
(JA Bouffard)
- 1:30-5:30 **Free Paper Session** [Mactan]
- 1:30-5:30 **PBO Residents' Free Paper Session** [Kamia]

## NOVEMBER 19 (Saturday)

### PLENARY SESSION VI: Paediatric Orthopaedics (POSNA/POA COURSE)

[Isla 1 & 2]

*Moderators: Reggie A. Torredes/Jesse James F. Exaltacion*

- 7:30-7:45 Flexible IM Nailing for Lower Extremity Fractures: Indications & Technique (A Aroojis)
- 7:45-8:00 Flexible IM Nailing for Forearm Fractures: Indications & Technique (C Carter)
- 8:00-8:15 Supracondylar Fractures in Children: Tips, Tricks and Pitfalls (C Sabatini)
- 8:15-8:30 Growth Plate Injuries: Evaluation and Treatment Updates (EH Lee)
- 8:30-8:40 Open Forum



# PROGRAMME OF ACTIVITIES

*Moderators: Jean Pierre F. Leung/Fidelis Mari L. Amparo*

- 8:40-8:55 Intra-Articular Elbow Fractures: Dilemmas in Diagnosis and Management (C Carter)
- 8:55-9:10 Monteggia Fracture-Dislocation: Assessment and Management (C Sabatini)
- 9:10-9:25 Neglected Lateral Condyle Fracture: Treatment Options (VR Gomez)
- 9:25-9:40 Femoral Neck Fractures in Children : Avoiding Treatment Complications (B Ng)
- 9:40-10:15 Open Forum and Interactive Case Discussion (All Session Faculty)

## **PLENARY SESSION VI: Paediatric Orthopaedics (POSNA/POA COURSE) [Mactan]**

- 10:15-10:30 Common Ankle Injuries in Children: Evaluation & Overview of Management (S Aik)
- 10:30-10:45 Advanced Imaging of Orthopaedic Injuries in Children (R Joson)
- 10:45-11:00 Open Forum

## **PLENARY SESSION VI: Geriatric Orthopaedics (AO TRAUMA Philippines)**

[Isla 1 &2]

*Moderator: Dr. William T. Lavadia*

- 10:15-10:30 Geriatric Proximal Humeral Fractures: Piece by Piece Repair? (M Richardson)
- 10:30-10:45 Humeral Shaft Fractures: Yes, MIPO Works! (PY Baclig)
- 10:45-11:00 Geriatric Distal Radial Fractures: Forget Fixation, Focus on Function! (M Richardson)
- 11:00-11:15 Open Forum
- 11:15-11:30 Peritrochanteric Fractures in the Elderly: Nail vs. Plate? (JA Asuncion)
- 11:30-11:45 Tibial Plateau Fractures in the Elderly: Extra Care Needed! (WB Pacheco)
- 11:45-12:00 Feedback as a Mirror for Reflection (M Richardson)
- 12:00-12:15 Open Forum

## **WORKSHOP SESSIONS**

- 8:00 -12:00 AHSP Splinting Workshop [Batanes]
- 11:00 - 1:00 Ponseti Casting Workshop [Mactan]  
(Senior Faculty : A Aroojis and All POSNA/POA Course Faculty)

- 12:15-1:15 **Lunch Symposium III: OII**  
Axis Knee System  
Total Joint Arthroplasty in Ambulatory Surgery Centers (RB Gustilo)

- 1:15 **CLOSING CEREMONY** (with working Lunch)



POA 67th Annual Congress

# RESEARCH PROGRAMS

## RESIDENTS' RESEARCH FORUM

Nov. 16, 2016

Mactan Ballroom

*Moderator: Dr. Edwin Jerd T. Siatan*

*Judges: Dr. Venus C. Rosales*

*Dr. Melito Antonio P. Ramos*

*Dr. Jesse James F. Exaltacion*

Opening Remarks

Introduction of Judges

Presentation Guidelines

### Presentation Proper

Time Presentation Title

- |      |   |
|------|---|
| 2:00 | 5-Year Clinical Outcome of Single Level Percutaneous, Indirect Posterior Cervical Decompression and Fusion for Cervical Spondylotic Radiculopathy   |
| 2:09 | A Prospective Randomized Controlled Trial Comparing the FARES method with the Kocher and 3-point Traction-Counter traction methods in Reduction of Anterior Shoulder Dislocations                         |
| 2:18 | Correlation of Patient-Perceived Leg Length Discrepancy with Radiographic Measurements After Total Hip Arthroplasty   |
| 2:27 | Development and Validation of a Filipino(Tagalog) Version of Foot Function Index(FFI) as a Functional Outcome Measure in Patients with Tibial Diaphyseal Fractures who underwent Intramedullary Nailing   |
| 2:36 | Osteoinductive Growth Factor Levels of Fracture Callus versus Iliac Crest Bone Grafts   |
| 2:45 | Outcome in infection of patients with open III-A tibial fractures treated with debridement and 7 days and 3 days antibiotic regimen: A pro-spective randomized study                                      |
| 2:54 | Preliminary Results of a Randomized Controlled Trial on the Use of Combined Percutaneous Release and Steroid Injection for Trigger Fin-ger in Adults  |
| 3:03 | Prognostic factors for the necessity of surgical debridement in adult patients with tuberculous spondylitis and validation of the SINS for determination of spinal instability in tuberculous spondylitis |
| 3:12 | Risk Factors for Peri-Implant Infection in Clean Orthopedic Procedures: An analysis of data of the Bone and Joint Research Group  |
| 3:21 | The Use of the String Technique in Incarcerated Ring Injuries   |

*\* Awarding of winners during Congress Banquet*



## PODIUM PRESENTATION

Nov. 18, 2016

1:00 pm, Nov. 18, 2016

Mactan Ballroom

*Moderators:* Dr. Melito Antonio P. Ramos/Dr. Jesse James F. Exaltacion

6 Minutes presentation & 1 minute Q&A

Opening Remarks

Presentation Proper

Time	Presentation Title
1:05	A Case Series on Early Mobilization of Delayed Primary Patellar Tendon Repair with Semitendinosus Augmentation and Wire Reinforcement <i>Pio Rafael R. Lim, MD; Jason Paul Santiago, MD, FPOA</i> <i>[Philippine Orthopedic Center]</i>
1:12	A Digital Radiological Study of Anterior Femoral Shaft Bowing in Filipino Adults <i>Vernadel May N. Santigao, MD; Lendell V. Gatchalian, MD, FPOA &amp;</i> <i>Joseph Keat Sison* [East Avenue Medical Center]</i>
1:19	A Focus Group Study of the Use of Video-Recorded Instruction in Basic Splinting Techniques for Interns in a Tertiary Hospital <i>Lou Mervyn Tec, MD; Tammy Dela Rosa, MD, FPOA</i> <i>[UP-Philippine General Hospital]</i>
1:26	A Proposed Flexible Wrist Spanning External Fixator for Distal Radius Fracture; A Mechanical Testing <i>Miralles, Alfred J., MD; Battad, Geoffrey R., MD, FPOA, Ticman, Misael</i> <i>Jonathan A, MD, FPOA [East Avenue Medical Center]</i>
1:33	A Retrospective Study to Determine the Outcome of Femoral Fractures Treated With S.I.G.N Nails Using the Minimum Number of Proximal and Distal Interlocking Screws Department of Orthopedics in Our Institution <i>Mohammad Khalil A. Guinomla, MD; Noel Rex P. Peñaranda, MD, FPOA</i> <i>[Southern Philippines Medical Center]</i>
1:40	Anatomic Acromioclavicular Joint Reconstruction using Hamstring Tendon Graft - A Case Report <i>John Roland P. Uy, MD; John Hubert C. Pua, MD, FPOA</i> <i>[University of Santo Tomas Hospital]</i>
1:47	Atlantoaxial Joint Subluxation secondary to Infection (Grisel Syndrome): A Case Report <i>Chloe Marie C. Samarita, MD</i> <i>[Corazon L. Montelibano Memorial Regional Hospital]</i>

# PROGRAMME OF ACTIVITIES

- 1:54 BHU Hip Device in Traumatic and Pathological Hip Conditions  
*Prof. Anil Kumar Rai, MD*  
*Professor, Consultant Surgeon [Department of Orthopedics, Institute of Medical Sciences, Banaras Hindu University]*
- 2:01 Combined Rupture of the Anterior Cruciate Ligament and Patellar Tendon Post One Staged Procedure: A Case Report  
*Jefferson James Co, MD [St. Luke's Medical Center]*
- 2:08 Cosmetic and Functional Assessment of Pediatric Patients in JRRMMC with Supracondylar Humeral Fractures (Gartland III) Using the Flynn Criteria  
*John Paulo G. Sison MD; Jim Bryan P. Pantas, MD, FPOA*  
*[Jose R. Reyes Memorial Medical Center]*
- 2:15 Extra-articular Soft Tissue Reconstruction for Recurrent Patella Dislocation in Skeletal Immature Patient  
*Dr Gooi Siew Ghim [Clinical Specialist, Orthopaedic Department, Hospital Pulau Pinang, Malaysia]*
- 2:22 Free Functional Gracilis Muscle Transfer To Flex Elbow For Delayed Treatment Of Brachial Plexus Palsy  
*Vu Minh Duc\*, Truong Van Tai\*, Vo Van Chau\*\*\*. MD, Nguyen Dinh Phu\*\*. MD.PhD*
- 2:29 Foraminal Stenosis as Major Cause of Revision surgeries for Lumbar Spinal Stenosis  
*T. Tsubakino M.D, Y. Tanaka PhD. T. Hoshikawa Ph.D., K. Takahashi MD, M. Suzuki M.D, A. Yadav MD, T. Taka-da M.D*  
*Tohoku Central Hospital, Yamagata, Japan*
- 2:36 Ganz Minimally Invasive Peri-acetabular Osteotomy for Adolescent Developmental Dysplasia of the Hip  
*Catherine Montalban, MD, Marcelino T. Cadag, MD, FPOA, Vicente R. Gomez, MD, FPOA [Makati Medical Center]*
- 2:43 Infection Rate Among Adult Patients with Gustilo Type IIIB Open Tibial Shaft Fracture who Underwent Intramedullary Nailing Alone Versus Staged Operation (External Fixation Followed By IM Nailing) - a Retrospective Study  
*Jae Lord E. Rosario, MD [AFP Medical Center]*
- 2:50 Inferior Capsular Shift in Active Military Personnel with Multidirectional Shoulder Instability: A 6 year Retrospective Review Study (2010-2015)  
*Jason Lord F Perez MD; Domingo A Chua MD, FPOA*  
*[AFP Medical Center]*



- 2:57 Ipsilateral Stenosing Tenosynovitis of All Fingers and Thumb After Open Carpal Tunnel Release in a Female House Helper with Diabetes: A Case Report  
*Mary Rose C. Gonzales, MD; Henry Gerard M Calleja, MD, FPOA*  
*[St. Luke's Medical Center]*
- 3:04 Knee Arthrodesis Using Free Vascularized Fibular Bone Graft with Screws and Spanning External Fixator for Management of Previously Open Distal Femur Fracture with Segmental Bone Loss - A Case Report  
*Jerre C. de Guzman, MD; John Hubert C. Pua, MD, FPOA; Nelson T. Lim, MD, FPOA* *[University of Santo Tomas Hospital]*
- 3:11 Osteochondroma of the Spine: A Rare and Challenging Case for the Surgeon and Pathologist  
*Kristine Italia* *[St. Luke's Medical Center]*
- 3:18 Osteoporosis: A Study of Awareness and Treatment Rates Following Fragility Fractures of the Hip in Filipino Patients  
*Jan Princeton Lim, MD; Jose Antonio San Juan, MD, FPOA*  
*[Chong Hua Hospital]*
- 3:25 Paediatric Supracondylar Humerus Fracture with Nerve Injury: Explore or not to Explore?  
*AMM Norzakiah, Mmed Orth, RIM Anuar, Mmed Orth, Gooi SG, MS Orth, Zulkiflee O, MS Orth*  
*[Department of Orthopaedics, Penang Hospital, Georgetown, Malaysia]*
- 3:32 Posterior Vertebral Column Resection with 360-degree Fusion of a 13-Year Old with Congenital Scoliosis - A Case Report  
*Miguel Pocholo Luis R. Siatan, MD, Romel P. Estillore, MD, FPOA*  
*[University of Santo Tomas Hospital]*
- 3:39 Profile of Patients' age 8 to 15 with Adolescent Idiopathic Scoliosis seen in the Orthopaedic Out-patient Department of Jose R. Reyes Memorial Medical Center (2013-2014)  
*Mark Anthony N. Arias, MD; Edwin Jerd T. Siatan, MD, FPOA*  
*[Jose R. Reyes Memorial Medical Center]*
- 3:46 Responsiveness of the Mohtadi Anterior Cruciate Ligament Quality Of Life Questionnaire on the Functional Outcome of Patients Who Underwent Arthroscopic ACL Reconstruction in the University of Santo Tomas Hospital  
*Adriel Vincent L. Ang, MD, Alberto Ma. V. Molano, MD, FPOA*  
*[University of Santo Tomas Hospital]*
- 3:53 The Dilemma of a Recurrent Patellar Tendon Rupture  
*Kristine Italia* *[St. Luke's Medical Center]*

# PROGRAMME OF ACTIVITIES

- 4:00 The Functional Outcome of Arthroscopic Anterior Cruciate Ligament Reconstruction in Patients Using Different Graft Tensions During Tibial Fixation  
*Gabriel Alfonso B. Javier, MD, Alberto Ma. V. Molano, MD, FPOA [University of Santo Tomas Hospital]*
- 4:07 Thoracic Radiculopathy secondary to Ossified Ligamentum Flavum in a Young Caucasian Female: A Case Report  
*Ramos, M.R.D., Ver, M.R. [St. Luke's Medical Center Global]*
- 4:14 Toe To Hand Transfer In The People's Hospital 115, Three Cases Report  
*Vu Minh Duc. MD\*- Truong Van Tai. MD\*-Nguyen Dinh Phu. MD. PhD\*\**
- 4:21 Transient Ulnar Nerve Palsy: A Complication of WALANT in Two- incision Carpal Tunnel Release  
*Monica B. Pecache, MD [St. Luke's Medical Center]*
- 4:28 Analysis of Safe Screw Lengths for Lateral Mass Screw Insertion Using Roy-Camille and Magerl Techniques in Filipino Cervical Spine: A Cadaveric Study  
*Francis Rodas, MD [University of Santo Tomas Hospital]*
- 4:35 Biomechanical study comparing four different constructs in tension band wiring of the olecranon  
*Rene Edgardo Manalastas, MD; Jose Ma. D. Bautista, MD, FPOA; Rafael C. Bundoc, MD, FPOA [UP-Philippine General Hospital]*
- 4:42 Does Proximal Humerus Osteosarcoma Differ With Osteosarcoma At Other Sites?  
*Lou Mervyn Tec, MD, Edward HM Wang, MD, FPOA [UP-Philippine General Hospital]*
- 4:49 Giant Cell Tumors of the long bone: Outcomes of patients treated with intralesional and en-bloc resection from 1993-2013  
*Lauro T. Gonzales, MD [UP-Philippine General Hospital]*
- 4:56 Incidence of Surgical Site Infections in Clean, Non-Contaminated Orthopedic Cases in Patients Prepped Using a Commercially Available Topical Skin Antiseptic (Duraprep), in a Single Tertiary Hospital.  
*Michael Gerard N. Limbo, MD [St. Luke's Medical Center]*
- 5:03 Percutaneous Repair of Tendon of Achilles using Frazier suction tip and trocar needle: A Case Series  
*Merwen Mitchel Q. Musni, MD; Jovito Ramil B. Paz, MD, FPOA [Philippine Orthopedic Center]*
- 5:10 Precision and Sensivity of Magnetic Resonance Imaging in Detection Meniscal Tears in a Local Tertiary Hospital  
*Alberto Gabriel D. Zetazate, MD [St. Luke's Medical Center]*



- 5:17 Surgical Outcomes in a Tertiary Medical Center of Patients with Ossified Posterior Longitudinal Ligament (OPLL) based on Niruck Grading System and the Modified Japanese Orthopedic Association Scoring System: A follow-up of 1.5 years.  
*Willo G. Toledo, MD [St. Luke's Medical Center]*
- 5:24 The Role of Intraoperative Frozen Section prior to Internal Fixation for Open Fractures that underwent Delayed Primary Management as a Predictor of Surgical Site Infection: a Case Series  
*Ana Cristina Monica Alidio, MD; Irewin Tabu, MD, FPOA; Liberato Antonio Leagogo, MD, FPOA [UP-Philippine General Hospital]*
- 5:31 The Urgency of Erly Intervention on Traumatic Cervical Spine Injuries: Comparative Study of Early Versus Delayed Surgery  
*Angelica Lee Real, MD;, Mary Ruth Padua, MD, FPOA; Adrian Catbagan, MD, FPOA [East Avenue Medical Center]*
- 5:38 Unstable Posterior Hip Fracture Dislocations: Results of Delayed Reduction and Definitive Fracture Fixation Using the Trochanteric Flip Approach: A case series  
*Majah Rabanne S. Jacob, MD; Joseph Lai, MD, FPOA; Irewin Tabu, MD, FPOA [UP-Philippine General Hospital]*
- 5:45 Changes of Gait Parameters after femoral derotational osteotomy for the CP patients with medial femoral torsion  
*Hayong Kim, Yong Han Cha, Jae Yong Byun, Hyuk soo Shin*

# PROGRAMME OF ACTIVITIES

## PBO RESEARCH FREE PAPER SESSION

1:30 pm, November 18, 2016 (Friday)

Kamia Room, EDSA Shangri-La Hotel Mandaluyong City

Panelists: PBO Trustees

8 Minutes Presentation; 8 Minutes 2 minutes Q&A

1:30 Opening Remarks  
Introduction of Judges  
Presentation of Guidelines

### Presentation Proper

Time Presentation Title

- 1:41 Pre-operative planning the proximal tibia in TKA, the proximal fibula is the better bone to be used in determining the horizontal resection of the proximal tibia  
*Liberato Antonio C. Leagogo Jr., MD, FPOA / Charles Rainier F. Arandia, MD (Makati Medical Center)*
- 1:52 Tibial Tuberosity Fracture with Extension to Proximal Tibial Epiphysis: A Case Report  
*Rinri P. Austria, MD (De La Salle University Medical Center)*
- 2:03 The effect of Pasteurization on Tumor Necrosis in Surgically Amputated Limbs in Osteosarcoma  
*Sharvyl Anthony B. Cantila, MD (Philippine Orthopedic Center)*
- 2:14 Efficacy of Propan-2-ol, Benzalkonium Chloride vs Hydrogen Peroxide in Preventing Pin Tract Infection in Patients Undergoing Balanced Skeletal Traction  
*Gian Karlo P. Dadufalza, MD / Noel B. Carilo, MD, FPOA (Philippine Orthopedic Center)*
- 2:25 Distal Radius Morphometry in the Pediatric Filipino Population  
*Manuel H. Espaldon Jr., MD / Liberato Antonio C. Leagogo Jr., MD, FPOA (Makati Medical Center)*
- 2:36 Gunshot Injuries and SIGN Intramedullary Nailing: A Southern Philippines Medical Center Experience  
*Allan Rodolfo P. Herrera, Jr., MD (Southern Philippines Medical Center)*
- 2:47 A Prospective Cohort study on the Determination of Early Outcomes of Congenital Idiopathic Clubfoot Patients Treated at Baguio General Hospital and Medical Center (BGHMC) using the Ponseti method  
*June R. Malana, MD (Baguio General Hospital and Medical Center)*



## PROGRAMME OF ACTIVITIES

- 2:58 A Descriptive Study of the Clinical Outcome of a Modified Reverse-flow Sural Flap for Soft Tissue Defect in the Lower 3rd of the Leg, Ankle, and Foot  
*King H. Medidas, MD (Southern Philippines Medical Center)*
- 3:08 A comparative of Screw Pullout Strength between Exact-Length Screws and Cut-Screws in a Plate and Screw Construct: An Experimental Study  
*Shaun A. Porras, MD / Jair Kimri P. Jingco, MD, FPOA / Jse Maria R. Coruna, MD, FPOA / Jennibeth M. Alojado, MD (Corazon Locsin Montelibano Memorial Regional Hospital)*
- 3:19 Comparison of the Amount of Antibiotic Eluted Between Antibiotic Beads and Antibiotic Discs: An Experimental Study  
*Antonio Manuel T. Saludo, MD / Domingo A. Chua Jr., MD, FPOA (Armed Forces of the Philippines Medical Center)*
- 3:30 Functional Outcome of Femoral Shaft Fracture Treated With Kuntscher Nail From January 2013 – December 2014 In Corazon Locsin Montelibano Memorial Regional Hospital  
*John Paolo Sanchez, MD (Corazon Locsin Montelibano Memorial Regional Hospital)*
- 3:41 Functional Outcome in Simple Elbow Dislocation Comparing Armsling Support and Plaster of Paris Immobilization  
*Arfritz L. Chiong, MD / Teodoro Mahusay, MD, FPOA (Philippine Orthopedic Center)*



# Keynote Speaker

**PROF. DEVEN K. TANEJA, MD, MBBS, D.ORTH, MS ORTH, FAMS**

*India*



**H**aving qualified as Orthopaedic Surgeon in 1968, he has remained very active orthopaedic surgeon. He worked hard to reach to the top of the ladder and became chief executive officer and Dean of M. G. M. Medical College, Indore, from where he retired in 2003 and still very active and busy orthopaedic surgeon. His main mission was to bring up orthopaedic specialty to the National level in central India. He formed Indore Orthopaedic Association in 1972. He became the first orthopaedic surgeon from central India to become the President in Indian Orthopaedic Association in year 2000. He is life trustee and Secretary of Orthopaedic Research & Education Foundation – India and Secretary General of World Orthopaedic Concern.

He crossed the borders and was responsible in forming Orthopaedic Association of SAARC countries in 1998. He is now the President of this International body. He has received many awards. To mention few he is the first recipient of – Dr. S. K. Mukherjee award for excellence in medicine, Dr. B. N. Sinha meritorious award from Indian Orthopaedic Association and Distinguished Emeritus Teacher award from National Board of Examination, Ministry of Health, Government of India. He has received Global Award from WOC for his work for Physically challenged in Third World. He is the first and only orthopaedic surgeon from M. P. who had been conferred fellowship by National Academy of Medical Sciences. It is the highest honour a medical man aspires. He has also been conferred fellowship of Royal Society of Medicine, England recently. He has delivered more than 12 National and state level prestigious orations and more than 150 guest lectures. He has made a very significant contribution in upliftment and rehabilitation of physically handicapped. He has conducted more than 140 rural camps where each camp was attended by thousands of physically handicapped. He has been to many third world countries as volunteer like Bhutan, Indonesia, Malawai, Ethiopia etc. He has published many articles and edited 16 books on orthopaedic. He is a passionate teacher loved by his students and colleagues. Besides orthopaedic he is a keen photographer, Rosarian, Rotarian and public speaker.



## *Keynote Lecture Abstract*

### **Orthopaedic Surgeon as Mentor and Servant Leader**

#### *Abstract*

*Mentor is one who sees more talent and ability within you and helps bring it out of you.*

*He teaches, encourages, instructs, praise and guides. He is a dreamer and a believer. Orthopaedic surgeon has to create interest in the subject. He should demonstrate basic techniques himself like POP technique, Splinting, Bracing, OT discipline etc. He should encourage his student to do surgery under his supervision. Make the students inquisitive so that they look into the journals. Encourage them to take up photography, record keeping, and research methodology.*

*A mentor has to be a good listener with a positive attitude. He is caring and concern about his family. Mentor keeps eyes on his career and keeps monitoring it. This helps in developing everlasting bond between mentor and mentee. Word- servant leadership was coined in early 1970 by Greenleaf. Good leader must become a good servant first. He has to be active listener, he should show empathy, possess the power of persuasion should have the ability to conceptualize the solutions to the problems. He is a person with foresight, stewardship is a real servant leader.*

*Orthopaedic surgeon has to be mentor and servant leader to his mentee and his employees and this is the road to success for both mentor & mentee*



**POA 67th Annual Congress**

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**FERNANDO A. ACANCE, MD, FPOA**


Dr. Fernando A. Acance took his Clinical /Research Fellowship at: the Prince of Wales Hospital, NSW, Foot and Ankle Fellowship under Prof David Lunz, Prof John Negrine and Prof Bill Walsh; St. John of God Hospital, Ballarat, Victoria, Melbourne, Joint Re-placement and Reconstructive Surgery under Dr. Andrew Byrne; Clinical Observership and Research Fellow, Private Warringal Hospital, Heidelberg West, Knee reconstruction and Arthroscopy under Dr. John Bartlett; and Clinical Fellowship, St Lukes Hospital , NSW, Primary, Revision and Resurfacing Hip and Knee Arthroplasty and Knee Arthroscopy Fellowship under Prof Lawrence Kohan.

He is presently affiliated with Manila Doctors Hospital, Bernardino General Hospital, Asian Hospital and Medical Center, The Medical City, National Kidney Transplant Institute and East Avenue and Medical Center

**Lecture: Tendon Transfers for Dorsiflexion Paralysis**

*Abstract: Dorsiflexion paralysis of the foot may be addressed by doing tendon transfers. A successful transfer is largely dependent on the stability of the skeletal alignment and the ability to have an adequate passive dorsiflexion.*

**PROF. SAW AIK, FRCS (Edin), MMed (Surg), MBBS (UM)**


Professor Dr Saw Aik's area of expertise is in corrective and reconstructive surgery of the upper and lower limbs deformities. He is a member of various national and international professional bodies including being the council member of the Asean Orthopaedic Association, and the American Academy of Orthopaedic Surgeons. He was the honorary Secretary of the Malaysian Orthopaedic Association from 2002-2005. He had begun his career with the Ministry of Health, Malaysia in 1998. Recent publications, amongst many is the Patient Handbook on Limb Lengthening and Reconstruction with External Fixator: Department of Orthopaedic Surgery Universiti Malaya Medical Centre, and contributions to Journal of Orthopaedic Surgery (Hong Kong), and Journal of Biosocial Science. His research interests include limb lengthening and reconstruction procedures, biomechanics, musculoskeletal tumour and paediatric trauma. He is regularly invited to speak on his area of expertise. He has also patented the hip spica cast supporting frame. His social contributions include participating as a medical volunteer with the Humanitarian Relief Team to Banda Aceh, Sumatra (Global Peace Mission), being the President of the Lions Club of Petaling Jaya from 2005-2006. He also participates in activities organized by the Rotary Club of Shah Alam, and served as the Chief Coordinator to the Lion's Club of Petaling Jaya in 2009.

**Lecture: Common Ankle Injuries in Children: Evaluation & Overview of Management**



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### JULYN A AGUILAR, MD, MHA, FPOA



Dr. Julyn Aguilar obtained her Doctor of Medicine degree at the De La Salle University College of Medicine and finished her residency in orthopaedic surgery at Philippine Orthopaedic Center. She had her fellowship in Paediatric Orthopaedics at the Chinese University of Hong Kong Prince of Wales Hospital in Hong Kong and at the University of Adelaide Women's and Children's Hospital in Adelaide, Australia. She received further training in limb lengthening and reconstruction at Sinai Hospital Rubin Institute of Advanced Orthopaedics in Baltimore, USA under Dr. Dror Paley. She has also been taught by Dr. Ignacio Ponseti at the University of Iowa, USA on the Ponseti Technique for clubfoot. Dr.

Aguilar earned her Masteral Degree in Hospital Administration at the Ateneo de Manila University Graduate School of Business. She has also earned her Career Executive Service Eligibility from the Career Executive Service Board of the Philippines.

She is currently the Head of the Children's Orthopaedic Unit of the Philippine Orthopaedic Center and Chief of the Section of Paediatric Orthopaedics, Institute of Orthopaedics & Sports Medicine at St. Luke's Medical Center, Quezon City, Philippines...She is also currently the President of the Philippine Orthopaedic Association, Inc and Treasurer of the Board of Trustees of Philippine Society of Neurorehabilitation, Inc. In addition, she is also a Council Member of the Asia Pacific Orthopaedic Association (APOA), the Chief Delegate of the Philippine Chapter of APOA and the Secretary of the Infection Section of the APOA.

#### **Lectures:**

***Dunn Procedure via Anterior Approach for Severe Unreducible SCFE***

***Medial Soft Tissue Releases for LCPD: The MAP Procedure***

***Ponseti Casting in Older Children: Tips and Tricks***

### JUDITH VALERIE M. AKOL, MD, FPOA



Dr. Judith Valerie Mendoza Akol took her Degree in Medicine at the College of Medicine, UP Manila and residency training at the Department of Orthopedics of the UP Philippine General Hospital (PGH).

She had her Fellowship on Musculoskeletal Oncology at the Department of Orthopedics and Traumatology at the Chinese University of Hong Kong. She is currently a an active staff of the Cebu Orthopaedic Institute; Department of Orthopedics, Chong Hua Hospital; and a visiting staff at the Department of Surgery, Perpetual Succour Hospital and Department of Surgery, Visayas

Community Medical Center all in Cebu City. Dr. Akol is currently a trustee of the Philippine Board of Orthopaedics and a member of the Philippine Musculoskeletal Tumor Society.

#### **Lecture: GCT: Medical Management**

***Abstract: Treatment for Giant Cell Tumor of Bone (GCTB) has always been surgical. Understanding the behaviour of the osteoclast-like Giant cells have paved the way for medical treatment as adjunct to***





surgery. Bisphosphonates and more recently, Denosumab, have been used to down-size the tumor and decrease recurrence rates. In this ICL, we discuss the role of bisphosphonates & denosumab in modifying the pathogenesis of GCTB and the evolving management of GCTB.

#### **ALARIC AROOJIS, MD, MBBS, D'Orthopaedics, MS (Orthopaedics), DNB (Orthopaedics)**



Dr. Alaric Aroojis is one of the leading authorities in the country on the treatment of clubfoot by conservative & surgical methods. He is one of the few Paediatric Orthopaedic surgeons in the country to perform complex pelvic osteotomies for congenital hip dislocation and to use minimally invasive techniques to correct difficult limb deformities in children. At Kokilaben Dhirubhai Ambani Hospital, he straddles two Centres of Excellence - the Centre for Bone & Joint Surgery and the Centre for Children. He is an integral part of the multi-disciplinary Spina Bifida & Cerebral Palsy Clinics and works in close association with Paediatric & Rehabilitation specialists. The Cerebral Palsy Clinic offers advanced Orthopaedic & Rehabilitation care for children with cerebral palsy by various treatment modalities, such as neuro-developmental therapy, Botulinum injections, multi-level soft tissue surgery and advanced evaluation by Instrumented Gait Analysis, the first of its kind in the city.

After completing his medical school and Orthopaedic residency from the premier King Edward VII Memorial Hospital, Mumbai, he worked as a Specialist Registrar at the B. J. Wadia Hospital for Children where his interest in Paediatric Orthopaedics was kindled. He subsequently completed accredited Fellowship training in Paediatric Orthopaedics at the Alfred duPont Hospital for Children, USA, which has the largest Paediatric Orthopaedic program in North America; the National University Hospital, Singapore and the Royal Children's Hospital, Australia. He has also visited several centres in USA, Europe and Australia for advanced training in Paediatric Orthopaedics.

#### **Lectures:**

***Flexible IM Nailing for Lower Extremity Fractures: Indications & Technique***

***Osteoarticular TB: Diagnosis and Management***

***Pelvic Osteotomies for Acetabular Dysplasia: How to Choose the Proper Osteotomy***

#### **JEROME ANTHONY S. ASUNCION, MD**



Dr. Jay S. Asuncion had his AO (Arbeitsgemeinschaft für Osteosynthesefragen) Trauma fellowship and Minimally Invasive Osteosynthesis training at Queen Mary Hospital, University of Hong Kong, Hong Kong (2008). He has attended several AO specialty courses internationally and is a faculty member of the AO Trauma International, Davos, Switzerland. He had his Wound care and Diabetic Limb Salvage course at Georgetown University, Washington DC, USA.

He is the director of Butuan Orthopedic Institute, Center for Minimally Invasive Fracture Surgery, Wound Care and Diabetic Limb, Osteoporosis and Fragility Fracture in Butuan Doctors' Hospital, where he is the Chairman of the Department of Orthopedics and Traumatology.



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He is a fellow of the Philippine Orthopedic Association, Philippine Orthopedic Trauma Society and Association for the Study of Internal Fixation (ASIF/AO).

He is the founding president of the Philippine Orthopedic Wound Care and Diabetic Limb Society, Member of the American Academy of Orthopaedic Surgeons, and an Associate board examiner of the Philippine Board of Orthopedics.

His special interests are Minimally Invasive Fracture Surgery (MIFS), pelvis and acetabular fractures, diabetic limb and wound care, osteoporosis and fragility care and preventive, multimodal analgesia in orthopedic trauma.

***Lecture (Industry-Wound Care): Wound Care and Diabetic Limb Center: Butuan Orthopedic Institute Experience***

*Lecture: Peritrochanteric Fractures in the Elderly: Nail vs. Plate?*

*Abstract: Trochanteric fractures make up 55% of fractures of the proximal femur and occur predominantly in elderly patients with osteoporosis. Operative treatment is generally indicated either using extramedullary or intramedullary implant with respect to the principles of biological fixation leads to a good clinical result in the majority of cases.*

**PHILLIPE Y. BACLIG, MD, FPOA**



Dr. Phillipe Y. Baclig is a graduate of the Cebu Institute of Medicine and of the Orthopedic residency training of Vicente Sotto Memorial Medical Center Department of Orthopaedics & Traumatology. He took his fellowship in Adult Reconstruction at the Singapore General Hospital.

He is affiliated in a number of medical centers in Cebu, Philippines including the Velez General Hospital, Perpetual Succor Hospital, Cebu Doctors University Hospital, and Chong Hua Hospital.

Lecture: Humerus, Shaft

Abstract: Plate fixation is technically demanding, requiring extensive exposure and soft-tissue dissection, but it can provide stable fixation. In order to make use of the advantages of plate fixation while avoiding the disadvantages of open plating such as excessive soft-tissue stripping and devascularization, the plate may be introduced using MIPO techniques. The problem with MIPO for humeral shaft fractures is the presence of the major nerves and the brachial vessels which, if injured, can lead to serious consequences. However, MIPO technique if properly done have undeniable advantages resulting in faster healing, less pain and reduced complication rate.

***Lecture: Humeral Shaft Fractures: Yes, MIPO Works!***



**GRACIA CIELO E. BALCE, MD, FPOA**



Dr. Balce finished Medicine and Orthopedic Surgery at the Philippine General Hospital. She had his pediatric fellowships at Korea University Medical Center and Duchess of Kent Children's Hospital. She is the current Ilizarov Service Chief at the Philippine general Hospital.

**Lecture: Defining the Axes of the Lower Extremity**

*Abstract: Knowledge of normal alignment is a prerequisite to identification and correction of deformities of the lower extremities. The alignment of the femur and tibia may be described and analyzed using the anatomic and mechanical axes, which will be discussed in detail in this lecture.*

**MA. ADELWISA G. BELEN, MD, FPOA**



Dr. Maria Adelwisa G. Belen graduated from St. Luke's College of Medicine-William H. Quasha Memorial. Her clinical internship and residency training in Orthopedics and Sports Medicine were completed at St. Luke's Medical Center Quezon City. After that, she went to finish her fellowship in Traumatology, Pelvis and Acetabular Surgery at the Department of Trauma, Hand and Spine Surgery of University Medical Center Hamburg (Germany)

Presently, she is a fellow of the Philippine Orthopaedic Association, a diplomate of the Philippine Board of Orthopaedics, an officer of the Philippine Orthopedic Trauma Society, a member of AO Trauma Philippines faculty, and a volunteer for Médecins Sans Frontières.

**Lecture: Complex Elbow Fractures: Distal Humerus**

**PETER B. BERNARDO, MD, FPOA**



Associate Professor, Department of Orthopedics UPCM, UPPGH  
Board of Trustee, POA  
Consultant, Cardinal Santos Medical Center & San Juan de Dios Hospital

**Lecture (Industry - Cathay Drug): Post-Fracture Osteoporosis Care: the Pahrmaco - Preventive Role of Alendronate in Fragility Fractures**



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### CARLO ANGELO V. BORBON, MD, FPOA



Dr. Carlo Angelo V. Borbon completed his Orthopaedic residency training at the Makati Medical Center and underwent extensive fellowships in Sports Medicine and Knee Arthroplasty, Foot and Ankle Surgery, and another program in Shoulder and Elbow Arthroscopy and Arthroplasty at the ATOS Klinik Heidelberg (Germany). He is currently the president of the Philippine Orthopaedic Foot and Ankle Society.

His local and international professional memberships include the Philippine Orthopaedic Association, Philippine Orthopaedic Society for Sports Medicine, Philippine Shoulder Society, American Academy of Orthopaedic Surgeons, and the International Society for Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine, Asia-Pacific Society for Foot and Ankle Surgeons and Asian Federation of Foot and Ankle Surgery. He has published several papers in international peer review journals and has been very active in giving lectures both local and international conferences.

He is a consultant at the Makati Medical Center and the Philippine Orthopaedic Institute. He is also affiliated with the Cardinal Santos Medical Center, Medical Center Manila, Asian Hospital and Medical Center, De La Salle University Medical Center, Armed Forces of the Philippines Medical Center, Capitol Medical Center, Victor R. Potenciano Medical Centre and Batangas Medical Center.

#### **Lecture: Treatment of Adult Flatfoot with Tendon Surgeries**

*Abstract: Adult flatfoot is synonymous to a dysfunction of the posterior tibial tendon. The etiology of this dysfunction is varied, ranging from inflammatory synovitis to degenerative rupture and, occasionally, to acute trauma. This condition is commonly seen in middle-aged obese women and those had a history of hypertension, obesity, diabetes, a previous operation or trauma about the medial aspect of the foot, or treatment with steroids. During the evaluation of adult-acquired flatfoot, two critical questions must be answered. First, it must be determined if the patient has an asymmetrical flatfoot deformity or a preexisting flatfoot deformity that has worsened over time. Second, it must be determined if the deformity can be passively corrected by the examiner and thus whether it is flexible. This with the proper clinical staging will determine the proper treatment option for patients with such disorder. This lecture will focus on the different tendon surgeries for correction of adult flatfoot.*

#### **Lecture: Acromioclavicular Joint Injuries**

*Abstract: Acromioclavicular joint injuries represent a frequent entity in the field of traumatology estimated incidence is 10% of all dislocations around the shoulder, with a large percent of undiagnosed cases. Depending on the energy of the injury the latter may be from a simple sprain all the way to complete joint dislocation, with the possibility of associated clavicular or scapular bone fractures. The AC joint is a diarthrodial joint that primarily rotates as well as translates in the anterior-posterior and the superior- inferior planes. It is stabilized both by static and dynamic stabilizers. Treatment of these injuries include Fixation of the Acromioclavicular Joint with different implant and surgical techniques. In contrast to static forms of repair, there have also been dynamic forms of reconstruction that have been described to reduce the AC joint. These techniques involve the transfer of a muscle-tendinous unit to the inferior surface of the clavicle or ligament reconstruction which may be anatomic or non-anatomic. In addition to these open procedures, arthroscopic techniques may also be done for treatment of these*





*injuries. This lecture will present different treatment options, possible complication, outcomes and the author's preferred technique.*

### **J. ANTONIO BOUFFARD, MD**



J. Antonio Bouffard MD, or Tony to his friends, is a Bone Radiologist embedded in the Department of Orthopaedic Surgery and Sports Medicine at the Detroit Medical Center (DMC) in Detroit, Michigan, USA. He is in charge of Orthopaedic & Sports Medicine Ultrasound in the DMC Sports Medicine, which takes care of 3 professional sports teams: the Detroit Tigers (baseball); the Detroit Pistons (basketball); and the Detroit Red Wings (ice hockey). DMC Sports Medicine sees all athletic injuries, plus all musculoskeletal problems of the shoulders, elbows, knees and ankles of the general public. Hand and wrist complaints along with spine care are also part of the Sports Medicine expertise. Orthopaedic Surgery includes Trauma, Joint Replacement, Spine, Hand & Wrist, Pediatrics, Foot & Ankle and Oncology.

