



ኢትዮጵያን ስራው እና አገሪቱ ከስ እንደ ተጠቃሚ የለሱ
ETHIOPIAN SOCIETY OF ORTHOPEDICS & TRAUMATOLOGY



የኢትዮጵያ የአገሪቱ አገልግሎት መቻቻት

ESOT's Year book- VI

2016/17 EOJ Vol. 6

www.ethiopianorthopaedics.org

12th ANNUAL GENERAL MEETING

Scientific Conference and Orthopaedic Exhibition





AFEI

AFEI DIAGNOSIS CENTER



1. ADDRESS: NEAR GLOBAL HOTEL, IN FRONT OF ETHIOPIAN REVENUES AND CUSTOMS AUTHORITY, KIRKOS SUBCITY ADDIS ABABA

2. TEL : 00251-911425296/913573346

3. SERVICE: - MRI -CT-SCAN- ULTRASOUND
(ECHOCARDIOGRAPHY WEDNESDAY & SATURDAY)

4. WORKING HOURS: MONDAY - FRIDAY: 24 HOURS

SATURDAY: 8:00AM - 10PM



አፈ የደምናዕስ ሲንተክ
Afei Diagnosis Center

Service



- MRI 0.35 tesla
- CT Scan 16 slices
- Ultrasound 4-D Doppler Color
- Free Ambulance Service

Address: Near Global Hotel, In front of Ethiopian Revenues and Customs Authority, Beklobet/Lancha, Addis Ababa

Tel: 0913573346/48, 0911425296



ዘመን ከፍድ

አዲስአበባ

ኢትዮጵያን ስነዱ፣ አቶ አርቶችና አቶ

አንድ ትራዎች ለሰንድ (አ.ስት)

የፍ አዘጋጅ

የ/ር በሩክ ለምዕስ

esotethiopia@gmail.com

ፖስታ 17403 አ.አ- ኢትዮጵያ

Editorial Team

Publisher

Ethiopian Society of Orthopedics and
Traumatology (ESOT)

Editor in chief

Dr. Biruk L. Wamisho

Editors ESOT —EC members

ESOT Members Residents (Orthopedic
Specialty)

Layout and Type set

Sirgut K/Mareyam

(IMG Secretary)

Proof Reading

Lili Hailemichael: MPH

Tsega Tadesse: Med Stud.

Production

RAS Design and Print PLC

Tel :(+251) 947 403 838

For next edition send your views,
news & comments to

esotethiopia@gmail.com

Always visit: www.

ethiopianorthopaedics.org

P.O.Box: 17403, Addis-Ababa,

ETHIOPIA.

Contents

1. Presidential Address

2. HOD Message

3. International Main Speaker

4. Abstracts - I

5. Photo gallery - I

6. ESOT's outreach activities

7. St. Paul's new orthopedic department

8. Visitor student's page

9. Abstracts - II

10. Photo gallery - II

11. Web presentations





Presidential Welcoming Address

Guest of honor H.E. Dr. Engineer Getahun Mekuria, Minister, Ministry of Science and Technology (MoST);

Dear ESOT member surgeons, International speakers, Residents, Med students, Sponsors and invited guests of ESOT;

I humbly welcome you all to this wonderfully prepared 12th national annual general Orthopaedic meeting, Scientific conference and Medical exhibition of the Ethiopian society of orthopedics and traumatology (ESOT).

Welcome! This year is very scientific!

Following our last meeting, the ESOT-EC and the organizing committee has been looking for a better conference time. All is now well prepared and I thank my friends, colleagues, staff, residents and my family.

The main theme for this year's conference is "ETHIOPIANS DESERVE MODERN AND SCIENTIFIC ORTHOPAEDIC CARE". We will thoroughly and scientifically explore wide areas of musculoskeletal diseases.

This year, we have three very renowned international speakers. Please allow me to introduce them to you. They will share us their deep expertise during state-of-the-art lectures. Participate and exchange knowledge attentively.

Excellency, this year we have received so many articles and scientific work for presentation and we are forced to select 26 and prepare a three days conference. On Monday, SIGN conference continues.

Added to this, METEC has taken a crucial innovative step and has manufactured sample Orthopaedic implants to be used for fracture care in our country! ESOT was instrumental in initiating and encouraging these efforts. Now the fruit is hanging to be cultivated. During the exhibition tour; you will see their Ex-fix, plate and screws sample products. This is encouraging. ESOT always supports this and gives professional advice. The Minister of health already communicated ESOT to facilitate the biomechanical testing and international quality standardization process that follows such initiative. ESOT has many great international partners who are willing to do this. All consultants here also will continue playing their roles. I am sure that this innovation is in the line of

the agenda of MOST and definitively pleases the Ministry.

Orthopedic is an art, science &technology. With this in mind, the link and brain-storming started by H.E Mr. Abiy Ahmed (former minister of MOST) and Prof. Afework Kas-su now become fruitful!

Dear Colleagues, Partners and Guests;
This year's shining event is made possible thanks to our respected main Partners:
You can see how ESOT is getting well connected to the Industry, Manufacturers, Importers and suppliers. We all share a common social responsibility.

Dear Members;
As usual we will have audit report and some discussion. Lunch and special break meal is well prepared and will be served here at this five star international hotel. Please socialize. Meet old friends and get new friends. Take time and talk to exhibitors, look into products and markets. ESOT is yours! This is your Society and it is our national private time!

As my best reference, the bible orders to work and think in “Harmony” (Philippians2:2)
I thank my vice Dr. Zegene and finance, Dr. Tilahu and other ESOT-ECs. Being few, We achieved a lot because we are united and not divided! “Harmony”

Once again, I thank you all for coming and participating at the conference.

I hear by invite his Excellency Dr. Er. Getahun, Minister of MOST to officially open our scientific conference.

Blessings!

Biruk L. Wamisho, M.D, FCS;
Head, Department of Orthopaedics, AAU;
President, ESOT



VICE-PRESIDENT'S MESSAGE

First of all, I would like to congratulate all ESOT members on this year's annual scientific congress. I thank ESOT-EC for inviting me to express and write my message on our magazine as its vice president and Head of Orthopaedic Department at St. Paul's Hospital.

Let me start with SPHMMC and then proceed to ESOT. Our Department has over 60 beds served by 5 senior academic staff, and 2 in training at Blacklion. Ours is the second Orthopaedic Specialty Training center chronologically. I can say first born child of the Mother department at the AAU. We started residency 2 years back as an independent department and we have 18 residents in training now; 3rd and 4th years come from Blacklion, for an attachment here. We have a trauma center. We received great support from our College's administration, ESOT and the Orthopaedic Department in the AAU. We extensively collaborate with BLH, Wolisso, Danu, Alert and Yekatit Hospitals locally and SIGN, ADFA and AO internationally. We are getting stronger and expanding in the service, teaching and research (Our staff members won the Hospital's research award this year).

Regarding ESOT, as a Vice-President, I always feel happy to see its growth and the opportunity we are enjoying this time. It is the best time for orthopedics. We have many open doors and connections. I personally would like to appreciate our President, Dr. Biruk for his dedication, hard work and leading us all these years. Look where ESOT is now! Without saying too much, one word I can use to describe him is "Capable". He is a great leader, gifted organizer; is bold and always has new way-out. He effectively executes many responsibilities and to my knowledge he sleeps only occasionally. His expectations are very high and he is a positively demanding personality. ESOT and the EC enjoyed his team leadership. Working with him for me was harmonious and always smooth. Thank you Biruk for the harmony he had. I also thank Dr. Tilahun and other EC members.

Finally, as an EC member of ESOT, I call all members to work together for the development of orthopedic and trauma practice in the country. I know we all worked hard to our best so that this year's AGM becomes astonishing. ESOT is our common scientific forum. Thank you.

Dr. Zegene Taye
Vice - President
Head, Department of Orthopaedics, SPHMMC.



Establishment of

The Ethiopian Society of Orthopedics And Traumatology (ESOT)

Tezera Chaka MD, FCS(ECSA)

Associate Professor of Orthopedic Surgery
School of Medicine
Addis Ababa University



With the beginning of 1995 G.C. the consensus that was made among all Orthopedic Surgeons was to be organized under the Surgical Society of Ethiopia (SSE) which was believed as it should be serve as umbrella organization for all surgical specialties until such time that each surgical specialty associations established. Thereafter SSE would be transformed to "College of Surgeons" and will mainly focus on accreditation, certification, standardization etc of the profession. (Now it is high time to establish the "College of Surgeons" of the country due to the current flourishing of Surgical Trainings at the different Universities in order to assess, standardize, accredit, etc of their activities.)

Subsequently as the department of orthopedic surgery started to produce graduates and also with arrival of specialists graduated abroad the number of orthopedic surgeons started to grow up. In 2003 an interested group met in the Tikur Anbessa hospital surgical department conference hall for a brain storming discussion on how to establish a society. At the end of the meeting a steering committee was formed with the main task to draft the constitution and to accomplish the legalization process.

In May, 2003 the first meeting was conducted at Semien Hotel. The drafted constitution, the name- Ethiopian Society of Orthopedics and Traumatology (ESOT) –and the Emblem of the society were approved and executive members were elected.

On the 2nd of January 2004 the society has been officially registered by the Ministry of Justice and following in 2004 in the presence of officials from the Ministry of Health, delegates from sister societies and associations and other invited guests from inside and out side of the country an inaugural ceremony was held at the Ghion Hotel. There has been also a guest lecture as well as scientific paper presentations. After the second annual meeting and scientific conference which was held at Global Hotel Thursday 30th March 2006 with a pre-conference workshop on Club feet organized by the Society, Cure International and World Orthopedics Concern, during the subsequent years due to unforeseen circumstances (internal and external) the activity has tremendously declined.

In 2008 extra-ordinary meeting was called and new executive committee was elected which led the society to the resurgence of its activity. There after to date there were regular annual meetings and scientific conferences with panel discussions on important and timely issues and Workshops. Starting 2010 the society has gone further to start publishing a Scientific Journal of its own and has created its web-site.

The 2012 AGM and Scientific Conference have been colorfully celebrated at Hilton Hotel in the presence of His Excellency Ato Amin Abdulkadir Minister of Culture and Tourism with the theme "Medical Tourism & Sport Injuries". At this conference members has been honored with a recognition awards for their contribution to the profession at different categories. The first Operative AO course for all Orthopedic Surgeons in Ethiopia & their Nurses was successfully conducted in Dec. 2012 in Churchill Hotel. Both surgeons and residents benefited a lot. ESOT is growing tremendously. Therefore to uphold this noble endeavor, it is the duty of every member to actively engage our self to the fulfillment of the vision, mission and goals of the society.

List of Ethiopian founding ESOT members

| | | |
|-----------------------------|--|--|
| 1991 | Dr. Ahmed Taha Makki (Yemani Citizen) Dr. Eskinder Afework Dr. Lakew W/ Amanual | 2002 Dr. Birhanu Beyer Dr. Wondaferaw Wondimu |
| 1993 | Dr. Tawfik Abdulahi Dr. Temesgen Fitru Dr. Tezera Chaka Dr. Worku Mekonnen Dr. Wondimu Wolde | 2003 Dr. Biruk Zewdie Dr. Genanew Admasu Dr. Hailu Legesse |
| 1994 | Dr. Teshome Worku Dr. Woubalem Zewdie | 2004 - Dr .Manyazewl Dessie |
| 1996 | Dr. Legesse Yiqzaw Dr. Solomon E/ Yonas | 2005 - Dr. Kinfe Araya Dr. Zelalem Tamirat |
| 1997 | Dr. Dereje Tekalign Dr. Mesfin H/ Mariam Dr. Tadesse Alemayehu | 2006 - Dr. Biruk Lambisso Dr. Elias Ahmed Dr. Daniel Ayalkibet Dr. Kagnew Wubishet |
| 1998 | Dr. Asfaw Ayele Dr. Dagne Feleke | 2007 - Dr. Birhanu Ayana Dr. Tesfaye Lema |
| 2000 | Dr. Hailu Shewa-amare | 2008 - Dr. Abebaw F/ Sillasie Dr. Dereje Negash Dr. Fekadu Teshome Dr. Fisseha Bekele Dr. Yiheyis Feleke |
| 2001- Dr. Gizachew Nigussie | | 2009 Dr. Andargachew Workineh Dr. Demissie W/ Kidan Dr. Mekonnen Wordofa |



Graduates, continued

Residents of BLH

2014

1. Dr. Nesredin Yusuf
2. Dr. Nigussie Hailu
3. Dr. Samuel Hailu
4. Dr. Tadesse Shimelis
5. Dr. Teshome Mosissa
6. Dr. Wondwossen Tekola
7. Dr. Sisay Birhanu

2015

1. Dr. Ebrahim Ahmed
2. Dr. Geletaw Tessema
3. Dr. Tekalign Tsegaye
4. Dr. Sham Abraham
5. Dr. Worku Belay
6. Dr. Solomon Goshu

2016

1. Dr. Ephrem G/Hana
2. Dr. Esubalew Abebe
3. Dr. Habtamu Bayissa
4. Dr. Mamo Dikessa
5. Dr. Tewodros Daba
6. Dr. Tinsae H/Michael
7. Dr. Yoseph Zekarias
8. Dr. Zerihun Tamirat

2017

1. Dr. Adisu Chala
2. Dr. Biruh Wubishet
3. Dr. Leul Merid
4. Dr. Yared Solomon
5. Dr. Milkeys Tsehay
6. Dr. Getnet Asnake

Final Year Residents(R4)

1. Abdurrehman Ahmed
2. Abiy Worku Haile
3. Ananya Kassahun Admassu
4. Ermias Gizaw H/Meskel
5. Eskinder Kebede Tadesse
6. Getayie Temesgen Kebede
7. Zeynu Zuber
8. Mahder Eshete Yilma
9. Melesse Gardie Belete
10. Misgana Temesgen Workneh
11. Mnewer Yirga Ahmed
12. Mohammed Issa Dawod
13. Nardos Worku Ketema
14. Samson Tule Sadiko
15. Seid Mohammed Yasin
16. Sintayehu Bussa Teresa
17. Sisay Belete Berga
18. Tadesse Esayas Wae
19. Yebchaye Wondafrash Gameda

R2

1. Dr. Admasu Tibelt
2. Dr. Ahmed Abdusemed
3. Dr. Dejene Feyisa
4. Dr. Eyual Ambaye
5. Dr. Fikir Tesfaw
6. Dr. Fitsum Lakew
7. Dr. Fre Alemseged
8. Dr. Getachew Berhe
9. Dr. Getahun G/Egziabher
10. Dr. Guliat Zerihun
11. Dr. Khalid Zeki
12. Dr. Mariamawit Baye
13. Dr. Seyoum Berihun
14. Dr. Silamlak Sisay
15. Dr. Tegenu Dinku
16. Dr. Teshale Ayana
17. Dr. Tewodros Taye
18. Dr. Tsegaye Mamo
19. Dr. Yonas Amiga
20. Dr. Yazachew Yimenu
21. Dr. Zenaye Wude
22. Dr. Teshome Tena

R3

1. Dr Abdurahman Ahmed
2. Dr.Abdirashid Ismael
3. Dr.Ahmed Seid
4. Dr.Ayele G/Selassie
5. Dr.Bahru Atanfu
6. Dr Baru Legesse
7. Dr.Berhane Kassa
8. Dr.Biniyam Teshome
9. Dr.Birhanu Ayinetaw
10. Dr.Bruh Keflae
11. Dr.Chernet Leka
12. Dr. Chol William
13. Dr.Fasil Nigusse
14. Dr.Habtamu Tamrat
15. Dr.Helawi Tewabe
16. Dr.Hiwot Hailu
17. Dr.Mahamed Areis
18. Dr.Mengistu G/Yohanes
19. Dr.Michael Habtu
20. Dr.Moa Chali
21. Dr.Mohammed Shikur
22. Dr.Mulusew Tibebu
23. Dr.Oumer Seid
24. Dr.Tekabe Nigussie
25. Dr.Tewodros Asegie
26. Dr. Thomas Melese
27. Dr.Tofik Kedir
28. Dr.Tsega Yilma

R1

1. Dr. MogesTessema Hesbeto
2. Dr. Habtamu Akalu berta
3. Dr. Melkamu Alemu Senbeta
4. Dr. Kaleb Tesfaye Reda
5. Dr. Yemane G/Yohannes G/Kiristos
6. Dr. Abiy berhanu Solomon
7. Dr. Naol Worku Moroda
8. Dr. Samuel Tesfaye Shiferaw
9. Dr. Robel Sirak Zewde
10. Dr. Tezera Tadesse Geleta
11. Dr. Aelaf Asegid Mamo
12. Dr Belete Hubena Elala
13. Dr. Jiregna Fayera Binagde
14. Dr. Henok Dagnachew Deme
15. Dr. Daniel Banksira Shikur
16. Dr. Gemechis Amano Geleto
17. Dr. Matiyas Seid Mohammed
18. Dr. Senay Mekonen Teferi
19. Dr. Fantahun Solomon Nurliign
20. Dr. Abdo Dames Shafi

AAU Arthopaedic Department

1. Dr.Samrawit Esayas
2. Dr. Shikwia Lemma
3. Dr. Hailegebreel Degfu
4. Dr. Elsa Daniel



Bahir Dar University (BDU)- R2

- 1 DrAderaw Getie Mewahegn
- 2 DrAlmaw Bitew Asres
- 3 DrBekalu Wubshet Zewudie
- 4 DrBinyam Biresaw Netsere
- 5 DrBirhanu Beza Tegegne
- 6 DrDaniel Adane Derso
- 7 DrSolomon Kassaye Enigida
- 8 DrTafere Wasie Fentie

BDU -R1

- 1 Dr Mulate Abie |Mesele
- 2 Dr Yeab Mulat Mesfin
- 3 Dr Biniam Zemedu Assefa
- 4 Dr Biruk Ferede Zewdu
- 5 Dr Misganaw Alemu
- 6 Dr Wubshet Aderaw Workneh
- 7 Dr Gashaye tagele ayele
- 8 Dr Getachew Wuhib Shumye

St.Pauls' hospital millennium
Medical colaeg(Sphmmc)-R2

- 1 Dr.Getasew Tessfaw
- 2 DrBereket tsegaye
- 3 DrTeshale Lodamo
- 4 DrNetsanet Abebe
- 5 DrAyegeb Ayehu
- 6 DrSamuel kebede

Sphmmc -R1

- 1 Dr Ashenafi Ayalew Mihret
- 2 Dr Ashenafi Udessa Biftu
- 3 Dr Beza Gireff Tadesse
- 4 Dr Habtewold Mulat Ayele
- 5 Dr Idris Hassen Mussa
- 6 Dr Kalkidan Ayalew Mulat
- 7 Dr Meron Kelil Mohamed
- 8 Dr Mulugeta Bekele Geneti
- 9 Dr Sintayehu Tekle mamo
- 10 Dr Soaleh Ebrahim Molla
- 11 Dr Omer Mohamed Farah
- 12 Dr Zacharia Peter Ajack

Mekele University -R1

- 1 Dr Aguer Ayuel warabek
- 2 Dr G/her Mahtsun T/medhin
- 3 Dr G/Michael Aregawi Gidey
- 4 Dr Ketema Hailemariam
- 5 Dr kuot Mabior Leek
- 6 Dr Million Tareke
- 7 Dr Solomon Ayele Tilahun
- 8 Dr Tewelde Nigusse G/anania



Dr.Nardos keeps updateing this List.
Surely many pages will be needed !
we produce an Orthopaedic generation!

208

◦ ԱՐԵՎԱԴՐ ԾՄ-ՔԻՆ ԱԺ.ԸՆ. ԽՈՐԴ: ՄԱԿԱՐ ՄԱՅԱՂԻՆ
ԱԹԵՐԻ ՔԱՂՔԱԿԱՆ ՔԱՐԵ ԳԵՂԱՔ ՄԱԴ:

TADH

◦ የኢትዮጵያ ስርአት በመዘገበ ሆኖ በግዢ የምርጥና የእንደገኘት
ጥሩት የሚጠናበትን ተወካይነትን ማረጋገጫ:

- በት አላማና ተት ለበኩ
- የሚያረጋገጫ የመማሪር የሚት
- የበኩ ቁጥርና ተቋት
- የልተተደረገ አስተዳደሪነት የመሰረም ተዘ
- ለተመለከተ የሚተካለኝ መመረጥ

ተቋማዊ ፍልዕፍናን

- የሰው በይለችን ለማት ደጋል ለማት ነው
- ትንተ የአምንትወ ለመ-ጥ ለይል ነው
- ለአዲሱ ህጻዻች እውቀኑ እንሰጣለን
- እውቀት የተዘረዘሩት ተዘረዘሩት ደንብ የአድራሻ መሰረት ነው
- በረሰኑ በወጪዎች እንሰጣለን

Vision

- To see our country's holistic transformation grounded in scientific knowledge and innovative skills.

Mission

- Modernizing the innovation systems in our county to ensure quality of production and service delivery; productivity and competitiveness.

Values

- good conscience
- constant desire to learn
- love of work and industriousness
- unrestricted thoughts and imaginative move
- passing strong foundations to future generations

Organizational philosophy

- our personnel is a wealth-generating resource
- intensity is the engine of positive change
- We embrace new ideas
- knowledge is the basis for skills and skills are the foundations for development.
- We are measured by result, process

ከረታዊ እርምጃ ወደ ቤት

From Facilitor To Main Actor



Danu Orthopedics, Trauma And Surgery Center

Laboratory



Digital X-ray

VIP Standard Room

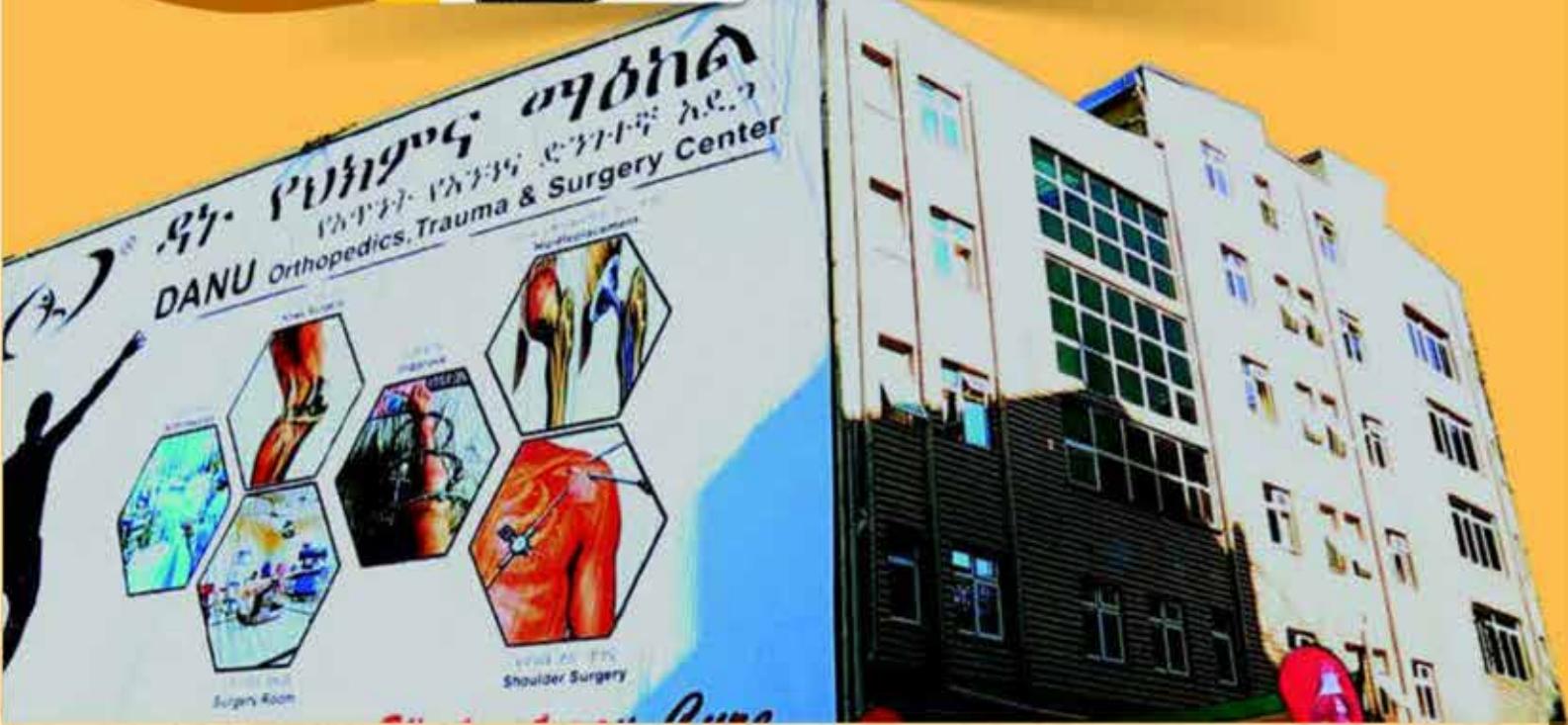
OR Room



Pharmacy and
Ambulance service



Physiotherapy





TOTAL HIP REPLACEMENT SURGERY IN ETHIOPIA:

1 Eric C. GOKCEN, 2Biruk L. WAMISHO,

1. Associate Professor of orthopedics & Sports Medicine, Temple University, USA, (Former Medical Director of CURE Hospital in Ethiopia)

2. Associate Professor. Department of Orthopedics & Traumatology, Addis Ababa University, ETHIOPIA.

ABSTRACT

Background: Total Hip Replacement (THR) surgery evolved over years and it is now considered as “the operation of the century”. For developed countries, Arthroplasty is an established management of various joint disorders and has completely revolutionized the nature in which the arthritic hip is treated, and is considered to be one of the most successful Orthopaedic Surgical modern intervention. The story is different in developing nations; Expensive implant cost and lack of trained orthopedic surgeons are main constraints; hence, poverty has caused African countries to remain behind from enjoying the benefits of this medical breakthrough. In this study, we report our first and largest series of 50 such surgeries performed at the CURE Hospital in Addis Ababa. We believe that this is the first largest consecutive patients’ series from ETHIOPIA and wanted to share our experience.

Methods: Prospectively, all consecutive patients that undergone THR surgery at CURE Hospital since October 2009-October 2013 were all followed for over three years(7.3-3.2 years) using Clinical assessment and Hip Score. The hip implant used was a Stryker Omnit fit Uncemented HA-coated prosthesis. Visual Analog Scale for pain (VAS) and Modified Oxford Hip Score were used to assess outcomes of the surgery. Simple excel spread sheet was used to document demography and variables like diagnosis, co-morbidity, surgical approach, duration of surgery, estimated blood loss, implant sizes for Ethiopian hips, complications, sequel, hip scores and final patient satisfaction. These were analyzed using SPSS. Patterns and learning points were observed.