Tony received his Bachelor of Science '75 and Bachelor of Education '76 degrees from the University of Toronto, Canada, and was graduated MD '80 at the Manila Central University, Philippines. He finished his Medical Internship '81 at the University of Kansas Medical Center in Kansas City, Kansas. From there, he completed his Radiology Residency '85 at the Wayne State University in Detroit, Michigan, then 2 tandem Fellowships in Nuclear Medicine '87 then Magnetic Resonance Imaging '88 at the University of Michigan in Ann Arbor, Michigan.

Doctor Bouffard is in a unique situation where he can employ his expertise in welding a seamless service between Orthopaedics and Ultrasound to benefit patients with a rapid, real-time, dynamic, portable, inexpensive and accessible diagnostic modality. He has the good fortune of teaching this technique to all interested parties who practice the Healing Arts to take care of their patients burdened with locomotory problems. Orthopaedic and Sports Medicine ultrasound will always feature itself intuitively as an integral armamentarium for those who take care of the MusculoSkeletal System.

Doctor Bouffard can be reached thru the website of the Detroit Medical Center: [www.dmc.org](http://www.dmc.org)

#### **Lectures:**

***Ultrasound for Shoulder Pathologies: How Useful Is It For Orthopaedic Surgeons?***

***Ultrasound Imaging in Orthopaedic Infections***

***Diagnostic Ultrasound and Ultrasound Guided Intervention in Orthopaedics***



## FACULTY

### CARMELO L. BRAGANZA, MD, FPOA



Graduated from the University of Santo Tomas Faculty of Medicine & Surgery 2004. He finished residency in Orthopaedics at the UST Hospital in 2010 and was Most Outstanding Resident PBO in his final year. He had his clinical fellowship in Sports Medicine and Adult Joint Reconstructive Surgery at National University Hospital in Singapore 2011. Dr. Braganza primarily has clinic at UST Hospital and has affiliations with Veterans Memorial Medical Center, James Gordon Memorial Hospital and Unihealth-Baypointe Hospital. He has been a triathlon/endorance sport physician since 2012.

#### **Lecture: Ligament Reconstruction in the Pediatric Knee**

*Abstract: Focus on considerations and techniques in ligament reconstruction of the pediatric knee particularly focusing on anterior cruciate ligament injuries.*

### RAVINDER K. BRAR, MD



Dr. Ravinder Brar is a fellowship-trained pediatric Orthopaedic surgeon and an Assistant Clinical Professor at the University of California San Francisco. She completed her undergraduate studies at Cornell University where she majored in English literature. Afterward, she pursued a Master of Public Health from the Center for the Evaluative Clinical Sciences at Dartmouth College. Dr. Brar attended medical school and did her Orthopaedic surgery residency at the Medical College of Virginia, Virginia Commonwealth University. She then finished her east coast tour with fellowship training at Atlanta Scottish Rite. After her training, she was delighted to return to California and now works primarily at the UCSF Benioff Children's Hospital Oakland. Dr. Brar treats a wide variety of pediatric Orthopaedic conditions, with a focus on neuromuscular conditions, skeletal dysplasias, trauma, hip, and spine. Dr. Brar also has long-standing interests in medical education, quality improvement, and global health.

#### **Lectures:**

***Management of Langenskiold IV-VI Blount's: Treatment Strategies***

***Guided Growth for Angular Deformities***

***Septic Arthritis of the Hip: Diagnosis, Imaging and Current Concepts of Treatment***

### EUGENIO BRITO, MD, FPOA, MHA



Dr. Brito took his Pre Med in BS Biology at the UST College of Science, had his Medical School at the UST College of Medicine & Surgery; did Internship at the Metropolitan Hospital and Medical Center; an Ortho-House Staff at the Manila Doctors Hospital. He took Orthopedic Surgery Residency Training at Philippine Orthopedic Center from 2003-2007. He has been an Orthopedic Surgery House staff of The Medical City from 2007-2008.

He had a 6-month Fellowship training in Hand and Microsurgery at 108 Central Military Hospital Hanoi Vietnam in 2008; he is a Diplomate of the Philippine



Board of Orthopedics; A Fellow of the Philippine Orthopedic Association; and has a Masters Degree in Hospital Administration. He was recipient of the 2013 ASEAN Orthopedic Association Junior Travelling Fellow representing the POA.

He is currently a Junior Consultant Medical Specialist 2 of the Hand and Microsurgery Unit and Internal Quality Audit Head for POC ISO at the Philippine Orthopedic Center. He is affiliated with Metropolitan Medical Center, Metro North Medical Center, Metro Pacific group of Hospitals (DeLos Santos Medical Center) & Sta Teresita General Hospital

**Lecture: Acute Infections” Are We Treating It Right?”**

*Abstract: Acute hand infections have always been a concern for orthopedic surgeons. Early symptoms of pain, swelling, discoloration, discharge fixed posture and erythema are signs of a potential infection. Common organisms isolated are the staph and strep sp. Incidence of Methicillin resistant Staph aureus is found in 34%-73% of hand infections. Empiric antibiotic use and culture guided antibiotic therapy is a must to provide effective treatment. Delay in diagnosis and treatment may lead to functional impairment and possibly amputation.*

**ARTURO C. CAÑETE, MD, FPOA**



Philippine Orthopaedic Center

- Senior Consultant – Trauma Team
- Chairman – Committee On Ethics Research Board
- Chairman – Department Of Orthopaedic

Far Eastern University – (NRMF) Nicanor Reyes Medical Foundation

- Section Head – Orthopaedic Section
- Associate Professor – Institute Of Medicine
- Past President, POA

- Vice President, PBO

**Lecture (Industry - MSD): Post-fracture Osteoporosis Care: “The pharmaco-preventive role of Alendronate in fragility fracture”**

**NOEL B. CARILO, MD, FPOA, FPCS**



• Orthopedic Trauma, Hand and Microsurgery

• Head, Institute of Orthopedics and Sports Medicine and concurrent Chief of Hand and Microsurgery and Peripheral Nerves Service of St. Luke’s Medical Center, Quezon City

- AO Faculty
- Past POA President
- PBO Trustee

**Lecture: Fracture-Dislocation of the Elbow**

*Abstract: Discuss the surgical anatomy of the elbow with emphasis to the stabilizing structures. Three injury patterns commonly seen in fracture dislocation of the elbow will be presented, their diagnoses,*





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*pathologic anatomy, and approaches to treatment to restore stability and function. A list of key outcome publications will also be presented to support treatment approaches.*

*The three common injury patterns (IP) are:*

*IP I- Dislocation with fracture of the radial head and coronoid*

*IP I-A Dislocation with fracture of the radial head/neck*

*IP I- B Terrible Triad*

*IP II - Monteggia type olecranon fracture dislocation*

*IP III - Varus posteromedial rotatory instability*

*The participants are expected at the end of the lecture to learn the surgical anatomy of the elbow, recognize the different patterns of acute instability in fracture-dislocations of the elbow, recall the pathoanatomy of the different injury patterns, and learn to formulate treatment approaches to the different patterns.*

### **CORDELIA W. CARTER, MD**



Dr. Carter began her academic career at Yale University, where she earned her undergraduate degree in 1998, graduating magna cum laude with a BA in Behavioral Neuroscience. Athletics have always played an integral role in her life, and during her tenure as an undergraduate at Yale, she was named to the All-Ivy, Academic All-Ivy and Academic All-American Field Hockey teams. Dr. Carter returned to Yale University to pursue her medical training and received her medical degree from that institution in 2004. She then completed her orthopaedic residency at New York-Presbyterian Hospital (Columbia University) in 2009, having received the Rosamond Kane award for Excellence in Pediatric Orthopaedic Surgery as well as being named to the "Circle of Excellence" for Columbia University resident educators. She then completed a pediatric orthopaedic fellowship at Children's Hospital Los Angeles (CHLA) in 2010, followed by a fellowship in pediatric sports medicine at Children's Hospital Boston in 2011. She worked as a clinical assistant professor at Seattle Children's Hospital before returning to Yale in 2012.

Dr. Carter's interest in pediatric sports medicine has been life-long. In addition to her own interest in athletics, she has coached swimming, track and field, lacrosse and field hockey teams at a wide range of scholastic levels. Her publications have also reflected this interest. As a resident, she coauthored a study entitled "Shoulder Range-of-Motion: Introduction of a Novel Self-Assessment Tool," which was published in the journal *Arthroscopy* in 2008. Dr. Carter has additionally co-authored chapters for the Instructional Course Lecture series and a medical textbook focusing on the arthroscopic treatment of anterior and multidirectional shoulder instability. As a fellow, Dr. Carter's focus was on the arthroscopic management of the discoid meniscus, which culminated in the article entitled, "Clinical Outcomes as a Function of Meniscal Stability in the Discoid Meniscus: A Preliminary Report," published in the *Journal of Pediatric Orthopaedics* in 2012. She additionally has coauthored several pediatric sports-related publications including, "Meniscal Repair in Children," and "Training the child athlete: how much is enough, how much is too much?" published in 2012 and 2011, respectively. Recently, she has co-written a monthly column in *Pediatric Annals* dedicated to sports-related issues in children and adolescents.

**Lectures:**

***Acute Osteomyelitis in Children: Diagnosis, Imaging & Current Concepts of Treatment***  
***Flexible IM Nailing for Forearm Fractures: Indications & Technique***  
***Intra-Articular Elbow Fractures: Dilemmas in Diagnosis and Management***

**RAFAEL S. CLAUDIO, MD, FPOA, MBAH**

- Head, Musculoskeletal Tumor Unit, Philippine Orthopedic Center
- Chairman, Department of Orthopedics, The Medical City
- Past President, Philippine Musculoskeletal Tumor Society
- Past President, Philippine Society of Oncology

**Lecture: Giant Cell Tumor: Surgical Management**

**Abstract:** The surgical management of giant cell tumors of bone is predicated on their clinical aggressiveness and high propensity for local recurrence. The goals of surgery are lasting local tumor control and preservation of joint function. Intralesional excision through thorough curettage with high-speed burring is the surgical modality of choice for majority of tumors. Topical adjuvants are frequently used but are not definitely proven to reduce local recurrence. En bloc excision is indicated for large tumors with major bone and joint involvement precluding salvage and is associated with a higher complication rate and lower function. The advent of systemic treatment, particularly denosumab, has shown significant benefits in allowing more conservative surgery and control of inoperable tumors.

**ANA CRISTINA D. DECENTECEO, MD, FPOA**

Dra. Decenteceo is an orthopedic surgeon specializing in Pediatrics, Deformity correction, and Foot and Ankle surgery. She also has an interest in Dance Orthopedics, having a background in dance as well as gymnastics, and having studied with experts in the field of dance medicine. She is also a student of Ashtanga Yoga, studying with Mozart Reina, under the lineage of K. Shri Pattabi Jois. She currently practices in Subic, Zambales and Angeles, Pampanga

**Lecture: Tendon Transfers For Clubfoot**

**Abstract:** Congenital talipes equinovarus has a strong tendency to relapse, regardless of mode of treatment. These occur more often in children stiff, severe clubfeet with small calf muscles, than in those with less severe deformity. They are caused by the same pathology that caused the clubfoot to be present in the first place. In spite of adequate treatment, a relapse may develop, albeit gradually and difficult to recognize early. Aside from repeated manipulations and plaster casts, a tendon transfer may be required to prevent worsening of a relapse.



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### LUCILLE P. DETOYATO, MD, FPOA



Dr. Lucille P. Detoyato is a graduate of West Visayas State University College of Medicine. She had her residency training in Orthopaedic Surgery in West Visayas State University Medical Center, Department of Orthopaedics in 2001 - 2004. She pursued fellowship in hand and microvascular surgery in the Department of Orthopaedics UP-PGH in 2007-2008. She is currently a Trustee of the Philippine Board of Orthopedics and Past President of the Philippine Orthopaedic Association Western Visayas Chapter.

#### **Lecture: Tuberculosis of the Hand: Should We Be Alarmed?**

*Abstract: Tuberculosis of the hand is not a common site for extrapulmonary tuberculosis. The rising incidence in developed countries is attributed to increase in immigration, aging population and immunosuppressed people affected by HIV. In a developing country like the Philippines, extrapulmonary tuberculosis is seen late and patients present with osteoarticular destruction by the time of diagnosis. The variable clinical presentation of tuberculosis of the hand contributes to the delay in diagnosis and treatment.*

### CESAR D. DIMAYUGA, MD, FPOA



Dr. Cesar D. Dimayuga finished his Doctor of Medicine at the UP College of Medicine and had his Medical Internship at the Philippine General Hospital. He trained as an orthopedic resident at the Department of Orthopedics, UP-PGH. He then pursued his postgraduate training in Orthopedic Oncology, Sports Medicine and Arthroscopy at the Case Western Reserve University, University Hospitals of Cleveland, Cleveland, Ohio. He obtained a Master's degree in Business Administration in Health from the Ateneo de Manila University Graduate School of Business.

Dr. Dimayuga is currently the vice-chairman of the Department of Orthopedics at The Medical City, an Associate Clinical Professor at the Department of Orthopedics, University of the Philippines - Philippine General Hospital, and an active consultant at the Capitol Medical Center. He is a founding member and past president of the Philippine Musculoskeletal Tumor Society. He is also a member of the Advisory Board of the Asia Pacific Musculoskeletal Tumor Society. He is currently director of the Medical Information Management Division of the Medical Services Group of The Medical City

#### **Lecture: GCT: Introduction/Clinicoradiologic Features/Diagnosis**

### PATRICK M. DIZON, MD, FPOA



Dr. Patrick Dizon did his Orthopedic residency training and served as Chief Resident at the University of the Philippines - Philippine General Hospital. He pursued his first fellowship in Hip and Knee Arthroplasty at the St. Vincent's Hospital in Sydney, Australia. He then did his second fellowship in Sports and Arthroplasty at the St. John of God Hospital in Ballarat, Australia, training in Arthroscopy of the Shoulder, Elbow, Knee and Ankle, as well as treatment of Shoulder Arthritis with Reverse Total Shoulder Arthroplasty. His third fellowship





was on Shoulder and Upper Extremity at the Queen Elizabeth Hospital in Adelaide, Australia, with extensive training in Shoulder Arthroscopy for Rotator Cuff Tears and Bankart lesions, as well as training in Anatomic and Reverse Total Shoulder Arthroplasty for trauma and arthritis.

Currently, Dr. Dizon is a Clinical Associate Professor at the University of the Philippines- Philippine General Hospital under the Department of Orthopedics, and is part of the Sports and Arthroscopy Service as well as the Shoulder service.

### **Lecture: Shoulder Trauma**

*Abstract: The shoulder is a very mobile joint which can be subjected to trauma. Trauma around the shoulder can involve the bony anatomy as well as the soft tissue around it. Fractures of the shoulder involve the proximal humerus, clavicle and scapula. Proximal humerus fractures are relatively common injury especially in the elderly which usually sustain their injury after a fall. Clavicle fractures are also common but in young adults after a fall or direct blow. Scapular fractures are relatively uncommon due to the extensive soft tissue coverage. Most scapular fractures occur after high energy trauma.*

*Trauma involving the soft tissues around the shoulder includes shoulder dislocation, rotator cuff tear, and acromioclavicular joint injuries. Shoulder dislocation is relatively common especially in young adults and there has been a slow trend towards operative management. Rotator cuff tears are more common in the elderly but can also affect the young after significant trauma. Acromioclavicular joint injuries are slowly being recognized with the increase in contact sports resulting in direct blow to the shoulder.*

### **DANIEL V. DUNGCA, MD, FPOA**



Dr. Daniel V. Dungca graduated from the University of the Philippines College of Medicine and took his Orthopaedic residency at the UP-Philippine General Hospital. He subsequently completed his fellowships in Ilizarov and Limb Deformity Surgery at his alma mater and in Paediatric Orthopaedics at the KK Hospital in Singapore.

He is currently the Residency Training Officer and Head of the Ilizarov and Limb Deformity Service of the Department of Orthopedics in Jose R. Reyes Memorial Medical Center and is also a Paediatric Orthopaedic consultant at the Philippine Orthopaedic Institute. Currently an assistant professor at the Ateneo School of Medicine and Public Health, he is also affiliated with the The Medical City and Tarlac Provincial Hospital.

He is the secretary of the Association for the Study and Application of the Methods of Ilizarov-Philippines and of the Paediatric Orthopaedic Society of the Philippines. A past president of the North Luzon Chapter of Philippine Orthopaedic Association, he is also an associate examiner of the Philippine Board of Orthopaedics and a member of the International Review Panel of the Malaysian Orthopaedic Journal.

### **Lecture: Principles of Deformity Correction**

*Abstract: Limb deformities cause disturbances in functions for daily living. Properly identifying the*



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causes of these deformities is the first major step in correcting them. Pre-operative analysis will determine where and how correction can be done in order to achieve the desired results. The principles for deformity correction of the lower extremity shall be presented and discussed, along with the latest hardware and software applications for these conditions.

### RUPERTO O. ESTRADA JR., MD, MHA, FPOA, FPCS



Medical Specialist III – Philippine Orthopedic Center  
Chairman, Infection Control Committee – Philippine Orthopedic Center  
Attending staff, orthopaedic surgery:  
Medical Center Imus, Imus City, Cavite  
St. Dominic Medical Center, Bacoor City, Cavite

#### **Lecture: Osteomyelitis: Dealing With Emerging and Resistant Pathogens**

*Abstract: A resistant pathogen is one which has developed the ability to resist the effects of an antibiotic to which it was once sensitive. An emergent pathogen is one which causes 1) an infection that has increased in incidence in the last two decades, 2) an infection spreading in a new geographical area and 3) an infection that has developed resistance to antibiotics. A concern is that there is a discovery void of antibiotics since the development of daptomycin in 1987. Mechanisms for the development of resistance in microorganisms include 1) inactivation/modification of an antibiotic, 2) reduction in the binding capacity of an antibiotic, 3) modification of metabolic pathways to circumvent the antibiotic effect and 4) reduced intracellular antibiotic accumulation by increasing the active efflux of the antibiotic. Risk factors can be modified to prevent wound healing complications; no evidence suggests modifying these will prevent surgical site infections. Nosocomial transmission has been identified as an important mechanism for orthopaedic infections. Staphylococcus aureus is a common pathogen for osteomyelitis in all age groups as well as in drug users, immune-compromised patients, spine surgery, internal fixation devices, contaminated open fractures, dysvascular limbs. Pseudomonas aeruginosa is a common pathogen for nosocomial and urinary tract infections. Examples of emergent pathogens causing osteomyelitis and soft tissue infections are Eikenella corrodens seen in clenched-fist injuries and Propionibacterium acnes, in which its incidence has been increasing after shoulder surgery. The control of emerging and resistant infection starts with the early identification of the organisms, diagnosis of the infection and its prompt treatment; identification is aided by bacteriology, PCR, and other tests. An important arm in the treatment of these problematic infection is the participation of a hospital infection control committee locally and implementation of an antibiotic stewardship program on a broader scale.*



### EDGAR MICHAEL T. EUFEMIO, MD, FPOA



Dr. Edgar Michael T. Eufemio is a graduate of the University of the Philippines (UP) College of Medicine and finished as Chief Resident of the UP-Philippine General Hospital (PGH) Department of Orthopedics. He completed his Fellowship in Sports Medicine at the University of Cincinnati and was the "godfather" during his Travelling Fellowship with the European Society of Sports Traumatology, Knee Surgery and Arthroscopy and Asia Pacific Orthopedic Association or ESSKA-APOA in 2008. He had additional training in Platelet-Rich Plasma at the Orthopaedic Arthroscopic Surgery International in Milan, Italy.

He was the founding Head of the UP-PGH Department of Orthopaedics Sports Clinic from 2000 to 2010.

He is the past President of the Philippine Orthopedic Society for Sports Medicine from 2011 to 2014 and the past President of the ASEAN Society for Sports Medicine and Arthroscopy from 2014 to 2015.

He is a Consultant at the Cardinal Santos Medical Center, is the Head of the Ortho-Rehab-Rheuma Division of the MegaClinic and is the Medical Director of the Peak Form Sports Recovery Center,

He is the Philippine Medical Association's 2016 Awardee for Outstanding Contribution to Modern Medicine for his "Implant-less" ACL Reconstruction Technique and for developing "The Fitness Quotient"

**Lecture (Industry): Fitness Quotient (Lunch Symposium)**

### ROSALYN P. FLORES, MD, FPOA



Dr. Flores is a graduate of the University of Santo Tomas – Faculty of Medicine and Surgery. She underwent her residency training at the University of Santo Tomas Hospital, during which she was recognized as an Outstanding Orthopaedic Resident by the Philippine Board of Orthopaedics from 2010-2012. After residency training, she pursued a Pediatric Orthopaedic Fellowship Training at the National University Hospital, Singapore. Dr. Flores is also a recipient of the 2016 American Academy of Orthopaedic Surgeons – International Surgical Skills Scholarship, which gave her the opportunity to attend an observership program in Pediatric Orthopaedics at the Nemours/Alfred I. DuPont Hospital for Children in Wilmington, Delaware.

She is currently part of the medical staff of the University of Santo Tomas Hospital (Department of Orthopaedics – Section of Pediatric Orthopaedics) and Rizal Medical Center (Department of Surgery – Section of Orthopaedics). She is also the Medical Adviser of the Philippine Clubfoot Resource Center.

**Lecture: Pediatric Knee Anatomy**

*Abstract: This lecture will discuss the differences between the pediatric and the adult knee anatomy, as*





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*well as how these anatomic peculiarities would impact surgical decision-making in the management of common pediatric sports injuries of the knee.*

### VICENTE R. GOMEZ, MD, FPOA



Member of the Pediatric Orthopedic Society of North America and Howard Steel Awardee for Clinical Research in 2000. He completed his Pediatric Orthopedic Fellowship at the Childrens Hospital at Stanford University. He is a member of the Pediatric Orthopedic Society of the Philippines, IFPOS, POA and Philippine College of Surgeons. His present positions are: President of the Philippine Orthopedic Institute, Inc., Deputy Director and Head of Surgery and Allied Medical Specialties of the Philippine Childrens Medical Center under the Dept of Health, Chairman of Orthopedics at Providence Hospital, Active Staff at the Makati Medical Center and Cardinal Santos Medical Center. He is a columnist of the Philippine Daily Inquirer and has been featured in the Discovery Channel. He is also Medical Director of the Sports Programs of all De La Salle schools.

#### **Lecture: Neglected Lateral Condyle Fractures**

*Abstract: The treatment of neglected lateral condyle fractures is always a challenge because of the high rate of non-union and the difficulty of working with an open physis in the fractured fragment. For 25 years, I have been using a Flynn operation to fix the fragment and bone graft on the metaphyseal portion. A series of 62 patients operated on with this technique and followed up to skeletal maturity showed a union rate of 94% after six months. In this series there have been 12 that had residual cosmetic deformity of slight cubitus varus but were all fully functional. We review other studies that have managed neglected fractures within a period of six months to two years and others that feature corrective surgery for cases with a residual deformity or non-union.*

### RAMON B. GUSTILO, MD



Professor of Orthopedic Surgery  
University of Minnesota  
Minneapolis, USA

Dr. Ramon B. Gustilo graduated from the University of the Philippines and took his residency and postgraduate education in Orthopaedic Surgery at the University of Minnesota Post Grad School (USA). He is a professor of Orthopedic Surgery at the University of Minnesota.

From the 1960's to 1990, he held notable positions including as past chairman of the Departments of Orthopaedics of Hennepin Country Medical Center, the Metropolitan Medical Center, and of St. Louis Park Medical Center, all located in Minnesota (USA). He was the chartered president and founder of the Orthopaedic Trauma Association (1984-1985) and the Orthopaedic Trauma Hospital Association (1981-1984). Among his most noteworthy appointments were as state representative of the subcommittee in injuries of the American Academy of Orthopaedic Surgeons (1975), as president



of MIN-DA-MAN Orthopaedic Society (1974), and as chairman of Twin City Orthopaedic Society (1969).

He is a member of numerous professional societies, and his vast research and papers in Orthopaedics were published in books and in over a hundred peer review journals (USA). He has made scores of significant orthopaedic implant designs and inventions.

He is the founder and a member of the Philippine Orthopedic Institute, and is the chairman and CEO of Orthopaedic International, Inc. (Philippines), the Rabagus Ventures, Inc. (Philippines), and Cerquit Solutions, Inc. (Philippines). He is also a member and founder of ExceLEN Foundation (USA). He is a recipient of and heads the Department of Science and Technology multiyear grant, "Development of an Affordable Quality Knee System for Filipinos and ASEAN Countries".

**Lecture (Industry: OII): Total Joint Arthroplasty in Ambulatory Surgery Centers**

#### DR. SHARAF IBRAHIM



Dr. Sharaf Ibrahim is a Paediatric Orthopaedic Surgeon. Among his qualifications include: MBBCh Hons (Cairo) 1983; FRCS (Glasg) 1989; MS Orth (UKM) 1990; Paediatric Orthopaedic Fellowship Royal Hospital for Sick Children Glasgow (1995)

**Lecture: Blount's Disease: Pathology, Evaluation and Treatment for Langenskiold I-III**

#### JUANITO S. JAVIER, MD, MChOrth, FPOA



Dr. Juanito S. Javier is an Associate Professor of the College of Medicine, University of the Philippines Manila. He is the Head of the Pediatric Orthopaedic Section of the Department of Orthopaedics, Philippine General Hospital. He is the founding President of ASAMI Phil. and former President of the Pediatric Orthopaedic Society of the Philippines. He is a graduate of the UP College of Medicine and finished training in General Orthopaedics in the Dept. of Orthopaedics, UP-PGH, in Pediatric Orthopaedics at the Royal Hospital for Sick Children, Glasgow, Scotland and Ilizarov Surgery at the Lecco General Hospital, Lecco, Italy.

#### **Lecture: Clinical Applications of Deformity Principles**

*Abstract: Restoration of proper mechanical axis and other alignment standard measurements are key to good clinical outcomes when confronted with limbs requiring deformity correction. The lecture will be confined to lower extremity deformity correction. The principles outlined in this instructional course lectures can be applied to cases like malunion, non-union, Blounts, degenerative arthritis, congenital deformities and others requiring corrective osteotomies. The principles hold through whether one uses*



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*osteotomy plates, pins, casts, circular fixator or even the more advanced six axes external fixator like the Ortho SUV.*

### **RAFAEL F. JOSON, MD**



- Assistant Director, Institute of Radiology, St Luke Medical Center, Quezon City
- Head, MRI Section, Institute of Radiology, St Luke Medical Center, Quezon City
- Head, Musculoskeletal Section, Institute of Radiology, St Luke Medical Center, Quezon City.

***Lecture: Advanced Imaging of Orthopaedic Injuries in Children***

### **LUZVIMINDA SALOMON KWONG, MD, FPSA, FPSO, DPBPM**



- Head, Pain Management Center, St. Luke's Medical Center; Pain and Palliative Care Section, Cardinal Santos Medical Center; Pain Clinic, Quezon City General Hospital &; Pain Clinic, The Metropolitan Hospital
- Chair, Palliative Care Unit, National Kidney & Transplant Institute
- Member, Board of Trustees, Philippine Board of Pain Medicine
- Member, Board of Trustees & the Auditor; Vice President for External Affairs from 2008 to 2014, National Hospice Palliative Care Council of the Philippines
- Volunteer & 10X Chair of Entertainment, Yearly Relay For Life of the Philippine Cancer Society, Inc.

- Visiting Consultant: The Medical City, Pain Management Clinic; Delos Santos Medical Center
- Past President: Pain Society of the Philippines; Philippine Society of Oncology, Inc.

***Lecture: New Perspectives on Pain Management in Orthopaedics***

### **ELLEN Y. LEE, MD, FPOA**



Senior Resident, National University Health System, Hand and Reconstructive Microsurgery, Singapore

Ellen went to Singapore as a clinical fellow of the National University Hospital Department of Hand and Reconstructive Microsurgery last 2010. Through the years, the department has been her home and with the support of her consultants, Ellen is now a final resident in the same department.

Ellen is interested in nerve injury and regeneration. She is challenged by its unpredictable nature in spite of the surgeon's skill and precision. She has co-written book chapters /journal articles and actively participates in research in this field. Ellen also enjoys administrative





work and welcomes the challenge of helping services run smoothly while making sure that junior staff gets adequate exposure in clinics and surgeries, as well as adequate time for rest, research, and study. Ellen also enjoys doing attendance and rosters for her church and bible study class. She finds strength in God and has faith in His plan which has brought her thus far.

Ellen received her undergraduate degree in Biology and medical degree from the University of Philippines. She completed her Orthopaedic residency in the University of the Philippines - Philippine General Hospital and served as the department's first female chief resident. She then completed her clinical fellowship in Hand and Foot Surgery with University of Hong Kong, Department of Orthopaedics and Traumatology. She was a practicing Orthopaedic surgeon in Metro Manila and taught hand surgery for the Department of Orthopaedics, De La Salle University Medical Center before pursuing further training in Reconstructive Microsurgery in Singapore.

**Lecture: Diabetic hand infections**

*Diabetic hand infections are associated with significant morbidity. Smoking and poor blood sugar control puts diabetic patients at risk. Patients who have arterio-venous fistulas on the affected limb requires special attention. Successful treatment starts with early recognition. Treatment involves resuscitation and surgical debridement. Anatomy is key to an effective debridement that allows early reconstruction and rehabilitation.*

**ENG HIN LEE MD, FRCS(C), FRCS(Edin), FRCS(Glas), FAMS**



Dr Lee is currently Professor of Orthopaedic Surgery in the National University of Singapore. He is Emeritus Consultant in Orthopaedic Surgery at the National University Hospital and Senior Consultant in Orthopaedic Surgery at the KK Women's and Children's Hospital. He was a former Dean of the Faculty of Medicine, National University of Singapore. Dr Lee received his undergraduate and postgraduate medical training in Canada and specializes in Paediatric Orthopaedics. He is acknowledged internationally as a leader in paediatric orthopaedics and is an elected member of the International Paediatric Orthopaedic Think Tank.

Dr Lee is currently the Program Leader of the NUS Tissue Engineering Program and is known for his research on Stem Cells in the Musculoskeletal System, especially Cartilage Repair and Regeneration. His research has won him the Best Scientific Paper Award by the Paediatric Orthopaedic Society of North America twice. He won the Outstanding Researcher Award from the National University of Singapore for 2006 and the Outstanding Clinician Mentor Award from the Ministry of Health in 2008. He was given the Lee Foundation/NHG Lifetime Achievement Award in 2008.

Dr Lee is a Deputy Editor of the Journal of Bone and Joint Surgery, Co-Editor of the Journal of Bone and Joint Surgery Open Access, and is on the editorial boards of several international refereed journals in orthopaedic surgery (including Journal of Paediatric Orthopaedics (A), Journal of Paediatric Orthopaedics (B), Journal of Orthopaedic Surgery and reviews regularly for high impact journals in orthopaedics, stem cells and tissue engineering. He has over 150 publications in refereed journals and



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over 300 conference papers. He has co-authored a book entitled “Stem Cells: from Bench to Bedside” which is used by many international centres as a reference and textbook for stem cell courses. The book is now in its second edition.

### **Lectures:**

***Stem Cells in Paediatric Orthopaedics: How Far Have We Gone?***

***Overview of DDH Management: What the Current Evidence Says***

***Growth Plate Injuries: Evaluation and Treatment Updates***

### **A/PROF. ARJANDAS MAHADEV**



A/Prof. Arjandas Mahadev is based in KK Women's and Children's Hospital, Singapore in the capacity of Head and Senior Consultant in the Department of Orthopaedic Surgery. His main interest lies in paediatric foot & ankle and hips. Paediatric trauma forms the bulk of his work. He did his fellowship in Paediatric Orthopaedic at the Children's Hospital, San Diego and is a corresponding member of the Paediatric Orthopaedics Society of North America (POSNA)

He is deeply involved in the teaching and training of undergraduates, graduate students and Residents in Orthopaedics. He holds teaching appointments as Adjunct Associate Professor with Yong Loo Lin School of Medical, National University of Singapore (NUS) and with Duke- NUS Medical Graduate School. He is the Associate Programme Director (APD) for the SingHealth Orthopaedic Surgery Residency Programme. He also holds the position of Academic Vice-Chair for Education for the SingHealth Duke-NUS Academic Medical Centre, Musculoskeletal Sciences Academic Clinical Programme.

He is well published and has been actively involved as invited speaker and presenter in conferences and courses both local and international.

He volunteers at the Spastic Children's Association of Singapore and is a member of the Muscular Dystrophy Association of Singapore. He has been involved in several charitable community projects including The President's Challenge in 2007 and has been active in educational outreach programmes for Paediatric Orthopaedic around the region.

### **Lectures:**

***Slipped Capital Femoral Epiphysis: Diagnosis, Imaging & Assessment***

***Orthopaedic Manifestations of Non-Accidental Injuries: How Not To Miss It***

***LCPD: Evaluation, Imaging, Etiology and Stages***

**DILBERT A. MONICIT, MD, FPOA**

Diplomate, Philippine Board of Orthopaedics  
 Fellow, Philippine Orthopaedic Association  
 Fellow, Philippine Orthopaedic Trauma Society  
 Fellow, Philippine Hip and Knee Society  
 Member, ASEAN Arthroplasty Association

**Lecture: Patellofemoral Syndromes in Pediatrics**

*Abstract: Patellofemoral pain syndrome is one of the most common causes of knee pain in young athletes. The condition is usually an overuse injury that results from activities that cause repetitive pressure or friction on the cartilage behind the kneecap. Young athletes who participate in sports that involve running, jumping, or squatting are susceptible. Most cases of patellofemoral pain in children is caused by trauma and malalignment syndromes (or a combination of both) and can usually be managed successfully with non-operative methods. Success in treatment depends on a precise understanding of the original or underlying cause of the child's patellofemoral pain.*

**DR. CHRISTOPHER S. MOW (USA)**

Dr. Christopher S. Mow is currently a Clinical Associate Professor and International Program Director at the department of Orthopaedic Surgery, Stanford University Medical Center, Stanford CA. He took his MD at the New York University School of Medicine (1982-1986); His BA at the Cornell University Asian Studies (1978-1982) and HS at the Phillips Exeter Academy (1974-1978) Dr. Mow had his medical internship at the Lenox Hill Hospital, New York, NY (1986-1987) and pursued his orthopedic residency at the Hospital for Special Surgery, Cornell University Medical Center, New York, NY (1987-1991). He is also an Orthopaedic Board Certification passer in Written (1991), Oral (1994) & Re-certification

(2004). Dr Mow had his fellowship training as an Adult Reconstructive Fellow at the Department of Orthopaedics, University of Colorado Health Sciences Center, Denver Co (1991-1992). He presently holds honorary positions which include: Honorary Professor of Orthopaedic Surgery, Zhongshan Sun Yat-sen School of Medicine, Guangzhou, Peoples' Republic of China; Yang Ming Medical College, Taipei, Taiwan; Honorary Professor of orthopaedic Surgery; Honorary Professor of Orthopaedic Surgery, No.1 University Hospital, West China University of Medical Sciences, Chengdu, People's Republic of China; Honorary Professor of orthopaedic Surgery, Tianjin Hospital Tianjin, People's Republic of China, and Honorary Professor of Orthopaedic Surgery, Tianjin First Medical Center, Tianjin Second Medical University, Tianjin, Peoples' Republic of China.

He presently has the following editorial, committee and board positions: Faculty Review Board University of Malaya, Kuala Lumpur Malaysia; Honorary Founding Patron, Indonesia Hip and Knee Society, Jakarta, Indonesia; Chairman, Board of Directors, Liu Kong-le Foundation for Medical Education and Exchange, Hong Kong SAR, China; Consultant Reviewer, Clinical Orthopaedics and Related Research Committee Member, Research and Grant Board, American Association of Hip and Knee Surgeons; Board of Directors Asian American Institute for Research and Education Pittsburgh,





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PA (President Savio L. Y. Woo, PhD); Committee Member, Evaluation and Examination Committee, American Academy of Orthopaedic Surgeons [AAOS]; Board of Directors, Chinese Speaking Orthopaedic Society, Hong Kong, China; Committee Member, Hip, Knee, and Adult Reconstruction, American Academy of Orthopaedic Surgeons (AAOS); and Board of Directors, Lau Foundation for Chinese Medical and Cultural Education, Taipei, Taiwan, Republic of China.

### **Lectures:**

***Robotic Assisted THA/TKA: Is It the Future?***

***Treatment Algorithm for PJI: Current Recommendations***

***Outpatient Total Knee Replacement: How and when is it possible?***

### **BOBBY KIN WAH NG, MD**



Dr Bobby KW NG is currently consultant surgeon in the department of Orthopaedics and Traumatology at the Prince of Wales Hospital and Honorary Associate Professor of Chinese University of Hong Kong. He specializes in Paediatric Orthopaedics. His research interests include scoliosis, limb deformity correction and lengthening, Paediatric trauma, neuromuscular and Paediatric hip disorders. He dedicates to provide the best quality care to his patients through attention to the patient needs and improving treatment methods. He has been awarded the most appreciated doctor by the Hospital for many years. He has developed many innovative treatment methods such as new close reduction method

for treatment of supracondylar fracture of humerus, home traction for developmental dysplasia of the hip, Arthrodiastais for Perthes disease, Modified Ponseti Club foot treatment, Navigation guided Pelvic osteotomy, Anterior approach for Thoracolumbar scoliosis, Video-Assisted –Thoracoscopic – Surgery in scoliosis, Navigation guided spine instrumentation, Fixator on fixator for limb deformity correction surgery, dynamisaion device for circular fixator in the treatment of limb lengthening. He participates actively in clinical and basic science researches.