Results: Of the 50 consecutive THR surgery patients, 26 were males and 24 females. Age average was 48 years (Range 14-85). In 30 hips right side was operated, only 2 were bilaterally affected. Primary OA and AVN were the leading causes demanding THR. Previous Partial Hip Replacement (PHR, Hemiarthroplasty) was converted into THR in 6 patients. Commonest co-morbidities were D.M and HTN. Of the four THR hips dislocated, one needed complete revision. There was one persistent infection, one DVT patient and one death. EBL was around a liter and only 5 patients needed transfusion. Commonly for Ethiopian hips, 28mm+0 head, 52mm Acetabulum and 140mm#8 stem were used. The VAS and Hip Scores have improved in a statistically significant and internationally comparable numbers.

Conclusion: THR surgery is a viable, safe and effective option in Ethiopia. Appropriate staff training, careful patient selection, continuous supply chain of different implants and establishing a dedicated Joint Replacement center will reliably sustain THR Surgery.

Keywords: THR, Total Hip Arthroplasty, Osteoarthritis, Hip Surgery, Implants, Arthritis, Hip prosthesis.

Title: Predicting the Response to Ponseti Casting for Children age 2 to 10 with the Neglected Clubfoot PAVER score

Dr T.Nunn , Dr M.Etsub, Dr R. Gardner, Dr T.Tilahun, Sr T.Tesfaye, Mr A.Wainwright , Dr W.Zewde, Dr B.Ayana, Professor C.Lavy

Institution: CURE Ethiopia Children's Hospital.

Introduction: Neglected clubfoot is a common problem. Research into methods of neglected clubfoot treatment is made difficult as there is not a validated scoring system to compare like feet in the walking child. A reproducible clinical severity scoring system using measured deformity angles and using an age multiplier was developed. This comprised measuring Plantaris, Adductus, Varus, Equinus, Rotation around the talar head (PAVER). Sum score was multiplied by an age related factor to give a total score out of 30. Face and content validity using intra and inter-observer variability of the score was previously reported and was found to be good. We performed this study to investigate whether the PAVER score is associated with ease of correction using Ponseti principles.



Methods: Construct validity was assessed using a prospective study of 100 Clubfeet of 10 years of age and under. Scoring was performed at the start of treatment along with pedobarography. The total number of casts needed to achieve full correction was recorded.

Ponseti principles were followed using long leg casts with cavus correction first. Cast changes were performed every 2 weeks. Equinus correction was achieved using percutaneous achilles tenotomy under anaesthesia. Once a minimum of 15 degrees of dorsiflexion was achieved a tibialis anterior tendon transfer was performed. Casting 'failure' was defined pragmatically as 9 casts without correction of the midfoot (corresponding to 4.5 months of outpatient casting) to prevent an indefinite period of casting.

Results: Severe clubfeet had a smaller footprint with consequent increased pressures under the foot. Severity correlated with number of casts needed to achieve correction (Kendall's Tau =0.53). Ability to correct the clubfoot was also age dependant being increasing difficult with increasing age of the child (Tau=0.43). An age multiplier score was constructed to produce a score which better reflected the difficulty of correction (Tau=0.71). All patients under the age of 7 corrected irrespective of deformity severity. The threshold score above which Ponseti casting would not correct the midfoot deformity was 18/30. 11% failed casting and were treated by other methods. Half of these failed patients had not progressed beyond cavus correction casting.

Conclusion: The PAVER score which combines age and deformity severity shows good association with the ability to correct the neglected clubfoot under the age of 10 years using Ponseti principles. This study shows that the score can be used clinically to predict ease of correction. As such the PAVER score demonstrates good construct validity. Clinically it is useful in being predictive of cast failure. As a research tool it has potential to compare different treatments for like deformities.

Open Bony Augmentation of the Glenoid Bone Loss,

The Latarjet Protocol for Anterior Stabilization Shoulder.

Dr. Mohammed Isa, Final year Orthopaedic Resident at AAU, BLH.

Shoulder instability may be caused from congenital deformity, recurrent overuse activity, and/or traumatic dislocation. Surgical stabilization of the gleno-humeral joint is indicated after conservative treatment fails and recurrent instability/subluxation continues. A number of different surgical procedures may be indicated in this situation, often divided into soft tissue or bony procedures.

Shoulder Instability – Soft Tissue:

Surgical reconstruction targeting the glenohumeral joint's soft tissues for shoulder instability, typically involves labral repairs, the most common being the Bankart repair. A Bankart lesion typically occurs from an anterior-inferior dislocation of the humerus, tearing the labrum from its attachment to the glenoid, thereby detaching the inferior gleno-humeral ligament (IGHL). Surgical management of this revolves around labral repair to reattach the IGHL under appropriate tension. This may be accomplished either arthroscopically or through an open approach.

Most traumatic glenohumeral dislocations may not only cause a Bankart lesion, but may create impression fractures in the postero-superior humeral head termed Hill-Sachs lesions.

An adverse effect from this procedure includes suturing the capsule too tightly, causing a shortening of the capsule, and thus decreasing the external rotation allowed at the glenohumeral joint. Other complications are extremely rare, but may include axillary nerve damage, subscapularis rupture (seen only in open repairs performed with subscapularis detachment and repair), and recurrent instability. If there is bony deficiency in the glenoid, which represents 20% or more of the antero-inferior glenoid, it is biomechanically impossible to restore the same stability and is therefore more prone to recurrent instability and failure.

v

Shoulder Instability – Bony Deficiency:

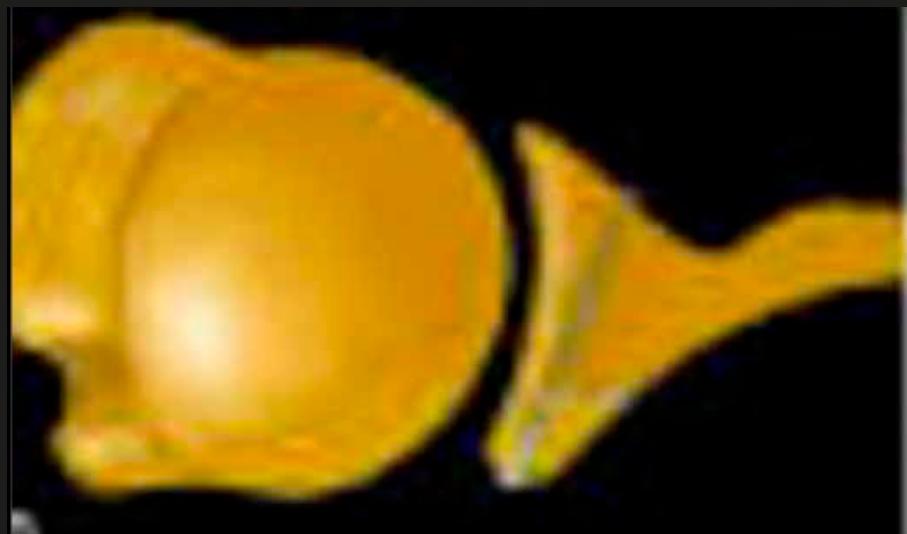
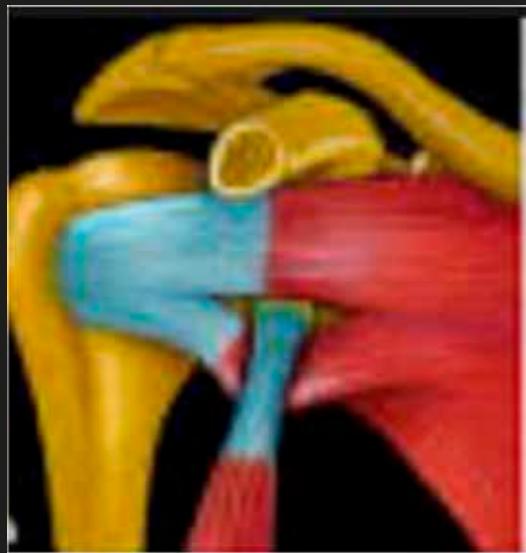
In cases where significant bony deficiency is present (where greater than 20% of the glenoid's surface area is missing) addressing only the soft tissue issues during the surgical procedure may lead to eventual recurrence of instability. Bony deficiency can result from congenital deformity, trauma, or recurrent dislocation. These lesions are not well visualized on plain films and are best seen on 3-dimensional CT scan. When bony lesions reach critical dimensions, reconstruction of this deficit using autograft bone yields the best surgical results. The Latarjet procedure is the most popular and highly effective, transferring the distal coracoid into the bony defect.



A 3D CT reconstruction of the scapula. The blue segment illustrates the bony deficit of the glenoid.

Surgical Technique

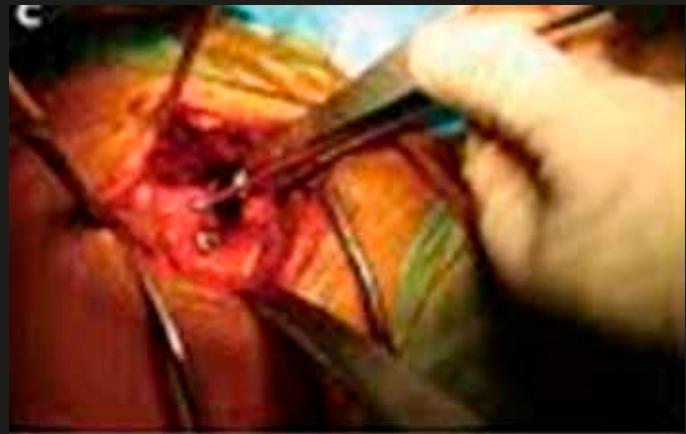
A deltopectoral approach is used to expose the coracoid process. The coracoacromial ligament and the pectoralis minor attachment are divided, whereas coracobrachialis and the short head of the biceps origins remain intact. The coracoid is osteotomized at its' "knee" yielding bony graft approximately

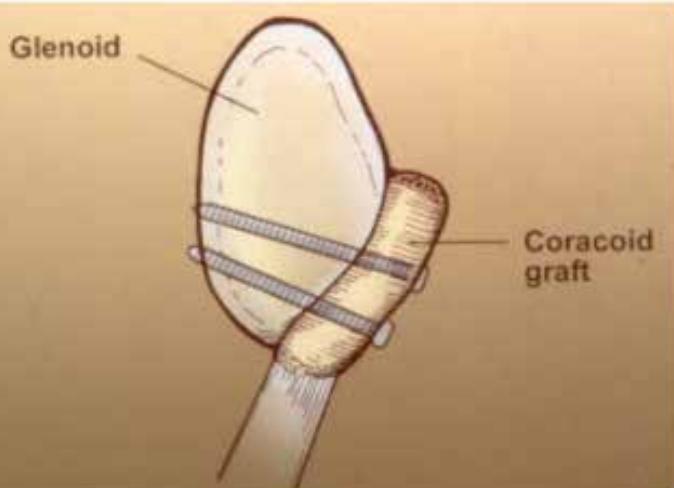


1.5 cm in length. Great care is taken to avoid damage to the soft tissues and musculocutaneous nerve in the surrounding area.

With the arm in external rotation, the subscapularis muscle is either split along its' length or detached from the lesser tuberosity and the joint is exposed. The graft is shaped and contoured to fill the defect and is secured with screw fixation placed at the ante-ro-inferior glenoid.

With the coracobrachialis and biceps still attached to the coracoid, they now serve as a dynamic sling further stabilizing the glenohumeral joint. The subscapularis split is then repaired.





Rehabilitation Considerations

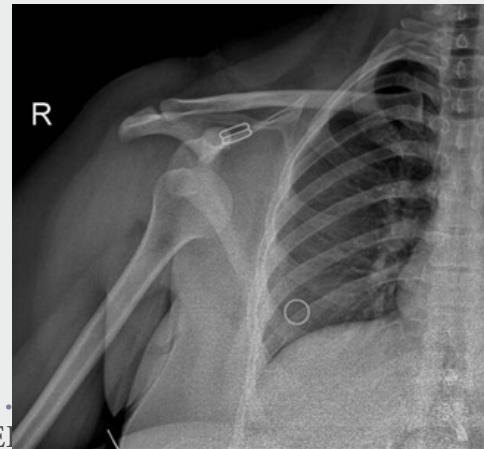
- Phase I – Immediate Post-Surgical Phase (approximately Weeks 1- 3)
- Phase II – Intermediate Phase/ROM (approximately Week 4-9)
- Phase III - Strengthening Phase (approximately Week 10 – Week 15)
- Phase IV - Overhead Activities Phase / Return to activity phase (approximately Week 16-20)

OUR PRACTICE

27 years male known epileptic patient presented with right chronic shoulder dislocation for 8 months who also had recurrent dislocation of the left shoulder.



Twenty eight years old female patient who had recurrent shoulder dislocation 5x over one and half year



RELEASE, GRADUAL EX-FIX CORRECTION AND SKIN GRAFT: A NEW TREATMENT MODEL FOR SEVERE CHILDHOOD ANKLE BURN CONTRACTURES

Dr T. Nunn, Dr E. Eriksen, Dr ROE Gardner, Dr M. Etsub, Dr T. Tilahun, Dr L. Merid, Dr J. Fernandes

Institution: CURE Ethiopia Children's Hospital.

Introduction: Burns are a common childhood trauma in Ethiopia. Severe untreated joint contractures in childhood due to full thickness burns are a challenge to manage. Scar tissue and skeletal growth causes severe bone and joint deformity. In adolescence, pain may occur due to abnormal point loading, skin problems and joint degeneration. Described treatment techniques focus on acute correction and flap coverage of exposed joints and tendons. This case series outlines a treatment for such severe cases that corrects deformity and avoids the need of a flap.