### **Lectures:**

***Femoral Neck Fractures in Children: Avoiding Treatment Complications***

***Hip Joint Distraction Treatment for LCPD***

### **RAYMOND Y. NUÑEZ, MD, FPOA**



Dr. Raymond Y. Nuñez specializes in orthopaedic shoulder surgery. He has 2 clinical fellowships in shoulder surgery first at Seoul National University Bundang Hospital, in Seoul, South Korea and at the world-famous Alps Surgery Institute in Annecy, France under Dr. Laurent Lafosse. He finished his residency in orthopaedic surgery at the University of Santo Tomas Hospital (USTH) where he was a Chief Resident in 2004. He also finished his internship at USTH and finished medicine at the UST Faculty of Medicine and Surgery. He is a recipient of a scholarship Grant from the République Française Ministère des Affaires Étrangères et Européennes in 2007. He is consistently at the Top 10 of the PBO



In-Service Training Examinations and he also received the PBO Outstanding Orthopaedic Resident Award in 2003.

He has delivered lectures and had also performed a number of live surgery demonstrations both here in Asia and in Europe. He has co-organized a number of arthroscopic workshop courses at the UST Orthopaedic Learning Center with Dr. Alberto Ma. V. Molano. Dr. Nuñez has a number of research papers presented locally and internationally.

He is currently the Secretary of the Philippine Shoulder Association; Chief, Section of Shoulder Surgery, Department of Orthopaedics, University of Santo Tomas Hospital and; Assistant Director of the University of Santo Tomas Hospital Orthopaedic Learning Center.

**Lecture: Shoulder Instability**

*Abstract: The shoulder joint is the most mobile joint in the human body, it is also the most commonly dislocated joint. It is one of the oldest orthopaedic conditions being treated since the time of Hippocrates. The presentation will show updated practice guidelines as well the most recent evidence on the treatment of shoulder instability.*

**PROF. JOO HAN OH, MD, PhD**



Prof. Oh is currently the Chief of Shoulder Surgery Division, Department of Orthopaedic Surgery, Seoul National University College of Medicine, Seoul, Korea and Director of Upper Extremity Service, Joint Reconstruction Center, Seoul National University Bundang Hospital, Korea.

He is also the Secretary General of the Korean Shoulder and Elbow Society since March 2010 and Secretary General of the 2016 13th ICSES (International Congress of Shoulder and Elbow Society).

**Lectures:**

***Anatomical Shoulder Replacement for Fractures***  
***Reverse Total Shoulder Replacement for Fractures***  
***Traumatic Rotator Cuff Tears***

**WILFREDO B. PACHECO, MD, FPOA**



Assistant Chair for Undergraduate Education, Dept of Orthopedics, UP-PGH  
 Associate Professor, Dept of Orthopedics, UPCM  
 Consultant, Trauma Section, Dept of Orthopedics, UP-PGH  
 Member, AO Trauma Philippines



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### **Lecture: Tibial Plateau Fracture in the Elderly: Extra Care Needed!**

#### **Abstract:**

- I. Difference between tibial plateau fracture in the elderly vs the young (MOI, co-morbidities, anticoagulants)
- II. Indication for non-operative treatment and how to treat non operatively
- III. Indication for operative treatment and options for operative treatment (EF, combined EF and IF, ORIF, balloon tibioplasty, acute TKA )
- IV. Complications

### **NILO T PANER, MD, FPOA**



Fellowship in Joint Replacement Surgery – St Vincent’s Clinic, Sydney, Australia  
Clinical Fellowship in Bone and Joint Infections – Bone Infection Unit, Nuffield Orthopaedic Centre, Oxford, UK  
Orthopedic Residency Training – UP-Philippine General Hospital  
Medical School – UST Faculty of Medicine and Surgery

### **Lecture: Periprosthetic Joint Infection: Establishing Diagnosis Early and Accurately**

*Abstract: There is a growing trend in the number of joint replacements being done. Together with this is the expected increase in the number of cases of periprosthetic joint infections. It is crucial that we establish the diagnosis early, since the goal is to save the prosthetic joint. Unfortunately there is no single diagnostic procedure accurate enough to determine this. Diagnostic imaging, synovial fluid aspiration and analysis, serum biomarkers, intra-operative frozen section and tissue cultures remain to be useful in the diagnosis of periprosthetic joint infections despite their individual limitations. Focus also on low virulent infections which is more difficult to diagnose.*

### **JUAN CARLOS S. PAREDES, MD, PTRP, FPOA**



He attained his Medical Degree in the University of Santo Tomas Faculty of Medicine & Surgery Manila, Philippines where he graduated Cum Laude

He had his Residency Training in the Institute of Orthopedics and Sports Medicine – St Luke’s Medical Center, Philippines where he was given the Outstanding Orthopedic Resident Award for the years 2008, 2009, 2010 and had consistently ranked in the top 3 during the In Service Training exams. He had his Fellowship Training in Shoulder surgery under Dr. Evan Flatow in Mount Sinai Medical Center New York, New York

He was a Clinical Associate Professor in Orthopedics – University of Perpetual Help Rizal, JONELTA Foundation School of Medicine and currently a consultant of St Luke’s Medical Center, University of Perpetual Help Medical Center and Asian Hospital and Medical Center

He has published and presented several local and international papers and has recently contributed to the instructional course lecture volume 62 of the American Academy of Orthopedic Surgeons.





**Lecture: Clavicle Fracture: Current Concepts in Management**

*Abstract: Review of current clavicle fracture treatment strategies based on their anatomic location and stability with a necessary distinction made between fractures in adults and skeletally immature patients.*

**ENRIQUE LEONARDO C. PASION, MD, FPOA, FACS**



Dr. Enrique Leonardo Pasion completed his MD degree at the UP College of Medicine and orthopaedic residency training at the Philippine General Hospital. He went to Australia for the Melbourne Knee & Shoulder fellowship conducted at the Waringgal Private Hospital & Mercy Private Hospital in 2010. He also had his postgraduate fellowship in Sports Medicine and Adult reconstructive surgery (arthroplasty and arthroscopy) at the National University Hospital, Singapore.

Dr. Pasion is head of the Sports Medicine & Human Performance Center and department of Trauma Service with the Asian Hospital and Medical Center. He also heads the Orthopedic Sports Medicine Unit at Our Lady of Lourdes Hospital & San Juan De Dios Hospital. He is also an active consultant at The Medical City

Dr. Pasion is Director of Focus Medical, Focus Athletics; Board member of POSSM, and member of American College of Surgeons, (founding member and secretary general) ASEAN Society for Sports Medicine and Arthroscopy, ISAKOS, ESSKA, APOA, Editorial Board of Journal of Orthopaedic Surgery (JOS), Hong Kong Journal of Bone Reports & Recommendations. He is also a member of the Junior Chamber International – Manila; Official Physician, FIBA Asia Basketball & UAAP Basketball.

**Lecture: Medial Patellofemoral Ligament Reconstruction – Quadriceps Technique**

*Abstract: Patellofemoral dislocations are common. Studies have shown that MPFL is ruptured in nearly all cases of acute patellar dislocation. In most patients, non-operative management produces satisfactory outcome. If dislocation still recurs despite conservative treatment and rehabilitation, then operative intervention, namely medial patellofemoral ligament reconstruction, should be considered. This procedure aims to restore the soft tissue anatomy to normal. Here I will demonstrate how we can do it in a simple, anatomic, and cost effective way without compromising our results and outcome.*

**JOVITO RAMIL B. PAZ, MD, FPOA**



Dr. Jovito Ramil B. Paz is a board certified foot and ankle specialist. He had his Foot and Ankle Fellowship training under Dr Tan Ken Jin at the Department of Orthopaedic Surgery, Foot and Ankle Surgery Division, NUHS Orthopaedics Residency Program and had his Residency in Orthopedics at the Philippine Orthopedic Center.

He took his Doctor of Medicine at the Far Eastern University Nicanor Reyes Medical Foundation; Bachelor of Science in Medical Technology at the Far Eastern University Nicanor Reyes Medical Foundation, Secondary and Primary Education at the La Consolacion College, Iriga City.



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His current hospital affiliations are St Lukes Medical Center Quezon City, Philippine orthopedic Center and De los Santos Medical Center.

### **Lecture: Flexor Hallucis Longus Transfer for Chronic Achilles Tears**

*Abstract: Chronic Achilles tears are not uncommon entity mainly because about 20% of Achilles injuries are missed at the initial examination. They usually present as delayed diagnosis or failure of initial acute repair.*

*Typically, a patient will complain of loss in push-off strength and with inability to perform toe walking and repetitive heel rise. There can be a palpable gap noted and a decrease resting plantar flexion tone of the injured extremity when the patient is placed prone.*

*Surgical treatment is usually recommended for athletes and active patients. Tendon transfers are used alone or as an adjunct to other tendon lengthening or turn down procedures. Among the commonly used tendons for transfer are Flexor Hallucis Longus, Flexor Digitorum Longus and Peroneus brevis.*

*Flexor Hallucis longus seems to be preferred by most authors because of the following advantages, its action is in phase with the Achilles tendon, its anatomic proximity which minimizes dissection, its muscle belly provides vascular supply to the distal stump of the Achilles tendon and it is the strongest plantar flexor next to gastrosoleal complex, however some loss of push off strength during athletic activities and diminished overall plantarflexion have been reported.*

### **ADISAPUTRA RAMADHINARA, MD**



Wound Care Physician, the Specialist Wound Center, Husada Hospital & Pantai Indah Kapuk Hospital, Jakarta, Indonesia

**Lecture (Industry- Wound Care): Deconstructing NPWT - from basic science to clinical practice**

### **ALAN LEONARDO R. RAYMUNDO, MD, FPOA**



Dr Alan Leonardo Raymundo specializes in Hip and knee replacement surgery. He finished his 5 year Orthopedic residency training at the Makati Medical Center and had his fellowship training in Adult Reconstruction at the Philippine Orthopedic Institute and The Hospital for Special Surgery. He is currently a consultant staff of Philippine Orthopedic Institute and the chief training officer of the orthopedic residency program of Makati Medical Center.



### **Lecture: Platelet-Rich Plasma (PRP) in the Management of Osteoarthritis**

*Abstract: Preparation of platelet concentrates generally referred to as Platelet-Rich Plasma (PRP) has gained popularity in the recent years in our country. The accessibility of different devices that may be used to administer it to patients in an outpatient setting has caused an upward trend in its utilization. Another reason is the strong advertisement of PRP procedures as a very effective treatment not only for soft tissue healing but also for Osteoarthritis by some orthopedic surgeons based on claims of strong scientific evidence. While it is true that there has been a lot of papers published in the past pointing to significant improvement in pain and symptoms, I will be presenting updates in its use and recent findings in the treatment of Knee Osteoarthritis.*

### **MARTIN RICHARDSON, MBBS, MS, FRACS, FAOrthA**



Professor Richardson graduated with honours in Surgery and Paediatrics from the University of Melbourne Medical School. His intern and registrar training were based at the Royal Melbourne Hospital.

In 1990, he successfully completed a Master of Surgery and the following year gained entry into the Victorian Orthopaedic Training Program. He qualified for Fellowship of the Royal Australasian College of Surgeons in 1994.

In 1995 he undertook a Fellowship in Knee Surgery with Mr. John Bartlett and also a Fellowship in Shoulder/Elbow Surgery with Mr. Simon Bell.

In 1996 he ventured overseas to Portland Oregon, USA where he completed an Orthopaedic Paediatric Research Fellowship at the Shriners' Hospital for Children. During this time, he was privileged to visit with Dr Dror Paley, in limb lengthening and deformity correction and Dr Fred Matsen in Shoulder Surgery.

Professor Richardson specializes in shoulder surgery, sports related orthopaedics, knee and hip surgery. His surgical appointments include: Epworth Richmond - Central (Private), Epworth Eastern - Box Hill (Private).

Professor Richardson is involved in many research projects in Australia and Internationally. He has authored a number of book chapters and journal articles in a variety of fields in orthopaedics.

Professor Richardson is a member of the Australian Shoulder & Elbow Society and the Australasian Trauma Society. He is also the Chairman of the Victorian Trauma Committee of the Royal Australasian College of Surgeons (RACS). He is a member of the National Board of EMST/ATLS and DSTC Trauma Programs for the RACS. He is an examiner for the Basic Surgical Training (BST) Program of the RACS and the Anatomy Department of the University of Melbourne.

Professor Richardson is currently the Education Officer for AO Trauma Australia; he is a member of the AO Trauma Asia Pacific Education Committee and is the Education Officer likewise for the AO Trauma Australian Council.





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Professor Richardson Martin was invited to take up the position of Associate Professor in the Department of Surgery, University of Melbourne at Royal Melbourne Hospital in 2005.

### **Lectures:**

***Geriatric Proximal Humeral Fractures: Piece by Piece Repair?***

***Geriatric Distal Radial Fractures: Forget Fixation, Focus on Function!***

***Feedback as a Mirror for Reflection***

### **JONATHAN C. RONQUILLO, MD, FPOA**



Scope of practice: Shoulder Surgery and Sports Medicine, Arthroscopy and General Orthopaedics. Dr. Jonathan C. Ronquillo is a graduate of De La Salle University - College of Medicine in 1996. He completed his orthopedic residency training in the same institution as chief resident in March 2003, and passed his diplomate examinations in the same year. He fulfilled his subspecialty training as surgical fellow under the Shoulder and Sports Services at St. George Hospital in Sydney, Australia.

He has authored and co-authored published materials on the shoulder in peer-reviewed journals, and has presented his works in international and local conventions. He has distinct interest in research, in particular, those that can be applied to benefit more people in the marginalized sector.

Currently, he is involved in training orthopedic residents and is an assistant professor at the DLSU College of Medicine. He is also a student examiner/research paper reviewer for the University of New South Wales, Australia through the Orthopedic Research Institute of St. George Hospital in Sydney, Australia.

Dr. Ronquillo is a fellow of the Philippine Orthopaedic Association, Philippine Shoulder Society and the Philippine Orthopaedic Society for Sports Medicine. He practices at the De La Salle University Medical Center and the Asian Hospital and Medical Center.

### **Lecture: Proximal Humerus Fractures, Three- and Four-Parts**

***Abstract: Proximal humeral fractures comprise around 10% of all fractures. With a linear increase in incidence after the age of 40 years, it is the 3rd most common fracture in the elderly.***

***A significant number of 3- and 4-part fractures can be treated non-operatively with good functional outcomes. While the advent of newer fixation techniques have given orthopedic surgeons more armamentarium, these come with appreciable complications.***

***This presentation intends to discuss non-arthroplasty approaches for the management of 3- and 4-part proximal humerus, and integral factors related to the patient, the fracture and the surgeon.***



### COLEEN SABATINI, MD, MPH



Dr. Sabatini received her undergraduate degree from the University of California, San Diego where she studied biology and dance. She then moved to Boston to obtain her Doctorate of Medicine (MD) and Masters of Public Health (MPH) from Harvard Medical School and the Harvard School of Public Health, respectively. She served as an Intern in General Surgery at Massachusetts General Hospital in Boston and then completed her residency training in Orthopaedic Surgery at the Harvard Combined Orthopaedic Surgery Residency Program.

She served as Chief Resident in her last year of residency and as Editor of "The Orthopaedic Journal" at Harvard Medical School for four years. Dr. Sabatini completed her fellowship training in Pediatric Orthopaedic Surgery at Children's Hospital Los Angeles. Having been a dancer for most of her life, Dr. Sabatini's passion for caring for children with orthopaedic problems is based in her own history of orthopaedic injuries and a commitment to helping others live an active and healthy life. Dr. Sabatini's clinical practice is based at Children's Hospital and Research Center in Oakland (CHRCO) where she serves as the Director of the Orthopaedic Surgery Service. She provides care at CHRCO's main hospital in Oakland as well as the Ambulatory Center in Walnut Creek.

She also sees patients at the UCSF clinic in San Ramon. Dr. Sabatini's clinical focus includes a wide range of pediatric orthopaedic care including pediatric trauma/fractures, hip disorders, limb length discrepancies, limb deformity, foot disorders and scoliosis. Her research focuses on clinical outcomes, pediatric trauma prevention and treatment, access to care, and eliminating disparities in care. She is active in international orthopaedic work including education and research in Uganda.

#### **Lectures:**

***Ponseti Casting for Syndromic Clubfoot: How Different is it?  
Casting for Congenital Vertical Talus: Concept and Technique  
Supracondylar Fractures in Children: Tips, Tricks and Pitfalls  
Monteggia Fracture-Dislocation: Assessment and Management***

### JOSE FERNANDO SYQUIA, MD, MBAH, FPOA



Dr. Jose Fernando Syquia graduated with honors from the University of Santo Tomas (UST) Medical School. He trained in orthopaedic surgery at the Philippine Orthopaedic Center and did a clinical fellowship in Adult Reconstruction and Joint Replacement Surgery at the Stanford University Medical Center. He is an Assistant Professor and the current chief of the Section of Orthopaedic Surgery in the medical school of UST. He heads the Advanced Orthopaedics for Joint Replacement Surgery based in Cardinal Santos Medical Center and is also the head of the Arthritis Center of the De Los Santos Medical Center.

#### **Lecture: Short Stay Total Knee Replacement: What Is the Standard of Care?**

**Abstract:** *The average length of stay in a hospital for a patient undergoing total knee replacement surgery in the US has been gradually decreasing – about five days in 2005, four days in 2007, and three days in 2014. In the US, the national average at present is about 3.8 days. Short stay total knee replacement may*



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*be defined as a hospital stay of one to two days for the procedure. It is cost-effective since the length of hospitalization adds to the total cost. Furthermore, studies have shown improved patient satisfaction with the accelerated program involved. The program includes preoperative, intraoperative, and postoperative measures designed to expedite patient discharge with the least amount of complications. In fact, with proper patient selection, the risks of the procedure are not increased when compared with those cases in which the hospital stay is longer.*

### **ANDREW GABRIEL TABBERRAH, MD, FPOA**



Assistant Director, Institute of Orthopaedics and Sports Medicine, SLMC Bonifacio Global City  
Active Consultant, Institute of Orthopaedics and Sports Medicine, SLMC Bonifacio Global City, SLMC Quezon City  
Assistant Professor I, Department of Surgery, St. Luke's-William H. Quasha College of Medicine  
Clinical and Research Fellow, Joint Arthroplasty and Reconstructive Surgery, The Christ Hospital, Cincinnati, Ohio, USA  
Member, Philippine Hip and Knee Society

#### **Lecture: Strategies for Revision Surgery after PJI: Dealing with Bone Loss and Implant Selection**

*Abstract: Challenges in dealing with a periprosthetic joint infection are such an ordeal and none could be worse to deal with when severe bone loss is involved. This talk hopes to revisit present options in our current setting and the multitude of choices we have at our disposal. Moreso, it should always be emphasized that bone loss may be due to several factors, and in the setting of a periprosthetic joint infection, care in removal of an infected joint prosthesis is of paramount importance for bone preservation. Choices for reconstruction pose a separate challenge and the surgeon must discern which may be best suitable to his patient and his personal surgical skill and experience.*

### **PROF. DEVEN K. TANEJA, MD, MBBS, D.ORTH, MS ORTH, FAMS**



Professor & HOD of Orthopaedics & Medical Director  
Arihant Hospital & Research Centre  
Indore, India

Having qualified as Orthopaedic Surgeon in 1968, he has remained very active orthopaedic surgeon. He worked hard to reach to the top of the ladder and became chief executive officer and Dean of M. G. M. Medical College, Indore, from where he retired in 2003 and still very active and busy orthopaedic surgeon. His main mission was to bring up orthopaedic specialty to the National level in central India. He formed Indore Orthopaedic Association in 1972. He became the first orthopaedic surgeon from central India to become the President in Indian Orthopaedic Association in year 2000. He is life trustee and Secretary of Orthopaedic Research & Education Foundation – India and Secretary General of World Orthopaedic Concern.





He crossed the borders and was responsible in forming Orthopaedic Association of SAARC countries in 1998. He is now the President of this International body. He has received many awards. To mention few he is the first recipient of – Dr. S. K. Mukherjee award for excellence in medicine, Dr. B. N. Sinha meritorious award from Indian Orthopaedic Association and Distinguished Emeritus Teacher award from National Board of Examination, Ministry of Health, Government of India. He has received Global Award from WOC for his work for physically challenged in Third World. He is the first and only orthopaedic surgeon from M. P. who had been conferred fellowship by National Academy of Medical Sciences. It is the highest honour a medical man aspires. He has also been conferred fellowship of Royal Society of Medicine, England recently. He has delivered more than 12 National and state level prestigious orations and more than 150 guest lectures. He has made a very significant contribution in upliftment and rehabilitation of physically handicapped. He has conducted more than 140 rural camps where each camp was attended by thousands of physically handicapped. He has been to many third world countries as volunteer like Bhutan, Indonesia, Malawai, Ethiopia etc. He has published many articles and edited 16 books on orthopaedic. He is a passionate teacher loved by his students and colleagues. Besides orthopaedic he is a keen photographer, Rosarian, Rotarian and public speaker.

#### **Lecture: Diagnosis of Musculoskeletal Infection**

*Abstract: The musculoskeletal infection can present from Cellulites to Septic arthritis to chronic osteomyelitis. A good history and clinical examination supported by blood examination will clinch diagnosis in majority of the cases. However, at times the diagnosis is very difficult. Once the diagnosis is made we need to isolate the organism and find out the sensitivity for the treatment purpose. Often the mistakes are made in collection of the specimen and transfer to lab. The imaging techniques have much advanced from plain X-ray to Ultrasound to MRI to radionuclide studies. Ultrasound is good to evaluate moderate to severe infection both as diagnostic and therapeutic aid. MRI is very helpful as findings appear within two days. Through radionuclide studies the hotspots are easily detected. Other tests include Biochemical reaction where we use substrates and sugar to identify pathogens and serological tests. This can be direct or indirect. In some cases immuno serology is also under taken. These days certain molecular diagnostic test are also under taken where the organism are identified on the basis of their genetic makeup. Once such example is PCR test. It has advantages and disadvantages also. Certain invasive investigations like aspiration and biopsy are very helpful investigations. Endoscopic examination like arthrocentesis and arthroscopy are helpful tools as well. Merit and demerits of each method will be discussed.*

#### **MICHAEL KAI-TSUN TO, MBBS(HK), FRCS(Edin); FRCSE(Ortho)Edin; FHKCOS; FHKAM**



Dr. Michael To is a clinical assistant professor of the University of Hong Kong. He graduated from the University of Hong Kong in 1999 and obtained his orthopaedic fellowship in 2006. He is a paediatric orthopaedic surgeon working in both the Duchess of Kent Children's Hospital and the University of Hong Kong Shenzhen Hospital. He is in charge of the paediatric orthopaedic team in the HKU Shenzhen Hospital and also the director of the multidisciplinary program of osteogenesis imperfecta, which is currently the largest referral centre in the southern China. He is a clinician scientist and his research work had been published in a number of high impact journals. His clinical research interests include metabolic bone disease, skeletal



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dysplasia and complex limb deformity correction. He is also dedicated in tissue regeneration and nanomedicine research.

### **Lectures:**

***Strategies to Avoid SSI and Best Practice Management***  
***Antibiotic Stewardship in Orthopaedics***  
***Infection after Fracture Fixation***  
***The Masquelet Technique for Tibial Defects***

### **VIDYADHAR SALIL UPASANI, MD**



Dr. Vidyadhar (Salil) V. Upasani is a pediatric fellowship trained Orthopedic surgeon, and an Assistant Clinical Professor at the University of California San Diego. Dr. Upasani graduated summa cum laude from the University of California Los Angeles with highest departmental honors in Physiological Sciences and a specialization in Business Administration. He subsequently attended medical school and completed his Orthopedic Surgery residency at the University of California San Diego. During this time, he received funding from the National Institutes of Health (NIH) to be the Ruth L. Kirschstein research fellow at Rady Children's Hospital, where he developed a passion for pediatric hip and spine conditions. Dr. Upasani then completed his fellowship in pediatric orthopedics at the Harvard University affiliated Boston Children's Hospital.

Dr. Upasani treats all general pediatric orthopedic conditions, with a special interest in hip and spine disorders in children, adolescents and young adults. He is also working to develop a unique center at Rady Children's Hospital to treat congenital and developmental hip and spine disorders in physiologically young and active adult patients. He continues to focus on various research pursuits, including scoliosis, spondylolysis, hip dysplasia, slipped capital femoral epiphysis, femoroacetabular impingement and hip preservation. He is well published, and has received numerous research grants and awards from national and international organizations. He is a member of the Pediatric Orthopedic Society of North America (POSNA), American Orthopedic Association Emerging Leaders Program (AOA-ELP), American Academy of Orthopedic Surgeons (AAOS) and Scoliosis Research Society (SRS).

His interests outside of medicine including golf, hiking and travelling; however he spends most of his free time running after his three young children.

### **Lectures:**

***SCFE: Overview of Management***  
***Non-Surgical Management of LCPD: The Role of Bracing***  
***Femur and Pelvic Osteotomies for LCPD***  
***Bernese PAO: Indications and Technique***



### ALFRED D. VILLARICO MD FPOA



Residency Training: Institute of Orthopedics and Sports Medicine St. Luke's Medical Centre Quezon City  
 Fellowship Training: Sports Medicine National University Hospital, Singapore  
 Hospital Affiliation:  
 St. Lukes Medical Center Quezon City and Bonifacio Global City  
 Metro Davao Medical Research Center-Davao City

**Lecture: Current Concepts in Pediatric Sports Ligamentous Injuries**

### HERMINIO R. VALENZUELA, JR., MD, FPOA



Dr. Herminio R. Valenzuela Jr., completed his medical training in 1999 under the Intarmed program of the College of Medicine University of the Philippines, as well as his Orthopedic Residency in the Philippine General Hospital in 2003. Then on, he had fellowship trainings for Knee, Shoulder, Foot and Ankle at Mercy Private Hospital in Victoria, Australia, and for Adult Reconstruction at Desert Orthopedic Center, Nevada, USA. Presently, he's Head of Adult and Arthroplasty Section in East Avenue Medical Center. He's also an active consultant of The Medical City, Cardinal Santos Medical Center, and Meycauayan Doctors Hospital.

**Lecture: Chondral Scaffold Use in Articular Cartilage Regeneration**

### EDWARD H.M. WANG, MD MSc



Professor of Orthopedics, Univ of the Phil-Phil Gen Hospital  
 Author of Book "Bone Tumors in Filipinos"  
 International Advisory Board, Asia-Pacific Musculoskeletal Tumor Society  
 J of Ortho Surgery – Editorial Board and J Malaysian Ortho Assn – Manuscript Editor

**Lecture: GCT Pitfalls**

**Abstract:** Pitfalls in the management of Giant Cell Tumor of Bone (GCTB) can arise anywhere from diagnosis to adjuvant treatment to surgical management to post-treatment follow-up of this benign but aggressive bone tumor. Brown tumors of hyperparathyroidism or lytic presentations of primary malignant bone tumors may be inappropriately treated if there is no pathologic confirmation of GCTB. The bony reactions to preoperative medical management, especially with the exciting but as of yet poorly understood adjuvant denosumab, poses a challenge to intralesional surgery and may result ironically in poorer local control. Surgeries, both overly cautious and overly careless, can be risk factors for local recurrence. On the other hand, overly aggressive resections can be avoided even in the face of seemingly aggressive presentations of GCTB such as pathologic fractures and Campanacci Gr 3 lesions. Finally an appropriate post-treatment follow-up schedule should be implemented to provide good local and systemic monitoring.





POA 67th Annual Congress

# RESEARCH ABSTRACTS

Nov. 16, 2016  
Mactan Ballroom

**5-Year Clinical Outcome of Single Level Percutaneous, Indirect Posterior Cervical Decompression and Fusion for Cervical Spondylotic Radiculopathy**

*Ramos, Miguel Rafael D., MD; Saligumba, Yehlen Francis R., MD, Gamboa, Ai E., MD, FPOA, Ver, Mario R, MD, FPOA [St. Luke's Medical Center]*

Indirect posterior cervical nerve root decompression via facet distraction and fusion using interfacet spacers is an available alternative to anterior cervical discectomy and fusion (ACDF), which is the current standard of care among patients with cervical spondylotic radiculopathy. Recent studies have provided short-term clinical and radiologic follow-up on this procedure, and the purpose of this study is to present 5-year clinical results. This was a prospective, single-center, single-arm study of 24 patients, 17 of whom were available for follow-up at 5 years. Surgical treatment for all patients involved a percutaneous posterior approach with decortication of the lateral masses and facet joints at the affected foraminal level followed by placement of a cervical interfacet screws bilaterally and application of iliac crest bone autograft (IBG) and demineralized bone matrix (DBM). Clinical results were evaluated using the following criteria: neck and arm pain visual analog scale (VAS) scores and Neck Disability Index (NDI) scores measured pre-operatively, 1 day post-operatively and at 2 and 6 weeks, 3 and 6 months, and 1 and 5 years post-operatively. There were 7 males and 10 females with a mean age of 50.53 (range: 40-60 years) enrolled in the study. Twelve patients were treated at C5C6, two each at C4C5 and C6C7, and one at C3C4. The mean preoperative and 5-year scores were NDI: 67.13 versus 7.29 ( $p < 0.001$ ); VAS Neck Pain: 7.59 versus 1.65 ( $p < 0.001$ ); VAS Arm Pain: 7.24 versus 2.18 ( $p < 0.001$ ). All patients were observed to have significant improvement in function and pain compared to baseline values at all time points post-operatively. No intra-operative and post-operative complications were reported after 5 years. Our study supports current evidence of the effectivity of posterior cervical decompression and fusion for cervical spondylotic radiculopathy.

**A Prospective Randomized Controlled Trial Comparing the FARES method with the Kocher and 3-point Traction-Counter traction methods in Reduction of Anterior Shoulder Dislocations**

*Michael Sylvestre A. Saturnino; Mile Francis T. Dela Rosa [Philippine Orthopedic Center]*

**Background.** The human shoulder is the most commonly dislocated major joint of the body. Various methods can be used to reduce anterior shoulder dislocation and currently, there is no gold standard of treatment. The aim of this study is to compare the FARES (FAst, RELiable and Safe) method with the Kocher method and the 3-point Traction-Counter traction in terms of success in reducing anterior shoulder dislocation, speed of reduction and pain perceived during reduction.

**Methods.** A total of 105 patients with anterior shoulder dislocation were included in this study after satisfying the inclusion criteria. Each subject was randomly assigned to a group (FARES, Kocher and 3-point Traction-Counter traction) and the maneuver was performed by a resident assigned at the emergency room. Duration of dislocation, duration of reduction maneuver and pain perceived during reduction were recorded.

Results. The age, sex and mechanism of injury were not significantly different among the treatment groups. Of the 105 patients, 95 were successfully reduced. Success rate was 87% for FARES, 91% for Kocher and 94% for 3-point Traction-Counter traction. The mean duration of dislocation was significantly different among the group (p-value 0.016) with Kocher and 3-point Traction-Counter traction having the shortest and longest duration of dislocation, respectively. Speed of reduction was not significant among the treatment groups (p-value 0.084). The mean visual analogue pain score was significantly lower for the FARES method (p-value of 0.001). No post-reduction complications were noted in any group.

Conclusions. The FARES method was found to be the same with Kocher and 3-point Traction-Counter Traction methods in terms of efficacy and speed of reduction for the reduction of anterior shoulder dislocation. However, with regard to pain perceived during the reduction maneuver, the FARES method is significantly less painful.

## **Correlation of Patient-Perceived Leg Length Discrepancy with Radiographic Measurements After Total Hip Arthroplasty**

*Estrellas, Jose Luis Ariston S., MD [St. Luke's Medical Center]*

Introduction: Leg length discrepancy (LLD) is a common complication after total hip arthroplasty (THA). One should minimize the occurrence of LLD to avoid patient dissatisfaction. One method to minimize the risk and to radiographically decrease LLDs is to have accurate pre-operative planning. It is uncertain; however, if the resulting radiographic measurements correlate with the patient's perception of LLD and ultimately, their satisfaction. This uncertainty lies in the various studies worldwide that show dissenting conclusions. The objective of this study is to determine if there is such a correlation between the said radiographic measurements with patients' perception of leg length and secondarily, to determine the impact of the patient-perceived LLD after THA.

Methods: All patients who underwent THA from 2009 to 2013 in a tertiary institution were considered. The leg lengths on routine postoperative radiographs were measured according to the techniques of Woolson<sup>7</sup> and Clark<sup>8</sup>. Patients were then asked about their leg length perception and to evaluate their THA on a subjective grading scale. The interviewer was blinded from the measurements. Correlation of the leg length radiographic measurements with patient perception and satisfaction was measured through Pearson's correlation coefficient.

Results: (132) patients were studied. On measurements, 53% of the legs were longer with a mean LLD of 3.2mm (SD± 2.5), 29.5% had shorter measurements with mean LLD of 4.9mm (SD± 5.5) and 17.5% had equal leg lengths. (66%) perceived equal leg lengths. (58%) were "very satisfied" with their operation while 41% were "satisfied". Only 1 graded the THA as "satisfactory". There is no correlation between the radiographic measurements of leg length and patients' subjective evaluation. Patient satisfaction was also not correlated with LLD (Pearson's correlation coefficient, P = 0.08).

Conclusion: LLDs are not always perceived accurately as this study shows no correlation between the measured outcomes. Patient satisfaction also did not correlate with LLD. Although LLDs are common after THA, careful preoperative planning may help minimize this problem. Though there is no correlation between the minimized radiographic measurements and the patient's ultimate perception of satisfaction, it is still worthwhile to ensure good-quality surgery.

Key words: Total Hip Arthroplasty, Leg-Length Discrepancy



## **Development and Validation of a Filipino(Tagalog) Version of Foot Function Index(FFI) as a Functional Outcome Measure in Patients with Tibial Diaphyseal Fractures who underwent Intramedullary Nailing**

*Anthony A. Suguitan; Mark U. Pasion [Philippine Orthopedic Center]*

**Objective:** To determine the reliability, construct validity, and responsiveness of a developed Filipino (Tagalog) version of Foot Function Index(FFI) as a functional outcome measure in patients with tibial diaphyseal fractures who underwent intramedullary nailing.

**Methods:** The study was prospective follow-up in design. Fifty-eight subjects with tibial diaphyseal fractures who underwent intramedullary nailing were recruited. A Filipino (Tagalog) version of the Foot Function Index was developed, pre-tested, and utilized. Reliability was determined using Cronbach's alpha, values greater than .70 were considered acceptable. Construct validity was evaluated by correlating SF-36 Standard Philippine(Tagalog) version with Foot Function Index Filipino(Tagalog) version using Pearson Product Moment of Correlation coefficient. Responsiveness was measured with Effect Size (ES) and Standardized Response Mean (SRM).

**Results:** Cronbach's  $\alpha$  coefficient was 0.924 (95% CI: 0.87, 0.962). SF-36 subscales of role physical, role emotional, and mental component subscale scores displayed correlation coefficient  $>.60$  which was significant with the total FFI score at final follow-up. Largest effect size on total FFI-score of -2.93 was obtained at final follow-up. The same was true with standardized effect mean which was -8.09 after 6 months.

**Conclusion:** Initial results showed that the developed Filipino (Tagalog) Version of Foot Function Index was a reliable, valid, and responsive tool that can be used in evaluating patients with tibial diaphyseal fractures who underwent intramedullary nailing.

## **Osteoinductive Growth Factor Levels of Fracture Callus versus Iliac Crest Bone Grafts**

*Ilian Dominiq D. Eusebio; Czar Louie Gaston, Tammy Dela Rosa [UP-Philippine General Hospital]*

**Introduction:** Fracture healing comprises a myriad of events all in the name of bone regeneration, akin to the regenerative capabilities of the liver. Orthopedic fracture care is an attempt to harness the skeleton's remarkable ability to regenerate itself after injury. [3] Numerous conditions must be met, however, for bone healing to occur. Failure to meet these conditions may lead to delayed union, malunion, or non-union [9]. Bone grafting is the process by which osseous matter is harvested from one anatomic site and transplanted to another. Autologous transplantation is considered the gold standard, as it confers complete histocompatibility while possessing osteoinductive, osteoconductive, and osteogenic healing potentials. [3]

In addition to having a limited quantity available for harvest, the morbidities associated with autologous bone grafting, however, are significant, as it involves an additional operative site and results in increased operative time, blood loss, length of hospital stay and cost [3]. Donor-site pain, defined as persistent pain at more than 3 months after surgery, was found in 3 – 17% of patients [12]. Alternatives have thus been sought in an effort to increase the amount of available graft material and avoid the associated morbidities of the autologous bone graft harvesting procedure.

Allogeneic cancellous and cortical bone, demineralized bone matrix, and autologous bone marrow have all demonstrated either osteoconductive and/or osteoinductive properties and have been used as substitutes for autogenous bone graft [1,3,6]. Although popular in tumor surgery and operations addressing large segmental defects, issues with allografts include availability, high cost, immunogenicity, post-operative infections, and the probability of transmission of infective material.

Bone graft substitutes have been developed as alternatives to both types of bone grafts. They are scaffolds of synthetic or natural biomaterials that promote migration and proliferation of bone cells [1,6]. Biomaterials include collagen, hydroxyapatite, B-tricalcium phosphate, and ceramics. They are available in large quantities even for large segmental defects, however, their cost is very prohibitive. Fracture callus has previously been shown to induce bone formation when implanted in tissues [3]. Osteoinductive growth factors such as transforming growth factor-B (TGF-B), insulin-like growth factor (IGF), and platelet derived growth factor (PDGF) have been found to be present at different stages of callus formation [7]. The presence of bone morphogenic proteins with proven osteoinductive properties (BMP-2, BMP-4) in fracture callus has been confirmed through immunolocalization techniques through all stages of healing [5,6,7]. Bone morphogenetic proteins are potent osteoinductive agents, first discovered by Marshall Urist. Of the 20 members of the family, BMP 2 and 7 are the most well studied. The effectiveness of recombinant BMP 2 and 7 in treating non-unions and acute fractures have been well documented in several experimental and randomized controlled studies [1]. BMP-2 has been proven to have a direct association with fracture healing, with multiple models showing a dose-dependent stimulation of bone formation [7,8].

Although readily available for use by the surgeon, the routine use of fracture callus within the operative field as bone graft has not been summarily advocated. This is partly due to its unquantified osteoinductive and osteoconductive properties. In our institution, after exposure of the fracture site, fracture callus is removed and discarded as the surgeon sees fit. This is true even in instances where bone grafts are to be applied. This may partly be due to concerns that fracture callus is inferior to other forms of bone graft. To date, no study has published quantified levels of BMPs extracted from fracture callus versus that of standard ICBG. No clinical trials regarding the effects of implanted fracture callus on fracture healing have been undertaken.