Methods: We present an 8 patient series where severe deformity was corrected after release of the scar using external fixator techniques with fine wires and Ilizarov principles. Plantar skin was left intact and all wires were passed through intact skin. Joints were not opened and tendons not exposed. Burn scar excision was to the fat layer only. Toes totally encased in scar tissue were removed. Acute partial correction was achieved and the ex-fix applied. Residual correction was achieved by serial frame adjustments with dressing changes of the wounds under anaesthetic. Skin graft was applied once a mild overcorrection was achieved. The external fixator was removed following graft healing. Patients received an AFO for the first 6 months post frame removal. Follow-up was 5-20 months from frame removal.

Results: The median number of dressing changes and frame adjustments was 9, scheduled x3/week. No flaps or amputations were required. Grafts healed 100% without exception. Two patients with severe

midfoot abduction contractures required additional mid-foot osteotomies for bony correction 6 months post grafting. Selected patients had a subtalar stabilisation procedure when the subtalar joint was incongruent. One patient required a tibial-calcaneal fusion for degenerative changes in the ankle joint. One patient had excision of a small plantar bony prominence. Two patients had mild ipsilateral knee burn contractures which were released with a multiple 'Z' plasty technique. Good ankle joints were preserved and subtalar fusions performed for those with incongruent post reduction talo-calcaneal articulations. All patients were happy with their correction and walking without pain.

Conclusions: Early results suggest that scar release, graduated correction and grafting is a successful method for salvage of severe neglected post-burn deformities of the foot and ankle. Flap reconstruction was not necessary in any case. We propose that this is a reliable and powerful method for treatment of these challenging deformities.





How to perform a rodding of the ulna and radius

Dr. Duane Anderson, Soddo Christian Hospital

1. Indications for rodding, current size nails for rodding the forearm
2. technique of rodding standard closed shaft fractures of the radius and ulna
3. starting points for introduction of reamers
4. use of a starting drills
5. difficulties of reaming
6. reduction tips
7. passing the nail past the fracture
8. critical element of measuring the length in proximal ulna and distal radius
9. burying the rods, tips on how to do it well
10. Rods in Galeazzi and Monteggia fracture dislocations, pitfall and uses
11. Use in open fractures
12. Use in infected fractures
13. Use in malunions
14. 11 years of experience in Ethiopia with their use





How to do an ORIF of a femoral neck fracture reliably

Dr. Duane Anderson, Soddo Christian Hospital

1. attempted closed reduction, Flynn and Leadbetter maneuvers
2. open reduction, incisions and approach
3. lateral incision for implants
4. tips on reduction and provisional fixation
5. the importance of the starting point
6. how to get center/center every time using a 4.3 drill
7. the use of DHS and derotation screw



QUALITY
FOR YOUR HEALTH –
MADE IN GERMANY



Wudassie and Family Business PLC
Wudassie
Diagnostic Center



Bayer HealthCare

Science For A Better Life



Assessment of Ponseti Treatment by Reviewing Chart Documentation in Tikur Anbessa Specialized Hospital- A Retrospective Study

Mengistu G/Yohannes¹, Birhanu Ayana¹, Mengestie M. Belay², Wubalem Zewde¹, Peter J Klungsøy³

¹Department of Orthopedic & Traumatology Surgery, College of Health Sciences, Addis Ababa University.

² Department of Physiotherapy, Tikur Anbessa Hospital, College of Health Sciences, Addis Ababa University.

³ Senior Consultant Orthopedics Surgeon, Department of Orthopedics and Traumatology Surgery, Norway.

Correspondence to: Mengistu G/Yohannes, Email: mengistuGy@gmail.com

ABSTRACT

Introduction: Eighty percent of infants with clubfoot live in low income countries. In Ethiopia, it is estimated that there are 3,000–5,000 new clubfoot cases per year. The Ponseti treatment was initiated at Tikur Anbessa Hospital in 2005 which is effective, least expensive and reduces the rate of surgeries. The main aim of our study includes assessment of Ponseti treatment techniques by reviewing chart documentation, to assess the association between initial and final Pirani scores at time of Tenotomy, and initial Pirani score and number of casting.

Methods: A retrospective patient chart, Pirani scoring sheet and tenotomy logbook review has been conducted from September 1, 2016 to January 31, 2017 for those children that were treated from January 1, 2010 upto December 31, 2015 in Tikur Anbessa Hospital. A standardized data collection tool including: age, sex, place of birth, feet affected, diagnosis, complications, initial and final Pirani scores, number of visits, and side of tenotomy has been used as an inclusion criterion. The data was entered to Microsoft excel and exported to SPSS version 20. Data was summarized by using texts, tables and figures. Pearson correlation coefficient was used to assess association between initial and final pirani score at time of tenotomy; age of presentation and initial pirani score with number of casting using the level of significance at $p<0.05$. The study has been conducted after getting ethical clearance from department of Orthopedics and Institutional Review Board of College of

Heath Sciences.

Result: There were a total of 1,000 children (1,482 feet) treated at Tikur Anbessa Hospital. 40.2% children's chart was found incomplete. The Mean age of the child at presentation was 15.48weeks (1 to 92-weeks) for <2-years and 184.02weeks (104 to 486 weeks) for Neglected clubfoot.

Pearson's correlation coefficient showed that there was association between place of birth with age ($r=0.443$, $p<0.001$) and number of corrective casting ($r=0.185$, $p<0.001$); initial pirani score with number of casting ($r=0.225$, $p<0.001$), and age of presentation with number of casting ($r=0.178$, $p<0.001$). Percutaneous tenotomy done for 447 (74.8%) children and 29.4% was done according to the criteria (HFCS >1 and MFCS <1).

Conclusion and Recommendation: Gap of chart documentation is seen in this study. Ponseti treatment is influenced by place of birth, age of presentation and initial Pirani score. Pirani scoring system can be used to estimate average number of castings and need for tenotomy. There should be strict control of staff needed for chart documentation. Electronically assisted registration software. Community awareness should be created.

Key words: Clubfoot, Ponseti method, Pirani score, Number of casting



FINGER INCARCERATION TOURNIQUET SYNDROME SECONDARY TO RING DEVICES: A CASE SERIES AND PROPOSED TECHNIQUES OF REMOVAL:

Mengistu G/Yohanes, Department of Orthopedic & Traumatology Surgery, College of Health Sciences, Addis Ababa University, Addis Ababa, Ethiopia.

Correspondence to: Mengistu G/Yohanes, Email: mengistuGy@gmail.com

ABSTRACT:

Introduction: Ring incarceration Tourniquet Syndrome is not uncommon complaint in the emergency room. Common causes of incarceration include trauma, peripheral edema, arthritis or insertion of a small ring on the digit. Psychiatric patients are highly associated with high prevalence of ring incarceration. Incarcerated rings are usually removed by cutting the ring with ring cutter. Sometime preservation of the ring is desired due to sentimental attachment or value. The string or rubber band technique, unlike ring cutter, will be preferred way of removing incarcerated rings. This study aims to describe the case series of ring incarceration at the Emergency OPD and the utility of different techniques used in the treatment of these cases.

Methods: A case series study was conducted which included 8 patients with incarcerated ring injuries who come at the Emergency OPD for removal in the year 2016/17 at Tikur Anbessa Hospital, Sodo Christian and St. Paul Hospital for one Year Study Period.

Results: Among the ring incarcerated cases 62.5% were male with average age of 25 (12/12 - 45) years. Most of the injuries involved the left finger with frequency of 5/8 (62.5%). Among the 8 cases 3 (37.5%) were Psychiatric, 2 have trauma to the ipsilateral side, 1 patient was pregnant, 1 insertion of narrowed ring and other 1 patient was child. The mean duration of ring incarceration was 56 hours (6 hours- 1 week). Majority of the patients, 6/8 (75%) with incarcerated ring were from Tikur Anbessa Hospital and the rest 2 patients (25%) were 1 from Sodo and the other 1 from St.

Paul. All most all of the subjects have tried to remove the ring from their finger at their home Among the 8 digits involved, 4 (50%) are ring finger and the rest are middle and index digit. Most of the injuries involved the left finger with frequency of 5/8 (62.5%). Four out of the 8 patients (50%) was removed by ring cutter, 2/8 (25%) by String technique and the rest 2 rings were removed by Rubber techniques and surgery.

Conclusion: Ring incarceration Tourniquet Syndrome is not uncommon and it is one of the emergency condition that the duty Physician face. Ring cutter, string techniques and rubber band are found to be effective to remove incarcerated rings. Factors that affect the choice of the techniques of removal includes degree of ring tightness, ring type, degree of soft tissue injury and swelling at time of presentation. Ring cutter was the preferred technique of removal for those rings with severe soft tissue injury and swelling, while string technique is efficient in removing rings without destructing the ring for those patients come early to emergency OPD with minimal to moderate swelling.

Key word: Finger Incarceration, Tourniquet Syndrome, Technique of removal

**Denk
Pharma**



Epidemiology of Low Back Pain among Nurses Working in Public Hospitals of Addis Ababa, Ethiopia

M M. Belay¹, A Worku², S A. Gebrie³, B L. Wamisho⁴.

¹Department of Physiotherapy, College of Health Sciences, Addis Ababa University.

²Addis Continental Institute of Public Health (ACIPH), Addis Ababa, Ethiopia.

³Assistant Researcher, Ethiopian Public Health Institute (EPHI), Addis Ababa, Ethiopia. ⁴Associate Professor of Orthopedic Surgery, Addis Ababa University, Orthopedic department, Correspondence to: Mengestie M. Belay, Email: mengemulu99@hotmail.com and lbiruklw@yahoo.com

Background: Low back pain (LBP) related to Nursing Profession, is a very common public health problem throughout the world. Various risk factors have been implicated in the etiology and LBP is assumed to be of multi-factorial origin as individual, work-related and psychosocial factors can contribute to its development.

Objective: The aim of this study was to determine the prevalence and to identify the risk factors of LBP among Nurses working in Addis Ababa City Public Hospitals, Ethiopia, in the year 2015.

Methods: A cross-sectional study with internal comparison was conducted throughout the period October-December, 2015. Sample was chosen by simple random sampling technique by taken the lists of Nurses from human resource departments as a sampling frame. A well-structured, pre-tested and self-administered questionnaire was used to collect quantifiable information. The questionnaire included socio-demographic, back pain features, consequences of back pain, work-related and psychosocial factors. The collected data was entered in to epi info version 3.5.4 and was analyzed by SPSS. A probability level of 0.05 or less and 95% confidence level was used to indicate statistical significance. Ethical clearance was obtained from all respected administrative bodies, Hospitals and study participants.

Results: The study included 395 Nurses and gave a

response rate of 91.9%. The mean age was 30.6 (± 8.4) years. Majority of the respondents were female (285, 72.2%). Nearly half of the participants (n=181, 45.8% (95% CI (40.8%- 50.6%))) were complained Low Back Pain. There were statistical significant association between Low Back Pain and working shift, physical activities at work; sleep disturbance and felt little pleasure by doing things.

Conclusion and Recommendation: A high prevalence of Low Back Pain was found among Nurses working in Addis Ababa Public Hospitals. Recognition & Preventive measures like providing resting periods should be taken to reduce the risk of Low Back Pain in Nurses working in Public hospitals.

Keywords: LBP Risk factors, Low back pain, Nurses, Work-Shift, and Public Hospitals









ESOT & SIGN twin Meeting Organizing Committee.

Thank you



Many Meetings.....it was very toush this year

Thank you



CASE REPORT

Case Report: Freeman-Sheldon Syndrome ; Cure hospital, Addis Ababa, Ethiopia, Jan 2017

Nardos Worku MD, Jim Turner MD

Introduction

Freeman-Sheldon Syndrome (FSS) is a rare congenital disorder with facial and skeletal abnormalities secondary to a generalized myopathy¹. This syndrome was first described by Ernest Arthur Freeman (British orthopedic surgeon, 1900-1975) and Joseph Harold Sheldon (British physician, 1920-1964) in 1938, involving certain skeletal malformations with facial characteristics². Until 1990, sixty-five cases have been reported³. It usually occurs in sporadic form but as autosomal dominant, and rarely autosomal recessive cases have also been reported. 26 out of 28 cases showed mutations in embryonic myosin heavy chain 3 (MYH3) This particular is active before birth and is important for normal muscle development⁴.