This study aims to describe the levels of osteoinductive growth factors between fracture callus and iliac crest bone grafts in order to serve as basis for the use of fracture callus as an alternative or adjunct to iliac crest autografts. The results of this study will guide future recommendations for clinical trials on the use of implanted fracture callus as bone graft to augment fracture healing.

## **Outcome in infection of patients with open III-A tibial fractures treated with debridement and 7 days and 3 days antibiotic regimen: A prospective randomized study**

*Viern Ceazar Patino; Noel B. Carilo, Lauro R. Bonifacio [Philippine Orthopedic Center]*

**Objective:** This aimed to compare the outcomes in infection of patients aged 20 – 50 years old with open tibial III-A fractures treated with first generation cephalosporin and aminoglycoside for 7 days with those treated for 3 days post debridement. **Methods:** This study was done from May 2013 to May 2015 consisting of two groups: 7-day versus 3-day antibiotic regimen post debridement. Fifteen subjects were recruited for each intervention. Clinical signs of wound infection namely erythema, wound drainage/serous/purulent exudate and laboratory examinations namely wound culture and

WBC count were examined 48 hours after initiation of antibiotic and immediately after completion of antibiotic (8th and 4th day respectively). Results: Time to surgical intervention (12.33 hrs vs 13.47 hrs), time to initiation of antibiotics (7.33 hrs vs 7.27 hrs) and wound size (6.47 cm vs 6.67 cm) were essentially similar between the two groups. Outcomes of intervention in terms of presence of skin erythema, wound drainage, culture and WBC levels were not significantly different between the two groups both during the 48 hours after initiation of antibiotics and immediately after their completion. For both groups, decrease in the proportion of subjects showing wound drainage, positive culture and elevated WBC levels immediately after antibiotic completion were seen compared to those at 48 hrs after initiation of antibiotics. Conclusion: Preliminary evidence showed that the outcomes of a 3-day and 7-day antibiotic therapy were essentially similar. The two groups appeared to be similarly effective in controlling infection and promoting wound healing.

Keywords: Management open tibia fracture, antibiotic regimen, duration of treatment, infection

### **Preliminary Results of a Randomized Controlled Trial on the Use of Combined Percutaneous Release and Steroid Injection for Trigger Finger in Adults**

*Jerome David Sison; Tammy Dela Rosa [UP-Philippine General Hospital]*

Introduction and Objectives: Trigger Finger or stenosing tenovaginitis/tenosynovitis of the hand is one of the most common causes of hand pain and disability. Surgical treatment consists of release of the A-1 pulley by open or percutaneous techniques. Many authors have already noted that percutaneous release is a convenient, cost-effective method with a low complication rate. This method has become popular than open surgery. Only few studies published the results of combination of percutaneous release and steroid injection. We sought to compare the differences of outcomes in adults with trigger finger treated with combination of percutaneous release and corticosteroid injection to those treated with percutaneous release alone.

Methods: All patients above 18 years old in the UP PGH Department of Orthopedics, clinically diagnosed to have trigger finger and who have consented to participate in this study are included. They are randomized into two treatment groups. One group was treated with percutaneous release only (Control Group) and the other group was treated with combined percutaneous release and corticosteroid injection (Combination Group). Statistical analyses were used to determine if there were significant differences of outcomes in terms of time to return to work, post-operative pain, total active motion, patient satisfaction, and complications.

Results: Comparing pre- and post- release difference outcomes, both groups showed significant improvement in motion of the fingers ( $p = 0.034$ ) and pain ( $p = 0.001$ ). The results of the combination group were better compared to the control in terms of TAM at all time intervals ( $p = 0.03, 0.008, 0.004, 0.019$ ) and VAS scores in the 1st week ( $p = 0.009$ ). Although the statistics showed no statistical significance, patients receiving the combination treatment showed a trend toward better patient satisfaction, shorter duration of post release pain and earlier return to work.

Conclusion: The addition of corticosteroids during percutaneous release of trigger fingers has the added benefits of achieving better Total Active Motion, and better improvement in the VAS scores.

Keywords: Trigger finger, stenosing tenosynovitis, stenosing tenovaginitis, steroid injection, percutaneous release



## **Prognostic factors for the necessity of surgical debridement in adult patients with tuberculous spondylitis and validation of the SINS for determination of spinal instability in tuberculous spondylitis**

*Pamela Louise Gervasio; Samuel Grozman [UP-Philippine General Hospital]*

Background: Conservative therapy alone with the five first-line anti-tuberculous drugs, namely isoniazid, rifampicin, pyrazinamide, streptomycin and ethambutol has been an effective means of treatment of tuberculous spondylitis. Despite this, some patients treated conservatively worsen and eventually cross over to the surgical group.

Objective: This study aims to determine the prognostic factors for the necessity of surgical debridement in tuberculous spondylitis cases.

Methods: Using 23 different clinical, laboratory and radiographic parameters, a multiple logistic regression analysis was done. This data was based on 42 previously managed cases of tuberculous spondylitis. The Spinal Instability Neoplastic Score (SINS) was taken for each patient. T-test analysis was used to determine the correlation of the SINS with surgical debridement.

Results: Data that were found to be statistically significant ( $p < 0.05$ ), with a 95% confidence interval, in predicting whether the patient should undergo conservative therapy or surgical intervention, were 6 out of 23 variables. These are onset to weakness, rate to non-ambulatory status, the SINS, location of affected vertebra, abnormal alignment, and involvement of posterolateral elements. The SINS had a positive correlation with the need for surgical management, ( $P = 0.060$ ) with 95% confidence interval. Specific MRI findings were not found to be significantly related to necessity for surgical management.

Conclusions: Some clinical and radiographic parameters may be helpful in determining the necessity of surgical debridement in patients with tuberculous spondylitis. The SINS may be used in determining spinal instability in tuberculous spondylitis and may be helpful in surgical decision-making. We recommend prospective and larger scale studies for more accurate data collection to determine which patients will need surgical intervention.

Keywords: Tuberculous spondylitis, Pott's disease, SINS, spinal instability neoplastic score

## **Risk Factors for Peri-Implant Infection in Clean Orthopedic Procedures: An analysis of data of the Bone and Joint Research Group**

*Ilian Dominiq D. Eusebio; Carlo Emmanuel Sumpaico [UP-Philippine General Hospital]*

Surgical implants are commonplace in modern Orthopedic practice. The use of materials to reduce and stabilize, or replace damaged bones and joints have had a long history of good results (Bachoura, 2011). Return to pre-morbid function, early weight bearing, and protected joint movement are all the goals of internal fixation. As modern implant designs permit better internal fixation of fractures and prosthetic replacements, infections of the surgical site have also increased. Surgical site infection (SSI) is already the most common form of nosocomial infection in the United States, with an incidence of approximately 400,000 annually (Harrop, 2012)

Internal fixation and joint prosthetic replacements have been generally considered as risk factors

for infection. Many common species of bacteria are capable of colonizing the surface of metallic implants, and their introduction allows bacterial invasion of surrounding soft tissues, as well as alters the local environment. For fractures, the damaged vascularity and soft tissue injury also causes delays in wound healing and immune response, therefore increasing the risk for infection (Schmidt, 2000). Infections of internal fixation devices are generally cumbersome to treat, and have effects on the overall quality of life, healthcare associated costs, and prolonged hospital stays (Darouiche, 2003). Orthopedic SSIs have been found to prolong hospital stay by about 2 weeks and increase healthcare costs by 300% (Bachoura, 2011).

## **The Use of the String Technique in Incarcerated Ring Injuries: A Philippine Orthopedic Center Experience**

*Joyce Simbulan; Eugene Brito [Philippine Orthopedic Center]*

Ring incarceration is not an uncommon complaint in the emergency room. Common causes of incarceration include trauma, peripheral edema, arthritis or insertion of a small ring on the digit. Incarcerated rings are usually removed by destroying the ring. Sometimes, however, preservation of the ring is desired due to sentimental attachment or value. The string technique is a non-destructive way of removing incarcerated ring although its utility is not well documented in literatures. This study aims to describe the cases of ring incarceration at the Philippine Orthopedic Center and the utility of the string technique in the treatment of these cases.

A prospective descriptive study was done which included all 78 patients with incarcerated ring injuries who consulted at the Philippine Orthopedic Center during the study period. 72% were male with average age of 27 years. Most of the injuries involved the ring finger of the dominant hand. 61% of the patients were involved in industrial or manual labor and the injuries more often happen at their workplaces. String technique was attempted in 57 patients who fulfilled the inclusion criteria with success rate of 59%. Factors that were observed to influence success include ring design and the degree of swelling at the time of presentation. The degree of swelling was quantified by the difference of the narrowest and widest diameter along the affected digit. A difference of less than 6mm was a good predictor of a successful removal. The string technique remains to be an efficient way of removing and preserving incarcerated rings.

Nov. 18, 2016

1:00 pm, Nov. 18, 2016

Mactan Ballroom

## **A Case Series on Early Mobilization of Delayed Primary Patellar Tendon Repair with Semitendinosus Augmentation and Wire Reinforcement**

*Pio Rafael R. Lim, MD; Jason Paul Santiago, MD, FPOA [Philippine Orthopedic Center]*

**Introduction:** Patellar tendon ruptures are due to landing on a semiflexed knee. These may be difficult to treat if intervention is delayed to up to 3 weeks due to tendon retraction and fibrous degenerative changes. Current recommendation is to start passive range of motion (ROM) on the 3rd week post-operatively to allow healing of the repair. However, this study challenges that statement because residual knee stiffness and limited range of motion is usually the result. We initiate passive range of motion exercises as early as 1 week postoperatively with a hinged knee brace.

**Methods:** This is a case series of 5 patients seen at our institution who presented with a palpable gap and lack of active knee extension, Insall-Salvati ratio of less than 0.8, diagnosed as complete rupture of the patellar tendon, mid-substance, wherein primary tendon repair with semitendinosus grafting, reinforced with cerclage wire were done. Procedure was done inevitably more than the 3rd week post injury due to financial constraints. Passive ROM exercises and a uniform rehabilitation program were done 1 week post-operatively. Outcome measurements were taken such as knee range of motion and thigh girth measurement upon follow-up for the 3rd, 6th and 9th month post-operatively. Number of days from day of surgery to return to work was taken as a secondary outcome measure.

**Results:** Average active ROM is 88.75 degrees flexion from 3.5 degrees extension. On average, for every 10 cm uninjured thigh girth at 3rd month post op, there was 9cm injured. For every 10 cm uninjured thigh girth at 6th month post op, there was 9.3cm injured. For every 10 cm uninjured thigh girth at 9th month post op, there was 9.7cm injured. It is apparent that the ratio of injured to uninjured increased over time. The median no.of days from surgery to work is 38 days

**Conclusion:** In chronic patellar tendon ruptures, early mobilization can be employed after primary repair and augmentation reinforced with cerclage wire, to prevent residual knee stiffness, achieve a functional range of motion of the knee joint and earlier return to work.

## **A Digital Radiological Study of Anterior Femoral Shaft Bowing in Filipino Adults**

*Vernadel May N. Santigao, MD; Lendell V. Gatchalian, MD, FPOA & Joseph Keat Sison+ [East Avenue Medical Center]*

**Introduction:** The femur, as one of the strongest bones in the body has exhibited ethnic, racial and gender variations in terms of its morphology. The study was limited to Filipino adult patients seen at the emergency room and outpatient department of a tertiary level hospital.

**Methodology:** Digital anteroposterior and lateral radiographs of each patient was obtained and measured using the following parameters: 1.maximum femoral length (MFL), 2. Medullary canal transverse diameter (MTD) and 3. Anterior bowing (AB). The sample size was measured to be 96 to



have a confidence level of 95% and a P value of  $<=0.05$ , using a confidence interval of 5 and a standard deviation of 10. A total of 108 subjects met the inclusion criteria and were included in the study. All results were expressed as the mean  $\pm$  standard deviation. Data were analyzed using Student's t-test for independent samples using SPSS and Pearson's moment correlation coefficients.

Results: Filipino males have relatively longer femurs (mean 461.211mm) and a larger anterior bow (mean:118 mm) than that of females (FL: 431.175mm, AB: 112mm). Males also have a larger medullary canal (10.317mm) than that of females (9.075mm). The increase in femoral MTD in males may contribute to the maintenance of adequate bone mechanical competence during adulthood. However, it was also noted that females are noted to have a larger MTD with increasing age.

Conclusion: Males have a longer femur and a larger anterior bow than females. Regardless of sex, age is also noted to influence the degree of anterior femoral bowing. In our study, we did not account for the height, weight, nutritional status and work of the subjects which constitutes a major limitation. The effects of the height, weight and work of the subjects in relation to the femoral anthropometric measurements are yet to be determined.

Keywords: femur, Filipino, anterior bow, maximal femoral length, medullary canal

## **A Focus Group Study of the Use of Video-Recorded Instruction in Basic Splinting Techniques for Interns in a Tertiary Hospital**

*Lou Mervyn Tec, MD; Tammy Dela Rosa, MD, FPOA [UP-Philippine General Hospital]*

Before becoming physicians, medical students are required to learn a considerable amount of knowledge and a number of skills. Some of the most important skills are technical or procedural in nature. Generally, a training course involves a variety of procedures that are performed a number of times. In a survey of clinical skills training, the students' satisfaction with their clinical practice correlated with the number of times they performed the procedures.

Most patients occasionally require a medical procedure during their regular care. Many patients expect their generalist physician, whether general internist, family physician, or pediatrician, to perform the most common procedures—especially those that are done in an office setting. Many students and residents have exhibited marked interest in learning procedures.

Procedural skills are taught using a variety of educational methods. The traditional approach in medical education has been a lecture format. As purely descriptive lectures do not work well in describing an “action-oriented” task, these talks are frequently augmented with visual aids in the form of photographs, slides, films, and videotapes. These aids assist the learner in recognizing normal and abnormal findings and in understanding the actual performance of the procedure.

## **A Proposed Flexible Wrist Spanning External Fixator for Distal Radius Fracture; A Mechanical Testing**

*Miralles, Alfred J., MD; Battad, Geoffrey R., MD, FPOA, Ticman, Misael Jonathan A, MD, FPOA [East Avenue Medical Center]*

Introduction: Distal radius fractures are the most common fractures seen in the emergency department and they require little management to complex multi-fragmented fracture dislocations

of daunting complexity. There are numerous treatment options for the management of distal radius fractures including nonoperative, external fixation, and internal fixation. Operative treatment option for distal radius fractures involves using a wrist spanning external fixator. Using as such also has specific disadvantage and that would be stiffness of the wrist joint.

**Materials and Methods:** The researcher came up with a design using a model spring. The component of the spring was taken into account which was Rod diameter, outside diameter, pitch and working length. Various designs were made according to components. Testing were made to identify which among the designs could withstand 245 N of force and yet flexible enough to bend up to 40degrees.

**Results:** Spring C with a bend of 50 degrees at 245N load was identified

**Conclusion:** The use of this spring could be used for further cadaveric study to identify its behavior in maintaining fracture stability yet allowing joint motion at the wrist level.

## **A Retrospective Study to Determine the Outcome of Femoral Fractures Treated With S.I.G.N Nails Using the Minimum Number of Proximal and Distal Interlocking Screws Department of Orthopedics in Our Institution**

*Mohammad Khalil A. Guinomla, MD; Noel Rex P. Peñaranda, MD, FPOA  
[Southern Philippines Medical Center]*

**Background:** The use of the SIGN Interlocking nail in treating femoral fractures has revolutionized fracture care. The standard method of interlocking is using two proximal and two distal screws. This study was undertaken to test the hypothesis that using only one proximal and one distal interlocking screws will yield the same clinical outcome in properly selected cases. Clinical outcome measures were used to determine the viability of this fixation technique.

**Methodology:** This is a retrospective study done on all femoral fractures fixed using the SIGN Nail using one proximal and one distal interlocking screws. All data were gathered from the SIGN Database. All patients were admitted at the Department of Orthopedics, in our institution from July 2010 to July 2015.

**Results:** Eighty two patients (82) were included in this study. Most of the fractures are simple midshaft fractures classified under either Winquist 0, 1 or 2. Clinical outcome measures were measured, partial weight bearing, full weight bearing, knee flexion, "squat and smile", and the presence or absence of a loss of reduction or failure of fixation. Radiographic union and hardware failure were also noted. Three out of four clinical outcome measures are found out to be within the 95% confidence interval limit, except for full weight bearing of patients. No hardware failure was noted. Based from the data gathered, most of the patients treated with one proximal and one distal interlocking screws/ have good functional clinical outcomes

## **Anatomic Acromioclavicular Joint Reconstruction using Hamstring Tendon Graft - A Case Report**

*John Roland P. Uy, MD; John Hubert C. Pua, MD, FPOA [University of Santo Tomas Hospital]*

A wide variety of operative procedures has been recommended for the open treatment of both acute and chronic complete acromioclavicular (AC) joint dislocations. One of the most common operative

procedure is the Weaver-Dunn procedure which was introduced in 1972. Another technique was first described by Bosworth where a coracoclavicular screw was used for fixation. This has been the most widely-used technique to provide temporary stabilisation of the joint. In the past Kirschner wires have been used extensively to fixed AC joint temporarily after reduction. The modern approach has been to reconstruct anatomically the coracoclavicular (CC) ligaments with fixation, such as suture anchors, a loop at the base of the coracoid or a biological graft passing through the clavicle either through one or two drill holes to mimic the course of the conoid and trapezoid ligament. In the anatomic approach, problems like osteoarthritis, redislocation, pain, malfunction or deformity are prevented. These complications are frequently reported problems associated with traditional AC joint surgery. Recent operative developments seek to address the surgical reconstruction of the CC ligament complex anatomically to gain optimal stability and function. This paper will discuss the anatomic approach in surgical treatment of an acute AC joint dislocation in a 22 year old male judo varsity player who sought consult due to trauma on right shoulder. Patient had limited range of motion of the right shoulder and tenting over the right distal clavicle. Radiographs revealed widening of AC joint (Grade III), increased CC joint distance and superior displacement of the distal right clavicle.

Keywords: acromioclavicular joint dislocation, reconstruction and hamstring tendon graft

## **Atlantoaxial Joint Subluxation secondary to Infection (Grisel Syndrome): A Case Report**

*Chloe Marie C. Samarita, MD [Corazon L. Montelibano Memorial Regional Hospital]*

Grisel syndrome is the subluxation of atlantoaxial joint (AAJS) predominantly in the pediatric age group occurring after an infection, an inflammatory reaction or a postoperative procedure. Sixty eight percent of which occurs in children under 12 years old and 90% occurs under age 21. In this study, we report a ten year-old boy with a history of nape pain two months in duration with subsequent weakness of extremities initially diagnosed as C1-C2 subluxation. Patient underwent C1-C2 fusion and was sent home two days after the operation improved. No complications were noted after one month of follow up. This report explains the treatment options for this entity.

## **BHU Hip Device in Traumatic and Pathological Hip Conditions**

*Prof. Anil Kumar Rai, MD (Consultant Surgeon)*

*[Department of Orthopedics, Institute of Medical Sciences, Banaras Hindu University]*

Background: More than 400 cases of BHU Hip Device hemiarthroplasties were reviewed after a mean follow up of 6 Years (Range 1 – 10 Years). Patients with Intracapsular Fracture Neck of Femur, Ankylosing Spondylosis, Rheumatoid Arthritis and other hip pathologies were selected for surgery and were treated during this period with BHU Hip Device.

Material & Method: 400 cases were operated with BHU Hip Device for indications like Fracture Neck of Femur & various hip diseases and were followed up with serial radiographs at periodic intervals and clinical outcome was evaluated.

Result: There were no incidences of dislocations. Modified Harris Hip Scoring System was used which included sitting cross legged and squatting in view of the sociocultural needs of the patients. Harris Hip scoring system 89% had excellent results and 94% had no or only occasional pain. Majority of patients had full hip joint movements and were able able to sit cross legged and squat.

Conclusion: Thus at follow up of 10 years BHU Hip Device has been shown to be a good option for Fracture Neck Femur and various hip pathologies with encouraging results due to rational design changes in the conventional prosthesis available.

## **Combined Rupture of the Anterior Cruciate Ligament and Patellar Tendon Post One Staged Procedure: A Case Report**

*Jefferson James Co, MD [St. Luke's Medical Center]*

Knee injuries account for a significant proportion of total sport injuries in the athletic setting. An isolated tear of the anterior cruciate ligament (ACL) is a relatively common injury and may occur in isolation or with other internal derangements of the joint, while rupture of the patellar tendon (PT) is less frequently seen. Simultaneous rupture of both the patellar tendon and the anterior cruciate ligament is a relatively rare injury with its occurrence in the literature limited to case reports. Due to the limited number of similar cases reported, the optimal treatment protocol remains controversial. This paper will be discussing on a case of a 33 year-old male who presented with pain, swelling, limited range of motion and inability to bear weight on the left knee as a result of a sport-related injury. Magnetic resonance imaging of the left knee showed concomitant tears of the anterior cruciate ligament and the patellar tendon. A one-staged surgical procedure was done which included a simultaneous surgical reconstruction of the anterior cruciate ligament and a repair of the patellar tendon. Postoperative rehabilitation and physical therapy was done with a noted improvement of the patient's flexion ranges.

## **Cosmetic and Functional Assessment of Pediatric Patients in JRRMMC with Supracondylar Humeral Fractures (Gartland III) Using the Flynn Criteria**

*John Paulo G. Sison MD; Jim Bryan P. Pantas, MD, FPOA [Jose R. Reyes Memorial Medical Center]*

Supracondylar fractures of the distal humerus are one of the most common skeletal injuries encountered in the pediatric age group. Injuries of the upper extremity particularly within the elbow can be assessed after operative management using a variety of tools and scoring systems. The Flynn criteria have been one of the most commonly used tools for assessment of supracondylar fractures. This study was conducted on all patients, 3-12 years of age, in JRRMMC who underwent operative management for supracondylar fracture (gartland III) of the distal humerus within the current year 2015. Patients were evaluated post-operatively using the Flynn Criteria and other radiographic measurements, namely anterior humeral line and Baumann's angle. The mean age of the population was 6.6 years with male predominance in a 2:1 ratio. The dominant extremity was injured in 60% of the time. Majority of the subjects had satisfactory results with 2 patients reported to be unsatisfactory. All patients were able to meet the requirement on radiographic measures; anterior humeral line was adequate on all cases. The mean Baumann's angle was 20.60 and with a mean loss of 2.90.

## **Extra-articular Soft Tissue Reconstruction for Recurrent Patella Dislocation in Skeletal Immature Patient**

*Dr Gooi Siew Ghim [Clinical Specialist, Orthopaedic Department, Hospital Pulau Pinang, Malaysia]*

Introduction: Habitual patella dislocation is a condition where the patella is insecurely held in the trochlear groove, and slips laterally whenever the knee is flexed or extended. Many suggest a delay of



surgery until daily activities are adversely affected. We would like to share our experience in treating habitual dislocation involving merely soft tissue procedures.

**Methods:** Retrospective review of 9 knees in 7 patients who were operated in our centre from year 2010 to 2015 by a single surgeon. Mean age at time of surgery was 11.5 years old. All are females with generalized ligamentous laxity and two were syndromic child. All knees undergone extra-articular soft tissue reconstruction. Post operatively all knees were put in cast for 6 weeks. Mean follow up was 2.6 years.

**Operative technique:**

Midline skin incision was made. The extra-articular procedure includes:

1. Distal realignment: The 'Goldthwait procedure'
2. Proximal realignment: Modified 'Campbell procedure'
3. Lateral release: releasing only tight lateral capsule.
4. Medial plication

**Results:** Clinical outcome was measured using Kujala scoring, with mean score of 82.6. Mean ROM is 60 to 120°. All wounds healed without complications. 8 knees healed without re-dislocation. One of the syndromic syndrome, the knee was dislocated at 6 months post-surgery. Revision surgery was done twice. Reconstruction of MPFL was performed finally.

**Discussions:** The extra-articular soft tissue reconstruction provides good patella tracking. This procedure eliminates the need for tibia tuberosity transfers thus reducing the risk of disrupting growth plates. However, in syndromic patient with high grade of dislocation. MPFL reconstruction may be an alternative.

**Conclusion:** Extra-articular soft tissue re-construction using Goldthwait-Campbell procedure, lateral release and medial plication is an effective treatment for habitual dislocation of the patella in skeletal immature patient.

## **Free Functional Gracilis Muscle Transfer To Flex Elbow For Delayed Treatment Of Brachial Plexus Palsy**

*Vu Minh Duc\*, Truong Van Tai\*, Vo Van Chau\*\*\*. MD, Nguyen Dinh Phu\*\*. MD.PhD*

**Objective:** Recovery of elbow flexion and shoulder abduction for brachial plexus palsy patients is an important factor. Nerve transfer surgery is real effective if the operation was done before 6 months, after 6 months the muscles will be fibrosis cannot recover. In this cases we have to transfer gracilis replace biceps to recover elbow flexion. The goal of our study to evaluate the result of free gracilis muscle transfer for elbow flexion in the patients with brachial plexus palsy where management is delayed or the initial nerve transfer surgery fails.

**Material and methods:** this was a retrospective, cross-sectional descriptive study on 30 patients with brachial plexus palsy 28 males, 2 females with an average age of 32.4 years (14-65). There were 6 partial and 24 total brachial plexus injury patients.

**Results:** there were 2 cases with partial necrosis of indicator flap that were needed surgical debridement, all of cases were evaluated using BMRC score and sand bags. There were 23 cases (76.6%) with useful

contraction (BMRC  $\geq 3$ ) and elbow flexion strength 1.38kg (0.3 – 5 kg), average elbow flexion 82.9o (77o – 140o) , average elbow extension -7.8o (-3o to -18o)

Conclusions: free gracilis muscle transfer to recover elbow flexion is a good procedure with useful contraction of biceps is 76.6%, it doesn't depend on the preoperation time. It can be used in the brachial plexus palsy patients who are delayed management or the nerve transfer surgery failed.

Key words: brachial plexus palsy, gracilis transfer, elbow flexion

## **Foraminal Stenosis as Major Cause of Revision Surgeries for Lumbar Spinal Stenosis**

*T. Tsubakino M.D, Y. Tanaka PhD. T .Hoshikawa Ph.D., K. Takahashi MD, M .Suzuki M.D, A. Yadav MD, T. Taka-da M.D*

*Tohoku Central Hospital, Yamagata, Japan*

Introduction: According to the textbook Rothman and Simeone, degenerated lumbar spinal stenosis is classified into central, lateral recess, and foraminal stenosis. Macnab described the importance of fo-raminal stenosis as 'hidden zone' in 1975, however this concept has not been yet widely recognized even after the development of MRI. A 3% to 13% incidence of foraminal stenosis has been reported. Poor out-come or recurrent symptoms after surgeries for lumbar spinal stenosis are sometimes regarded to be due to irreversible nerve damages or patients' psychosocial factors. However, it is important to reconsid-er the diagnosis at the initial surgeries and to investigate the new lesions.

Materials and Methods: A total of 50 revision cases were operated in our hospital between 2009 and 2011 after surgeries for LSS (27 males and 23 females, mean age: 71 years). The parameters were loca-tion of stenosis (central, lateral recess, or foraminal) at revision surgeries, causes of stenosis of foraminal stenosis, and affected nerve roots for foraminal stenosis.

Results: At revision surgeries, 10 cases (20%) were diagnosed as central stenosis, 3 cases (6%) as lateral recess stenosis, and 37 cases (74%) as foraminal stenosis. Causes for stenosis were disc herniation in 15 cases (41%), up-down stenosis in 8 cases (22%), degenerative scoliosis in 6 cases (16%), and spondylolis-thesis in 4 cases (11%). Affected nerve roots in foraminal stenosis were- L5 in 23 cases (62%), L4 in 8 cases (22%), and L3 in 6 cases (16%). For foraminal stenosis, lateral fenestration with Wiltse's approach was done in 25 cases whereas combination of foraminotomy and lateral fenestration in 12 cases. All cas-es showed improvement after 1-year follow-up.

Conclusion: Foraminal stenosis must be taken into consideration for cases with no improvement or re-curred symptoms after surgeries for LSS.

## **Ganz Minimally Invasive Peri-acetabular Osteotomy for Adolescent Developmental Dysplasia of the Hip**

*Catherine Montalban, MD, Marcelino T. Cadag, MD, FPOA, Vicente R. Gomez, MD, FPOA  
[Makati Medical Center]*

A 12-year old female presented to us due to progressive groin pain, accompanied with difficulty in ambulation. No prior consult was done. Patient was wheelchair-borne, and assisted in activities of daily living. True and apparent leg length discrepancies were noted to be 3cm. Plain x-rays of the pelvis, revealed a femoral head located lateral and superior to the only 50% of the head covered, center edge angle of 18°, acetabular index angle of 36.5°, and a broken Shenton's line.

**Surgical Technique:** The patient was placed in a supine position on a radiolucent table, with an image intensifier positioned for AP and 60° false profile view.

A trans-sartorial approach with a 7cm skin incision was used. The Sartorius was split in the direction of the fibers. Peri-acetabular Osteotomy was done under fluoroscopy guidance, and fixed with 2 cortical screws directed postero-inferiorly. Post-operatively, the patient was allowed partial weight bearing with crutches.

**Results:** Operative time was approximately 2 hours, with an estimated blood loss of 500mL. Two units of packed red blood cells were transfused intra-operatively. Hospital stay was 6 days.

We were able to restore the Shenton's line. The postoperative center-edge and acetabular index angles of 40° and 22°, respectively, show that acceptable acetabular reorientation was achieved.

No post-operative complication was noted. The patient is currently ambulatory, with noted significant reduction in pain.

**Conclusion:** Ganz Minimally Invasive Peri-acetabular Osteotomy for Developmental Dysplasia of the Hip is noted to be a safe and effective alternative in significantly improving functional outcome and radiographic parameters for adolescent hip dysplasia.

### **Infection Rate Among Adult Patients with Gustilo Type IIIB Open Tibial Shaft Fracture who Underwent Intramedullary Nailing Alone Versus Staged Operation (External Fixation Followed By IM Nailing) - a Retrospective Study**

*Jae Lord E. Rosario, MD [AFP Medical Center]*

Between 2009 and 2015, thirty seven patients with Open IIIB tibial shaft fracture were reviewed. Fifteen were treated by intramedullary nailing alone (INA) and twenty two were treated by external fixator followed by intramedullary nailing (Staged procedure). The two groups were followed retrospectively through medical records and charts and recorded by clinical assessment (wound discharge, pin tract discharge, swelling, and tenderness) and laboratory examinations (WBC, ESR, CRP, Wound GS/CS). Purpose: To determine the incidence of infection in patients with Gustilo Type IIIB Open Tibial Shaft Fracture who underwent INA versus staged operation in terms of infection rate. Design: Retrospective cohort from year 2009 to 2015. Results: The INA group showed fewer incidences of infection at site of injury than staged procedure both clinically and by laboratory examinations (20 vs 31 percent;  $p=0.72$ ;  $CI=0.46, 1.59$ ). Likewise, there is lower incidence of surgical site infection (Pin tracts, IM nail insertion, interlocking screw insertion sites; 13 vs 18 percent;  $p=0.0001$ ;  $CI= 0.30, 0.62$ ). No significant difference in healing rates for the two groups. Reviews revealed that timing or method of intramedullary nailing, time of debridement, soft-tissue management, and presence of superficial or pin site infection significantly correlated with the occurrence of deep infection ( $P < 0.0001$ ). In staged group, the deep infection rate was significantly higher than the INA ( $P = 0.018$ ). Nonunion occurred in 8 fractures (36.4%). Skin closure time and existence of deep infection significantly correlated with occurrence of nonunion ( $P < 0.05$ ). Deep infection were significantly correlated with healing time to union ( $P = 0.0001$ ). Conclusion: Open IIIB tibial fractures treated with intramedullary nailing showed that staged procedure was at high risk of deep infection, especially in existence of pin site infection, and that debridement within 6 h and appropriate soft-tissue managements were also important factor in preventing deep infections. Existence of deep infection is related with fracture healing in open fractures treated with INA and staged procedure. In addition, immediate INA is potentially risky, and canal reaming did not increase the risk of complication for open IIIB tibial

fractures. More important, the severity of soft tissue injury rather than the choice of implant appears to be the predominant factor influencing rapidity of bone healing and rate of injury site infection.

## **Inferior Capsular Shift in Active Military Personnel with Multidirectional Shoulder Instability: A 6 year Retrospective Review Study (2010-2015)**

*Jason Lord F Perez MD; Domingo A Chua MD, FPOA [AFP Medical Center]*

Background: Multidirectional instability can be labeled as a universal joint laxity secondary to debilitated inferior capsule and the natural ability of the shoulder to have a wide range of motion, it could either be anterior, posterior or inferior subluxation/ dislocation of the glenohumeral joint with appreciated instability in at least one other direction recreated during a passive inferior force.

Due to sensitive role of military soldiers to the society, early recovery is essential. Surgery after failed consistent physiotherapy enables patient's early return to line of duty. According to Ekin A. et. al. in their study, "Multidirectional shoulder instability and open surgical procedures"; the principles of management and surgical procedures for multidirectional instability have no significant difference from those for recurrent anterior instability. Neer and Foster described Inferior Capsular Shift procedure for treating Multidirectional Shoulder Instability and reported preliminary results that were quite satisfactory (Operative results of the inferior capsular shift procedure for multidirectional instability of the shoulder; Pollock RG et. al.). There hasn't been any documentation made to describe multidirectional shoulder instability among military soldiers, specifically those who failed conservative management and underwent Inferior Capsular Shift (ICS). The purpose of this study is to determine the incidence of multidirectional shoulder instability among military personnel of the Armed Force of the Philippines, cause of their injury and patient's profile one year after surgical intervention.

Methods: Descriptive method is used in this study through review of patient's records and Operative Techniques Compilation from the Armed Force of the Philippines Medical Center Registrar and Department of Orthopaedics and Traumatology. The cases of Multi-directional Shoulder Instability who undergone Inferior Capsular shift with or without Bankart Repair dated from January 2010-December 2015 were verified intraoperative based on each operative techniques records. Included in the study were Active Military Personnel diagnosed with Multidirectional Instability confirmed via physical examination with persistence of symptoms of instability with or without pain after 6 months of conservative management and underwent Inferior Capsular Shift with or without Open Bankart Repair. Patients with associated fractures, and rotator cuff injuries were excluded in the study as well as voluntary dislocators. Statistical Package for the Social Science (SPSS) Software was used to compute for the incidence rate. Demographic data of each subject namely; age, sex, rank, branch of service were included in the study. The cause of injury were determined as well as the time of follow-up and readmission after the surgery. Each subjects recovery and progress where determined thru patient's military medical profile 1 year post op.

Results: Incidence was determined to be 1.75 cases per 10000 person-years. Total of 36 subjects (36 shoulders) diagnosed with multidirectional instability were reviewed, 30 subjects (83%) underwent Inferior Capsular Shift (ICS) alone while ICS with Bankart Procedure was performed for the remaining 3 subjects (17%). Predominantly, incidence is more common in male patients; 32 subjects (89%), as compared to female patients; 4 subjects (11%), most of them came from the Philippine Army (26 subjects) 72%, followed by Philippine Air Force (6 subjects) 17% and Philippine Navy (4 subjects)



11%. Major contributor for the cause of injury was secondary to Military exercises (direct trauma, fall from a height, and repetitive strenuous activities) occurred during military activities and operations (55%). Sports-related Injuries and Injuries secondary to motorcycle vehicular accident occurred both in 22% of cases. After 1 year post op, majority 83% had a medical profile of P1, 2 subjects were granted with P2 status, and 4 subjects were given P3 Temporary profile.

Conclusion: Multidirectional Shoulder Instability was relatively uncommon among active military personnel of the AFP with majority of cases being due to military related injuries. Return regular daily military activities 1 year after ICS showed good outcome as described thru medical profiling

### **Ipsilateral Stenosing Tenosynovitis of All Fingers and Thumb After Open Carpal Tunnel Release in a Female House Helper with Diabetes: A Case Report**

*Mary Rose C. Gonzales, MD; Henry Gerard M Calleja, MD, FPOA [St. Luke's Medical Center]*

Background: The two most common conditions hand surgeons address are stenosing tenosynovitis and carpal tunnel syndrome. Their pathogenesis of entrapment and compression owing to the connective tissue proliferation causing hypertrophy and fibrocartilaginous metaplasia of the A1 pulley and transverse carpal ligament, respectively, is further aggravated by soft tissue proliferation from systemic diseases like diabetes.

The thickened sheath impinges on the tendon during flexion and extension while the thickened transverse carpal ligament causes median nerve compression. Literature presented varied principles regarding its coexistence; former causes the later or surgical intervention in the former further aggravates the disease state of the latter. We present a rare case of stenosing tenosynovitis of all digits in a post-carpal tunnel release diabetic house helper and the subsequent operative management that provided complete symptom relief and return to work.

Case Report: Patient is a 48 year old right-handed female, house helper with diabetes who presents with triggering of all digits on the ipsilateral upper extremity post-surgery. On physical examination, there were tender palpable nodules over the volar aspect of metacarpal head of middle and small fingers. There is 10 degrees flexion of the proximal interphalangeal joint of the middle finger. The small finger is the most affected requiring passive extension.

Surgical Procedure: Patient underwent open surgical release of A1 pulleys under wide-awake local anesthesia no tourniquet (WALANT). Absence of triggering was observed with no feeling of locking as reported by the patient. Patient was allowed light non-forceful grip at 4 weeks post-surgery and was able to return to work without limitations at 6 weeks. All abovementioned symptoms were completely resolved.

Discussion: The development of stenosing tenosynovitis in a post carpal tunnel release patient is hypothesized to be due to the loss of the flexor retinaculum enabling the flexor tendons to bowstring, thereby placing more tension on the proximal pulleys. Its risk factors in the work place play a role as well that include repetitive motion requiring high force and performed in awkward positions. It was also identified that there is alteration of grasping function even with involvement of only one digit affecting subtle force coordination in simple tasks is affected, which is theorized to further increase with multiple digit involvement.

Conclusion: The similar pathogenesis of stenosing tenosynovitis and carpal tunnel syndrome should always be recognized. Other factors should also be considered in evaluating and managing patients with the aforementioned conditions. Earliest detection and surgical intervention is recommended in order to avoid alteration of cylindrical grasp patterns that may impede performance of activities of daily living.

## **Knee Arthrodesis Using Free Vascularized Fibular Bone Graft with Screws and Spanning External Fixator for Management of Previously Open Distal Femur Fracture with Segmental Bone Loss - A Case Report**

*Jerre C. de Guzman, MD; John Hubert C. Pua, MD, FPOA; Nelson T. Lim, MD, FPOA  
[University of Santo Tomas Hospital]*

Segmental bone loss due to trauma is usually associated with soft tissue injury are difficult to manage and were deemed unsalvageable which leads to amputation. With the advent of modern technology, these type of fractures can now be salvaged with the goal of skeletal stabilization with solid bone union, restoration of length and alignment, and preservation of optimum function.