Both sexes are affected equally. The majority of those that are affected have normal IQ, although an association with mental retardation has been reported, especially in cases with combined prominent structural anomalies of the central nervous system. It is usually diagnosed at birth but with a positive familial history, it can be detected by ultrasonography at 20 weeks of gestation.⁵ FSS is also known as distal arthrogryposis type 2A (DA2A), craniocarpotarsal dysplasia (or dystrophy), craniocarpotarsal syndrome and Windmill-Vane-Hand syndrome. There are three forms of Distal arthrogryposis; DA1, DA2A, DA2B. Distal arthrogryposis without additional features is known as DAType 1 (DA1) DA1 is the least severe; DA2B is more severe with additional features that respond less favorably to therapy. DA2A (Freeman-Sheldon syndrome) is the most severe of the three, with more abnormalities and greater resistance to therapy^{6,7,8}

The syndrome is usually diagnosed by clinical examination of an affected newborn infant. Birth history

often reveals breech position. Not all of the features are necessarily present in a single patient. There are pathognomonic skeletal and facial features. It was previously known as the whistling face syndrome due to facial muscle contraction or fibrosis and microstomia; the latter sign often leads to difficulties in oral hygiene and dental treatment.⁹

Facial characteristics include deep-sunken eyes with hypertelorism, blepharophimosis, epicanthal folds, ptosis of eyelids, and strabismus. A small nose with bent alae, wide nasal bridge and dimpled or grooved chin is also evident. Other signs include trismus, long philtrum, high palate, absent or hypoplastic tongue and limited palatal movement; these abnormalities lead to nasal speech and difficulty in swallowing.⁹ Aspiration is a concern during the neonatal period. The contracted facial musculature and soft tissues lead to an unusual modelling of the chin and demarcated by vertical furrows on either side. Abnormal mandibular development may also occur. Dolichocephaly is usually seen and the associated general myopathy results in a number of abnormalities: a short neck, kyphoscoliosis and restrictive lung disease are prevalent and the limbs often develop contractures. In the upper limb, ulnar deviation of the wrist and flexion contractures of the fingers can occur. In the lower limb, flexion contracture of the hips and knees are commonly seen and, talipes equino- varus, vertical talus and flexed toes can be evident.¹⁰

The muscle myopathy can also cause muscle rigidity and hyperthermia following halothane anesthesia¹¹ there is an increased incidence of pectus excavatum and spina bifida occulta in FSS. Other associated abnormalities include inguinal hernia and incomplete descent of the testes.

Treatment consists of nutritional support in the infant combined with corrective surgery in the child and adult. The deformities are very much resistant to therapeutic stretching and serial casting.

It has been reported that there is improvement of the manifestations on reaching adult age.¹² More recently

Malkawi et al.^w have suggested that early surgery, especially of the hand of the affected child, may improve the outcome of the deformities. Kyphoscoliosis, as in idiopathic scoliosis, develops with growth of the child and commonly presents in the teenager when it may require surgical treatment. Microstomia remains into adulthood and, by reducing the oral aperture, presents difficulties to both the dentist and the anesthetist. Difficulty in endotracheal intubation and predisposition to malignant hyperthermia and frequent respiratory tract infection increase anaesthetic risk. Early corrective surgery of the deformities can result in the patient leading a normal life with normal expectancy although recurrence is common.

The aim of this case report is to discuss this extremely rare syndrome and provide a brief review of literature.

Case Report

A 17 day old female neonate was referred to a tertiary establishment with B/L foot deformity, feeding difficulties and facial abnormalities. Following onset of spontaneous labor, the infant was born at term by vaginal delivery; with a birth weight of 2000gm. Mother is a 25 years old primigravida Ethiopian woman with unre-

able
ical
ob-
his-
There
histo-
terato-
drug
radi-
expo-
or sub-
abuse
tenatal
All
family
bers
and

mark-
med-
and
stetric
tory.
was no
ry of
genic
or
ation
sure,
stance
in an-
period.
other
mem-
are fit
well.



Figure 1 showing mask-like face, prominent cheek, camptodactyly, microstomia & puckered lips (whistling face), Y shaped dimple and prominent nasolabial fold

With normal fontanelles, she had a mask-like face, prominent cheeks, broad nasal cartilages, ptosis, microstomia, puckered lips and prominent nasolabial folds. A long philtrum, high arched palate, micrognathia, a small tongue and a Y shaped dimple were also evident (Figure 1). Distal limb abnormalities were present with fixed ulnar



Figure 3 pelvic x ray of the patient

deviation and dorsiflexion of left wrist (wind vane deformity) & left side campgodactyly of the 3rd and 4th digits. Limited abduction

of the hips, contracture of both knees and severe rigid equinovarus feet were also revealed (Figure 2). Examination of other systems was unremarkable. Xray of the pelvis showed mild lumbar scoliosis

Based on these physical findings a diagnosis of Freeman Sheldon syndrome was made.

Discussion

Our case is diagnosed on the basis of medical history and physical examination. She is currently on Ponseti conservative management.

Freeman-Sheldon syndrome (FSS) or distal arthrogryposis type 2AFSS (DA2A) is a unique DA syndrome with physical features and a history that distinguish it from all other multiple congenital contracture disorders. Nevertheless, most cases of FSS are misdiagnosed. This syndrome should be differentiated from other arthrogrypotic syndromes, Schwartz-Jampel syndrome and Trismus pseudo camptodactyly syndrome.

In March 2006, Stevenson et al. published strict diagnostic criteria for distal arthrogryposis type 2A (DA2A) or Freeman-Sheldon syndrome. The diagnostic criteria for classical FSS comprise the presence of ≥ 2 of the major clinical manifestations of DA (ulnar deviation of the wrists and fingers, camptodactyly, hypoplastic and/or absent flexion creases, and/or overriding fingers at birth, talipes equinovarus and calcaneovalgus deformi-

ties, a vertical talus, and/or metatarsus varus) plus the presence of a small pinched mouth, prominent nasolabial folds and Y or H-shaped dimpling of the chin.⁸ The neonate reported here fulfills the criteria for FSS.

There is no standard management protocol. The foot and hand abnormalities require conservative and operative measures but successful correction is limited. This often leads to multiple, extensive orthopedic and plastic reconstructive procedures ¹⁴

The mainstay of management of distal arthrogyposis includes improved joint mobility with the help of physiotherapy, splinting and orthopaedic surgery if necessary. The contractures are usually non progressive but recurrence of deformities with growth is frequently seen. Corrective surgery is strongly recommended before 1 year of age for best results. ¹⁵

The prognosis of an infant with arthrogyposis will largely depend on underlying cause, presence of associated syndrome, and the pathologic process. Long-term outcomes have been satisfactory in majority of these children but nearly 35–40% of all infants with multiple congenital contractures die during the neonatal period or infancy. ¹⁶Deformities are stiff and often recur after adequate correction¹⁷ Parental counseling regarding the prognosis, recurrence risk and prenatal diagnosis in subsequent pregnancies is important.

References

1. Laishley RS, Roy WL. Freeman Sheldon syndrome: report of three cases and the anaesthetic implications. *Can Anaesth Soc J.* 1986;33:3,388-93 (<https://www.ncbi.nlm.nih.gov/pubmed/3719442>)
2. Freeman EA, Sheldon JH. : Crano-carpotarsal dystrophy: Undescribed congenital malformation. *Arch Dis child* 1938; 13: 277-83.
3. Sedano HO Crano-Carpo-Tarsal dysplasia, whistling face type. In: Buyse ML (ed.) Birth defects encyclopedia, 1st ed. Cambridge: Black well Scientific publication; 1990, pp 456-7
4. Jorde LB, Carey JC, Bamshad MJ. Mutations in embryonic myosin heavy chain (MYH3) cause Freeman-Sheldon syndrome and Sheldon-Hall syndrome. *Nat. Genet.* 2006;38(5):561–5
5. Bijumon, Johns DA. Freeman-Sheldon syndrome: A dental perspective. *J Indian Soc Pedod Prev Dent* 2013; 31:184-7.
6. Hall JG, Reed SD, Greene G. The distal arthrogyposis: delineation of new entities-review and nosologic discussion. *Am J Med Genet* 1982 11: 185-239.
7. Bamshad M, Jorde LB, Carey JC. A revised and extended classification of the distal arthrogyposis. *Am J Med Genet* 1996; 65: 277-81.
8. Stevenson, DA, Carey JC, Palumbos J, Rutherford A, Dolcourt J, Bamshad MJ .Clinical characteristics and natural history of Freeman-Sheldon syndrome. *J Pediatr*, 2006; 117: 754-62
9. Jones KL. Smith's recognizable patterns of Human Malformations 6th ed. Elsevier Saunders; 2006
10. SaukJJ, Delaney JR, Reaume C, BrandjordR, Witkop CJ. Electromyography of the oral-facial musculature in craniocarpal tarsal dysplasia (Freeman-Sheldon syndrome). *Clin Genet* 1974; 6: 132-7. 3
11. Sung SS, Brassington AM, Grannatt K, Rutherford A, Whitby FG, Krakowiak PA et al. Mutations in genes encoding fast-twitch contractile proteins cause distal arthrogyposis syndromes. *Am J Hum Genet.* 2003;72(3):681-90 (<https://www.ncbi.nlm.nih.gov/pmc/articles/1259260/>)
12. Fraser FC, Pashayan H, Kadish ME. Crano-carpotarsal dysplasia - report of a case in father and son. *JAMA* 1970; 211: 1374-6
13. Malkawi H, Tarawneh M. The whistling face syndrome, or craniocarpotarsal dysplasia. Report of two cases in a father and son and review of the literature. *J Pediatr Ortho* 1983; 3: 364-9.
14. Orphanet. Freeman-Sheldon syndrome. Orphanet encyclopedia 2005:1-3 (<https://www.orpha.net/data/patho/GB/uk-FreemanSheldon.pdf>).
15. Vank J, Janda J, Amblerová V, Losan F. "Freeman-Sheldon syndrome: a disorder of congenital myopathic origin?" *J Med Genet* 1986; 23: 231-6.
16. Praveen Kumar, Barbara K. Burton. *Congenital malformations, Evidence based Evaluation and Management.* 1st edition; 2008.
17. Macleod P, and Patriquin, H. The whistling face syndrome crano- carpo-tarsal dysplasia. *Clin Pediatr*; 13: 184-9.



CASE REPORT

Case Report: Gollop-Wolfgang Complex in an 18 years old female ; Cure hospital, Addis Ababa, Ethiopia, Dec 2015

Seid M. Yasin, MD; Orthopedic Surgery Resident at Black Lion Hospital, AAUMF

Abstract

Skeletal dysplasias are disorders associated with a generalized abnormality in the skeleton. The Gollop-Wolfgang complex (GWC) is a limb deficiency disorder and an unusual limb malformation with highly variable manifestations.

Here, we report a rare case of an 18 years old female patient from Ethiopia with Gollop-Wolfgang Complex showing bifurcation of the left femur, bilateral hemimelia and ectrodactyly of the ipsilateral foot. The etiology of GWC in this patient could be a familial genetic condition, since she had a younger brother with tibial hemimelia and cleft hand.

The clinical, radiographic findings are presented here in detail.

Introduction

Skeletal dysplasias represent generalized disorders of cartilage and bone.

Skeletal dysplasia, affecting around 4 million people worldwide is a heterogeneous group of more than 200 disorders, characterized by abnormalities of cartilage and bone growth - resulting in abnormal shape and size of the skeleton and disproportion of the bones. A cumulative international incidence of at least 1:5000 newborns has been estimated.

Gollop-Wolfgang Complex (GWC) is a rare congenital limb anomaly characterized by tibial aplasia, ipsilateral bifurcation of the thighbone and ectrodactyly. Very often, the anomalies of limbs, heart, digestive and urinary tracts and the lumbosacral vertebrae are also affected.

Ectrodactyly involves the deficiency or absence of one or more central digits of the hand or foot and is also known as split hand/split foot malformation (SHFM). The term ectrodactyly has been applied to a variety of

malformations of the fingers or toes. But it is probably best reserved for:

transverse terminal aphalangia (absence of the last bone in the finger or toe), adactyly (total absence of a finger or toes), or acheiria (total absence of one or both hands).

In 1980, Gollop et al. described a case of two brothers with ectrodactyly and unilateral bifurcation of the femur, absence of both tibiae and monodactyly of the feet. In 1984, Wolfgang reported a case of right femoral bifurcation and absence of tibia and bilateral central defects of the hand. Endo et al. found a total of 12 reported cases and added the case of a Japanese girl with a unique form of this malformation complex. Both hands and feet were involved and the involvement was bilateral.

The etiology of GWC is most likely an error in the complex genetic control of limb development but the exact cause is still unclear. GWC is listed as a “rare disease” by the United States Office of Rare Diseases [ORD] of the National Institute of Health [NIH] and the approximate incidence is 1 in 1000,000

The best treatment option for patients with Gollop-Wolfgang syndrome is early knee disarticulation and resection of the protruded bifurcated femur, followed by fitting of a modern prosthesis, foot centralization, tibiofibular fusion with partial tibial hemimelia, and fibular transfer (Brown's procedure) with complete tibial hemimelia, and callus distraction lengthening in one limb.

Case presentation

An 18 years old female, 9th grade student from Ethiopia, born to a 46-year-old lady, at full term by SVD, presented with limb deformities which included two prominences at her left knee and a short, deformed ipsilateral leg. She also has deformities in the contralateral leg for which she can't walk on her legs but uses her hands to lift her body and move around. She performs well at school and has better than average scores.

There was no history of exposure to radiation, pre-

natal teratogenic medications or infections during pregnancy. The mother did not smoke or drink during pregnancy. The child was breast-fed with good appetite for one year. She has a younger brother with bilateral cleft hands and right leg tibial hemimelia. No other family members are affected. The following pictures are radiographic images of her only affected brother's both upper extremities and right leg:



Fig 3: Tibial hemimelia of the right lower extremity (younger brother)



Fig 1: cleft hand of the left upper extremity (younger brother)

Fig 2: Cleft hand of the right upper extremity (younger brother)

Coming back to our patient, her physical examination revealed deformed left thigh, knee, leg and foot (fig 4 & 5):

- Deformed left femur with two prominences at the knee
- Short, inverted and hypoplastic foot with absent 2 central digits
- Patella couldn't be localized
- Fixed flexion deformity of the knee at full flexion (both active and passive)
- Absent quadriceps function
- Distally, she has good capillary filling and sensations are intact

Right foot is flat, internally rotated, and is with rigid equinovarus deformities (fig 4 & 6).