We are presented with a 44 year old male who sustained a closed intertrochanteric fracture of the left hip (AO 31-A1) and a comminuted open fracture (type IIIB) of the left distal femur with segmental bone loss and intercondylar split (AO 33-C2) from a high-energy vehicular injury to the left thigh falling off a motorcycle.

Patient underwent a series of operations which led to knee fusion using a free vascularized fibular bone graft measuring 25cm from the contralateral leg placed inside the intramedullary canal of both the femur and tibia with end to side anastomosis of the peroneal vessels to the femoral vessels with application of spanning external fixator for stabilization. Post-operative radiographs showed good viability of graft with signs of healing and consolidation. Patient is now ambulatory with walker toe-touch non-weight bearing on left lower extremity and will progress to partial weight bearing when the graft hypertrophies.

The treatment must take into account of the amount of bone loss, any associated soft-tissue injuries, and the general health and wishes of the patient. This is the first time knee arthrodesis was done using free vascularized fibular bone graft with screws and spanning external fixator for management of previously open distal femur fracture with segmental bone loss in our institution and it showed that it is a viable option in our setting in the hands of well-trained specialists.

Keywords : knee arthrodesis, segmental bone loss, vascularized fibular bone graft

## **Osteochondroma of the Spine: A Rare and Challenging Case for the Surgeon and Pathologist**

*Kristine Italia [St. Luke's Medical Center]*

Osteochondromas are benign bone tumors of cartilaginous origin. Also known as exostoses, these may appear as a solitary lesion or multiple as part of the hereditary multiple exostoses (HME). These are commonly seen in long bones or appendicular skeleton. It rarely involves the spine and accounts for only 2% of all osteochondromas. Spinal osteochondromas more commonly affect the cervical area, whereas only 1% of which affect the thoracic vertebra. This report presents a rare case of

osteochondroma involving the thoracic vertebra affecting the spinous processes and the transverse processes.

### **Osteoporosis: A Study of Awareness and Treatment Rates Following Fragility Fractures of the Hip in Filipino Patients**

*Jan Princeton Lim, MD; Jose Antonio San Juan, MD, FPOA [Chong Hua Hospital]*

Osteoporosis is a disease commonly afflicting the elderly population. Osteoporosis commonly goes underdiagnosed and undertreated due to its silent nature. Oftentimes investigation into the disease is performed once a fragility fracture occurs. Of these fractures, fracture of the hip carry with it significant morbidity and mortality. A history of hip fracture places patients at greater risk for secondary fracture. In patients sustaining low energy hip or vertebral fractures, current recommendations advice initiation of pharmacologic agents in treatment of osteoporosis regardless if prior BMD was performed. We reviewed the charts of 180 patients, aged 50 and above who underwent surgery for low impact hip fractures. This population included 53 males and 127 females. Their ages ranged from 57-96 with a mean age of 75. From the period of January 2014 to August 2016, 6.1% of patients were taking Calcium and Vitamin D supplementation prior to admission, and 12.2% of patients received Calcium and Vitamin D supplementation during admission. 3.3% of patients were taking pharmacologic osteoporosis medication prior to admission and 20.0% patients were started on this during admission. Only 0.02% of patients had osteoporosis in their final diagnosis upon discharge. In patients receiving osteoporosis treatment the most common medication was strontium ranelate. Treatment rates in males were notably less compared to females. The results of this study show that currently, adherence to guidelines in the management of osteoporosis following low impact fractures of the hip is still quite lacking. This emphasizes the need for better patient and physician education in our local setting to improve the diagnosis and treatment rates of the disease.

### **Paediatric Supracondylar Humerus Fracture with Nerve Injury: Explore or not to Explore?**

*AMM Norzakiah, Mmed Orth, RIM Anuar, Mmed Orth, Gooi SG, MS Orth, Zulkiflee O, MS Orth [Department of Orthopaedics, Penang Hospital, Georgetown, Malaysia]*

Introduction: Paediatric supracondylar humerus fracture (PSCHF) is the commonest injury around the elbow. It is not uncommon to complicate with primary nerve injury which accounts 7-10% and 6% for secondary nerve injury.

The nerve exploration usually reserve for selective indications while most surgeons believe the traction neuropraxia will require time to recover.

We reports three cases of nerve exploration following PSCHF for various reasons.

Case 1: An 8 year old girl had painful swelling of right elbow following fall from monkey bar. Examination revealed signs of radial nerve palsy. The radiograph showed right supracondylar humerus fracture (Gartland III) with postero-medial displacement. Exploration of nerve revealed the radial nerve was severely stretched by the proximal fracture end and nearly lacerated. The nerve released after reduction done and fracture was held with crossed K – wires.

Case 2: A 5 year old girl had a fall with outstretched hand and sustained pain and swelling of left elbow. On examination, the elbow was noted to have an antecubital acchymosis, with signs of median nerve injury. The elbow radiograph revealed left supracondylar humerus fracture (Gartland III). After failed closed reduction, an open reduction was done with simultaneous nerve exploration. The nerve was intact. The fracture reduction was proceeded and held with crossed K-wires.

Case 3: A 10 year old boy had fallen on outstretched left hand. He had a painful swelling of left elbow. Clinically he did not revealed signs of neurological deficit. The radiograph showed fracture of left supracondylar humerus (Gartland III). We performed closed manipulation and reduction (CMR) and percutaneous pinning. The mini open technique was used to place a medial wire. Post operatively, he showed signs of ulnar nerve injury. Nerve exploration were then performed and revealed the impingement of the nerve by medial wire and presence of intra neural blackish discoloration. A new wire was then placed to hold fracture.

Discussion: The issue on nerve exploration is been continuously debated. There is no hard and fast rule for exploration, yet the surgeon need to justify the correct indication.

## **Posterior Vertebral Column Resection with 360-degree Fusion of a 13-Year Old with Congenital Scoliosis - A Case Report**

*Miguel Pocholo Luis R. Siatan, MD, Romel P. Estillore, MD, FPOA [University of Santo Tomas Hospital]*

Congenital scoliosis is the failure of normal vertebral development during gestation. The vertebral anomalies may be caused by a failure of formation, by failure of segmentation, or by a combination of these two factors. Many cases of congenital scoliosis are usually treated with two or more subsequent procedures, and sometimes even require utilizing both anterior and posterior approaches for ease of exposure.

This is an unusual case of a 13-year old male who presented with gross truncal deformity, pelvic obliquity, and urinary symptoms. The patient was diagnosed with congenital scoliosis, with a segmented T12 hemivertebra with a sagittal plane deformity. He subsequently underwent posterior vertebral column excision using a one-stage single posterior approach with combined anterior and posterior spinal fusion using pedicular screws, rods, and mesh cage under intraoperative spinal cord monitoring.

Keywords: congenital scoliosis, hemivertebra, kyphoscoliosis, combined anterior and posterior fusion

## **Profile of Patients' age 8 to 15 with Adolescent Idiopathic Scoliosis seen in the Orthopaedic Out-patient Department of Jose R. Reyes Memorial Medical Center (2013-2014)**

*Mark Anthony N. Arias, MD; Edwin Jerd T. Siatan, MD, FPOA [Jose R. Reyes Memorial Medical Center]*

Objective: The prevalence of idiopathic scoliosis which accounts for most cases of structural scoliosis not due to diseases or injury to bones among adolescent seen in the hospital setting has not been reported. This study was designed to provide preliminary data on the prevalence of idiopathic scoliosis among adolescent seen in Jose R. Reyes Memorial Medical Center. Design: Descriptive Retrospective Study. Participants: There were 15 patients (2 male, 13 female) aged 8 to 15 ( $X = 13.73 \pm 1.83$ ) included in the study. Data obtained from OPD charts and records were subjected to descriptive statistical analysis.



Results: Prevalence rate of female (86.7%) compared to male (13.3%) similar to other studies; thoracic curve was most common as it was observed in 80% of the subjects with Adolescent Idiopathic Scoliosis. Cobb angle curvature of more than 20 degrees is noted in 7(46.67%) of our patients with a 2.5:1 female to male ratio. The prevalence of severe scoliosis is much higher for girls than for boys [ $>40^\circ = 2$  females (13.33%)]. Conclusion: The prevalence of idiopathic scoliosis among adolescents in this study is similar to rates reported among similar age groups in other parts of the world. The finding suggests a need for a national survey of idiopathic scoliosis seen in hospital setting and possible institutionalization of the school screening program.

### **Responsiveness of the Mohtadi Anterior Cruciate Ligament Quality Of Life Questionnaire on the Functional Outcome of Patients Who Underwent Arthroscopic ACL Reconstruction in the University of Santo Tomas Hospital**

*Adriel Vincent L. Ang, MD, Alberto Ma. V. Molano, MD, FPOA [University of Santo Tomas Hospital]*

Background: The most common sports injury is a tear of the Anterior Cruciate Ligament. For young and active individuals, undergoing surgery requires reconstruction of the ACL. The next step after surgery is the rehabilitation and return to physical activity. Rehabilitation plays a vital role in getting back to daily activities. Patient-reported measures of knee function are important for the comprehensive assessment in both clinical and research contexts. The Tegner Lysholm activity scale is a functional scoring for patients with ligamentous injuries. The purpose of this study is to assess the functional outcome of patients who underwent ACL Reconstruction using the Tegner Lysholm activity scale

Methods: We gathered 30 patients who underwent surgical Arthroscopic ACL Reconstruction. Administration of Tegner Lysholm Knee Scoring Scale questionnaire was done by interview. Patient was inquired regarding functional status 6 months and 12 months after the procedure. Results were statistically analyzed using the paired t-test comparing the functional outcome of patients at 6 months post-operatively and 12 months post-operatively. Tegner Scoring results were analyzed using one way ANOVA test comparing pre-injury level, 6month and 12 months post op.

Results: The mean Lysholm Knee Score for the first 6 months of postoperative functionality was 85.6. The mean score obtained from the patients after 12 months of operation is 94.5. Tegner scores at pre-injury level showed a mean of 5.5 which declined to 4.7(-0.8 difference) at 6 months post operatively. Scores at 12 months post op showed an improvement with a score of 5.3 with a difference of +0.6. 21 patients were able to return to baseline level of activity mostly by 12 months.

Conclusion: Patients who underwent Arthroscopic ACL Reconstruction at the University of Santo Tomas Hospital experienced improvement regarding functional outcome as measured by the Tegner Lysholm Knee Scoring Scale

### **The Dilemma of a Recurrent Patellar Tendon Rupture**

*Kristine Italia [St. Luke's Medical Center]  
St. Luke's Medical Center*

This is a case of a 32-year old male, amateur basketball player who experienced recurrent rupture of his patellar tendon on 3 occasions in less than a year. The initial surgery involved primary repair of

the patellar tendon. Subsequent surgeries involved revision with augmentation using hamstring graft during the second surgery and quadriceps tendon during the third surgery. Clinic follow-up was done with final follow-up at 8 months post-operatively. On final follow-up, patient already had full range of motion and is already able to do sport-specific activities.

This case presents a surgical dilemma because the repetitive injury resulted in devitalized tendon. This case report aims to present the surgical options, which may be done in cases of recurrent patellar tendon rupture.

## **The Functional Outcome of Arthroscopic Anterior Cruciate Ligament Reconstruction in Patients Using Different Graft Tensions During Tibial Fixation**

*Gabriel Alfonso B. Javier, MD, Alberto Ma. V. Molano, MD, FPOA [University of Santo Tomas Hospital]*

**Background:** ACL reconstruction is commonly performed to restore knee kinematics and to halt the progression of osteoarthritis. A primary variable that could influence the outcome of ACL reconstruction is the tension applied to the graft at the time of fixation. If the tension is too great, an abnormal compressive force could potentially develop across the tibiofemoral joint, hindering knee motion, and subjecting the articular surfaces to increased stress. If the tension in the graft is too low, the graft will not be effective in restoring normal kinematics. The Tegner Lysholm Knee Scale is a functional scoring for patients with ligamentous injuries. It is a patient-reported measure of knee function and is important for the comprehensive assessment conditions in both clinical and research context. Our objective was to compare which tension technique (15 lbs graft tension using a Mitek tensioner vs maximal sustained two-hand technique) would yield the better functional outcome at 6 months and 12 months post operatively using the Tegner Lysholm Knee Scale.

**Methods:** 24 patients who underwent arthroscopic ACL reconstruction at the University of Santo Tomas Hospital Private Division were randomly divided equally into 2 groups (Group A or Group B). During tibial fixation group A would receive 15 lbs graft tension using a Mitek Tensioner and group B would receive graft tension using the maximal sustained two-handed pull technique. The patients underwent a standard rehabilitation protocol at any institution and a Lysholm Scoring Scale and Tegner Activity Scale was self-administered at 6 months and 12 months after the surgery, in order to assess their functional outcome.

**Results:** The results showed us that the functional outcome scores of group A was higher. The yielded p value was 0.1017 (6 months), 0.06691 (12 months) for group A and 0.2681 (6 months) 0.4599 (12 months) for group B, since P-value of <0.05 is considered significant, the results showed that there is no significant difference between the effects of arthroscopic ACL reconstruction with 15 lbs weight using a Mitek Tensioner (group A) and graft tension using the maximal sustained two-handed pull technique (group B) in the knee functional outcome of patients after 6 months.

**Conclusion:** The functional outcome scores of patients who underwent ACL reconstruction using different graft tension did not produce significant results. Further reevaluation of the patients functional outcome score is necessary after 12 months post op. The desired tensioning technique of the ACL surgeon would be at his/her convenience knowing beforehand the pros and cons of each technique.

**Keywords:** Arthroscopic ACL reconstruction, Lysholm Scoring Scale, Tegner Activity Scale, graft tension, tibial fixation

**Thoracic Radiculopathy secondary to Ossified Ligamentum Flavum in a Young Caucasian Female: A Case Report**

*Ramos, M.R.D., Ver, M.R. [St. Luke's Medical Center Global]*

Introduction: Ossification of the ligamentum flavum (OLF) is described as the replacement of the ligamentum flavum with lamellar bone and is an uncommon cause of thoracic myelopathy, predominantly in East Asian populations. However, OLF remains a rare cause of thoracic radiculopathy in this population, and even more so in non-East Asian individuals. We present a rare case of thoracic radiculopathy caused by OLF in a Caucasian female, and the consequent operative management that afforded complete relief of her symptoms.

Case: A 36-year old Caucasian female presented with a two month history of severe, intractable midback pain radiating sharply to her left subcostal area without preceding trauma. Neurological examination revealed a mild sensory deficit at the left side of her abdomen along the T10 dermatome. There was no muscle weakness, sensory deficits, nor myelopathic signs in the lower extremities and she displayed normal deep tendon reflexes.

Materials and Methods: The patient underwent posterior spinal decompression of T9-T12 levels via laminectomies without facetectomies nor subsequent stabilization. Excision of the visible OLF was also performed. Post-operatively, her pain was relieved and was without the previous T10 sensory deficit upon her successful discharge.

Discussion: Functionally, the ligamentum flavum provides a static, elastic force to aid the spinal column in its return to neutral position after flexion and extension. Despite the knowledge on its anatomy and function for almost a century, the exact pathophysiology of OLF has not been elucidated yet and only theories on extrinsic and intrinsic causes have been the basis of its occurrence. Clinically, thoracic OLF would predominantly present with myelopathy and not radiculopathy. It has been suggested that thoracic OLF would rarely cause radicular pain precisely due to the pattern of the disease progression, which would leave the neural foramen without compromise.

Conclusion: This case represents the only documented Caucasian female who presented with thoracic radiculopathy due to OLF. This case also documents the youngest reported Caucasian female to have been diagnosed with symptomatic thoracic OLF. Although a rare cause, thoracic OLF should be remain a differential diagnosis when chest or abdominal radicular pain presents even without the presence of myelopathic symptoms. If a trial of conservative treatment results in persistence of debilitating pain, surgical intervention must be entertained.

**Toe To Hand Transfer In The People's Hospital 115, Three Cases Report**

*Vu Minh Duc. MD\* - Truong Van Tai. MD\* - Nguyen Dinh Phu. MD. PhD\*\**

Amputated fingers of hand often caused by occupational, traffic accidents or sharp object cut giving a severe sequela not only for the patients but also for their families and society. After loss of finger the hand function will decrease, depend on which finger or how many fingers were affected, in which thumb is about 40 – 50%. The patients with finger amputation will lost function of labour, has effect on ordinary activities and causes depressed thinking in social relationships.

Depends on the length of the finger lost, some procedures can be used: lengthen the phalanx of the finger using external fixators, osteocutaneous flap, toe to hand transfer, if that is the thumb we can use

long finger pollicization. Among these techniques, toe to hand transfer has the best advantages: the same in size and length, has sensation and nearly total recovery of finger movement.

From April 2015 to now, at The Department of Trauma and Orthopedic of The People's Hospital 115, we have performed the first three cases of toe to hand transfer with good result.

## **Transient Ulnar Nerve Palsy: A Complication of WALANT in Two- incision Carpal Tunnel Release**

*Monica B. Pecache, MD [St. Luke's Medical Center]*

One of the more frequently diagnosed forms of compressive neuropathy is carpal tunnel syndrome. Many interventional options have been formulated and studied for relief of its symptoms. This case report presents a patient diagnosed with carpal tunnel syndrome who was indicated for surgery and underwent two-incision carpal tunnel release under wide-awake, local anesthesia, no tourniquet (WALANT). Immediately post-operatively, assessment of the patient's range of motion was done. There was noted clawing of the patients ring and small finger: fixed extension of the ring and small finger metacarpo-phalangeal joint, and fixed flexion of both mid and distal inter-phalangeal joints. Sensation was tested and numbness, along with loss of two-point discrimination was noted. The patient was closely followed up, and after 48 hours, range of motion of the ring and small fingers was restored. Sensation of the ring and small finger gradually returned and became at par with the contralateral hand after approximately 3 weeks. The occurrence was declared as an incident of transient ulnar nerve palsy, and appears to be a possible complication of carpal tunnel release when performed under WALANT.

## **Analysis of Safe Screw Lengths for Lateral Mass Screw Insertion Using Roy-Camille and Magerl Techniques in Filipino Cervical Spine: A Cadaveric Study**

*Francis Rodas, MD [University of Santo Tomas Hospital]*

The two most popular techniques of lateral mass screw insertion are those pioneered by Roy- Camille and Magerl. However, there are potential complications such as injury to the nerve root and vertebral arteries when inappropriate screw lengths are used. This study aims to determine the safe screw lengths when using either technique. A total of 25 cervical vertebra (C3-C7) were harvested from 5 Filipino cadavers. The width of the lateral mass was measured at each spinal level from C3- C7 as the largest distance from the medial and lateral borders. The depth or safe screw length for insertion was determined by measuring the distance between the entrance and exit points of each screw in the plane of the Roy- Camille and Magerl techniques. The range of the width of the lateral mass (C3- C7) in Filipino cadavers was between 10.97 mm and 13.12 mm with a mean value of 11.99 mm (standard deviation +/-1.028). The minimum width was found at C3 level and the maximum width at the level of C6. The average length of Roy- Camille screws was 12.63 mm (sd +/- 1.024) with a range from 11.24 mm to 13.81mm. The longest screw length was measured at C5 level while the shortest screw length was measured at C7 level. The range of Magerl screw length was from 11.57 mm – 16.03 mm. The mean length of Magerl screw was 14.25 mm (sd +/- 1.752). The longest Magerl screw was measured at C6 level while the shorted screw length was measured at C7 level. The measured width of each subaxial lateral mass and safe screw lengths for both techniques obtained in this study fall within the range found in current literature. There is a significant difference in the screw lengths when using either the Roy- Camille or Magerl screw technique.

Keywords: lateral mass screws, Roy- Camille and Magerl techniques, safe screw lengths



## **Biomechanical study comparing four different constructs in tension band wiring of the olecranon**

*Rene Edgardo Manalastas, MD; Jose Ma. D. Bautista, MD, FPOA; Rafael C. Bundoc, MD, FPOA*

*[UP-Philippine General Hospital]*

Olecranon fractures occur in a bimodal distribution, usually sustained as high energy injuries in the young and as low energy falls in elderly patients. The usual mechanism of injury is a direct blow to the elbow resulting in a comminuted fracture, or from an indirect blow such as a fall onto an outstretched hand, resulting in a transverse or oblique fracture.

Tension band wiring is generally accepted as the standard of care for treatment of displaced olecranon fractures.<sup>2</sup> However, the caveat for this is that the fracture configuration must not be comminuted, in order to provide the compression forces from the converted posterior tensile forces from the triceps. Common complications include infection, implant failure, pin migration, and prominence of hardware, which is the most commonly reported complication.<sup>3</sup> Prominence of hardware is due to the use of a relatively thick wire placed in a relatively superficial location, which can lead to other complications such as skin necrosis and infection. In order to minimize hardware prominence, Wanlim and his colleagues have described a technique wherein they use thinner wires in a double tension band configuration, with promising results.

Conflicting results have been published regarding the configuration of the anchoring k-wires for tension band wiring techniques. The use of transcortical k-wire fixation has been proposed to reduce the incidence of pin migration and pullout, but a study by Chan and Donnelly in 2014 have shown that there is no significant difference in the pullout or pin migration resulting in removal of the construct. This is contradicted by a study by Prayson et al, which showed that there is reduced fracture displacement in constructs with transcortical k-wire fixation. A local study by Dungca and Leagogo in 1992 showed that there was no observed separation of fragments in fractures fixed with transcortical k-wire fixation as compared to intramedullary k-wire fixation.<sup>9</sup>

## **Does Proximal Humerus Osteosarcoma Differ With Osteosarcoma At Other Sites?**

*Lou Mervyn Tec, MD, Edward HM Wang, MD, FPOA [UP-Philippine General Hospital]*

Osteosarcoma is the most commonly diagnosed primary malignancy of bone, particularly among children and adolescents.<sup>1-5</sup>

In an epidemiological study of Mirabello et al. where in 3,482 patients with osteosarcoma from the National Cancer Institute's population-based Surveillance, Epidemiology, and End Results (SEER) program between 1973 and 2004, with 17 databases, rates tended to be lower in non-Hispanic Whites and indigenous Americans, and highest in Asian/ Pacific Islanders.

The incidence of osteosarcoma from the previous local database is quite high (6.7 per million) compared to international average of 3-5 per million. Previous data in the Philippines has been identified by the SEERs trial and acknowledged that rates are particularly high in all age groups in our country compared to some disparity among age groups with other countries.

In a collection of cases seen at the Orthopedic Tumor Service of PGH, classic intramedullary osteogenic sarcoma accounts for 70% of all primary malignant bone lesions and 42% of all primary bone tumors. A rate of approximately 9.5 per million as reported by the Philippine Cancer Society in

the 0-14 year old age group. The proximal humerus is the third most common site of osteosarcoma accounting for 11% of all cases. This is also in agreement with international data 6-10

**Significance of the Study:** Currently no local data is available to describe the demographic characteristics of proximal humerus osteosarcoma, its current treatment and its implications in prognosis and survival compared to the rest of patients with osteosarcoma from other sites. This study will shed light to current trends, the presence or absence of significant differences between proximal humerus osteosarcoma and to osteosarcomas from other anatomic sites.

## **Giant Cell Tumors of the long bone: Outcomes of patients treated with intralesional and en-bloc resection from 1993-2013**

*Lauro T. Gonzales, MD [UP-Philippine General Hospital]*

Giant Cell Tumor of the bone, is described as a typically histologically benign but locally aggressive tumor. These tumors generally affect adults in the 3rd-4th decade of life, and present close to the joint of a mature bone, most commonly the distal femur, proximal tibia, and distal radius. GCTs comprise 4-8% of primary bone tumors and approximately 20% of benign bone tumors.<sup>1-5,11</sup> While classified as benign, the locally aggressive nature of the tumor, when left untreated, can lead to severe consequences, including loss of function, and death for the patient,

The histological appearance of GCTs are a mix of multinucleated giant cells, spindle-shaped stromal cells and mononuclear cells. Radiographically the Campanacci grading system is often used. The system grades tumors from 1-3, with grade 1 lesions having well-defined margins and an intact cortex, grade 2 having irregular margins and cortical destruction, and grade 3 those unclassifiable as grade 1 or 2.<sup>11,12</sup>

GCT of the bone is one of the most common, tumors seen at UP-PGH. A higher incidence has been reported among the Asian population compared to Western populations<sup>10</sup>, which most likely account for the high amount of patients seen. Treatment is generally surgical; and 3 margins are used, intralesional, en bloc and radical. Historically the preferred treatment was intralesional; but high recurrence rates triggered a shift towards en bloc resections which had lower recurrence rates but more surgical complications. Today, the pendulum has swung back to intralesional margins with the use of a high speed burr and adjuvants to decrease recurrence rates. The topic of intralesional vs en bloc (marginal/wide) excision for GCTs has been studied in western literature, but there is little to no, published papers on the local population.<sup>6-10</sup> Our aim is to review the data of GCTs involving the long bone within the local population, and to compare the outcomes of those who have undergone intralesional versus en bloc resection.

## **Incidence of Surgical Site Infections in Clean, Non-Contaminated Orthopedic Cases in Patients Prepped Using a Commercially Available Topical Skin Antiseptic (Duraprep), in a Single Tertiary Hospital.**

*Michael Gerard N. Limbo, MD [St. Luke's Medical Center]*

Surgical site infections (SSI) are still one of the most frequent causes of morbidity and mortality following any surgical procedure. In 2010, an estimated 16 million operative procedures were performed in acute care hospitals in the United States (1). A recent prevalence study found that

SSIs were the most common healthcare-associated infection, accounting for 31% of all nosocomial infections (2). The Center for Disease Control healthcare-association infection (HAI) prevalence survey estimated that 157,500 cases SSI are associated with in-patient surgeries in 2011 (3). In the era of multi-resistant organisms it is of utmost importance that surgeons have a clear understanding of the techniques used to prevent these dreaded infections. Antiseptic and aseptic techniques play an important part in the elimination if not the reduction of the incidence of post-surgical infections. This study is aimed to determine the incidence of surgical site infections in clean, non-contaminated orthopaedic procedures for patients prepped using commercially available topical skin antiseptic (DuraPrep®). And to provide literature regarding its advantages over other types of skin antiseptics and other methods of surgical skin preparation techniques.

Keywords: Surgical site infection, antiseptic preparation, DuraPrep®

### **Percutaneous Repair of Tendon of Achilles using Frazier suction tip and trocar needle: A Case Series**

*Merwen Mitchel Q. Musni, MD; Jovito Ramil B. Paz, MD, FPOA [Philippine Orthopedic Center]*

**Introduction:** Acute rupture of the Achilles tendon occurs after a sudden forceful contraction of the gastrocnemius-soleus muscle, which produces severe pain. The diagnosis is clinical such that a palpable gap, positive Thompson and Matles test are present. Nonsurgical management for this case has not been advocated due to increased rerupture rates. On the other hand, open repair has good functional outcome but has increased wound complications. With percutaneous repair of the tendon using Achillon instrument, the functional outcome is similar with open repair but with less complications. This study aims to determine the functional outcome and complications of patients treated with percutaneous repair of the Achilles tendon using frazier suction tip and trocar needle, as an alternative to achillon instrument.

**Methodology:** This is a case series of all patients with acute rupture of Achilles tendon treated with percutaneous repair from January to December 2013. The functional outcome via AOFAS Hindfoot scoring system, ankle range of motion and calf circumference were noted, as well as complications, if there are any.

**Results:** A total of seven patients were included in the study with mean age of 36 years old, followed up from 12 to 24 months. No sural nerve palsy, wound dehiscence, or rerupture were reported. Full ankle range of motion and equal calf circumference compared to the contralateral side were achieved in all patients after rehabilitation. The AOFAS Hindfoot scoring system ranged from 98 to 100 points at 12 months post-surgery. All patients were able to return to work at 3 months after the surgery. At 6 months, majority of patients returned to their previous sports.

**Conclusion:** Percutaneous repair of the Achilles tendon with frazier suction tip and trocar needle yields good functional outcome without complications.

Keywords: Acute rupture, Achilles tendon, Percutaneous repair

## **Precision and Sensivity of Magnetic Resonance Imaging in Detection Meniscal Tears in a Local Tertiary Hospital**

*Alberto Gabriel D. Zetazate, MD [St. Luke's Medical Center]*

Defensive medicine has led physicians to prefer more ancillary procedures for establishing diagnoses initially before treatment despite adequate physical examination findings. Options for procedures that allow both confirmation of diagnosis and allows for the option of treatment have been considered more practical and economical, especially in the local setting where healthcare costs remain high.

In patients who clinically present with meniscal tears, foregoing magnetic resonance imaging (MRI) and performing arthroscopy for both confirmation of diagnosis and possible treatment presents to be practical option.

From January 2014 to December 2014, 97 knees were arthroscopically diagnosed with 110 meniscal tears, either of the medial or lateral meniscus, or of both. MRI was able to detect 92 out of the 110 arthroscopically-diagnosed meniscal tears with a sensitivity of 83.6%. Among those read to have tears in MRI, a precision of 93.9% was noted.

Despite the adequacy of MRI in diagnosing meniscal tears in a local tertiary hospital, the practicality of proceeding with arthroscopy instead of confirming diagnosis with MRI remains to be a considerable option, given that the risks of the procedure are all explained well to patients.

Keywords: MRI, magnetic resonance imaging, Sensitivity or True Positive Rate, Precision or Positive Predictive Value

## **Surgical Outcomes in a Tertiary Medical Center of Patients with Ossified Posterior Longitudinal Ligament (OPLL) based on Niruck Grading System and the Modified Japanese Orthopedic Association Scoring System: A follow-up of 1.5 years.**

*Willo G. Toledo, MD [St. Luke's Medical Center]*

Objective: The aim of this study is to evaluate the surgical outcomes of patients with ossification of the posterior longitudinal ligament (OPLL) of the spine using the Nurick grading system and the modified Japanese Orthopedic Association (mJOA) scoring system 1.5 years after surgery.

Methods: A chart review was done from January 2013 to December 2014 from two tertiary medical centers. A total of 26 patients were included in the study. The patients underwent surgical decompression and stabilization via anterior (cervical decompression and fusion), posterior (laminectomy and fusion, or laminoplasty), or both (360-degree fusion) approaches. Patient demographics, co-morbidities, length of hospital stay, and complications were also noted.

Outcome scores were taken at a mean of 19 months after surgery based on the mJOA scoring and the Nurick grading system. Patients were interviewed through phone call or social media platform. The answers were then tabulated vis-à-vis surgical intervention and type of OPLL. Severity of functional disability was graded based on the mJOA score. Post-operative recovery rates were then calculated. Outcomes were then classified according to the definition by Hirabayashi.



Results: Twenty six patients were included (17 males, 9 females; mean age: 55 years) in the study. Majority of the patients were Pacific Islanders (n=13). Smokers accounted for 30% of the patient population. Majority of patients had hypertension and diabetes as comorbidities. Twelve patients presented with segmental type of OPLL, 4 were of the continuous type, and 10 were of the mixed type. Average follow-up was at 19 months post-op.

Overall average pre-operative Nurick grade was 3 while the post-operative Nurick grade was 0.69. Nurick recovery rate was calculated at 82.63%. On the other hand, the mean pre-operative mJOA was 12. The mean post-op mJOA was 17.19, which was close to the perfect score of 18 (i.e. no motor, sensory, or sphincter dysfunction). The mJOA recovery rate was 88.64%. The average length of hospital admission was 12 days.

When grouped according to OPLL type, the segmental variant had the best recovery rate both for Nurick grading and mJOA scoring. The same group also had the lowest mean length of hospital stay. The anterior and posterior surgery (360 degree fusion) had the best mJOA recovery rate at 96%, while Nurick recovery rate was similar (83%) in the anterior approach and 360 degree fusion.

The complication rate was computed at 3.84%.

Conclusion: Anterior and/or posterior cervical decompression and fusion is a safe procedure yielding good to excellent outcomes for ossified posterior longitudinal ligament (OPLL) surgery. Overall recovery rates are at 82.63% and 88.64% for Nurick grading and modified Japanese Orthopedic Association scoring system, respectively.

Keywords. OPLL. Nurick grading scale. Modified JOA scoring system

## **The Role of Intraoperative Frozen Section prior to Internal Fixation for Open Fractures that underwent Delayed Primary Management as a Predictor of Surgical Site Infection: a Case Series**

*Ana Cristina Monica Alidio, MD; Irewin Tabu, MD, FPOA; Liberato Antonio Leagogo, MD, FPOA [UP-Philippine General Hospital]*

Open fractures present with an exposure of the fracture site to the environment, thus having an increased risk for infections. In general, reported incidences of wound infection are 0% to 2% in type I fractures, 2% to 7% in type II fractures, 10% to 25% in all type III fractures, 7% in type IIIA fractures, 10% to 50% in type IIIB fractures, and 25% to 50% in type IIIC fractures<sup>1</sup>. Minimizing infection is one of the early goals of treatment, and is achieved with prompt administration of antibiotics, timely debridement and irrigation. The currently recommended treatment of open fractures consists of timely debridement which is defined as less than 8 hours<sup>2</sup>. However, most of the open fractures present more than 8 hours post-injury, thus also undergo debridement more than 8 hours post-injury (delayed). If the initial debridement was done more than 8 hours post-injury, the wound is usually left open for observation for development of infection<sup>1</sup>. Repeat debridement may be done after 48 to 72 hours to eliminate devitalized tissue, and if without clinical signs of infection, may proceed with internal fixation<sup>1</sup>.

Internal fixation of the fractures includes plate fixation and intramedullary nailing. It is done if the fracture has undergone adequate debridement and the wound is deemed clean and infection free clinically. In an open fracture of the Tibia, Intramedullary nailing is a safe and effective method of Internal fixation, allowing the patient to have early weight bearing and range of motion. It has a reported infection rate of 6% to 7% and 98% union rate<sup>3</sup>.

Intraoperative cultures has been traditionally used to determine the presence of an occult infection,

but has been found to be only positive in 42% of cases. It was suggested that bacterial cultures taken before or after debridement are essentially of no value<sup>11</sup>.

Intraoperative frozen section has been used to detect occult periprosthetic infection for revision arthroplasty cases<sup>5</sup>. Deep sepsis is a dreaded complication, and the reported incidence of surgical site infection after THA range from 1.1% to 12%<sup>3</sup>. Most studies use the criterion of 5 PMNs per high power field, while other studies use the criterion of 10 PMNs per high power field<sup>4</sup>. However, intraoperative frozen section has not yet been described for prediction of surgical site infection during internal fixation of open fractures.

## **The Urgency of Erly Intervention on Traumatic Cervical Spine Injuries: Comparative Study of Early Versus Delayed Surgery**

*Angelica Lee Real, MD;* *Mary Ruth Padua, MD, FPOA;* *Adrian Catbagan, MD, FPOA*  
*[East Avenue Medical Center]*

**Background:** Early decompression of acute cervical spinal cord injuries (SCI) is associated with improved outcomes. However, due to logistical limitations, there are numerous cases of delayed management in our setting. The outcomes of these cases remain uncertain.

**Study Design:** Retrospective cohort study

**Study Objective(S):** Evaluate the (1) outcome of early ( $\leq 7$  days after injury) versus late ( $>7$  days after injury) decompression surgery after traumatic cervical SCI using the ASIA Impairment Scale (AIS), and (2) mortality rates.

**Methodology and Results:** All patients with traumatic cervical spine injuries seen at the emergency room from January 2014 to May 2016 were included in this study. A total of 34 patients with acute cervical SCI were included in this study. Mean duration of injury to date of consult or admission is at  $1.0 \pm 8.49$  days. Mean time to operative management for the patients who underwent surgery ( $n=24$ , 68.57%) was at  $7.10 \pm 16.0$  days. Patients were further stratified into early ( $\leq 7$  days after injury) and late ( $>7$  days after injury) surgical management based on the computed mean. Improvements of  $\geq 1$ -grade were reported in 9 patients (39.13%) and 3 patients (13.04%) who underwent early surgical management and late surgical management respectively, with odds ratio of 2.5000, with confidence interval of (0.4279 to 14.6070)  $p = 0.3090$ . Increased survival rates ( $N=14$ , 60.87%) were observed in patients who underwent early surgery (versus patients who underwent late surgery  $N= 6$ , 26.09%), with odds ratio of OR: 4.6667, CI (0.3552-61.8336)  $p = 0.2426$ .

**Conclusion:** Early surgical decompression after traumatic cervical spinal cord injury is associated with at least one-grade AIS improvement at 12 weeks follow up and increased survival rates

**Keywords:** Cervical spine injury, spinal cord injury, spine trauma.

### **Unstable Posterior Hip Fracture Dislocations: Results of Delayed Reduction and Definitive Fracture Fixation Using the Trochanteric Flip Approach: A case series**

*Majah Rabanne S. Jacob, MD; Joseph Lai, MD, FPOA; Irewin Tabu, MD, FPOA  
[UP-Philippine General Hospital]]*

The hip joint is inherently stable and dislocation of the hip is usually caused by high-energy trauma. The indirect mechanism of injury occurs in a vehicular collision where the knee in flexion hits against the board of the vehicle. Hip dislocations combined femoral head and acetabular fractures are relatively rare injuries with an incidence of one in seven to one in 15 traumatic hip dislocations in adults.

In the Philippines, fracture-dislocations of the hip joint are increasing in frequency due to high incidence of motorcycle collisions. During these collisions, the hips of the motorcycle driver are in 90-110 degrees of flexion and 45-60 degrees of abduction. An impact on the flexed knee in this position pushes the femoral head posteriorly and impacts the posterosuperior wall of the acetabulum causing such fractures.

Open reduction and internal fixation and internal fixation remains the treatment of choice for most displaced acetabular fractures, and long-term results are largely related to the quality of reduction of the fracture, particularly at the level of weight-bearing articular surfaces.

The goal of the treatment of a displaced acetabular fracture is to achieve anatomical reduction. The majority of fractures can be treated through a single standard procedure exposure, however each approach allows only a partial view of the acetabulum.

For complex fractures, extensile modifications or combined approaches are proposed to make reduction easier, but the use of combined or extensile approaches has been criticized because they are associated in some reports with a high rate of complications, including infection, heterotrophic ossification, and muscle weakness.

In 1972, Mercati et al. first described a technique through which the mobilization of the vastus lateralis muscle, a slice of the greater trochanter with the attached gluteus medius muscle can be flipped anteriorly. The gluteus minimus muscle can then be easily mobilized, giving free access to the posterosuperior and superior acetabular wall area.

The aim of this study is to describe the trochanteric flip approach to treat a variety of acetabular fracture patterns and to ascertain if acceptable reduction was achieved with this technique.

### **Changes of Gait Parameters after femoral derotational osteotomy for the CP patients with medial femoral torsion**

*Hayong Kim, Yong Han Cha, Jae Yong Byun, Hyuk soo Shin*

**Introduction:** The in-toeing gait due to a medial femoral torsion in CP patients can be improved with femoral derotational osteotomy (FDO). The purpose of this study was to analyze the changes of gait parameters after FDO using 3-dimensional gait analysis.