She has normal upper extremities and normal trunk and pelvis. No cardiac or spinal anomalies identified. Radiographic images showed bifid left femur with ipsilateral tibial agenesis (Figure 6); intact fibula; absent left patella and absence of left foot's 1st and 2nd central digits along with their

corresponding metatarsals; there is fusion of 3rd and 4th metatarso phalangeal joints and a single phalanx emerging out of this fusion.

Radiographic images of the right lower extremity

Page [30]

showed distal tibio fibular diastasis.

Conclusion:

In summary, our patient has: Bifurcated left distal femur + absent left patella + fixed flexion deformity of the left knee + ipsilateral Jones' Ia tibial hemimelia + ipsilateral absent central digits of the foot + contralateral Jones' type 4 tibial hemimelia + deformed right ankle and flat foot + bilateral rigid equino varus deformity of the feet.

She has a family member (younger brother) with right side tibial hemimelia and bilateral cleft hands. No other family members are affected.

There were no additional associated abnormalities like cleft lip/palate, tibial agenesis, visceral or cardiac anomalies seen in this patient.

This case with the above combination of typical GWC (Gollop Wolfgang Complex) and additional features of bilateralism of leg deformities and the presence of a limb anomaly in a close family member calls for further researches in this rare anomaly especially with regard to its possible familial nature.

References

1. D Pandey, M Pai, J Nambiar, L Lewis, V Pandey: Gollop-Wolfgang Complex - A Rare Limb Deficiency Syndrome: Case Report And Review Of Literature
2. Wada A, Nakamura T, Fujii T, et al.: Urano N, Yanagida H, Takamura K, Taketa M, Oketani Y, Kubota H: Limb salvage treatment for Gollop- Wolfgang complex (femoral bifurcation, complete tibial hemimelia, and hand ectrodactyly). *J Pediatr Orthop B*. 2013; 22(5): 457–463. PubMed Abstract | Publisher Full Text
3. Ihtesham A. Qureshi, Rohit Kumar Gudepu; Ravikanth Chava, Sravya Emmani, Syed Husain Asghar, Mohtashim A.Qureshi, Nimmathota Arlappa; Case report: Gollop-Wolfgang complex in a 5 month old baby; 23 Dec 2014, 3:315; pub med abstract
4. Ali Akin Ugras, MD; Ibrahim Sungur, MD; Ersin Ercin, MD; Mustafa Fahmi Akyildiz, MD: Tibial Hemimelia and femoral bifurcation
5. Nlandu A, Docquier PL: Gollop-Wolfgang complex: an alternative to amputation; Pub Med, Publisher Full Text
6. Raas-Rothschild A, Nir A, Ergaz Z, et al.: Agenesis of tibia with ectrodactyly/ Gollop-Wolfgang complex associated with congenital heart malformations and additional skeletal abnormalities. *Am J Med Genet*. 1999; 84(4): 361–364. PubMed Abstract | Publisher Full Text
7. EA Orimolade, IC Ikem, LM Oginni, AO Odunsi: Femoral bifurcation with ipsilateral tibia hemimelia: Early outcome of ablation and prosthetic fitting; *Nigerian Journal of Clinical Practice*; Oct-Dec 2011 Vol 14 Issue 4
8. Weber M. New Classification and Score for tibia hemimelia. *J child orthop*, 2008; 2:169-75.
9. David Jones, John Barnes, G C Lloyd Roberts: Congenital Aplasia and dysplasia of tibia with intact fibula, classification and management; Vol 60-B No1, Feb 1978, England
10. EA Orimolade, IC Ikem, LM Oginni, AO Odunsi: Femoral bifurcation with ipsilateral tibia

hemimelia: Early outcome of ablation and prosthetic fitting; 14-Feb-2011; *Nigerian Journal of Clinical Practice* Oct-Dec 2011 Vol 14 Issue 4

Fig 4: A picture of the lower extremities of our patient

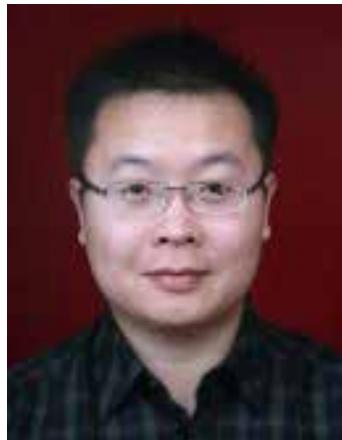


Fig 5: Radiographic image of the left lower extremity of our patient



Fig 6: Radiographic image of the right leg and foot of our patient





The Clinical Application of PFNA in CHINA

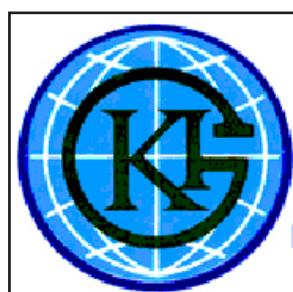
Dr. Zhang Xiangdong

Abstract:

With the growing percentage of citizens at more than 60 years old, China is likely to become an aging society. So the number of patients with intertrochanteric fracture is increasing. The advantages of PFNA enable it to be widely used in China. Therefore, the operation indications for PFNA, the matters needing attention in the operation and the new development of PFNA in China will be introduced.



Zydus
dedicated to *life*





AO Alliance Foundation and ADFA Support for the Orthopedic Nurses was Astonishing!

Eyerusalem Amanu Legesse
Tikur Anbessa Specialized Hospital

AOAF national course Chair for ORP

The start of Year 2017 was so great that came with the dream come true event, In February 6-17,2017 our longtime supporter / partner ADFA experienced team visited Tikur Anbessa Hospital department of Orthopedics gave in-service training for 42 orthopedic ward nurses in two groups which was a great success!

The goal of the training was to update the nurses so that their practice will be based on evidence and improve the care of patient with orthopedic problem. The department of Orthopedics and ESOT were there to support the trainees in any way possible.

The same training has been given to Bahirdar Felege Hiwot Hospital and Hawassa Referral Hospital in February and August 2016 respectively.

Such kind of training and refresher courses are known to play an important role in keeping people on the right track as well as to improve quality of care provided to patients.

Then in April 08-14 2017 AO alliance foundation organized course for residents and operating room nurses on basic principles of fracture management.

AOAF Course for nurses was held in Dessalegn hotel 37 participants were invited from all over the country. Hawassa, Bahir dar, Mekele and Desse hospital are amongst the hospitals who send their OR nurses to be trained and acquire the knowledge and skills needed to run a smooth standardized orthopedic operating theater and deliver the best practice.

As per the agreement with AOAF such kind of courses are held annually in order to enhance and support the trauma care in Ethiopia. So far the foundation has been giving these courses since December 2012 and more than 100 nurses has been trained, several fellowship has been given to for four nurses, hopefully will continue doing so.

In the near future the plan is to make Tikur Anbessa sp. Hospital orthopedic operating theater as a center of excellence and host those fellowships for our colleagues from district hospitals.

AOAF basic courses are known for their concrete content and excellent organization which has a strong principles in fracture management.

For all the achievements regarding educating nurses, advocate of the Patient and extra hand of the surgeon, for all the support to warm heartfelt gratitude's goes for those two foundations Australian Doctors For Africa and AO Alliance Foundation!

Pic #1. AOAF course participant

#2 ADFA in-service Training Group #3 AOAF course participants during practical session





Epidemiology of acetabular and pelvic ring injuries at Black Lion Hospital

Samuel Hailu¹, Sandra L Hobson², Fre Alemsegid³, Samrawit Esayas⁴

^{1,3,4} Department of Orthopaedics, Addis Ababa University

² Department of Orthopaedics, Emory University

Morbidity and mortality from accidents and injuries remain a significant problem today, especially in countries with fewer road traffic safety measures. Although rarer than appendicular injuries, pelvic ring and acetabular injuries can be life-threatening or result in major disability. Epidemiologic data for pelvic ring and acetabular injuries remains sparse worldwide. We investigated the burden of acetabular and pelvic ring injuries treated at Black Lion Hospital during a one-year period in 2016. Specifically, the incidence of pelvic ring injury was 162 fractures in 162 patients, acetabular fractures was 73 fractures in 71 patients, combined acetabular and pelvic ring fractures was 11 fractures in 11 patients, and spino-pelvic dissociation was 5 fractures in 5 patients. Acetabular fractures were further classified into anterior family (4 fractures, 5.5%), transverse family (37 fractures, 50.7%), posterior family (23 fractures, 31.5%), and associated both column (9 fractures, 12.3%). High-energy pelvic and acetabular trauma disproportionately affected men, with males comprising 74% (183

of 249 patients) of injured patients. One study in an Australian population reported an incidence of high-energy pelvic ring fractures at 10 per 100,000 persons, whereas our data reports an incidence of high-energy pelvic ring fractures treated in the Addis Ababa area at significantly lower rate. We hypothesize that the lower incidence of reported high-energy pelvic ring injuries compared to the Australian data is likely due to failure of patients to present to an appropriate provider, failure of providers to diagnose injuries accurately, and failure of timely transfer to a tertiary facility for definitive management. Therefore, we recommend that all providers have the highest suspicion for pelvic ring and acetabular injuries when evaluating high-energy trauma patients. Finally, timely transfer to an appropriate center for definitive management cannot be understated.

Figure 1. A case of polytrauma patient with t-type acetabular fracture in 40-year-old driver



Figure 2. A case of spino-pelvic dissociation managed with percutaneous screw fixation





We thank BLK Hospital group and CEO Mr. Naresh Kapoor



March 9, 2017 is a remarkable morning!

ESOT, ADFA & AOAF leaders had an extensive orthopedic discussion with the Minister of Health, H.E Prof. Yifru. Both International collaborators have received directions and areas to partner to improve the orthopedic care and teaching of in Ethiopia. Many deliberations were made to improve fracture care. MSK Tumor care was also on the agenda. A new assignment given is to help in testing and standardizing the soon to be manufactured implants in Ethiopia. Support to newly emerging orthopedic departments is crucial. ESOT thanks the Minister.

Dr. Mohamed Issa

The Female Athlete Triad

We Ethiopians are known for running. Esp these days we are having many female athletes they are outshining internationally, hence I wanted to share you his article. With increasing participation in sports, there has been a similar increase in sports –related injuries and associated conditions.

The female athlete triad is a syndrome that has been observed in female athletes who present with three interrelated components: disordered eating, amenorrhea, and osteoporosis. The condition is now considered as a spectrum of disorder characterized by relative dysfunction in energy availability (with or without disorder eating), menstrual function and bone mineral density (BMD).

Historical perspective

In 19192, the task force on women's issue of the American college of sports medicine (ACSM) was assembled, and the term female athlete triad was created to define the three components that characterized the condition. All three components (i.e., disordered eating, amenorrhea, osteoporosis) had to present simultaneously for diagnosis.



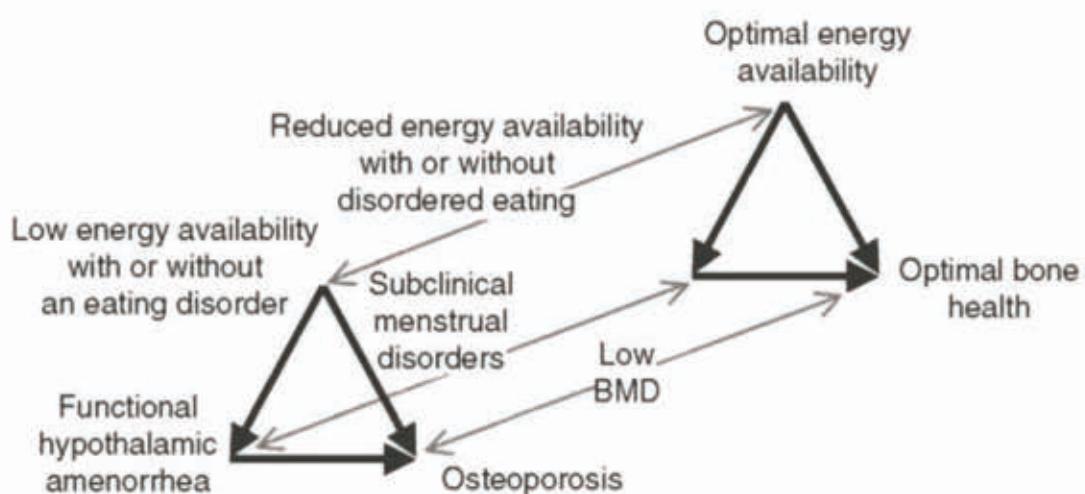
Schematic representing the initial definition of the female athlete triad. The condition was characterized as an interrelated disorder involving disordered eating, amenorrhea, and osteoporosis. All three components were required to be present for a diagnosis.

Female athletes involved in sports that require subjective judging (e.g., gymnastics, figure skating) or endurance sports that emphasize low body mass/leanness are at increased risk of developing the triad. However, it should be noted that female athletes and non-athletes participating in any sport can develop triad symptoms. Historically, the condition has been underreported because of a lack of education among health care professionals, coaches, and athletes; a failure to recognize certain components of the triad because of the variety of presentations; and a lack of athletes reporting symptoms(e.g., musculoskeletal injuries, disordered eating behaviors) to their coaches.

For prevention, diagnosis and treatment of symptoms of the triad medical professionals, coaches, parents, team-mates and others involved with athletes must be aware of the condition and its components.