**Materials & Methods:** The study group was 19 young CP patients (28 limbs, average age: 13.2 years) with symptomatic medial femoral torsion, treated with FDO (age < 20 years). Study group was divided into two groups; unilateral FDO group (UG) and Bilateral FDO group (BG). Changes of the Staheli's

rotational profiles and the kinematic data after FDO (mean derotation,  $24.6^{\circ}$  ( $25.0^{\circ}$  for UG,  $24.4^{\circ}$  for BG)) were statistically evaluated using paired-t test and Pearson correlation.

Results: Internal and external hip rotation of Staheli's rotational profile were changed postoperatively in proportion to the amount of FDO ( $P < 0.05$ ). Foot progression angle (FPA) was changed approximately a half of the derotation ( $12.9^{\circ}$  in the UG and  $12.6^{\circ}$  in the BG, ( $P < 0.05$ )). The average hip rotation was changed ( $P < 0.05$ )  $14.8^{\circ}$  externally in the UG and  $6.7^{\circ}$  in the BG. Foot rotation angle showed no significant changes after surgery in both groups. However, knee Rotation angle was changed after surgery  $2.6^{\circ}$  in the UG ( $P > 0.05$ ) and  $9.6^{\circ}$  in the BG ( $P < 0.05$ ). Pelvic rotation angle overall did not show significant changes postoperatively ( $p > 0.05$ ). However, in the patients with preoperative pelvic rotation more than 5 degrees, it showed significant changes postoperatively in both groups (UG;  $P = 0.069$ , BG;  $P = 0.034$ ).

Conclusion: In-toeing gait improved significantly with distal FDO in CP patients. FPA and Hip rotation during gait improved half degree of FDO. Compensatory pelvic rotation showed changes after FDO especially in the younger aged patients and the patient with preoperative pelvic rotation more than  $5^{\circ}$ .



## PBO RESEARCH FREE PAPER SESSION

1:30 pm, November 18, 2016 (Friday)

Kamia Room, EDSA Shangri-La Hotel, Mandaluyong City

### **Pre-operative planning the proximal tibia in TKA, the proximal fibula is the better bone to be used in determining the horizontal resection of the proximal tibia**

*Liberato Antonio C. Leagogo Jr., MD, FPOA / Charles Rainier F. Arandia, MD*

*Makati Medical Center*

**Background:** In the preoperative preparation of total knee replacement (TKA), surgeons often rely on antero-posterior (AP) knee radiographs to plan the coronal resection of the tibia as derived from the anatomical axis of the proximal bone. Unfortunately, reports show that the morphology of the tibia is inconsistent making it unreliable for referencing. The anatomical axis of the proximal tibia does not necessarily reflect the mechanical axis of the leg.

**Purpose:** The study looked at the differences in the morphology of the proximal tibia and proximal fibula in AP radiographs of the leg and determined which of the anatomical axis of proximal tibia or the longitudinal axis of the proximal fibula is closest to the mechanical axis of the leg.

**Methods:** Three possible points on the center of proximal tibia and fibula were digitally identified and the distances to the mechanical axis of the leg measured in 412 radiographs. The differences among them were taken and statistically analyzed. The radiographs were divided in 2 age groups; those belonging to patients 60 years old and below and those more than 61 years old.

**Results:** The longitudinal axis of the proximal fibula was closer to the mechanical axis of the leg compared to the anatomical axis of the proximal tibia. The proximal tibia was in varus in most of the radiographs becoming less in the older patients. The proximal fibula was in varus in the younger patients and valgus in the older patients.

**Conclusion:** The proximal fibula is a better guide in pre-operative planning the orientation of the coronal resection of the proximal tibia In total knee arthroplasty.

**Keywords:** Pre-operative planning, coronal tibial resection, anatomical axis, mechanical axis

### **Tibial Tuberosity Fracture with Extension to Proximal Tibial Epiphysis: A Case Report**

*Rinri P. Austria, MD*

*De La Salle University Medical Center*

The avulsion-fracture of the tibial tuberosity is a rare injury, one which appears in adolescents, occurring between 12 to 16 years of age, during the transitional phase of physeal closure just prior to the completion of growth. It occurs predominantly in male. Springing and jumping movements which involve powerful contraction of the knee extensors can result in avulsion fractures of the tibial tuberosity apophysis. This happens in a zone in which the conditions of bone immaturity are favorable. The mechanism of injury is a violent active extension of the knee or a passive flexion against a contracted quadriceps muscle. A leap with a bad landing appears to be the commonest cause. The difficulty with this fracture is in maintaining a satisfactory reduction against the proximal pull of the

quadriceps muscle. The patient is usually very close to the end of growth, and fixation of the fragment should not affect the remaining growth. The fracture line is through the physis of the tuberosity, deep to its ossific nucleus. This physis is the weakness link between the tuberosity and the tibia. The fracture of the proximal tibial epiphysis is a rare injury accounting for 0.5% and 3.06% as reported by Shenton and Canale of all epiphyseal injuries. The avulsion type of fracture of the proximal tibial epiphysis is extremely rare especially those fractures which start at the tibial tubercle and extend up into the proximal tibial epiphysis, separating both structure, hence this case is presented.

This is a case of a fourteen year old male who presented with left knee pain and swelling. Patient had a bad fall while playing basketball. Patient experienced limitation of motion associated with difficulty in ambulation. Radiographic examination revealed fracture closed complete displaced tibial tuberosity left, Ogden type IIIA and a normal R knee APL. Patient underwent open reduction and internal fixation using two half threaded cancellous screws with washers under image intensifier.

An avulsion of the tibial tuberosity represents a substantial injury to the extensor mechanism. Depending on the type, it can be treated conservatively or with open reduction and internal fixation. Open reduction and internal fixation is recommended whenever the apophysis is severely displaced or comminuted (types IIB, IIIA, IIIB). The goal of management is to restore extensor mechanism and the articular surface involved. Functional recovery is complete and there are very few serious complications. Awareness of this injury should enhance our clinical insight and allow for better evaluation and management of this rare disorder.

## **The effect of Pasteurization on Tumor Necrosis in Surgically Amputated Limbs in Osteosarcoma**

*Sharvyl Anthony B. Cantila, MD*  
*Philippine Orthopedic Center*

For treatment of bone tumors, limb salvage surgery is a recognized alternative to amputation as marked improvement has been achieved in skeletal reconstruction. Pasteurization of bone has been used with favorable outcomes over other methods recycled autobone grafts. This study was an in vitro and pilot study wherein this was done to establish the effect of pasteurization on viability of tumor necrosis in surgically amputated limb with High Grade Osteosarcoma. Twenty specimens were obtained from patients with High grade Osteosarcoma involving long bones such as distal femur or proximal tibia. The tumor bone was removed en bloc and specimens measuring one centimeter in length was cut from the tumor bone. One specimen from the control group and five specimens were obtained for pasteurization. Specimens were then histologically studied for the viability of tumor necrosis. Statistical analysis (ANOVA) was performed on these results. Significance level is equal to five percent. ANOVA analysis of differences in the percentage of tumor necrosis at different pasteurization temperature demonstrated significant differences ( $p < 0.05$ ). The estimated marginal means of percentage of tumor necrosis increases as pasteurization temperature increases. Paired sample t-test were evaluated to detect significant difference in the percentage of tumor necrosis based on the sample data demonstrated significant difference in the mean percentages of tumor necrosis assessed at different pasteurization temperatures. Pasteurization does affect the viability of tumor necrosis in surgically amputated limbs with High grade Osteosarcoma.

### **Efficacy of Propan-2-ol, Benzalkonium Chloride vs Hydrogen Peroxide in Preventing Pin Tract Infection in Patients Undergoing Balanced Skeletal Traction**

*Gian Karlo P. Dadufalza, MD / Noel B. Carilo, MD, FPOA  
Philippine Orthopedic Center*

**Objective:** To determine whether Propan-2-ol, benzalkonium chloride (Cutasept) is more effective than hydrogen peroxide in preventing pin tract infection as compared to normal saline solution. To compare the incidence of pin tract infection in distal femoral skeletal traction pin sites cleaned with each treatment group and to classify pin tract infection using DAHL classification.

**Introduction:** Pin tract infection is the most common complication of skeletal traction pins and external fixators. Several pin cleaning agents have been recommended however, no universal pin care regimen exists.

**Methodology:** A randomized controlled trial was done on 90 patients undergoing balanced skeletal traction. Patients 18-65 years old with closed femoral fractures who have 1/8 Steinman pin distal femoral traction were recruited. Subjects were randomly assigned to 3 treatment groups. Subjects and researchers were blinded as to treatment allocation. Pin care was administered 3 times a week. Pin tracts were observed after 2 weeks and classified using the DAHL classification. A DAHL grade of 2 signifies presence of pin tract infection.

**Results:** The incidence of pin tract infection (DAHL grade 2) after 2 weeks of pin site care was 6.7% for hydrogen peroxide, 10% for benzalkonium chloride and 6.7% for saline group. Using Chi-squared test, infection prevalence rate among the three disinfectants are equal ( $P$ -value = 0.856 >0.05).

**Conclusion:** There is no significant difference in the prevalence of pin tract infection among patients with distal femoral pin traction treated with hydrogen peroxide, benzalkonium chloride or saline.

### **Distal Radius Morphometry in the Pediatric Filipino Population**

*Manuel H. Espaldon Jr., MD / Liberato Antonio C. Leagogo, MD, FPOA  
Makati Medical Center*

**Background:** Distal radius morphometry is an important basis of adequacy of reduction of distal radius fractures. A thorough knowledge of the age-appropriate imaging appearance and relevant anatomy of the distal forearm and wrist is essential.

**Methods:** 360 wrist AP/lateral radiographs were reviewed from the Makati Medical Center NOVAPACS system. Twenty radiographs for each age group were included. The radial inclination and palmar tilt were measured in two different ways; using the epiphyseal articular surface (Method 1) and the transphyseal surface (Method 2).

**Results:** Three-hundred sixty radiographs were measured. 205 were AP and lateral wrist radiographs from male patients, 155 from female patients, ages ranging from newborn to 18 years old. The subjects were divided to 18 groups according to age. The mean radial inclination and palmar tilt were distributed per group. Standard deviation was obtained to determine if either method highly variable or otherwise. The F-test was used to determine if there is a significant difference between variances of the two methods per age group.

Using Method 2 for both radial inclination and radial tilt showed less variance in the younger age group. The rest of the variances among age groups showed no significant difference.

Conclusion: The epiphyseal method cannot be used in the newborn to 1 year because of absent or too small epiphyses.

The transphyseal method cannot be used in ages 17 and 18 years because majority have partially or completely closed physes.

In measuring the radial inclination, at ages 2, 3, 7, 10, and 11 years of age, measuring Radial Inclination using the epiphyseal method showed more variance.

In measuring the palmar tilt, at ages 3, 4, and 5 years, measuring Palmar Tilt using the epiphyseal method showed more variance.

At 16 years of age, measuring Palmar Tilt using the transphyseal method showed more variance.

## **Gunshot Injuries and SIGN Intramedullary Nailing: A Southern Philippines Medical Center Experience**

Allan Rodolfo P. Herrera, Jr. M.D.

Southern Philippines Medical Center

Gun Shot Injuries in Southern Philippines Medical Center was explored in this study. The study employed a cross sectional study to determine and describe the following: the proportion of open femoral fracture over the total number of all orthopedic cases treated at Southern Philippines Medical Center from January 1, 2008 - December 31, 2011; the proportion of Open Femoral Shaft Fracture secondary to Gunshot injuries over the total number of open femoral fractures; proportion of Open Femoral Shaft Fracture secondary to Gunshot Injuries treated with IM (SIGN) Nailing; the profile of cases in terms of age, sex ratio and type based on Gustilo Classification as well as the characteristics and clinical outcomes of patients in terms of radiographic union, Knee Range of Motion and weight bearing status and infection rate.

The charts, x-ray films and OPD follow ups of all patients with Open Femoral Fractures secondary to Gunshot Injuries treated with IM Nailing from January 1, 2008 to December 31, 2011 were reviewed thoroughly.

Results revealed that out of 4609 Orthopedic cases, three percent (3%) were open femoral shaft fractures were secondary to Gunshot injuries. Nineteen percent (27/140) were managed with SIGN IM Nail. The Mean age in years of patients was 28+3.5 with male preponderance. Based on Gustilo Classification of Open Fractures, Open Type IIIA was the most common form of injury. On 3rd month of follow up, 26% of cases showed radiographic union, full ROM of the knee and full weight bearing status. Sixty-two percent of patients had the same outcome in 6 months follow-up. All patients were normal in 12 months period. Infection was noted in 1 out of 27 patients.

SIGN Intramedullary nail is a safe and viable surgical treatment choice for Open Femoral Shaft Fractures secondary to Gunshot injuries.



### **A Prospective Cohort Study on the Determination of Early Outcomes of Congenital Idiopathic Clubfoot Patients Treated at Baguio General Hospital and Medical Center (BGHMC) using the Ponseti method**

*June R. Malana, MD*

*Baguio General Hospital and Medical Center*

**Background:** Talipes Equinovarus is a developmental deformation that remains a challenge in orthopedic surgeons especially in treating severe deformity of the condition. Over the past decades, Ponseti method remained the standard treatment. The aim of this study is to determine early outcomes of congenital idiopathic clubfoot patients treated at BGH-MC using the Ponseti Method.

**Methods:** From May 2014-March 2015, this hospital based- prospective cohort study evaluated 19 congenital idiopathic clubfoot patients' ages up to 2 years old. Baseline profile data and duration of casting were taken using frequencies and percentages. Evaluation of the deformity utilizing Pirani Scoring system before and after treatment was used and assessed through the T-Test.

**Results:** Of the 13 respondents included in the study, 6 were males and 7 were females. A total of 19 clubfeet were treated by Ponseti Method (7 unilateral clubfoot- 36.84% and 12 bilateral clubfeet- 63.16%). The average number of cast application was 5.42 weeks. 78.95% of the respondents who presented with severe deformity underwent tenotomy. There was a significant difference on the pre-treatment and post treatment Pirani scoring of the respondents involved in the study.

**Conclusion:** The Ponseti method provided excellent results in determining early outcomes of congenital idiopathic clubfoot treated at BGHMC. The method was very effective in correcting the deformity if treated in the early stage of life.

**Keywords:** Clubfoot, Talipes Equinovarus, Ponseti Method

### **A Descriptive Study of the Clinical Outcome of a Modified Reverse-flow Sural Flap for Soft Tissue Defect in the Lower 3rd of the Leg, Ankle, and Foot**

*King H. Medidas, MD*

*Southern Philippines Medical Center*

**Background:** Soft tissue defects of the lower extremities distal 3rd presents a challenging problem for an orthopaedic surgeon due to the thinness of the subcutaneous tissue on this area. A fasciocutaneous flap (reverse-flow sural flap) is usually proposed in covering this soft tissue defects, though most institution still requires the expertise of a plastic surgeon, in some institution this was done by an orthopaedic surgeon. There has been considerable variation and modification done by various authors regarding the sural flap. Usually done with subcutaneous tunnelling of the pedicle, in our cases modification was done by including of strip of skin. This study aims to know if modification of the reverse sural flap to cover defects in the distal 3rd of the leg, ankle, and dorsum of the foot produces acceptable clinical outcomes.

**Methods:** This is a descriptive study design. The study will be a review of 12 patients admitted between January 1, 2009 to August 30, 2011 at Orthopaedics Department, SPMC, Davao City.

Results: Included in the study are 8 male patients and 4 female patients with an average age of 45 years. All had history of trauma to the lower leg, ankle and foot with soft tissue defect. 10 of the 12 patients (83.3%) the flap survived. 2 flaps failed, 1 diabetic and 1 non diabetic. Of the entire clinical outcome noted venous congestion was the most common.

Conclusion: It could be concluded that the modified reverse sural flap done in our institution is a viable alternative for covering soft tissue defect of the lower limb. It is a versatile flap and does not require modern advance technique or team of expertise as the procedure itself is easy and quick to harvest.

## **A Comparison of Screw Pullout Strength between Exact-Length Screws and Cut-Screws in a Plate and Screw Construct: An Experimental Study**

*Shaun A. Porras, MD; Jair Kimri P. Jingco, MD, FPOA; Jose Maria R. Coruna, MD, FPOA; Jennibeth M. Alojado, MD*

*Corazon Locsin Montelibano Memorial Regional Hospital*

Background: The practice of cutting cortical screws, in the absence of exact length screws, is a common practice among orthopedic surgeons. This study aims to investigate whether the practice of cutting cortical screws will compromise the screw's holding power, specifically the pull-out strength of the screws, on cortical bone in a plate and screws construct.

Methods: The cortical screws used were AO cortical screws with the spherical head and internal hexagonal slot; with external and core diameters of 4.5mm and 3.0mm respectively. Screws were cut using an Aesculap bolt cutter. The screws were inserted following the AO-recommended method of inserting non self-tapping 4.5mm cortical screws. Thirty fresh femora from bovine hind limbs were used. Each femur was attached to a special testing plate using 3 screw holes. The femur with the attached test plate was attached to the testing rig, where a universal testing machine was used to pull out one end of the test plate. The highest pull out measurement was then recorded for each tested femur.

Results: The mean strength of the exact-length screws is 352.48kg while that of the cut-screw group is 309.31kg. The mean difference is 43.17kg.

Conclusion: The pull-out strength of the exact-length screws construct are consistently higher than those of the cut-screws construct.

## **Comparison of the Amount of Antibiotic Eluted Between Antibiotic Beads and Antibiotic Discs: An Experimental Study**

*Antonio Manuel T. Saludo, MD / Domingo A. Chua Jr., MD, FPOA*

*Armed Forces of the Philippines Medical Center*

Background: Prolonged antibiotic treatment is needed in the treatment of chronic osteomyelitis. This could bring about the adverse effects of prolonged antibiotic use. Increasing the local concentration via depot devices in the form of beads or discs may help shorten the course of systemic antibiotics. Antibiotic discs are believed to have a greater elution as compared to beads because of its greater surface areas.

**Method:** This is an experimental study wherein the amount of elution from antibiotic beads and discs was measured from the zone of inhibition they produced in bacteria grown in nutrient agar

**Results:** Measurements of the diameter for the Antibiotic discs ranged from 29 to 32 mm with a mean of 30.67 mm whereas measurements for the Antibiotic beads ranged from 21 to 27 mm with a mean of 24.67 mm. Results were noted to be significant with a p value of 0.00001.

**Conclusion:** Antibiotic discs elute a greater amount of antibiotics as compared to antibiotic beads. This equates to a greater delivery of antibiotics in the area of infection which could possibly shorten the duration of systemic antibiotic therapy.

## **Functional Outcome Of Femoral Shaft Fracture Treated With Kuntscher Nail From January 2013 - December 2014 In Corazon Locsin Montelibano Memorial Regional Hospital**

John Paolo Sanchez, MD

Corazon Locsin Montelibano Memorial Regional Hospital

**Introduction:** Femoral shaft fractures commonly occur in adults and is best treated with interlocked intramedullary nailing. Kuntscher nail was one of the earliest forms of intramedullary implant. However due to its problems with axial and rotational instability especially in comminuted fractures, it was replaced with interlocking nail designs. Interlocking nails offer better stability but is expensive and less accessible in less developed areas. Because of this Kuntscher nail is still popular in third world countries.

**Methodology:** This study aims to identify the functional outcomes of simple femoral shaft fractures treated with Kuntscher nailing. Subjects included are patients 18 years old and above with femoral shaft fracture treated with Kuntscher nail in CLMMRH from January 2013 to December 2014. A total of 23 patients with 24 femoral shaft fractures were included. Functional outcome assessment tools are The Tegner Lysholm Knee Scoring Scale, Harris Hip Score, Visual Analog Scale for assessment of pain and the patient's ability to do squat and smile.

**Results:** The mean age of the subjects was 62 years old. All subjects had simple fractures with stable configuration. All subjects had excellent Tegner Lysholm Knee Score and Harris Hip Score and reported no pain using the visual analog scale. All subjects were able to do squat and smile.

**Conclusion:** In areas without access to modern intramedullary nails, Kuntscher Nail is still a safe and effective mode of treatment for femoral shaft fractures. It still results to excellent functional outcome. However the use of Kuntscher Nail should be restricted to simple, stable femoral shaft fracture configuration.

## **Functional Outcome in Simple Elbow Dislocation Comparing Armsling Support and Plaster of Paris Immobilization**

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Philippine Orthopedic Center*

**Objectives:** Simple elbow dislocations are part of the most common injuries usually acquired from a fall and are treated by using either armsling support or plaster of paris immobilization. This study aims to investigate whether one treatment is more superior to the other by comparing the range of motion, presence of complications following treatment, functional outcome, as well as the presence of pain.

**Methods:** This study conducted a randomized controlled trial where a group of 70 patients with simple elbow dislocations chosen via stratified sampling. Participants' mean ages for armsling group and plaster of paris group were 33.2 and 32.1 years old respectively, and with injuries that did not have any associated fractures. These patients were also seen on the day of their injury. Following reduction of the dislocations, 35 patients were treated by using armsling support, and 35 patients were treated using plaster of paris immobilization. Both groups were immobilized for a period of 7 days. Incremental passive and active motions were started at the end of the first week for both groups. Participants were assessed clinically at the 6th week and at the 3 month period post therapy with respect to elbow range of motion, presence of complications, and regression of pain. Functional outcome was assessed using the MEPI.

**Results:** At 6 weeks post therapy, Patients who were part of the armsling group had greater flexion, supination, and pronation. Most of the VAS score for both groups were 0 (zero), showing that many did not feel any more pain at this period. The MEPI score at 6 weeks revealed insignificant results (p-value=0.52), but showing that the armsling group scored higher (94.9). As for the complications, most of the patients in both groups did not complain of any complications such as crepitation, degenerative changes, or heterotopic ossification following treatment, but 1 case from each group claimed to feel tingling sensations (2.9%). Patients from both the armsling and the plaster of paris group claimed to have felt joint stiffening (28.6% and 42.9% respectively) but found to be insignificant (p-value=0.21). At the 3 month period post therapy, flexion, supination, and pronation was still greater in the armsling group. While their VAS scores remained the same. The MEPI score at this time showed that armsling group had a higher score, but again, the results were insignificant.

**Conclusion:** Simple elbow dislocations can be managed conservatively by using either an arm sling or plaster of paris to immobilize the affected elbow. Using an arm sling to manage this type of injury might be better owing to the range of motion that is better achieved by using this, as well as its cost effectivity, and the level of comfort that it gives the patient compared to immobilization with plaster of paris.



**Outcome of Recurrent Shoulder Dislocation Treated with Bankart Repair with Inferior Capsular Shift Among Active Military Personnel – A Case Series**

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**Background:** The anatomic configuration of the shoulder joint (glenohumeral joint) renders it the most mobile joint of the body. This is because the articular surface of the round humeral head is approximately four times greater than that of the relatively flat glenoid fossa. The stability and movement of the shoulder is controlled by the rotator cuff muscles, ligaments, and the capsulolabral complex of the shoulder. The labrum is a fibrocartilagenous ring, which attaches to the bony rim of the glenoid fossa. The labrum doubles the depth of the glenoid fossa to help provide stability. The shoulder is one of the most commonly dislocated joints in the body. Shoulder dislocations can occur from trauma, such as falling on an outstretched hand. When this happens it is common for the capsule and ligaments to be torn, which often includes a tear of the glenoid labrum. Traumatic shoulder dislocations often lead to recurrent dislocation. An active military personnel and military recruit, anterior shoulder dislocation is a common injury sustained during training and military operation. The purpose of this study is to document the outcome of military patients who had recurrent shoulder dislocation with bankart lesion and underwent bankart repair using an absorbable suture with inferior capsular shift.

**Methods:** Six patients who had recurrent shoulder dislocation were included in this study and underwent open bankart repair using absorbable suture instead of an anchor suture. We drill 3 holes to the anteroinferior portion of the glenoid rim and passed an absorbable suture to secure the labrum. After which, we did an inferior capsular shift and placed the patients on an armsling.

**Result:** All patient who underwent bankart repair with inferior capsular shift were able to return to active duty and perform military routines. One patient is still on rehabilitation for strengthening and range of motion exercises. None of them experienced redislocation.

**Conclusion:** Using an absorbable suture to repair the bankart lesion with inferior capsular shift could be an option instead of using the more expensive anchor suture. Subjects were able to continue their military career and able to perform daily military activities without limitations.

## 1 A Comparison of Functional Outcome Score Between Patients with Tibial Shaft Fractures Treated with Serial Casting Versus Delayed Intramedullary Nailing

*Jewel Sadiang-Abay, MD; Lauro R. Bonifacio, MD, FPOA [Philippine Orthopedic Center]*

**Introduction:** Tibia is the most commonly fractured diaphyseal bone. Current literature describes both conservative and surgical management with good outcomes. Intramedullary nailing is indicated for patients who desire an early return to work and physical activities. However, delay in the administration of a surgical intervention can be multifactorial. This paper measured the functional score of patients treated with delayed intramedullary nailing versus serial casting.

**Methodology:** This was a quasi-experimental study that employed consecutive patient enrolment. The population was divided into two groups. The first group underwent intramedullary nailing while the second group underwent serial casting. Rehabilitation program was the same for both groups. SF 12 was administered at 6 months post injury when fractures were expected to fully unite and patients have completed their rehabilitation. The data were tabulated and independent t-test and Fisher exact test were utilized for statistical analyses.

**Results:** There were 61 patients included in the study, 54 males and 7 females. The mechanism of injury was motor vehicular accident in 36 of cases, fall from height in 12 cases and the rest are from other causes. Twenty-six of these fractures were transverse, 19 were oblique, 8 were spiral and 8 were comminuted. The two groups were homogenous in terms of age, gender, mechanism of injury, time to intervention and level of fracture. The delayed nailing group has significantly better functional outcome scores compared to the serial casting group in terms of the physical component summary ( $P < 0.001$ ) and mental component summary ( $P < 0.001$ ).

## 2 A Comparison of Low Back Functional Outcome of Accepted PMA Cadet Applicants with Mild Scoliosis Compared to Accepted PMA Cadet Applicants without Scoliosis from Year 2013-2017 Using Oswestry Low Back Pain Scoring

*Cesar D. Velasco Jr., MD; Domingo A. Chua Jr., MD, FPOA, R. Reduble, MD [AFP Medical Center]*

In military populations, training related to musculoskeletal injuries are a major concern. The Philippine Military Academy cadets undergo a rigorous physical training during their 4 year education. Therefore it is a necessity that cadet applicants be at their utmost healthy physical condition and mental states. It is therefore mandatory that cadets be screened and absolutely there should be no deficit. During screening the back is also examined for any deformity. Commonly scoliosis is seen in some applicants. Scoliosis is an abnormal curving of the spine. Naturally everyone's spine curves minimally. However this minimal curvature rarely affects rigorous physical training. Screeners and medical boards set the maximum requirement for curvature that an applicant can possess which is in very minimal amount. The aim of this study is to show that higher degrees of spinal curvature don't affect the physical activities of patient with mild scoliosis compared to those with spinal asymmetry. A prospective cohort study was performed to determine the low back functional outcome of accepted PMA Cadet applicants with scoliosis compared to accepted PMA Cadet applicants without scoliosis from 2013-2017 using the Oswestry Low Back Pain Scoring. Accepted PMA Cadet Applicants with mild Scoliosis (85 or 21.35%) and spinal asymmetry (78.64%) for SY 2013- 2017 were included in the study. All subjects totaling up to 398 cadets were asked to answer Oswestry Low Back Pain Questionnaire. They were then followed up after a year of training and answer the same questionnaire. Results showed that 397 of 398 (99.7%) cadets maintained the full functionality of their lower back. 1 subject was unable to continue his training due to a trauma of the foot. The result showed that there

is no significant difference in the functionality of lower back of those with mild scoliosis compared to the functionality of lower back with spinal asymmetry. In conclusion patient with a mild scoliosis can be accepted as cadet and can tolerate the rigorous physical training that a military training can offer. A recommendation of increasing the cut off spinal curvature of those with spinal asymmetry and mild scoliosis is advised.

### **3 A New Arthroscopically-Assisted AC Joint Reconstruction Technique: A Case Report**

*Giorgio D. Delgado MD, Ambrosio Emilio S. Valdez III MD, FPOA [UP-Philippine General Hospital]*

The surgical treatment of acromioclavicular (AC) joint separations remains challenging. Different techniques have been described in literature, but there is currently no gold standard. Throughout the different techniques, direct visualization of the base of the coracoid is essential to avoid injury to the nearby neurovascular structures. We present a new technique using arthroscopically-assisted AC joint reconstruction in the treatment of a 56 year old male with an AC joint injury (Rockwood III). Our method provides superior visualization of the base of the coracoid, a requirement for safe graft passage, with less soft tissue dissection and through smaller incisions than standard techniques.

### **4 A Rare Case Report and Literature Review: Release of Bilateral Dupuytren's Contracture in a 50-year-old Filipino Male Under Wide Awake Hand Surgery**

*Tiffany Kanapi, MD; Nelson Lim, MD, FPOA [Makati Medical Center/Ospital ng Makati]*

**Introduction:** Dupuytren's contracture involves the palmar and digital fascias of the hand where in benign fibromatosis occurs. As the Dupuytren's nodule forms and enlarges, it creates pathologic cords within the palm extending proximally and distally. These cords then thicken and shorten creating the grossly visible contractures of the joints. This disease is known in layman's terms as the "Viking Disease" owing to the high prevalence of this disease in the Celtic race; fairly common in Japan but very rare in other Asian countries including the Philippines.

**Case Report:** This is a case of AC, a 50-year-old, right handed retired male who developed dupuytren's disease on both of his hands. Patient does not present with any of the associated factors such as smoking, diabetes, or vascular diseases. Patient is also not from Caucasian descent.

**Discussion:** AC has noted the gradual contracture of the ring finger on his left hand nine years prior. The contracture of the ring ringer on the right developed more recently, about two years prior. Eventually patient sought consult due to the progressing difficulty in performing household activities as well as caring for his grandchildren.

Patient shortly thereafter underwent release of contractures on both extremities under the recently developing wide awake hand surgery. This is a relatively novel concept of delivering targeted local anesthesia, according to studies, resulting in the patient having no preoperative testing, no tourniquet pain, less hospital stay, being awake during surgery, and avoidance of sedation.

**Conclusion:** Dupuytren's contracture is a genetic disorder extremely rare among Asian nations. Yet it is as debilitating regardless of race. Wide awake hand surgery is also a recent development thus aside from contributing to the rarity of such occurrences in the Filipino race, it can be further supported that such procedures can also be done under noted conditions.

## **5 A Retrospective Study of Femoral Shaft Fractures Treated with Retrograde SIGN Fin Nail**

*Jude P. Panuda, MD; Claire Marie C. Durban, MD, FPOA; Noel Rex P. Peñaranda, MD, FPOA  
[Southern Philippines Medical Center]*

**Background:** The aim of this study was to evaluate the clinical and functional outcomes of patients with femoral shaft fractures treated with retrograde SIGN Fin Nails in terms of time to full weight bearing, knee pain, and knee range of motion.

**Method:** This study was a retrospective study conducted at our institution. The study population included patients treated with retrograde SIGN Fin Nail aged 18 years old and above, patients with isolated middle to distal third femoral shaft fracture with any fracture pattern open or closed, patients with ipsilateral femoral neck fractures, and patients with ipsilateral tibial shaft fractures. Cross tabulation and Chi-square test were used to analyze the data gathered from the study.

**Results:** In this study, the results showed that knee range of motion was observed to be more than 90 degrees in majority of the patients treated regardless of fracture type, Gustilo classification, fracture location, and associated injuries. Only three patients reported knee pain upon follow-up. In this study, only 44.44% (8 of 18) were able to do full weight bearing in less than 8 weeks. While 55.55% (10 of 18) were able to weight bear fully after a period of 8 weeks. Patients with associated femoral neck fractures (11.11%), intertrochanteric fractures (16.67%), and ipsilateral tibia fractures (16.67%) were able to weight bear in a period of less than 8 weeks. Two patients (11.11%) with isolated femoral shaft fractures were also able to weight bearing in less than 8 weeks. In contrast, the patients with associated femoral neck and tibial plateau fracture (5.56%), intertrochanteric fracture (5.56%), intertrochanteric fracture with ipsilateral tibial plateau (5.56%), and 4 patients with isolated femoral shaft fracture were able to fully weight bear after a period of 8 weeks.

**Conclusion:** There is no significant relationship between Gustilo classification, fracture type, fracture location, and associated injuries with time to weight bearing, knee pain, and knee range of motion.

## **6 A Review of Incidence and Risk Factors of Peri Implant Infections among Orthopedic Patients of the Armed Forces of Philippines**

*Dr Caesar Paulus Serapio J. Taccad II, MD [AFP Medical Center]*

**Background/Objective:** Peri-Implant infections are costly adverse events related to orthopedic implant surgeries that have repeatedly posed a problem to patient safety and welfare. Characterizing this phenomenon is crucial to anticipate and combat this threat to patient safety.

**Methods:** This study utilized a case-control design. The Bone and Joint Research Group (BJRG) Peri-Implant Infection Registry was accessed (AFP Medical Center data only). Patients who developed infections after orthopedic implant surgery were included as cases. These patients were matched with patients who did not develop peri-implant infections. Baseline preoperative characteristics were summarized. A chi-squared test was performed on clinical and peri-operative characteristics to determine factors that significantly influenced the risk of peri-implant infections. Statistical adjustments were performed based on significant variations in baseline preoperative characteristics. Subsequent course and outcome of patients with infections was described.



Results: There were 4 infections out of 172 patients, with an annual incidence of 2.37%. Risk factors that posed a statistically significant risk for infections were: male sex (OR 1.38; 95% CI: 0.072-26.54), and primary traumatic bone injury as an implant indication (OR 0.42; 95% CI: 0.042-4.3130). All patients with implant infections presented with discharge and local erythema. ESR was uniformly elevated, but X-ray findings varied from normal to loosened implants. The most common organisms detected on culture were coagulase-negative Staphylococcus and other Staphylococcus species. Nearly all patients underwent removal of the implant.

Conclusion: The incidence of peri-implant infection in the AFP Medical Center is at the expected level from the literature. However the underlying factors that the researchers would want to determine were expected (traumatic bone injury). In line with the limitations of this study, vigilant and concise retrieval of data is warranted for further development of this study.

### **7 Active Lateral patellar Restraint Test: A Novel Diagnostic Test**

*Janos F Vizcayno Jr, MD [St. Luke's Medical Center]*

Introduction: Patellofemoral pain syndrome (PFPS) is a common pathology experienced by young adults. This is characterized by anterior or retropatellar pain and crepitation during activities such as ascending or descending stairs, prolonged sitting, squatting, jumping or when getting up from a chair. Several studies have been made on the different orthopedic special tests specific to patellofemoral syndrome pathology. However, positive outcome of the tests only increases the probability to a small degree and sometimes question its validity in diagnosing patellofemoral syndrome. Analyzing the abnormal biomechanics of the patello-femoral articulation in patients with patellofemoral syndrome, the active lateral patellar restraint test was developed (ALPRT), wherein we try to correct the lateral patellar maltracking as the knee goes in flexion.

Methods: The study is a retrospective, case series. Chart records of 86 patients from private practices and outpatient clinics from 3 different orthopedic consultants in St. Luke's Medical Center were retrieved from January 2013 to October 2015. Subjects were included for the trial if they met the criteria based on previous studies of patellofemoral pain syndrome. Of the 86 patients, 11 patients who had radiographic evidence of osteoarthritis, and 2 patients with positive for mcmurray's test (indicative of meniscal tear) were excluded from the study. There were 30 males, and 44 females. Age ranges from 19 – 55 years old with mean age of 34 years. The right knee was involved in 28 patients, 25 on the left, and bilateral involvement in 18. The active lateral patellar restraint test (ALPRT) were performed in all patients who were included in the study.

Results: Of the 75 patients who met the criteria for patellofemoral pain syndrome, 75 out of 75 (89 knees) (100%) were positive for the active lateral patellar restraint test.

Conclusion: The active lateral patellar restraint test (ALPRT) is a possible novel test to diagnosed patellofemoral pain syndrome. This is based on the theoretical background that this test relieves the pressure to the articulation of the lateral facet of the patella and trochlea by the medially directed force provided by the examiner. Further studies may be done in order to test the validity of this test for the diagnosis of patellofemoral pain syndrome. If deemed valid, future studies may arise to identify its accuracy in patients that clinically presents with anterior knee pain and retropatellar pain during jumping, squatting, prolonged sitting and getting up from chair.

## 8 Adolescent Idiopathic Scoliosis as a Restrictive Lung Disease

*Ebenezer Francis O. Arthur, MD; Jose Martin S. Paise, MD, FPOA [Makati Medical Center]*

Introduction: Scoliosis is the most common 3-dimensional deformation abnormality of the spine with direct effects on the thoracic cage, with a reported prevalence in the general population varying significantly from 0.3% to 15.3%. The effects of scoliosis in the anatomy of the chest are quite complex and the more severe the deformity the more a patient is predisposed to developing a restrictive lung disease.

Case Report: Our patient is a 17 year-old female who was diagnosed with Adolescent Idiopathic Scoliosis 5 years ago when her relatives noted a curving deformity of her back. The xrays at this time showed a thoracic curvature of less than 70°. They were advised bracing but was lost to follow-up. Interval history shows progression of the spinal deformity with no consult. 8 months prior, patient started to complain of progressive shortness of breath most noted when climbing up and down the stairs. They consulted a pulmonologist who had a spirometry done which showed a forced vital capacity of only 28%. Xrays at this time showed a major thoracic curve at 160°. Patient was subsequently referred to our service. Under our care, patient underwent a 3-stage scoliosis surgery consisting of a preoperative halo-gravity traction followed by anterior releases of T5-T6 to T11-T12 with right double thoracotomy and application of bilateral femoral skeletal traction, and lastly, posterior instrumented fusion of T1-L4 using pedicle screws, hooks and rods. Patient is currently back to school and participate in jogging activities.

## 9 Analysis of Driver-Related Factors In Road Traffic Injuries among Patients Seen At East Avenue Medical Center-Emergency Room

*Andrew Steven T. Co, MD; Mary Ruth A. Padua, MD, FPOA; Lendell Z. Gatchalian, MD, FPOA [East Avenue Medical Center]*

Road Traffic Injuries are a major cause of death and disability globally with majority occurring in developing countries [1]. It is both a significant and preventable cause of death and disability leading to economic loss, these losses arise from the cost of treatment (including rehabilitation and incident investigation) as well as reduced/lost productivity (e.g. in wages) for those killed or disabled by their injuries, and for family members who need to take time off work (or school) to care for the injured. [2].

Road traffic accidents is presenting with an increasing trend in the Philippines, but few studies have been made to assess its cause [3]. According to the latest data from WHO, about 1.25 million people die each year as a result of road traffic crashes and without action, road traffic crashes are predicted to rise to become the 7th leading cause of death by 2030.