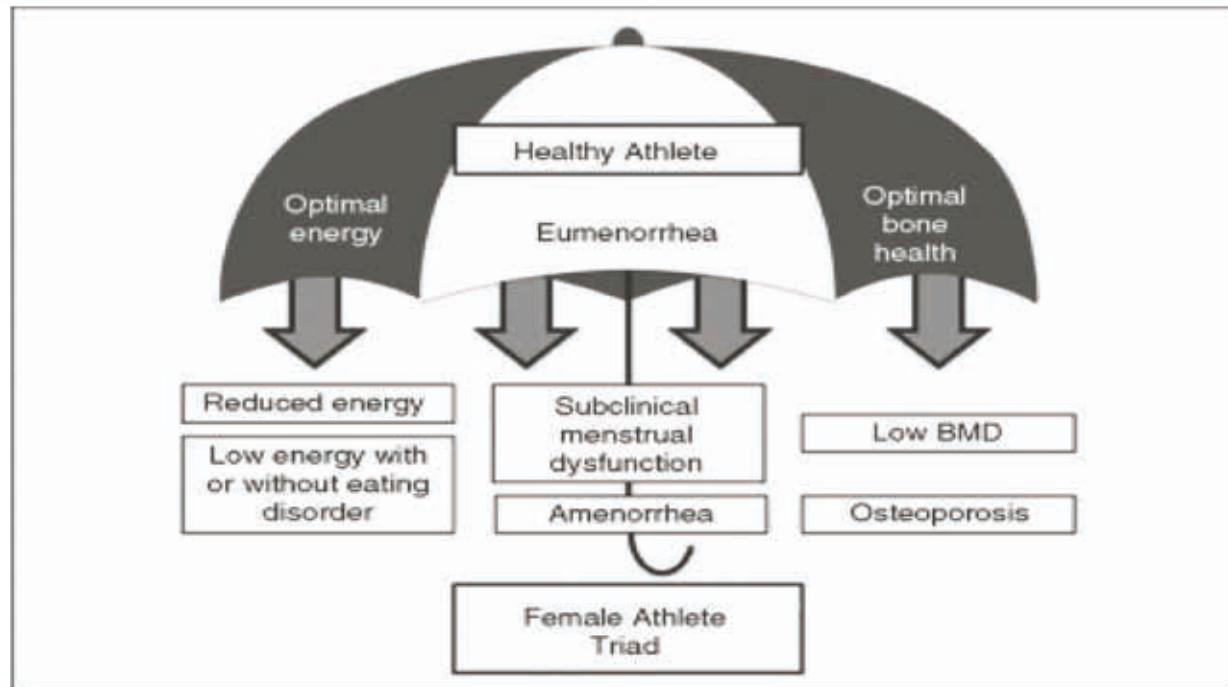
Changes in diagnostic guidelines

Based on the original triad definition, many female athletes who present with only one or two of the components of the triad may be overlooked. In 2007, the ACSM update the diagnostic guidelines, and the female athlete triad was defined as a spectrum of abnormalities in energy availability, menstrual function, and BMD.



Schematic of the components of the female athlete triad, a spectrum disorder, based on the updated 2007 guidelines. The spectrum from normal to varying degrees of pathology is shown for each component of the triad. BMD = bone mineral density (Reproduced with permission from Nattiv A, Loucks AB, Manore MM; American College of Sports Medicine: American College of Sports Medicine position stand: The female athlete triad. *Med Sci Sports and Exerc* 2007;39[10]:1867-1882.)

each of the three components is part of the a spectrum ranging from normal to varying degrees of pathology. The female athlete no longer needs to demonstrate pathology in all three components of the triad to be diagnosed with the syndrome. The presence of one or two the components on the pathologic side of the spectrum falls under the umbrella of the triad and may meet the criteria for diagnosis, promoting further assessment and evaluation for the other components.



The female athlete triad umbrella. The updated 2007 guidelines indicate that far more athletes can fall under the triad umbrella because all three components are not required to be present for a diagnosis. BMD = bone mineral density
 (Reproduced with permission from Matzkin E, Paci GM: The female athlete triad, in Mody E, Matzkin E, eds: *Musculoskeletal Health in Women*. London, UK, Springer-Verlag, 2014, pp 1-13.)

With this modification of the guidelines, the overall prevalence of triad components on their respective spectrums has increased, although the total prevalence of athletes with this condition is unknown.

In 2012 and 2013, the female athlete triad coalition converted to develop a consensus statement for triad screening, treatment and return to play. The document lists 11 risk factors that should be screened, including a history of menstrual irregularity, stress fracture, dieting, and overtraining as well as personality factors, such as perfectionism and obsessiveness. In addition the importance of early intervention was emphasized along with the need to revolutionize the currently under standardized preparticipation examinations for female athletes. The coalition proposed the use of a point system to assess athletes with risk factors for the female athlete triad during the preparticipation examination and to determine when an athlete is able to return to

Recent definition of the female athlete triad

Energy Availability

Originally known as “disordered eating,” this triad component is now termed “energy availability.” The spectrum of energy availability ranges from optimal to low. An athlete does not have to be diagnosed with an eating disorder to have the component of the triad. Low energy availability can result from inadequate caloric intake caused by pathologic caloric restriction (as in the setting of anorexia nervosa or bulimia nervosa) or by expending more energy than the body is designed for at a given time. To determine a patient’s energy availability, the amount of energy that is expended is subtracted from the amount of caloric energy consumed from diet and is divided by lean body mass in kilograms. To begin the assessment of energy availability, body mass index (BMI) should be calculated. If the BMI is, 17.5 kg/m, it is likely that the athlete

has low energy stores. In athletes with a normal BMI, it is more difficult to assess energy availability. To determine if energy availability is suboptimal, a detailed history, including diet and energy expenditure, must be elicited from the patient. Even with the most accurate history, determining availability of energy is not completely precise. Low energy availability is determined to be 45 kcal/kg of lean-body mass per day; however, energy availability $\geq 30 \text{ kcal/kg}$ of lean-body mass is associated with most of the negative effects.

Prior to sport participation, a thorough history should be obtained, including the patient's dietary behaviors, menstrual pattern, training, and subjective weight (i.e., how the athlete views her weight). A thorough physical examination is also important because certain findings should raise suspicion for low energy availability and a possible eating disorder. These findings include, but are not limited to, low body weight (BMI, 17.5 kg/m^2), bradycardia, lanugo, orthostatic hypotension, poor dentition, chipmunk cheeks (caused by swollen parotid glands from vomiting), and the Russell sign (ie, a callus on the back of a finger caused by self-induced vomiting). It should be noted that athletes who are overweight can also be energy deficient.

However, prevention of decreased energy availability aids the prevention of other health risks, including amenorrhea, low BMD, and fractures. Female athletes who suffer from disordered eating have been found to have a twofold to fourfold increased risk of developing a sports-related injury. Females who participate in a sport where being thin or lean is considered ideal are at increased risk of suboptimal energy availability or disordered eating, as defined by the original description of the female athlete triad. Athlete education about proper nutrition and energy status is crucial to prevent the negative consequences associated with the triad, particularly those involving bone and reproductive health.

Menstrual Function

Functional hypothalamic amenorrhea (FHA) associated with the female athlete triad results from an unpredictable release of gonadotropin-releasing hormone (GnRH). Prolonged exertion and weight loss have been shown to influence GnRH release, although the pathophysiology is not entirely clear.

Estrogen plays an important and complicated role in the physiology of BMD and bone formation. Estrogen inhibits bone remodeling and bone resorption, which then increases and enhances bone formation. In an estrogen-deficient state, BMD is decreased, thus leading to an increased risk of fragility fracture. The high prevalence of menstrual dysfunction in athletes with a stress fracture is not surprising considering the direct effect of estrogen on BMD.

The mainstay and cornerstone of treatment of FHA is to increase energy availability through nutrition/caloric intake to normalize the secretions of luteinizing hormone and follicle-stimulating hormone. Hormone replacement therapy and oral contraceptive pills (OCPs) have been used in the past as a first-line treatment for athletes with amenorrhea, but a significant benefit has not been demonstrated in this population. A female athlete with menstrual dysfunction (e.g., FHA, oligomenorrhea, subclinical amenorrhea) should be assessed for other components of the triad.

Bone Mineral Density

The spectrum of BMD includes osteoporosis but also encompasses reduced BMD because of its role in increased risk of injury in female athletes with the female athlete triad. Younger female athletes must understand that, for most women, 90% of peak BMD is reached by age 18 years and that the greatest level of accrual is between the ages of 11 and 14 years. To obtain optimal BMD, adequate nutrition (ie, protein, calcium, and vitamin D consumption; moderate physical activity with weight-bearing exercise) is required. After the peak BMD has been reached, it may only be lost or maintained. It is crucial that athletes possess this knowledge so that they can build and maintain BMD during these years to optimize bone health. The overall prevalence of low BMD among athletes is unknown and varies by study depending on the method of evaluation.

DEXA is the diagnostic modality of choice for evaluation of BMD.

Treatment of low BMD depends on the underlying cause. Exercise and adequate nutrition are important for treatment and prevention. Weight-bearing and dynamic exercises have a positive effect on bone formation and BMD, especially in premenopausal females.



Calcium and vitamin D supplements may be desirable in some cases. The recommended amount of calcium and vitamin D intake for adults is 1,000 mg and 600 to 800 IU, respectively. It is also prudent to screen for other factors that may accelerate bone loss, including corticosteroid use, regular alcohol consumption, cigarette smoking, protein deficiency, and hyperthyroidism.

Conclusion

As female participation in sports continues to increase and become more competitive, it is important to prevent, diagnose, and manage the components of the female athlete triad in athletes. Pharmacologic treatment was used to restore menses and was believed to halt loss of BMD. However, the use of pharmacologic therapy has fallen out of favor, and the current mainstay of treatment is to increase energy availability, which leads to the resumption of menses and halts additional bone loss. Because the definition of the triad has been modified to that of a spectrum disorder, index of suspicion plays an important role in diagnosis during the assessment of a female athlete. Although the female athlete triad poses a great health risk, the benefits of participation in sports significantly outweigh the risks.

Any athlete who falls under the so-called umbrella of the triad should be questioned and educated regarding all of the components and potential health risks of this condition. By preventing premature bone loss in young female athletes, we can prevent future fragility fractures. Education of athletes is crucial to prevention. If athletes can understand the importance of optimal energy availability and how it directly affects bone and reproductive health, the pathology associated with the components of the triad may be avoided.

Coaches, athletic trainers, and healthcare providers should also be educated about the female athlete triad to detect and recognize its components before athletes reach the pathologic end of the spectrum. A thorough history and physical examination by a healthcare provider is also prudent in discovering if a female athlete is at risk for developing any of the pathologic entities of the triad. Treating this cohort of athletes is a multidisciplinary effort. First, educating the athlete must be an integral component of the treatment plan. Healthcare providers such as orthopaedists or primary care physicians should be involved. A mental health provider is

essential for treating athletes with disordered eating. A registered dietitian also plays an integral role in treatment given that most of the negative effects associated with the triad originate with low energy availability. Further research is needed to determine the true prevalence of the triad and identify which females are at risk. Awareness levels among athletes, coaches, and healthcare professionals should be assessed to determine where education is needed most. A patient may present with any of the components of the triad; therefore, an awareness of these components among all involved in the care of female athletes is prudent.

Cataflam
Ibuprofen potassium

FAST ACTIVE PAIN RELIEF

MIGRAINE¹
Significant pain relief starting from 15 minutes²

DYSMENORRHEA¹
An effective, well-tolerated treatment for dysmenorrhoea³

DENTAL PAIN¹
Effective pain relief following dental surgery⁴

MUSCLE PAIN¹
The inflammatory response due to trauma in the musculoskeletal tissue contributes significantly to the pain. Cataflam quickly reduces this pain and the underlying inflammation promoting early recovery.^{5,6}

ENT¹
As add-on therapy in acute ear, nose & throat infections.^{7,8}
Cataflam has a strong anti-inflammatory, analgesic and antipyretic effect, and in combination with specific antimicrobial therapy can contribute to early relief of symptoms.⁹

NOVARTIS
PHARMACEUTICALS

Cataflam
Ibuprofen potassium



ኢ.ፌ.ዲ.ሪ. ሪ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ.
የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ.
The Federal Democratic Republic of Ethiopia
Metals & Engineering Corporation

Mr. Mulu Zewdu Hailu
Ref No: 43/106/leg
Date:

6 ETHIOPIAN SOCIETY OF ORTHOPEDICS AND TRAUMATOLOGY

የ.ፌ.ዲ.ሪ.

የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ.

የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ.
የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ.
የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ.
የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ.
የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ.
የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ.



የ.ፌ.ዲ.ሪ.

- 4. አ.ፌ.ር.ፌ.ሪ. የ.ፌ.ዲ.ሪ.
- 4. አ.ፌ.ር.ፌ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ. የ.ፌ.ዲ.ሪ.
- 4. የ.ፌ.ዲ.ሪ.
- 4. የ.ፌ.ዲ.ሪ.



The AAOS Scholarship Experience

Dr. Mesfin H/Mariam, 2016

This scholarship was fully sponsored by AAOS. ESOT (Ethiopian Society of Orthopaedics & Traumatology) was communicated by Dr. Guido Marra,

Chairman, AAOS International Committee, to our President, Dr. Biruk. The application announcement and letter written was posted on our website immediately on May 16, 2016. The deadline was August 2016. (<http://ethiopianorthopaedics.org/2016/05/16/international-scholars-program>)

BTW, I advise all ESOT members to always read updates posted on our website. All Ethiopian Orthopaedic Surgeons were eligible. I have no idea how many applied from here. But I know at least four applied. ESOT wrote great recommendation letters to all applicants. I was the lucky winner and AAOS e mailed me that they have selected me. I then asked for Fundamental Course in Arthroscopy.