Road traffic injuries have been neglected from the global health agenda for many years, despite being predictable and largely preventable. Governments need to take action to address road safety in a holistic manner, that requires involvement from multiple sectors and that addresses the safety of roads, vehicles, and road users themselves. Effective interventions include designing safer infrastructure and incorporating road safety features into land-use and transport planning; improving the safety features of vehicles; and improving post-crash care for victims of road crashes. Interventions that target road user behavior are equally important, such as setting and enforcing laws relating to key risk factors, and raising public awareness [WHO, 2016]

Key risk factors includes the driver experience, drunk driving, use of motorcycle helmets, use of seatbelts and other restraints.

## 10 Arthrogyrosis Multiplex Congenita – A Case Report

*Anne Marie M. Milo, MD; Rosalyn P. Flores, MD, FPOA [University of Santo Tomas Hospital]*

**Purpose:** Due to limited availability of studies made regarding this condition, this case report aims to properly document and present a case of arthrogyrosis multiplex congenital.

Arthrogyrosis is a congenital disorder that is characterized by multiple joint contractures which leads to debilitating deformities. The ultimate goal is to correct associated deformities however; incidence of recurrence is common after surgical intervention. For the foot deformity, Ponseti technique is employed.

**Conclusion:** A multidisciplinary approach to treatment is highly recommended to provide a definitive diagnosis and to fully manage all aspects of the patient's condition. Early initiation of rehabilitation and Ponseti casting may be of value in managing joint contractures.

**Keywords:** Arthrogyrosis, Arthrogyrosis Multiplex Congenita, Congenital joint contractures

## 11 Arthroscopic Debridement and Repair of Anterosuperior Labral Tear, Right Hip

*Jose Rodrigo G. Cervero, MD; Francis H. Fernandez, MD, FPOA; Agripino A. Javier, MD, FPOA [Makati Medical Center]*

**Introduction:** The acetabular labrum is a fibrocartilaginous structure that surrounds the periphery of the acetabulum and inserts on the transverse acetabular ligament. The function of the acetabular labrum is to improve stability by: (1) deepening the hip socket, providing it with extra structural support and (2) it partially seals the joint to create a negative intra-articular pressure which counteracts any distractive forces and maintains adequate synovial fluid within the joint. Tears in the acetabular labrum lead to increased contact pressures between the acetabulum and femoral head. Arthroscopic repair and debridement of labral tears aims to relieve common symptoms of pain in labral tears by removing damaged tissue and restoring a stable base while preserving as much labrum as possible to preserve stabilizing function.

**Case Report:** Our patient is a 43 year old female, active in multiple recreational sports and activities like swimming, dance and yoga. Two months prior to admission, the patient accidentally slipped on wet flooring leading her to a full split at the legs with the left hip in hyperflexion, and the right hip in hyperextension. Afterwards the patient noted pain on the right groin area, aggravated by extension, external rotation and abduction of the right hip. This prompted consult with her attending surgeon who did an MRI of the hip which showed deficiency in the anterosuperior labrum. She was then advised surgery hence admission. On the first day of admission, full arthroscopy of the right femoroacetabular joint was done under general anesthesia. Labrum on the anterosuperior region of the acetabular rim noted to be frayed with a free flapping edge measuring around 5mm. Frayed edges were then shaved, and free edge of the labrum was re-attached to the acetabular rim using 1 suture-anchor. Post-operatively, patient was advised to limit external rotation and abduction, forward flexion only to 90 degrees and absolutely no extension. Adduction and internal rotation were allowed as tolerated.



## 12 Recurrent Sarcoma at Multiple Local Sites

*Julian P. Ferrer, MD; Edward HM. Wang, MD, FPOA [Makati Medical Center]*

**Introduction:** Epithelioid Sarcoma is a rare, malignant, slow-growing, nodular, soft tissue tumor, often mistaken for a benign granulomatous process. Epidemiology notes its occurrence in ages 10-35 years of age with a gender ratio of 2:1, male predominance. It is the most common soft tissue Sarcoma of the hand and wrist but may occur in the forearm, buttocks, thigh, knee, and foot, which may be superficial or deep. This may be attached to Tendons, Tendon Sheaths, and Fascia. Regional lymph node metastasis is common and may metastasize to the lungs. Poor prognostic factors are proximal or axial tumors, large size, deep site, hemorrhage, mitotic figures, necrosis, Rhabdoid features, and Angiolymphatic invasion.

**Case Report:** Our patient is DF, a 46 male with recurrent soft tissue mass on the right thigh. Seven years prior (2009), patient noted a slow growing mass, measuring 2.5cm at the time, on the right anterior perineal triangle under the right scrotum. This was accompanied by difficulty ambulating. Patient sought consult with a private physician and underwent excision biopsy of the said mass. Histopathology revealed Epithelioid Sarcoma with inadequate margin excision No adjuvant therapy given. Interval history shows no recurrence of the mass and was ambulatory, until 4 years prior (2011), there was recurrence of the said mass now encroaching on the adductor compartment of the right thigh as visualized under MRI and PET Scan, measuring 16x16x10cm, with no systemic involvement. This was accompanied by pain, difficulty ambulating, and difficulty wearing trousers. A multidisciplinary meeting was done wherein trial of systemic chemotherapy was decided. Patient underwent 2 cycles of chemotherapy however mass did not decrease in size. Patient then underwent Radiotherapy, pre-operative embolization of the Pudendal artery, and radical resection of the tumor which again showed Epithelioid Sarcoma with negative margins. Patient was ambulatory with some difficulty in flexion beyond 90 degrees and eventually able to run. Interval history was again uneventful until 2 years prior, patient noted recurrence of mass noted to be 2x2 cm on MRI on the original site of the tumor. Patient had already done the maximum radiotherapy offerable and underwent wide resection of the said mass, again revealing Epithelioid Sarcoma. One year prior, patient had follow-up with a PET Scan revealing a 2cm mass in the right Gluteus Maximus and was decided to observe the lesion for now. Interval history shows gradual enlargement of the mass and CT guided biopsy confirmed Epithelioid Sarcoma once again. Pre-operative Therapy done and repeat MRI revealed a contralateral Vastus Lateralis mass which was likewise excised with negative margins, again revealing Epithelioid Sarcoma. Patient is currently asymptomatic with no recurrence.

## 13 Comparison of Different Splints for Post-Operative Distal Radius Fractures in Non-Injured Subjects

*Jessica Anne A. Gandionco, MD [St. Luke's Medical Center]*

**Objective:** To compare available wrist and forearm range of motion after the application of radial slab, ulnar-based forearm splint, volar splint, and long arm posterior mold in healthy adults and to evaluate these in terms of satisfaction.

**Methods:** Ten healthy subjects without previous injury to the dominant upper extremity were included in the study. Active wrist and forearm range of motion of the dominant extremity was measured by a single examiner using a goniometer. The following splints: radial slab, ulnar-based forearm splint, volar splint, and long arm posterior mold, were applied by the researcher in a randomized



order. The subjects wore these for one hour. Range of motion was again measured with each type of immobilization, and the subjects completed the shortened version of the Disabilities of the Arm, Shoulder, and Hand questionnaire (QuickDASH). The subjects were also asked to rate the different splints from 1 to 4, 1 being the splint that they preferred the most.

Results: Ten adults with a mean age of 27 (range 23 to 32), equal gender distribution (gender ratio 1:1), and majority of whom were right-handed (9:1) were included in the study. A significant difference in flexion and extension was observed in all types of splint compared with no immobilization. A significant decrease from baseline range of motion was also observed among the radial slab for radial deviation; radial slab, ulnar-based forearm splint, and long arm posterior mold for ulnar deviation; radial slab, ulnar-based forearm splint, and long arm posterior mold for pronation; and long arm posterior mold for supination. There was no significant difference between mean QuickDASH scores of the radial slab, ulnar-based forearm splint, and volar splint compared with each other; however, a significant difference was found with these three when compared to the long arm posterior mold ( $p = 0.039$ ,  $p = 0.003$ ,  $p < 0.001$ , respectively). There was a significant difference in the perception of patient ranking per splint (chi-square with three degrees of freedom = 11.640,  $p = 0.009$ ) with the volar splint ranking the highest.

Conclusion: The long arm posterior mold provided the overall greatest restraint to range of motion compared with the other types of splints, especially in pronation and supination. The volar splint had significantly better functional scores and subjective perception, but provided the least amount of restriction. For a balance between good decrease in range of motion as well as better tolerance, the ulnar-based forearm splint can be used.

## 14 Demographic and Clinical Factors Affecting Follow-Up Compliance of Sign Patients

*Adrian G. Trinidad, MD; Hilario M. Diaz, MD, FPOA [Southern Philippines Medical Center]*

Background: Poor follow-up compliance is an established problem in the SIGN program. In fact, according to a latest 5 year report of surgeries in SIGN database, follow up rate has not gone over 70%. Follow up is an integral part of patient treatment because in this phase medical providers reinforce awareness about self-care to help make patients significant changes. This study aims to determine the demographic and clinical factors that affects follow-up compliance of SIGN patients between January 1, 2013 to December 31, 2013

Methods: Demographic profile and clinical characteristics of SIGN patients on 2013 were obtained from the SIGN Fracture Care online database. Demographic data include age, sex and address; while clinical data include fractured bone, location of fracture, side of fracture, type of fracture, and stability of fracture. Follow-up record was categorized as no follow-up, poor follow-up, good follow-up, and excellent follow-up. Data were tabulated and presented in frequency and percentages. Demographic and clinical factors were associated to follow-up compliance through Dchi-square.

Results: With a significance level of 0.05, the age had a p-value of 0.633, the sex yielded a p-value of 0.17, and the address resulted in a p-value of 0.22. All of which implies that the demographic data are all independent of follow-up compliance. The clinical characteristics also showed p-value of 0.23 for surgical approach, 0.22 for side of fracture, 0.85 in location of fracture, 0.66 in the type of fracture, and p-value of 0.75 for stability of fracture.

Conclusions: Age, sex and address do not have a significant effect on patient follow-up. Similarly, clinical characteristics of a patient's fracture do not affect the compliance.

## **15** Epidemiology of Orthopedic Trauma Cases in a Tertiary Level Medical Center

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*Mary Ruth Padua, MD, FPOA [East Avenue Medical Center]*

This study was conducted to describe the incidence of the types of fractures seen in all the orthopedic cases at the East Avenue Medical Center (EAMC), Diliman, Quezon City, Philippines. Specifically it sought to describe the patients as to their demographic characteristics particularly age, gender, place of injury, and mode and mechanism of injury. Likewise, the type of fracture was classified based on Gustilo Anderson and AO/OTA classification system. Lastly, it determined the relationship between the demographic factors and type of fractures (i.e. age-to-type of fracture).

Data gathered from 304 patients, of both sex, from all ages, admitted or not, in the trauma center were collected from the online EAMC Orthopaedic Trauma Registry, from February to July, 2015. Using a cross-sectional study, continuous data were analysed using frequency counts and percentages. Relationship of variables was assessed using Pearson R.

The findings showed that the patients seen at the East Avenue Medical Center emergency room were less than 17 years old, males and from the urban areas. Vehicular accidents and falls were the most common mode of injury met by patients. The vehicular accident resulted from motor crashes (12.83%) and falls were those from standing height (8.89%). Gunshot wounds and self-injury were the least cases seen at the EAMC emergency room

In terms of the type of wounds, patient seen at the EAMC emergency room had either single or closed wounds. Based on OA/OTA classification on bone fractured, these were fractures around radius and ulna, as the most common followed by fractures in humerus, tibia.

Age was positively related to severity of fracture using Pearson R with a confidence interval of 0.05 (2 tailed). This implies that the older the patient, the more severe the fracture.

Keywords: epidemiology, fracture, tertiary hospital, fracture severity

## **16** Functional Outcome of Arthroscopic Lateral Release for Chondromalacia Patellae at Chong Hua Hospital from January 2015 to June 2016

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*[Chong Hua Hospital]*

Background: Chondromalacia patella is defined as softening, thinning, and degradation of cartilage underneath the patella with symptoms include deep-seated ache and retropatellar pain that worsens when climbing stairs, sitting with knees flexed, rising from a seated position, extending the knee against resistance, and the feeling of instability on weight-bearing activities.<sup>3</sup> It is a part of the patellofemoral pain syndrome which causes anterior knee pain and has multiple causes. PPS (Patellofemoral pain syndrome) is a syndrome characterized by retropatellar and peripatellar pain resulting from physical and biomechanical abnormalities on the patellofemoral joint. Majority of cases respond to physiotherapy and non-operative modalities. Lateral retinacular release is performed in patients with

lateral tilt but no subluxation. This aims to decrease the patellofemoral joint reaction force. This study was conceived in order to verify evidences about the improvement of patients' functional outcome of arthroscopic lateral release for chondromalacia patellae.

**Main objective:** To be determine the functional outcome of the patients with chondromalacia patellae who underwent arthroscopic lateral retinacular release at 1 month and 3 months post operatively using a knee society scoring questionnaire and the visual analogue scale for pain

**Methodology:** This retrospective cross-sectional chart review design involved 18 cases of patients with chondromalacia patellae admitted at Chong Hua Hospital Main who underwent arthroscopic lateral retinacular release from January 2015 to June 2016. Patients' were followed up through telephone call or email and were asked specific questions using the Visual analogue scale and Knee Society scoring questionnaires done pre-operatively, 1 month, and 3 months post-operatively. Afterwards, data were described and subjected to inferential test statistics using IBMSPSS ver 21 as software.

**Results:** After follow ups, the average knee function of 18 patients increased to  $76.67 \pm 15.34$  (2nd-month), then further improved to average knee function of  $88.89 \pm 14.91$  (3rd-month) ( $p < 0.001$ ). Also, those with excellent knee function increased to a rate of 55.6% to 72.2%. Furthermore, the average visual analogue pain of patients at pre-operative was  $5.72 \pm 1.56$ , then it decreased at 1st month follow up to  $3.06 \pm 1.70$ , and  $1.72 \pm 1.23$  pain score at 2months ( $p < 0.001$ ).

**Conclusion:** There was a remarkable improvement of functional outcomes and decreased of pain intensity among patients with chondromalacia patellae after 3-month post-arthroscopic lateral release.

## 17 Functional Outcome of Common Peroneal Nerve Palsy Treated with Double Tendon Transfer Among Military Personnel - A Case Series

*Bartolome B. Caparas Jr., MD [AFP Medical Center]*

**Introduction:** Common Peroneal nerve palsy characterized by an equinovarus foot deformity and steppage gait, is the most common lower extremity palsy. The goal of management is the restoration of ankle dorsiflexion of with the current gold standard being a dynamic tendon transposition. The most common technique is a single tendon transfer however a double tendon transfer is gaining popularity due to a more favorable outcome producing an effective and balanced ankle dorsiflexion, with reanimation of balanced toe extension.

**Methods:** This 5-year study included 7 military patients with common peroneal nerve palsy, confirmed by EMG-NCV. We performed a double tendon transfer by transferring the posterior tibialis tendon to the tibialis anterior rerouted through the cuneiforms via an osseous tunnel and the transfer of flexor digitorum longus to the extensor digitorum longus and extensor hallucis longus tendon. Follow-ups were done for a minimum of 6 months.

**Results:** The Foot and Ankle Disability Index (FADI) and Foot and Ankle Disability Index Sports 34-item questionnaire were used to assess the subjective functional outcome of the procedure while the measurement of ankle dorsiflexion, muscle strength grading and gait pattern were used for the objective assessment. Using FADI, with a perfect score of 104 (equivalent to 100% absence of dysfunction), the average scores were 37%, 85%, and 94%, in the pre-surgery, 3 months post-surgery,

and  $\geq 6$  months post-surgery respectively. While the FADI-Sport, with a perfect score of 32 (equivalent to 100% able to perform common/desired sports), had a mean score of 9%, 56%, 100%, at baseline, 3 months post-surgery, and  $\geq 6$  months post-surgery respectively. Ankle dorsiflexion showed an average increase from -40 degrees to 5 degrees dorsiflexion on the sixth month post-surgery. All scored a muscle strength grade of 4-5/5, and showed disappearance of steppage gait pattern as early as the 3rd month of observation.

**Conclusion:** The Double tendon transfer provides an appropriate direction of pull with adequate length and fixation, is a reliable method to restore balanced foot dorsiflexion correcting the foot and digit drop and producing a normal gait and acceptable return of activity.

## **18** Functional Outcomes of Primary Anterior Cruciate Ligament Reconstructions Using Bone-Patellar Tendon-Bone Autograft among Active Military Personnel of the Armed Forces of the Philippines with Isolated Unilateral ACL Injuries

*Harrel D. Alver, MD [AFP Medical Center]*

**Background:** Anterior cruciate ligament (ACL) tears are among the more common orthopedic knee injuries especially for active young adult individuals such as athletes and military men. Reconstruction of the ACL using the bone-patellar tendon-bone (BPTB) graft has been traditionally used in the setting of the Armed Forces of the Philippines Medical Center (AFP Medical Center) but, although documented, aren't yet closely studied. The purpose of this study is to define the demographics of patients who underwent primary ACL reconstruction with BPTB graft and determine the outcome and efficacy of a primary ACL reconstruction 1 year post-surgery.

**Methods:** Records from the AFP Medical Center registrar and Department of Orthopedics were reviewed. Cases of isolated unilateral ACL tears previously diagnosed arthroscopically or via MRI and eventually underwent primary ACL reconstruction using BPTB graft (January 2013 to December 2014) were included in the study. Demographic data, nature of injury, and time to surgery were recorded. Patient's ability to resume pre-injury duty evaluated 1 year after ACL reconstruction was assessed using the Lysholm Knee Scoring Scale and given a military physical profile accordingly.

**Results:** Twenty nine patients were included in the study with a mean age of  $30.8 \pm 6.2$  years old. Majority were males (93%), predominantly enlisted personnel (79%), and from the Philippine Army (76%). Most cases were caused by sports related injuries (76%) but ACL injuries during military activities and due to vehicular accidents were also reported (21% and 3% respectively). The average time to surgery from initial injury was around  $4.9 \pm 1.7$  months. Upon follow-up 1 year after the surgery, the Lysholm knee scoring scale of the patients showed a majority of excellent to good scores (55% and 34% respectively) with 93% already able to return to previous duty.

**Conclusion:** Patients who underwent ACL reconstruction with BPTB graft showed good to excellent outcomes 1 year post-surgery even after coming back to the active lifestyle of being a military personnel.

## **19** Hematocrit on Admission and Intra-Operative Blood Loss as a Predictor of the Volume of Blood To Be Transfused Among Patients Admitted and Operated for Femoral Shaft Fractures in Vicente Sotto Memorial Medical Center from January – December 2013

*Albert Christian C. Borbon, MD [Vicente Sotto Memorial Medical Center]*



**Introduction:** Femoral shaft fractures are common injuries sustained usually in high velocity trauma and common in the younger age group. The standard for surgery in these fractures is the intramedullary nailing technique and is deemed to be one of the surgeries that is highly vascular and predisposes the patient to higher blood loss compared to other surgeries hence blood is a necessity prior to doing the surgery. Studies recently show that there has been a decrease supply of blood units but increase in demand.

**Methods:** This study determined whether hematocrit on admission and intra-operative blood loss of patients with femoral shaft fractures can predict the volume of blood transfused in these patients undergoing the intramedullary technique. The following factors were also included in the study: gender, operative time and amount of blood transfused in a retrospective cohort study.

**Results:** Most patients have hematocrit on admission that lie between the normal values for both males and females. Most patients also have blood loss ranging from 250 – 500 ml and those patients who were transfused with blood were transfused with 500 ml or roughly one bag of blood. Males account five times more than females and males also have more blood loss and longer operative time compared to females. This is attributed to a higher body mass index and greater muscle mass of men compared to women. However females have increase amounts of blood that were transfused compared to males despite shorter operative time and lesser blood loss.

**Conclusion:** The hematocrit of admission and intraoperative blood loss can predict the volume of blood transfused in patients admitted and operated for femoral shaft fractures. The multiple regression model to predict volume of blood in ml to be transfused given hematocrit on admission and estimated intra-operative blood loss with the formula:

vol. of blood to be transfused = 1618.319 – 4003.262 \* (Hct on admission) + 0.781 \* (Intra-op blood loss)

**Keywords:** Blood loss, Femoral shaft fractures, Blood units, Hematocrit on admission.

## **20** If ever you're in my arms again: A Case Report on Recurrent Trichilemmal Carcinoma *Joed Bezer U. Tan MD [Corazon L. Montelibano Memorial Medical Center]*

Trichilemmal carcinoma (TC) a rare tumor of the hair follicle thought to arise from a benign trichilemmoma. The tumor develops from the hair follicle, specifically its outer root sheath. It is most often found on the face and ears of elderly women and areas exposed to sunlight. TC has low metastatic potential. It is a low-grade carcinoma that rarely spreads to other parts of the body and recurrence is not often appreciated. The exact pathophysiology of this disease is not yet known. The distribution of lesions suggests that exposure to solar radiation plays an important role in its pathogenesis. Surgical excision with good margin is the standard to treat. In this report, we document an 81 year-old Asian woman who presented with recurrence of the same mass on the posterior proximal third of her left arm. Recurrence of this tumor type is rare, and questions arise as to its etiology. Presenting this case will help guide physicians on how to diagnose and treat this type of tumor.

**Keywords:** trichilemmal carcinoma, trichilemmoma, solar radiation, sun-exposed skin neoplasm, recurrent mass

## 21 Incidence and Nature of Pediatric Orthopedic Trauma Consult at Jose R. Reyes Memorial Medical Center Emergency Room

*Alwen M. Arong, MD; Juan Alejandro V. Legaspi, MD, FPOA [Jose R. Reyes Memorial Medical Center]*

**Background:** Every day around the world the lives of more than 2000 families are torn apart by the loss of a child to an unintentional injury (6). According to the World Health Organization's Global Burden of Disease 2004, over 200,000 children under the age of 15 years died as a result of injury and unintentional injuries accounted for almost 90% of these child injury deaths (3). Among the different causes, transportation injuries were the leading cause of death (2). Previously, the most common reason of pediatric orthopedic consult in the emergency room was due to home or school related injuries. The fast growing numbers of motor vehicle nowadays and the progressive modernizations might change the previous trend. This study aims to determine if there are changes on the causes of pediatric orthopaedic trauma consult. The result of this study will be used for future references and will serve to educate parents.

**Methodology:** This is a Retrospective Study covering the year 2010-2014. All emergency room (ER) blotters will be reviewed. Taking note on the demographic data, injured body parts, reason of emergency department consult, number of consults and admissions.

**Results:** A total of 5,640 pediatric orthopedic patients was seen at the emergency room (ER) in the year 2010 to 2014. Of these patients, there were 6,036 documented injured body parts. Male children accounted for 66% of the ER consult and only 34% are female. The most common age group is 6-12 years old which accounted for 51%. Majority of these patients were studying. Forearm is the most involved limb which accounted for 25.8% and right side is mostly affected 62%. The elbow, wrist, and hand accounts for 16.9%, 13%, and 8.9% respectively. Majority of pediatric orthopedic trauma ER consult were due to home related injuries which accounted to 38%. It is followed by vehicular accident and school related injury which is 31% and 29% respectively. Only 2% of these consults were due to occupational/Industrial or sports related injuries. 21% of these patients were admitted and majority underwent closed reduction casting (82%) and the rest underwent open reduction and internal fixation.

**Conclusion:** Despite of the progression of modernization and the increasing number of motor vehicle, home related injuries is still the most common reason of pediatric orthopedic trauma consult in the emergency room in our institution.

## 22 Incidence and Risk Factors of Peri-Implant Infections: Results Of the Bone and Joint Research Group (BJRG) Peri-Implant Infection Registry (2013-2014) (JRRMMC-OSIRIS)

*Daveric T. De Jesus, MD; Melito Antonio P. Ramos, MD, FPOA [Jose R. Reyes Memorial Medical Center]*

In our institution, Jose R. Reyes Memorial Medical Center, we have a large amount of patients seen who are indicated for Orthopaedic Surgeries which would include implant placement. However, a certain rate of patient outcomes are complicated by peri-implant infection. Implant infection is one of the most severe complications within the field of orthopaedic surgery, associated with an enormous burden for the healthcare system. Understanding the profile of patients and recognizing factors related to such outcome may translate to better care for our patients. No local documentation for implant infection cases were recorded in our institution.

The Bone and Joint Research Group of Philippine Orthopedic Association initiated a Database in 2013 in response to the need for better collection and consolidation of data. It aims to better document and standardize collection of details of risk factors and treatment of such musculoskeletal injuries/pathologies.

A retrospective cohort study was done with chart review of orthopaedic patients seen in JRRMMC. Data collection was formatted in order to acquire significant data and factors associated with peri-implant infection in our institution.

Results show that the overall prevalence of peri-implant infection during the study period was 4.1% and the average age of patients was 32.3 years mostly males approximate male to female ratio of 7:3. The most common fractured area of the bone was thigh (19.7%) with Primary traumatic bone injury as the most common (85.8%) indication mostly closed fractures (70.9%). There were no significant association between pre/post-operative antibiotics and duration of regimen, brand of implant in correlation to peri-implant infection. While, there was a significant association between peri-implant infection and the use of external fixators.

## 23 Intramuscular Lipoma of the Infraspinatus – A Case Report

*Martin Louie S. Bangcoy, MD, Nelson T. Lim, MD, FPOA [University of Santo Tomas Hospital]*

Tumors of fatty tissue origin has a wide spectrum of origin. They have various manifestations that can often be mistaken as malignancy. Lipomas are commonly located subcutaneously but can be deep seated or infiltrate muscles or synovium such as intramuscular lipoma. Intramuscular lipoma is an uncommon form and comprises just over 1.8% of all primary tumors of adipose tissue and less than 1% of all lipomas [1]. Most are presenting as a solitary lesion that can be accompanied by other lipomatous or non-lipomatous lesions. Commonly reported to occur in large muscle groups but various studies depicts its occurrence in any anatomical area. Rate of recurrence ranges from 50 – 80% and vigilant differential diagnosis of well-differentiated liposarcoma should be considered [2].

This is a case of a 74 year old male who came in due to right shoulder pain. History dated back seventeen (17) years prior to consult when patient noted a slowly enlarging mass over his right shoulder recalled as less than five (< 5cm). Patient underwent excision nine (9) times for the span of twelve (12) years. Microscopic findings were compatible to a purely lipomatous lesion. Interval history showed no return of normal range of motion (ROM), progressively decreasing passive ROM described as shoulder tightening. Two (2) months prior to consult, there was persistence of recurrently enlarging mass on right shoulder. This was described as fixed, soft, non-tender, approximately 6 x 4 cm accompanied by pain graded 7 – 8 / 10 radiating to the elbow with limitation in ROM. Hence consult at our institution.

Patient underwent wide excision of soft tissue mass of the right shoulder. On four (4) months follow-up, patient is pain free and noted significant improvement in right shoulder ROM.

Keywords: lipoma, intramuscular lipoma, well-differentiated liposarcoma

## 24 **Intraobserver and Interobserver Reliability and Reproducibility of Cobb's Angle Measurement Done by Orthopaedic Residents in USTH Using a Computer Software, a Smartphone Application and Traditional Manual Measurement Tools**

*Tristan Santiago, MD; Romel P. Estillore, MD, FPOA [University of Santo Tomas Hospital]*

**Background:** Scoliosis is present in 2 to 4 percent of children between ages 10 to 16 years old for which adolescent scoliosis account for the majority of idiopathic cases. The occurrence of scoliosis is almost similar in males and females with a greater risk of curve progression for females. The Cobb's method is the standard method of measurement and is generally used to make decisions about management. Cobb's angle measurement has an intra- and interobserver variability of approximately 4 to 8 degrees. Several studies have been published investigating the reliability of various techniques such as computer-assisted and smartphone application-aided measurements in determining the Cobb's angle.

**Objectives:** To compare Cobb's angle measurements done by Orthopaedic residents in USTH using computer software, a smartphone application, and manual measurement tools.

**Methods:** Ten pre-operative postero-anterior radiographs of adolescent idiopathic scoliosis patients were used for measurements of Cobb's angles using a goniometer and a pencil, an Apple iPhone application, and computer software. Three orthopaedic residents of the USTH measured the Cobb's angle three times with an interval of 1 week between each measurement. Intraclass correlation coefficients were used to analyze the intraobserver and interobserver reliability. ANOVA was used to compare measurements between the 3 methods.

**Results:** There was an excellent agreement in the intraobserver and interobserver reliability between the 3 observers. The mean Cobb's angle of all measured x-rays was 59.57 degrees (range: 38 – 82 degrees). No significant difference in the intra- and interobserver reliability between the 3 measurement methods was noted (P – value 0.96).

**Conclusion:** Cobbmeter and SurgimapSpine aided measurements for Cobb angle showed good intra- and interobserver reliability. We conclude that Cobbmeter and SurgimapSpine applications are equivalent Cobb measurement tools to the manual method. These tools may be helpful to trainees and specialists in clinical practice.

## 25 **Limb Salvage Surgery using the LINK Endo Model-M for Distal Femoral GCT Resection: A Case Report**

*Sean Paulo C. Padilla, MD; Michael Muñoz, MD, FPOA; Michael Marfori MD, FPOA [De La Salle University Medical Center]*

Giant Cell Tumor (GCT) is a benign aggressive tumor of the bone. GCT of the bone is commonly located in the meta-epiphyseal region of long bones with the distal femur being one of the common sites. Management for Campanacci grade III tumors are En Bloc or wide resection. More recently treatment has evolved into resection with limb salvage procedure using the megaprosthesis with largely favorable results. We are presenting a case wherein a new prosthesis implant system is being used.

This is case of a 30 year old male with a 2 year history of a slow growing, painful mass on his right knee. Radiographs done showed large, eccentric, expansile, osteolytic lesion seen in the distal third



of the femur. Working Impression was a giant cell tumor of the distal femur Campanacci grade III.

Wide resection of right distal femoral mass with endoprosthesis reconstruction using the modular knee prosthesis system (LINK Endo-Model M) was done.

This paper presents a case of a GCT of the distal femur treated with wide resection of the tumor with reconstruction of the bony and soft tissue using endoprosthesis modular knee prosthesis. En Bloc resection is still the widely accepted treatment modality for Campanacci grade III lesions due to the propensity of recurrence and limb salvage procedures are done in order to regain functionality of the limb. The endoprosthesis system selected was used for first time in a patient in the Philippine setting. The main advantage of the LINK Endo-Model M is that it allows knee flexion up to 142 degrees. The special shape of the tibial contact surface allows cushioned transmission which dampens the impact on the boundary layer of the cement surface. The combination of the metal stem with the stack of polyethylene cones promote more flexibility and lightens the overall weight of the construct as opposed to the other implants which only employs a metal material. This case aims to show the potential merits of a limb salvage procedure in the treatment of benign locally aggressive tumors.

## 26 Locked Pubic Symphysis: A Case of Spontaneous Reduction

*Paul Christian A. Bejosa, MD; Oliver Oliva, MD; MD, FPOA [East Avenue Medical Center]*

Study Design: Case Report and Literature Review

Objective: To report a case of a patient who was diagnosed with pubic symphysis overlap or “locked pubic symphysis” from a motorcycle accident and its management as recommended by current available literature.

Summary of the Background Data: Locked pubic symphysis is a rare form of lateral compression type pelvic injury wherein the intact pubis gets trapped against the contralateral pubis. Reported cases are treated with either closed reduction or open reduction and anterior internal fixation.

Case Presentation: A 32 year-old male who was involved in a motorcycle accident sustained a closed pubic symphysis overlap injury. Plain radiographs and CT-scan of the pelvis was done with no associated visceral injuries and bleeding. Open reduction with internal fixation was initially planned management for the patient. However, during the course of his hospital stay, a repeat pelvic radiograph two weeks post to injury was requested and noted complete reduction of the overlapped pubic symphysis. Surgical management was deferred and was managed as a stable pelvic ring dislocation.

Discussion and Conclusion: Locked pubic symphysis is a rare type of pelvic injury and to our knowledge most of these cases are managed with open reduction and application of internal fixation. In our case where there are no associated injuries in a hemodynamically stable patient, the attempt of closed reduction and critical serial monitoring is as essential as the conventional management of open reduction and internal fixation.

## 27 Macroductyly of 2nd Toe, Left Foot

*Harris Kristanto, MD; Vicente R. Gomez, MD, FPOA [Makati Medical Center]*

**Introduction:** Macroductyly of the foot is an uncommon congenital malformation characterized by enlargement of both the soft tissue and the osseous elements of the foot. The condition is often progressive, resulting from an increase in length, width, and height of the forefoot and toes. The goal of treatment is to produce painless, cosmetically acceptable foot that can accommodate regular shoes. Ray amputation is a good option for reduction in size sufficient to achieve cosmetic and functional goals.

**Case Report:** This is a case of 2 year old female, with macroductyly of 2nd toe, left foot. Patient was a full term, normal labour. The mother noticed that patient was born with bigger 2nd toe on the left foot, which progress over time. The mother also noticed that patient often stumbled while walking or running since one and a half year old. Patient also has difficulty wearing shoes on the left foot and need one size bigger than the right foot. No other congenital anomaly noted, patient has normal growth and development. On physical examination, we noticed longer, wider, and thicker 2nd toe compare to the other toe on ipsilateral foot and other toes on contralateral foot. Full range of motion of 2nd toe left foot. Patient able to do normal gait. On Xray, we were able to measure the metatarsal spread angle at 27 degrees (affected site) on the left and 20 degrees on the right (normal site). We did ray amputation on 2nd toe, left foot, and metatarsal spread angle post op is 14 degrees.

**Conclusion:** The goal of treatment of macroductyly of the foot is to reduce the size of the foot to allow fitting of regular shoes, and if possible to achieve pleasing cosmetic appearance, through a minimum number of operations. Ray amputation was successful in reducing foot size and the clinical outcomes were excellent.

## 28 Malunited Monteggia Type III Fracture: A Case Report and Review

*Arvin Jonathan G. Arbas, MD; Vicente Patricio R. Gomez, MD, FPOA [Makati Medical Center]*

**Introduction:** Neglected adult Monteggia fracture could induce the pain, instability and malformation of elbow. Adult Malunited Monteggia Fracture is difficult to treat and could concur limitation of range of motion.

**Case Report:** A 30 year old female fell on an extended left elbow with a chief complaint of pain and swelling of the elbow. 5 months after, patient noted improved pain but noted limitation of elbow flexion and increase in deformity. He was able to elevate the arm 130° at the shoulder, elbow was fixed at 60° of flexion, full extension, 20° of pronation-supination (Figure 1a, 1b, 1c).

X-ray of the elbow revealed chronic type III Monteggia fracture, a proximal ulnar apex lateral malunion with a lateral radial head dislocation. The ulna fracture healed with approximately 35° of varus and angulation (Figure 2a, 2b).

**Surgical Technique:** Osteoclasia, Ulnar Malunion, Open treatment of Monteggia Type III Fracture with Plate and Screws, Closed treatment of radial head fracture, Left was done.

Posterior Approach was used over the forearm. The ulnar malunion site was mobilized with the use of oscillating saw. It was then aligned and was plated in compression. Incision was made over the lateral

aspect of the left elbow. Annular ligament split to release radial head. Soft tissue dissection done to release the proximal radius and distal humerus until capitellum was visualized (Figure 3). Lateral Collateral Ligament was intact (Figure 4). Six hole Limited Contact Dynamic Compression Plate with screws fitted on the medial aspect of the left ulna (Figure 5a, 5b).

Annular ligament was repaired. At the last follow-up visit, 18 months after surgery, arc of motion was from full extension to full flexion (Figure 6a, 6b, 6c). Full supination and 70° of pronation was achieved.

Discussion: The study shows a favourable outcome for preservation of the radial head in chronic Monteggia injuries in adults reports of which have previously been sparse. In this study, stability and strength compensated for near full pronation.

## 29 Modified Kidner Procedure For Symptomatic Accessory Navicular; A Case Report

*Albert Lesmana, MD, Antonio Rivera, MD, FPOA [Makati Medical Center]*

Introduction: Accessory navicular is commonly seen in the normal population but rarely becomes symptomatic. With increased stress on the mid foot, pain and tenderness along the medial arch of the foot may present. This can limit patient activities. Kidner procedure has been described as one of the most successful treatment in treating symptomatic accessory navicular bone and also addressing flat foot deformity that may coexist with this condition.

Case Description: This is a case of a 15 year-old female ballet dancer with progressive bilateral medial foot pain since 3 years ago felt during ballet practice. Upon examination, there was noted point tenderness on the medial side of the foot and the pain was more severe during demi pointe position. X-ray showed accessory navicular bone on both feet, classified as Dwight type 2A.

Surgical Technique: Five centimeter incision was made over the navicular bone along the posterior tibial tendon. Posterior tibial tendon was detached from the insertion and accessory navicular was excised. Bone tunnel was created in the navicular bone and posterior tibial tendon was inserted and secured with interference screw. The wound was closed, and a Jones compressive dressing is applied.

Outcome: Patient was able to ambulate and was able return to previous routine, 3 months post-surgery.

## 30 Neglected Congenital Patellar Dislocation in a 14 year old male – a Case Report

*Michael John B. Pabalate, MD; Vicente R. Gomez, MD, FPOA; Francis Andrew H. Fernandez, MD, FPOA, Giselle Marie Noelle T. Gabriel, MD, FPOA [Makati Medical Center]*

Introduction: Congenital patellar dislocation is a rare condition in which the patella is permanently dislocated and cannot be reduced manually. This congenital dislocation results from failure of the internal rotation of the myotome that forms the femur, quadriceps muscle and extensor apparatus. It usually manifests immediately after birth, although in some cases, the diagnosis may be delayed until adolescence or adulthood.

It may arise in isolation, associated with lower-limb malformations, or within the context of a polymalformative syndrome. It is generally diagnosed at birth. These infants present genu valgum

and contracture of the flexed knee, in association with external rotation of the tibia. When these deformities are absent, this pathological condition may not be diagnosed until adulthood is reached. Radiological examinations, are essential for identifying and characterizing lesions associated with permanent patellar dislocation. However, the diagnosis for this pathological condition is essentially clinical. This condition can only be corrected through surgery. Early diagnosis is important, thereby allowing surgical correction and avoiding late sequelae, including early degenerative changes in the knee.

Case report: The patient is a 14-year old male who presented with a left knee deformity. Upon examination, he presented with irreducible lateral dislocation of the left patella. It was observed that, during active and passive movements, his extension and flexion did not present any amplitude deficits and were not painful. Weight bearing X-Rays showed lateral patellar dislocation. MRI on the left knee confirmed that in addition to the lateral dislocation of the left patella, there was trochlear dysplasia without other associated lesions. Surgical correction of the dislocation was performed realigning the extensor apparatus and it followed an uneventful course. Cast immobilization from the lower leg to the foot was used for 6-weeks. Currently, the patient is 4-months post-op, the patella is now centered, with knee flexion of  $140^{\circ}$  and an extension deficit of  $10^{\circ}$ .

## 31 Osteofibrous Dysplasia in a 24 year-old Man: A Case Report

*Desse Jane E. Cinco, MD [Corazon L. Montelibano memorial Medical Center]*

Osteofibrous dysplasia (OD) is a rare benign bone tumor which generally involves one tibia of an infant or young child. It is a slow-growing lesion which presents as anterior bowing associated with a painless mass. It presents with slight predominance in males at an early age of onset, located almost exclusively at the tibia, mostly on the diaphyseal segment. The lesion is painless and generally causes bony enlargement and slight anterior bowing. It has a characteristic enlargement of the bone on radiographs with intracortical osteolytic lesions, thinning or disappearance of the external cortex, sclerotic reaction on the medullary aspect, and narrowing of the medullary canal. OD is an unusual rare developmental tumor fibro-osseous condition. Thus, we report a case of a 24-year old Filipino male patient with osteofibrous dysplasia of the right tibia treated with prophylactic interlocked intramedullary nailing and cerclage with fibular strut graft.

Keyword: Osteofibrous Dysplasia

## 32 Outcomes of Adult Patients (>18 yrs old) Admitted for Chronic Osteomyelitis of Long Bones at the Hospital from 2011-2014

*Jasson Louie Arcinue, MD; Edward HM Wang, MD, FPOA; Nilo Paner, MD, FPOA [UP-Philippine General Hospital]*

Background: Chronic osteomyelitis is an infection of the bone, which is difficult to manage. No gold standard treatment is available to treat this disease.

Objective: To describe the clinical profile and the management done to adult (>18 y/o) patients who were admitted for chronic osteomyelitis at Hospital from 2011 to 2014.

Methodology: The study evaluated medical records of patients who were admitted at Hospital in a 4-year period. Variables were collected and analyzed according to their frequencies.



**Results:** The medical records of 26 patients were reviewed. Twenty-three patients were males and 3 were females. Majority (27%) of patients had a predisposing factor of trauma prior to development of infection. All of the patients had a combination of medical and surgical treatment done. Microbiological isolates taken from the different cultures were mostly monomicrobial.

**Conclusion:** There were a total of 26 out of 48 adult patients with chronic osteomyelitis admitted at the Hospital during the 4-year period. The average age of patients is 41. Hospital stay is 51 days (17-167 days). The predisposing factor prior to development of infection for most patients was traumatic fracture who subsequently underwent internal fixation. There was single bone involvement for majority of cases with femur and tibia being the most common. There was a poor documentation of the clinical and radiographic findings for the patients reviewed in this study. A study of the follow-up records of the patients done at the out-patient department should be reviewed to evaluate the long term outcome of the different treatment done.

### 33 Outcomes of Patients with Extremity Osteosarcoma Treated at Chong Hua Hospital from 2005-2015

*Patrick Ian R. Alvarez, MD; Judith Valerie M. Akol, MD, FPOA [Chong Hua Hospital]*

**Introduction:** Osteosarcoma is a tumor characterized by the production of osteoid by malignant cells. It is the most common malignant bone tumor of childhood and adolescence. Historically, patients with high-grade osteosarcoma were treated with immediate wide or radical amputation. Despite this treatment, 80% of patients with apparently isolated disease died of distant metastases. With the development of multimodal treatment, new imaging techniques to determine the extent of the disease, and new surgical methods, the overall survival of patients with non-metastatic disease is 60% or greater. Despite optimal treatment, approximately 50% of patients with high-grade osteosarcoma have some form of relapse after completion of the initial treatment. Local recurrence is seen in 10% of patients. The histological response of the primary tumor to neoadjuvant chemotherapy has been shown to be a good predictor of long-term survival. Greater than 90% tumor necrosis indicates a very good prognosis.

**Materials and Methods:** This is a descriptive, retrospective study of patients presenting with extremity osteosarcoma from 2005-2015 in Chong Hua Hospital, Cebu City and were managed by a single orthopaedic oncologist. The data collection consist of several parameters including name, date of birth, age of diagnosis, sex, tumor site and laterality, presence of pathologic fracture, alkaline phosphatase level, histology, broder grade, biopsy method, date of biopsy, date of surgery, tumor necrosis, neoadjuvant chemotherapy, adjuvant chemotherapy, latest follow up, status of the patient, date of relapse.

**Results:** A total of 30 patients were involved in this study. An average age of 16.37 years old with a slight male preponderance. Alkaline phosphatase levels on presentation and postop follow up were also recorded as well as the different type of OSA histology, type of surgery, surgical margins and the location of the OSA. Of the 30 patients, 4 had pathologic fractures. Patients presented with no pathologic fracture has a higher event free survival, and survival rate. Tumor necrosis of >80% had higher survival rate compared to patients with <80% tumor necrosis.

**Conclusion:** There are several factors affecting the overall outcomes in patients with osteosarcoma. In this study, preoperative and postoperative alkaline phosphatase levels, tumor necrosis, the presence

of pathologic fracture at presentation are among those factors. However only the tumor necrosis and presence of pathologic fracture at presentation are statistically significant.

## **34** **Peroneal Tendon Subluxation, Left Ankle treated with Peroneal Tendinosiscopy** *Anastasia Pranoto, MD; Carlo Angelo V. Borbon, MD, FPOA [Makati Medical Center]*

**Introduction:** A Subluxing peroneal Tendon creates pain and pops in and out sensation (subluxes) on the groove. It usually occurs following precipitating activities. Peroneal tendoscopy is an innovative technique with minimal invasive approach. Surgical morbidity and postoperative pain are significant reduced.

**Case Report:** Patient is 32 year old male with subluxation of peroneal tendon, left ankle. Patient twisted his ankle in inverted dorsiflexed position for the past 5 months prior to admission. Patient noted pain, swelling, and popping sensation on his lateral ankle. He sought consult where MRI done, showing tenosynovitis involving the peroneus longus and brevis tendons. He had undergone physical therapy sessions with partial improvement of the pain and the feeling of subluxing tendon. The pain is aggravated by sudden movement and prolonged walking. There is tenderness on palpation of the peroneal groove. Upon doing ankle dorsi-plantar flexion, we can noted subluxating on the peroneal tendon, but with full range of motion, left ankle. Patient has antalgic gait, normal medial plantar arch on ambulation. No sensory or motor deficit. Patient also able to do heel rises comfortably but has problem with balancing on affected limb raises.

**Conclusion:** The goal of treatment in peroneal tendon subluxation is to relief the pain. Traditionally, peroneal tendon subluxation were treated with open surgery. Tendoscopy is a less invasive endoscopic procedures in ankle surgery that give a better post-operative pain, stiffness, scarring and early range of motion to the patient.

## **35** **Progressive Local Anesthesia for Lumbar Microdiscectomy in a Pregnant Patient with Cauda Equina Syndrome: A Case Report** *Manuel Alican, MD; Mario R Ver MD FPOA; Miguel Raphael D Ramos MD [St. Luke's Medical Center]*

Cauda equina during pregnancy is considered as extremely rare. Surgical management of pregnant individual has been challenge for any surgeon. This paper was created to present a rare case of a pregnant patient with cauda equina syndrome treated surgically with lumbar microdiscectomy employing progressive local anesthesia as a novel alternative to neuraxial anesthesia. This case represents the only documented use of progressive local anesthesia positioned in modified knee chest position in lumbar surgery in a pregnant patient suffering from cauda equina syndrome.

**Keywords:** Pregnant, Progressive Local Anesthesia, Microdiscectomy, Cauda Equina Syndrome

## **36** **Use of RepliCase™ Spacer for Late Chronic Prosthetic Joint Infections of the Hip: Two Case Reports** *Peter B. Bernardo, MD, FPOA\*; Karla Teresa S. Araneta, MD\*\*; Jerome David Sison, MD\*\*\* UP-Philippine General Hospital*

It has been well stated in the literature that although total hip arthroplasty (THA) is accepted as one of the most successful surgical procedures in orthopedic surgery, periprosthetic joint infection after

THA continues to be one of the most devastating complications (Lee and Goodman, 2015).

The use of mobile or articulating spacers instead of static spacers has already been described as the first option of treatment for late chronic hip infections (Sukeik and Haddad, 2009). Many of these are available including commercial spacers with the disadvantages of high cost and a high dislocation rate due to mismatch between spacer head and acetabulum (Pattyn et al., 2011, Neumann et al., 2012). Hand-made spacers consist of manually forming bone cement at the operating room. They have a high complication rate ranging from 20-50% (Leunig et al., 1998, Isiklar et al., 1999, Jahoda et al., 2003) and patients are not allowed to weight bear on these implants. The Total Hip Type spacers have reduced dislocation rates with use of a spacer cup that fills the acetabulum and prevents acetabular erosion.

We used the RepliCase™ Hip Spacer from United Orthopedic Corporation (UOC), a new total hip type spacer in two patients admitted at the Philippine General Hospital and diagnosed with late chronic prosthetic joint infections of the hip. The spacer is biomechanically shaped with a cement spacer mold. In both cases, a two-stage exchange arthroplasty was performed by the same surgeon. The 1st stage included removal of implants, thorough debridement and successful application of the RepliCase™ Hip Spacer. Postoperatively patients were able to ambulate with partial weight bearing using a walker. Intravenous antibiotic therapy was completed up to 2 weeks and patients were subsequently shifted to oral antibiotics for another 4 weeks. The 2nd stage of the procedure was undertaken 8 weeks post-operatively. The RepliCase™ spacer was removed with relative ease and a revision long stem implant applied without any intraoperative complication. Post-operative recovery was uneventful.

The use of the RepliCase™ Hip Spacer is a viable and affordable option in patients diagnosed with late chronic prosthetic joint infections of the hip allowing painless range of motion of the affected hip and partial weight bearing. For the orthopedic surgeon, use of this spacer allows reproducible results and ease of application during surgery.

Titles: \* - Associate Professor; \*\* - 2nd year Orthopedic Resident; \*\*\* - Chief Resident

Keywords: *Arthroplasty; Periprosthetic Joint Infection; Replacase; antibiotic spacer*

### **37** Surgical site infections in orthopedic surgical procedures for closed primary traumatic fractures given antibiotic prophylaxis in 2013: a retrospective multi-center study

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[UP-Philippine General Hospital]

Introduction: Surgical site infection (SSI) as defined by the CDC is an infection that occurs in a surgical wound within 30 days of an operation or within 1 year after surgery if an implant was placed. 1 SSI is associated with significant morbidity worldwide; causing extended hospital stays and increasing the economic burden of disease, costing as much as \$10 billion to treat annually. 1 Patient factors that contribute to SSIs include age, tobacco use, nutritional status, diabetes mellitus, concomitant infections, steroid use, and an altered immune response. Other factors that are said to contribute to SSIs are the surgeon's experience, the duration of the surgery, sterilization of instruments, and pre-operative preparation such as shaving and skin antisepsis. Antimicrobial prophylaxis is one of the methods used to reduce the incidence of SSIs worldwide.

The World Health Organization (WHO) has been a long-time advocate of rational antibiotic use to

prevent antibiotic resistance, which in 1985, they defined as “patients receive medication appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community.” According to a Fact Sheet published by the WHO in 2015, antibiotic resistance is a natural occurrence which is accelerated by the improper use of antibiotics, which in turn leads to longer, more expensive hospital stays, and in the worst cases, increased mortality. The over-prescription of antibiotics by health-workers in the setting of the lack of treatment guidelines contributes to the development of antibiotic resistance. The WHO therefore recommends that health workers prescribe antibiotics only when they are truly needed, and at the right dose and duration.

**Significance:** While there exists a few treatment guidelines worldwide regarding the use of antibiotic prophylaxis in orthopedic surgery, there is not one that is strictly adhered to in local practice. This study is a step towards the possible development of a Philippine antibiotic prophylaxis treatment regimen based on data regarding what we actually practice at present.

## **38 Talonavicular Dislocation with Fracture of the Posterior Body of the Talus and Os Trigonum: A Case Report**

*Pancho Carlo P. Tranquilino MD; Fernando Acance MD, FPOA [East Avenue Medical Center]*

**Study Design:** Case report and literature review

**Objective:** To report the case of a patient with a closed talonavicular dislocation with fracture of the posterior body of the talus and os trigonum on the left ankle treated with open reduction internal fixation with screws and K-wires and to review the literature of current management.

**Summary of Background Data:** Fractures of the talus remain one of the most difficult cases in orthopedic trauma. Urgent reduction is mandatory to minimize additional soft tissue injury and skin necrosis when the talus is dislocated. Urgent reduction of the dislocated talus is one of the key principles of management.

**Case Presentation:** A 22 year old female patient sustained a closed talonavicular dislocation with fracture of the posterior body of the talus and os trigonum. Open reduction of the talus fracture was done using Kirschner wire fixation with application of 32mm half threaded cancellous screws. Open reduction of talonavicular joint was performed with fixation of Kirschner wires. The os trigonum was treated conservatively. Post operatively, ankle range of motion was within normal limits. Weight bearing is not allowed for 6 weeks. Patient is scheduled for follow-up 4, 6, and 8 weeks post operatively.

**Discussion and Conclusion:** To the author’s knowledge, there are limited number of reported cases of talonavicular dislocation with fracture of the posterior body of the talus. This report presents an uncommon case with a novel technique of management.

## **39 Tenosynovial Giant Cell Tumor of the Achilles Tendon: A Case Report**

*Mark Brian L. Abriol Santos, MD; Angelica Lee Real, MD; Fernando A. Acance, MD, FPOA; Lilia Monina D. Jose, MD, FPOA  
East Avenue Medical Center*



Study Design: Case Report and literature review.

Objective: To report the case of a 21-year-old male diagnosed with tenosynovial giant cell tumor of the Achilles tendon treated with marginal excision of the mass with a V-Y lengthening to review the current literature.

Summary of Background Data: Tenosynovial giant cell tumor is a rare pathologic entity affecting the synovium and tendon sheath in young adults. These are usually seen in the finger joints and infrequently in the lower extremities. Management includes resection of the mass with serial evaluation for recurrence.

Case Presentation: A 21-year-old male presented with a slow growing mass over the posterior aspect of the Achilles tendon. Core needle biopsy reported as Tenosynovial Giant Cell Tumor. Patient underwent marginal excision of the mass with V-Y lengthening of the Achilles tendon. Postoperatively, patient was put on a dorsal blocking splint for 4 weeks, with no weight bearing.

Discussion and Conclusion: To the authors' knowledge, there are limited literature that report the occurrence and management of Tenosynovial giant cell tumor in the Achilles tendon, prompting unique methods of management.

## 40 Total Hip Arthroplasty in Octogenarians: A Local Retrospective Case-Series

Peter B. Bernardo, MD, FPOA\*, Clint P. Guitarte MD\*\*

UP-Philippine General Hospital

With improving healthcare, the number of Filipino Octogenarians is increasing. Projected population of Octogenarians as reported by the Philippine National Statistics Office will increase to 3,227,253 by year 2040 (2015: 912,817). This is a multicenter retrospective case-series involving 24 patients, 1 with bilateral hips with an average age at the time of surgery of 82 years old (range: 80-88 years old) who underwent Total Hip Arthroplasty from 2007-2016. Indications for Total Hip Arthroplasty include 12 cases of Degenerative Osteoarthritis, 8 cases of Displaced Femoral neck fractures, 4 cases of Untreated femoral neck fractures, and 1 case of Subtrochanteric fracture. Of the 24 patients, 21 were females and 3 were males. Of the 25 cases, 19 were treated with cemented total hip, 5 with hybrid implants, and 1 with calcar replacing femoral implant. Average follow-up was 3 years (range: 4-87 months). All patients were able to ambulate and return to pre-morbid function. There were no intraoperative nor post-operative complications encountered. Revision rate was zero percent as of last follow-up. This study suggests that Primary Total Hip Arthroplasty is a viable treatment option for octogenarians with end-stage arthritis and hip fractures.

Titles: \* - Associate Professor; \*\* - 2nd year Orthopedic Resident

Keywords: Arthroplasty; Octogenarian; Cemented; Hybrid; Cemented; Calcar; Femoral Neck; Osteoarthritis

## 41 The Epidemiology of Hip Fractures in a Tertiary Medical Center

Kristine R. Italia, MD [St. Luke's Medical Center]

Introduction: Hip fractures are one of the major concerns being faced by the geriatric population, since hip fractures are associated with increased morbidity and mortality, as well as high cost of care. Since the elderly population has an increasing trend, it is projected that the incidence of hip fractures

in the elderly would also increase in the next years. This hip fracture registry aims to present the epidemiology of hip fractures in a tertiary hospital with the objective of emphasizing to physicians and other healthcare providers which patients are more at risk of sustaining hip fractures so as to be able to institute preventive measures and hopefully lower the rates of hip fractures among elderly in the Philippines in the future.

**Methodology:** This is a descriptive study involving patients who had surgery for hip fractures in a tertiary medical center from 2012 to 2015. Review of the daily census of the Orthopedics department from the said hospital was done to obtain data regarding age, sex, type of hip fracture, and surgery done. Patients were then classified accordingly.

**Results:** A total of 1,505 patients sought consult and had surgery for fractures of all types in a tertiary medical center from 2012 to 2015. Among these, a total of 270 patients (18%) were treated for hip fractures. Majority of these occurred in women (72.6%), with high numbers starting at age 71 but majority at age 81 years and above (42%). Femoral neck fractures (56%) are the most common type of hip fractures seen.

**Conclusion:** This study showed that hip fractures were more common in women aged 81 years and above, although numbers start to increase at age 71 years. This could be attributed to the association of hip fractures with osteoporosis. This highlights the need to aggressively address osteoporosis after providing orthopedic treatment in patients with hip fractures, as well as to prevent these from occurring in the population at risk, hoping to decrease the incidence of hip fractures in the elderly in the Philippines in the future.

## **42** The Epidemiology of Humeral Shaft Fractures in Corazon Locsin Montelibano Memorial Regional Hospital from January 2014 - January 2016

*Ana Lorsha Villaber, MD [Corazon L. Montelibano Memorial Medical Center]*

**Background:** The objective of this study was to analyze from a descriptive epidemiological perspective, the humeral shaft fractures in Corazon Locsin Montelibano Memorial Regional hospital which is the main end referral government facility for critical conditions and complicated patients from Negros Island Region.

**Methods:** All patients with humeral shaft fracture treated in Corazon Locsin Montelibano Memorial Regional Hospital between the periods of January 2014- January 2016 were included in the study.

**Results:** A total of 115 patients with humeral shaft fractures were identified. The average age was 33 years and men (71.30%) have a higher risk of humeral shaft fractures than women (28.70%). On average, women were older than men at the time of fracture (mean age for women 37, mean age for men 31). The most common mechanism of injury was a vehicular accident incurred by 41 (36.9%) patients followed by fall occurring in 38 (34.2%) of patients. Seventy- eight (77%) of the fractures were closed and 37 (33%) were open. Ninety-six percent was caused by trauma and 3.5% were pathologic. Upon presentation, 83 patients (72.2%) had no associated injuries, while 32 (27.8%) had other significant injuries. Conservative management in the form of coaptation splint alone or in combination with a functional brace was done to 93 (81%) of patients, while 22 (19%) patients underwent surgery.

Conclusion: This population-based study provides updated epidemiological data on humeral shaft fractures in local setting. This information is helpful in management and eventually facilitate in developing treatment protocols, to define priorities in training and gain understanding of orthopaedics traumatology.

### **43** The Incidence of Peri-implant infection in Orthopedic Implant Surgeries Done at EAMC *Vitorino Nicolao F. Malonzo, MD; Abigail Garcia, MD; Leo Daniel Caro, MD, FPOA; Mary Ruth A. Padua, MD, FPOA [East Avenue Medical Center]*

Background: Peri implant infections in orthopedic surgeries have a substantial impact on health related quality of life and are associated with additional complications, which affect both short and long term outcomes. This study aims to identify both the incidence and possible factors that may lead to the development of peri implant infection.

Study Design: Retrospective Cohort Study

Methodology: We retrospectively reviewed data on all orthopedic surgeries requiring internal fixation done from July 2013 to July 2015 at a tertiary level hospital in Quezon City Philippines. We assessed patient demographics, surgery-specific data and treatment specific data and attempted to identify strong predictors of peri-implant infection

Outcomes: A total of 416 patients were included in the study. All of which were surgeries requiring the use of internal fixation. Of the 416 cases that were included, 28 (6.7%) developed peri-implant infection. 15 (53%) of the patients used a nail and locking screws, 5 (17%) patients used plates and screws, 2 (7%) used pins and wires, 1 (3%) knee prosthesis and 1 (3%) hip prosthesis. 28 (100%) of the patients who developed peri-implant infection presented clinically with local warmth, erythema and tenderness. 26 (95%) presented with discharge, and 19 (70%) presented with a draining sinus. All of the patients demonstrated elevated ESR and CRP levels initially at presentation. , implants in 16 (57%) of the patients underwent removal, 30% of which were converted to external fixators due to lack of signs healing clinically and radiographically ( $p=0.034$ ). The rest of the patients had their implants retained. Infection rate overall was 6.7%.

Conclusion: Based on the data gathered in this study, surgery in the tibia and intramedullary nails were independent risk factors of peri-implant infection. Results of the multivariate logistic regression analysis thus showed that surgery in the tibia are four times more likely to have an infection.

Keyword: Peri implant infection, internal fixation, intramedullary nailing

### **44** The Incidence of Peri-implant Infection In Patients aged 60 and above in Orthopedic Surgeries Done at East Avenue Medical Center *Dante Enrico Fajutrao, MD; Mary Ruth Padua, MD, FPOA [East Avenue Medical Center]*

Background: Peri implant infections in orthopedic surgeries have a substantial impact on health related quality of life and are associated with additional complications, which affect both short and long term outcomes. This study aims to identify both the incidence and possible factors that may lead to the development of peri implant infection.

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**Keyword:** Peri implant infection, internal fixation, intramedullary nailing

## **45** The Rate of Morbidity and Mortality in Orthopedic Trauma Patients Secondary to Vehicular Accidents Admitted at East Avenue Medical Center

*Sayed Armin B. Esmaeli, MD; Mary Ruth Padua, MD, FPOA; Ray Allen Simlao, MD, FPOA  
[East Avenue Medical Center]*

Each year nearly 5 million people worldwide die from injuries. Ninety percent of these injuries occur in developing countries and that number is growing. Road traffic accidents account for 1.2 million of these 5 million deaths. For each death from trauma, three to eight more are permanently disabled. Due to the lack of adequate global information on morbidity related to motorcycle injuries this study aims to determine the rate of morbidity, prolonged and delayed treatment and mortality of admitted patients secondary to vehicular accidents at East Avenue Medical Center using descriptive and retrospective review of clinical records of admitted orthopedic trauma victims. Logistic regression would be used to analyze the data gathered from the East Avenue Medical Center-survey Monkey trauma registry. The data gathered during a period of 6 months reveals a mortality rate of 2.5% and morbidity rate of 16.25% among admitted patients due to vehicular accidents in our institution, the highest rate of morbidity was attributed to rate of re-operation which comprised 53.8% of morbidity in admitted patients.

**Key words:** Road Traffic Injuries, Morbidity, mortality, delayed treatment



## 46 The Reliability, Validity and Accuracy of the Arbeitsgemeinschaft für Osteosynthesefragen Spine (AOSpine) Thoracolumbar Spine Injury Classification System

*Stephen D. Salvilla, MD, FPOA; Jose Joefrey F. Arbatin, MD, FPOA; Agustin Miguel G.Morales, MD, FPOA; Oliver Y. Ong, MD, FPOA [Chong Hua Hospital]*

**Background and Rationale:** The AOSpine Thoracolumbar Spine Injury Classification System was published last 2013 and has underwent several revisions. Initial studies showed substantial reliability and reproducibility among surgeons. However, there are limited studies on the evaluation of this classification by independent surgeons.

**Methods:** Anteroposterior-lateral radiographs, computed tomographic scans and magnetic resonance imaging of 8 patients with acute traumatic thoracolumbar injuries were included and classified under AOSpine Thoracolumbar Spine Injury Classification System by 10 reviewers (5 spine consultants and 5 senior orthopedic residents). The Spearman's rank-order correlation was used to determine the interrater agreement between all parameters (fracture morphology, neurologic status, and clinical modifier). The posterior ligamentous complex (PLC) was also evaluated using the classification and was compared to the intraoperative findings.

**Results:** The interrater reliability for fracture morphology has only 48% acceptable correlation between reviewers. The interrater reliability on neurologic status yielded eighty-two percent (82%), indicating a strong rank-order correlation among reviewers. The average agreement rate on the clinical modifier parameter was 57%. Evaluation of PLC status using the classification yielded a sensitivity of 71.7%, specificity of 68.3%, positive predictive value of 43.8%, and negative predictive value of 89% and an overall accuracy of 69%.

**Conclusion:** Our study showed that the AOSpine Thoracolumbar Spine Injury Classification System has poor interrater reliability in classifying fracture morphology and clinical modifiers. However, it has strong interrater reliability in classifying neurologic status. Moreover, the value of this classification system is its ability to predict the presence of a posterior ligamentous complex injury as shown by the acceptable specificity, sensitivity and accuracy.

## 47 Timing of Antibiotic Treatment and Infection Rates for Isolated Open Tibial Fractures in a Tertiary Level Hospital: A 5-Year Prospective Study

*Vernadel May N. Santigao, MD; Federico Bonifacio S. Alday III, MD, FPOA; Oliver S. Oliva, MD, FPOA; Venancio P. Garduce, MD, FPOA, Mario B. Geronilla, MD, FPOA<sup>+</sup> & Joseph Keat T. Sison, MD, FPOA<sup>+</sup> [East Avenue Medical Center]*

**Introduction:** The management of open fractures continues to be a challenge for orthopaedic surgeons with a main concern of prevention of wound infection and sepsis and the tibia is the most common bone involved in open fractures.

**Methodology:** This is a prospective cohort study done on adult patients who sustained an isolated open tibial fracture from December 2010 to December 2015. One hundred eighty-five patients were included in the study. Patients were stratified depending on the time when the antibiotics were given from the time of injury and the timing of surgery.

**Results And Discussion:** The number of males are larger (87.3%) than the female subjects (12.97%).

The average time of consult from injury was 2.6 hours and the average time of antibiotic treatment to injury was 2.86 hours. The average time of surgery from injury was 7.72 hours. From all the subjects, 34.59% incurred a Gustilo Type I open fracture, 36.76% had an open type II fracture and 11.89% for Type IIIa, 15.68% for type IIIB and 1.08% from type IIIC respectively. From 2-3 hours, 6% developed acute infection and from 4-8 hours from the injury, 20-30% of patients developed acute infection. From 9 hours onwards, all patients developed acute infection. Based on the computation of Linear Regression with a confidence interval of 95%, the computed P value was  $< 0.0001$  which was noted to be significant.

**Conclusion:** The initiation of antibiotics from 1 hour to 3 hours post-injury in open tibial fractures is associated with a decrease rate of acute infection. A delay in treatment for more than 8 hours would constitute an almost 100% risk of infection. The severity of soft tissue injury is also a factor, the higher the Gustilo classification, the more likely infection will develop regardless the timing of debridement.

**Keywords:** open fracture, tibia, antibiotics, surgery, Gustilo classification

## **48** Total Hip Arthroplasty After Spontaneous Hip Fusion From Ankylosing Spondylitis: A Case Report

*Giorgio Delgado MD; Peter B. Bernardo MD, FPOA; Frederick Patrick I. Nicomedez, MD, FPOA [UP-Philippine General Hospital]*

Hip arthrodesis may occur spontaneously from autoimmune diseases. A chronic fused hip produces some degree of disability, as well as low back pain, ipsilateral knee instability, and patellofemoral osteoarthritis in the contralateral knee. Total hip arthroplasty is considered a viable option for these set of patients. However, compared to primary and revision total hip replacements, conversion of a fused hip to a total hip arthroplasty has poorer results. We report a case of a 23 year old male with a spontaneously fused hip secondary to ankylosing spondylitis. We performed cementless ceramic-on-ceramic total hip replacement. The challenges encountered and foreseen complications are documented in this case report.

## **49** Tuberculosis of the knee post-total knee arthroplasty: A case report.

*Saeid G. Safae Chalkasra MD: Liberato Antonio C. Leagogo Jr., MD, FPOA [Makati Medical Center]*

Primary Mycobacterium tuberculosis (TB) causing osteoarthritis is common, especially in developing countries and it accounts for 1- 4% of all TB infections making it one of the more common extra-pulmonary sites, however periprosthetic TB infections are uncommon. TB infections of prosthetic joints have only been described in sporadic reports.

The low index of suspicion of periprosthetic TB infection could delay a correct diagnosis with risk of permanent damage due to a late treatment. The identification of the pathogen is advisable by different laboratory modalities. During or prior to any surgical revision of prosthetic joints with suspect of infection, culture for tuberculosis should be taken into consideration.

We report a case of 76-year-old male with TB infection of the knee post total knee arthroplasty. We highlight the surgical and medical treatment of periprosthetic TB infection post total knee arthroplasty.

## 50 Use of Bulk Femoral Head Allograft in the Management of a Giant Cell Tumor Bone Defect: A Case Report

*Daniela Kristina Carolino, MD [St. Luke's Medical Center]*

**Introduction:** Giant cell tumor of bone (GCTB), a relatively rare, benign but locally aggressive osteolytic neoplasm, accounts for 4-5% of primary bone tumors. A majority of cases are solitary, with the most commonly affected sites being the epiphyses of long bones, among 50% of which affecting the distal femur or the proximal tibia.

The most common presentation of GCTB is pain, swelling, and limitation of motion of the affected joint. These focal symptoms typically result from bony destruction, cortical breakthrough, and expansion into soft tissues, depending on the degree of local aggressiveness. Grossly, GCTBs appear as a fleshy, reddish tumor containing cystic and hemorrhagic areas, while histologically, sheets of round to oval polygonal cells are interspersed with large osteoclast giant cells.

The most widely used system for classification of the GCTB is the Campanacci grading system which stratifies patients according to clinical and radiographic appearance; however, provides little prognostic information regarding the risk of local recurrence of metastatic behavior. Although regarded as benign, the behavior of these tumors is not predictable, with increased propensity to recur locally after curettage alone (50%). In 2-3% of cases, metastasis develops, most frequently to the lungs.

Surgery still remains to be the gold standard of treatment for cases of resectable GCTBs, options for which include intralesional curettage, marginal excision, wide local excision, or en bloc resection with or without reconstructive surgery. It is generally accepted that the status of the surgical resection margins is the single best predictor of outcomes, however keeping in mind that the choice of surgical procedure is dictated by the site and the size of the tumor in relation to the surrounding structures and tumor extent.

En bloc or wide local excision is associated with the lowest recurrence rates, but often result to a functional defect necessitating major reconstruction. Currently however, there is no evidence to support the use of a specific technique to correct bony defects. This paper is inspired by this gap in knowledge.

## 51 Which Whiteside's Line? A Preliminary Report

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**Background:** The anteroposterior axis (Whiteside's line) of the distal femur has been used to orient the femoral component in total knee replacement surgery. Although initially described as a line connecting the deepest point in the patellar groove and the center of the intercondylar notch, others have used a line connecting the deepest point in the patellar groove to the highest point of the intercondylar notch. Furthermore, depending on the system used, the axis could be determined on the distal femur before or after the distal femoral cut has been made.

**Objective:** The objective of this study was to determine if the value of Whiteside's line varied depending on which landmarks were used and on whether it was taken before or after the distal femoral cut.

**Methods:** The distal femur of 14 knees from 7 adult cadavers were dissected free of soft tissues and photographed. The following landmarks were identified: deepest point of the patellar groove, highest point of the intercondylar notch, center of the intercondylar notch, lateral epicondylar prominence, and medial epicondylar prominence. Three lines were drawn: one connecting the patellar groove to the highest point of the intercondylar notch (Line A); one connecting the patellar groove to the center of the notch (Line B); and one connecting the epicondyles (transepicondylar axis). The distal femur was cut using a total knee distal femoral cutting instrumentation that would take out 9 mm of bone and then photographed. The same landmarks and lines were identified. The angles subtended by the various lines against a line perpendicular to the transepicondylar axis were recorded. Values in internal rotation were assigned negative numbers while values in external rotation were assigned positive numbers.

**Results:** The mean results of Lines A and B in both the uncut and cut distal femurs were negative. Line A measurements tended to be more negative than Line B measurements. However, there were no statistical differences among the various measurements taken.

**Conclusion:** Based on this preliminary report, measurements taken from the deepest point of the patellar groove to either the highest point of the notch or the center of the notch may be used to determine Whiteside's line. Furthermore, the results will not be statistically different if taken before or after cutting the distal femur. However, since it is beneficial to avoid internal rotation of the femoral component in total knee replacement, the use of the center of the notch may be a better option than the use of the apex of the notch.

**Keywords :** total knee replacement, Whiteside's line, cadaver

## **52** Functional outcome of patients with distal radius fracture (AO:23A2, 23C1, 23C2) treated with Cobra non-bridging external fixator in Chong Hua Hospital

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**Study Design:** Retrospective cross-sectional chart review design

**Objective:** The objective of this study is to determine if the Functional outcome of patients with distal radius fracture (AO:23A2, 23C1, 23C2) treated with Cobra non-bridging external fixator in Chong Hua Hospital yielded good results

**Introduction:** Distal radius fracture is a common injury with an incidence of roughly 0.3 % in industrialized countries. Presently, the use of internal fixation reaches 42 % of all distal radius fractures in some centers, yet the overall outcome is not proven better than external fixation {1}.

External fixation is the treatment of choice for simple unstable fractures confined to the radial



metaphysis, whereas others only consider external fixation in cases of complex and often open injury. These beliefs often are based on variations in training and the experience and preferences of the individual surgeon. {2}

In the use of external fixators of the distal radius controversies still exists as when to do bridging or non-bridging fixation, specifically the Roger-Anderson bridging and Cobra non-bridging external fixator in the fixation of partial articular distal radius fractures. In our institution, partial articular, metaphyseal distal radius fractures are mostly treated with bridging external fixator while some would prefer non-bridging external fixator for earlier range of motion. Both groups of Orthopaedic surgeon's radiographic goal is to attain an acceptable volar tilt, radial height and radial inclination. Presently no comparison has been made as with regards to difference in functional outcome of both groups.

This study aims to determine if the functional outcome of distal radius fracture treated in our institution with cobra non bridging external fixator yielded good results.

### 53 **The relationship of neutrophil-to-lymphocyte ratio and mortality in tropical diabetic hand syndrome**

*Coruña, JD, Coruña, JR, Guanzon, MV*

**Introduction:** neutrophil-lymphocyte ratio (NLR) is an accessible laboratory parameter said to be predictive of short to long-term mortality. Tropical diabetic hand syndrome (TDHS) comprises upper extremity infections affecting patients with insulin resistance in an equatorial climate. Its presentation varies from cellulitis, to limb-threatening gangrene and fulminant sepsis.

**Objectives:** In this retrospective cohort study, we reviewed NLR among TDHS patients and its association with mortality during admission and after discharge.

**Methods:** A systematized chart review was performed. Twenty-five hands from 25 consecutive patient referrals from a single center were enrolled in the study from January 1, 2014 to December 31, 2015. Complete blood count upon admission and survival status after orthopaedic management were collected and tabulated in a spreadsheet, together with demographic and clinical data. Receiver operating characteristic (ROC) curve were used to assess the utility of NLR in predicting mortality.

**Results:** Majority of the patients were males (76%, 19) with a mean age of 50 (range 24-81). The right upper extremity was affected most (56%, 14). The mean neutrophil count was 78.36 (range 34-96) and 13.96 for lymphocytes (range 2-64). NLR interquartile range was 8.10 with quartile 1 (less than 3.43), quartile 2 (3.44-9.33), quartile 3 (9.34-12.43) and quartile 4 (more than 12.43). In-hospital mortality was 52%, mortality in 6 months at 58%, and in 12 months at 100%. ROC value for admission mortalities was 0.939, mortality six months after discharge at 0.989, and in twelve months at 0.988. Findings were statistically significant ( $p < 0.05$ ). Area under the curve for all three specified times describe NLR as an excellent diagnostic tool.

**Conclusion:** Patients with increased NLR have higher incidence of in-hospital mortality. Within one year, all tropical diabetic hand syndrome patients expired. TDHS mortality can be attributed to NLR.

## 54 Outcome of Recurrent Shoulder Dislocation Treated with Bankart Repair with Inferior Capsular Shift Among Active Military Personnel – A Case Series

*Delmar S. Bahjin II, MD [AFP Medical Center]*

**Background:** The anatomic configuration of the shoulder joint (glenohumeral joint) renders it the most mobile joint of the body. This is because the articular surface of the round humeral head is approximately four times greater than that of the relatively flat glenoid fossa. The stability and movement of the shoulder is controlled by the rotator cuff muscles, ligaments, and the capsulolabral complex of the shoulder. The labrum is a fibrocartilagenous ring, which attaches to the bony rim of the glenoid fossa. The labrum doubles the depth of the glenoid fossa to help provide stability. The shoulder is one of the most commonly dislocated joints in the body. Shoulder dislocations can occur from trauma, such as falling on an outstretched hand. When this happen it is common for the capsule and ligaments to be torn, which often includes a tear of the glenoid labrum. Traumatic shoulder dislocations often lead to recurrent dislocation. An active military personnel and military recruit, anterior shoulder dislocation is a common injury sustained during training and military operation. The purpose of this study is to document the outcome of military patients who had recurrent shoulder dislocation with bankart lesion and underwent bankart repair using an absorbable suture with inferior capsular shift.

**Methods:** Six patients who had recurrent shoulder dislocation were included in this study and underwent open bankart repair using absorbable suture instead of an anchor suture. We drill 3 holes to the anteroinferior portion of the glenoid rim and passed an absorbable suture to secure the labrum. After which, we did an inferior capsular shift and placed the patients on an armsling.

**Result:** All patient who underwent bankart repair with inferior capsular shift were able to return to active duty and perform military routines. One patient is still on rehabilitation for strengthening and range of motion exercises. None of them experienced redislocation.

**Conclusion:** Using an absorbable suture to repair the bankart lesion with inferior capsular shift could be an option instead of using the more expensive anchor suture. Subjects were able to continue their military career and able to perform daily military activities without limitations.

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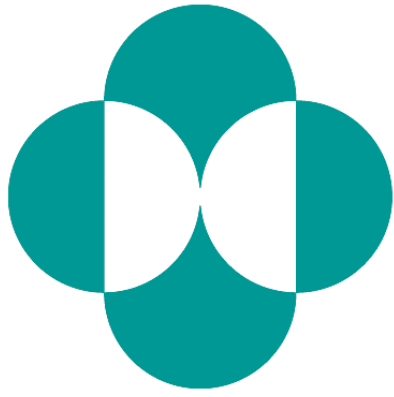
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