Events leading up to my arrival at Rosemont, Chicago have been flawless to say the least. Accommodation and proximity to the academy was perfect

I had attended few international and nationally organized workshops and skill labs before this and they were great. But this one ranks way above any of them.

When they told me it will be intense they were not exaggerating. The use of time, the close attention by faculty, the role of industry, and that OMG cadaver lab set up for Arthroscopic Motor Skills development using FAST, awesome. The whole time, I got the feeling that I am getting personal attention, not part of group of trainees. Two participants per faculty per cadaver gives unprecedented access and opportunity for a hands on experience.

The fluidity of the sessions speaks of hours of prior preparations by dedicated techs and other supporting staff. Every station well prepared beforehand, fully equipped and then some. I had to remind myself over the next days that this is not an actual operating theater.

The course content even though fundamental, packed all possible diseases involving knee and shoulder both lectures and lab sessions, which took most of the time. I got to actually perform procedures on every

session multiple times, which greatly showed in my improvement. All time, being assisted by willing faculty.

State of the art equipment and material delivered into our hands at a moment's notice by industry techs leaves one open mouthed. We got to handle and actually use stuff we only saw in text books or promotional videos.

Knot tying lecture and practice sessions will be memorable and useful. Some impediment I noticed includes awkwardness between trainees assigned on the same table, which tends to waste valuable time. Failure by faculty to notice this early and start things moving quick,

not to be passive. Some simply ignore the program partially and proceed as they wish.

THE “OBSERVERSHIP”

As I expected working on cadaver is a whole lot different than observing arthroscopy on patients inside a highly regarded top hospital in San Francisco. It also proved to me observing from a distance can be educating. Even though intruding into the actual OR is at times awkward or tense, it might get easier over time. If there is a lot of time. Which there is not.

A well regarded surgeon working with familiar team teaches best. Also from observers point of view spending a lot of time in clinics might not be avoidable but they take away the chance of observing.

I have learned a great deal with the operations. The patients were great. I only wished for some more. in one week several ACL reconstructions, a couple of PCLs, rotator cuff repairs, shoulder impingements, hip scopes, SLAP and meniscectomies were done, there is no such thing as cancellation, The busy attending surgeon adds more stress, responsibility, time away from family. And the sacrifice did not stop there in the case of Dr. Gayle who is a respected doctor. He ferries, feeds, smoothens the way into the operating rooms for me, and I am grateful for all he did.

Now I am back home to share this with you. On behalf of my country Ethiopia, ESOT, the mother Orthopaedic Department, my patients and students, I thank the Academy to give this chance.



SIGN



FRACTURE CARE
INTERNATIONAL

2016
Achievements

30 New
Programs

3 SIGN
Conferences

26,028
Nails Shipped

180,000+
Patients Healed



2016 at SIGN:

January Uganda Trip



SIGN visited Dr. John Ekure, who opened Kumi Orthopaedic Center to give back to his community. They supported his education following the death of his mother.



July Patient Healed



Angelo smiles with SIGN Surgeon Jun Valera after his successful surgery. Angelo's leg was broken in a motorcycle accident, and he was told his leg would have to be amputated. SIGN Surgery saved his leg and gives him hope for a bright future.

February FDA Clearance



FDA gives clearance for the use of compression screws to treat femoral neck fractures.

August Six Programs Added



In August, SIGN opened new programs in hospitals in Ethiopia, Dominican Republic, Kenya, Cambodia, and two in Myanmar. The above photo is the 700 Bedded Military Hospital in Pyin Oo Lwin, Myanmar.

March New Programs



From January through March, SIGN opened eight new programs in eight countries: Haiti, Tanzania, Philippines, Kenya, Ghana, Ethiopia, Uganda, and Rwanda. Maua Methodist Hospital in Kenya performed 12 SIGN Surgeries in 2016.

September 2016 SIGN Conference



The annual conference in Richland was attended by 147 surgeons from 32 countries.

Year in Review

April

Portland Benefit



SIGN supporters gathered at the Portland Art Museum to learn about SIGN and fund SIGN Programs.

May

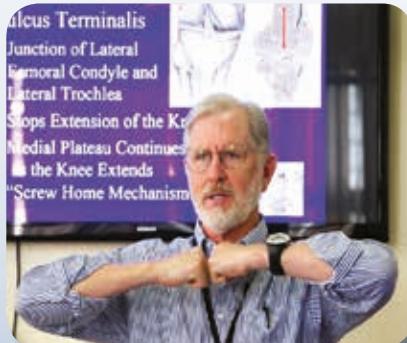
Tanzania Trip and Conference



Dr. Richard Gellman led a workshop about correcting bone deformities for SIGN Surgeons in East Africa.

June

Ethiopia Trip and Conference



Dr. Mark Purnell presented on tibia plateau fractures in Tanzania and Ethiopia.

October

OTA Conference



SIGN Surgeons Anthony Maina and Jun Valera received scholarships to attend the Orthopaedic Trauma Association conference, presented by Dr. Steve Olson, president of OTA.

November

Bangladesh Trip



Dr. Zirkle and Jeanne Dillner traveled to Bangladesh to teach SIGN Technique and meet with more than 30 healed patients and their families.

December

180,000+



In early December, SIGN reached more than 180,000 patients treated. Thank you for your support to help us reach this milestone!

NONPROFIT ORG
U.S. POSTAGE
PAID
MEDIAMAX

A SIGN of Love: Your Gift Will be Doubled!

From February 1 to 14
your gifts will be
matched!



SIGN
FRACTURE CARE
INTERNATIONAL

451 Hills Street, Suite B
Richland, WA 99354

Save the Dates

March 16

Volunteer Appreciation

March 16, noon, at SIGN.

September 21-24

SIGN Conference

In Richland, WA

October 21

Annual Benefit

In Kennewick, WA

Contact SIGN

P: (509) 371-1107



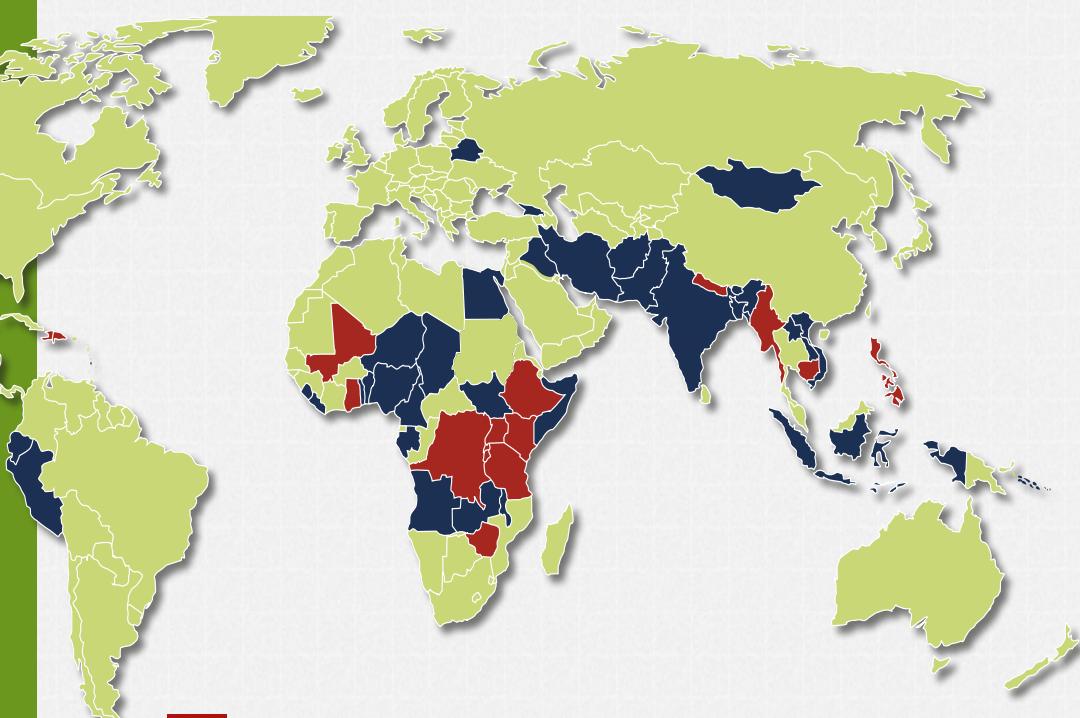
F: (509) 371-1316

info@signfracturecare.org

signfracturecare.org



*Thank you to our SIGN Family for your
generous support! You are bringing healing
to the injured poor throughout the world!*



Red Countries with new SIGN Programs in 2016
ESOT's 12th ANNUAL GENERAL MEETING

Dark Blue Countries with SIGN Programs

Tumour Surgery and Soft Tissue Reconstruction Services in Ethiopia

28 February 2017

Capital Hotel, Addis Ababa



COSEC SA
Oxford
Orthopaedic
Link



cure
ETHIOPIA



OCEANIA ORTHOPAEDICS
PTY LTD



Developing the Musculoskeletal Tumour Service in Ethiopia- the Primary Issues

Musculoskeletal Tumour Summit at the Capital Hotel, Addis Ababa 28th February 2017

Aim for the meeting:

More than thirty doctors attended this meeting in recognition of the overwhelming clinical load of patients with bone and soft tissue tumours. Their aim was to achieve a consensus on the changes in healthcare required to prevent unnecessary disability and death in these unfortunate patients.

Chairman: Dr Biruk Wamisho
Organizer and Reporter...Dr. Rick G.

IMPORTANT POINTS FROM THE PRESENTATIONS:

Summary of current situation- Dr Biruk Wamisho, ESOT President.

Black Lion experience past 30 years- 20,344 cases
6.6% orthopaedic

- o 68% of orthopaedic cases that presented were high grade/advanced/metastatic/recurrent
- o Late presentation the norm
- o 3,000 patients on the waiting list, 10% are musculoskeletal tumours
- o Some patients wait over 3 years
- o Many hospitals will refer their tumour patients to the BLH
- o 100 operative tumour cases/year currently

Reasons for late presentation

- o Patients seeking other forms of treatment- wogesha, holy water, elder advice
- o Refusal of amputation- unwelcome culturally, social ostracism, concern it may lead to a life of destitution and reliance on the family
- o Examples given of cases that showed an ini-

tially resectable condition on MRI. When admission arranged months later, tumour had progressed whereby amputation required

Paediatric oncology service- Dr Daniel's presentation:

- o 26 beds, only 2 paediatric oncologists in Ethiopia
- o Problems discussed:
- o wrong diagnosis (infection etc.)
- o lack of immunohistochemistry for correct diagnosis
- o too many patients referred for chemotherapy after amputation (not possible to assess response to Rx). Need neoadjuvant treatment.
- o No bone scan/PET scan to assess for skip lesions, mets etc.
- o IFOS not routinely available
- o Surgical delay in definitive Rx
- o Need to work together
- o Solutions suggested:
- o More trainees with fellowship training
- o Need for a Tumour Board that regularly meets
- o Further government support to develop the service

Radiology Service: Professor Daniel's presentation:

- o Problems discussed:
- o Lack of adequate information on 80% of requests
- o Lack of PET scanner
- o Poor equipment maintenance
- o Need for telemedicine for cases outside of Addis Ababa

- o 5% rejection of plain films- radiographer training needed
- o image guided biopsy service needs to be developed (note: there is a 85-90% diagnostic value to an image guided trucut biopsy)

Pathology Service: Dr Tufa's presentation:

Pathology Service: Dr. Tulas



- o Lack of specialist scans
- o Lack of immunohistochemistry- critical for correct diagnosis (between carcinomas/lymphomas/ melanomas)
- o Non representative biopsy samples- need to increase frozen sections
- o Lack of good communication between specialties
- o Need for second opinions and easy telecommunication
- o Lack of robust tumour board

Further discussion points:

- o Benefit of a clinical nurse coordinator to spend time with patients to discuss reconstructive/amputation surgery
- o Benefit of having functioning amputee to allay patient fears regarding future life and function
- o ICRC: need for good communication and referral for prosthetics after amputation. 8 of the 18 clinics in Ethiopia are sponsored by the ICRC where patients will receive free prostheses. Poor use of these clinics, stressed need for surgeon-referral of these patients

Group discussion on issues and solutions

Access to Care, diagnosis, surgical service, rehabilitation and research issues were exhaustively discussed by senior faculties in the 4 groups.

External support from University of Western Australia and University of Oxford

Could contribute to:

- o In-service, in-country training and mentorship for tumour specialists by overseas tumour surgeons
- o Orthopaedic fellowships and COSECASA-approved training courses
- o Medical oncology sub specialist training courses and support from Australian charity “Sock it to Sarcoma” to be administered through ADFA.
- o Medical oncology fellowships
- o Database Excel program with supporting documentation (already written and available)
- o Pathology fellowships

- o Radiology fellowships – particularly interventional radiology
- o Telemedicine
- o Statistical analysis of database and fusion/ comparison with external databases to facilitate the cycle of quality improvement and research
- o Operating theatre, ward and hospital protocols to reduce surgical site infections to enable safer reconstructions

Conclusions:

Tumour Board

All participants stressed the need to develop a Tumour Board at the Black Lion Hospital where essential members of the multidisciplinary team would meet on a regular basis. This team would include:

- o Orthopaedic surgeons
- o Pathologist
- o Radiologists
- o Oncologists
- o P n Os
- o Physiotherapists
- o Social workers/Psychologists

The team would review individual cases to decide on the next steps of management, coordinate care and liaise with external specialists as required. This type of regular meeting will require the support of the hospital authorities and MoH.

The following needs are currently placing barriers to improving care:

- Oncology: long waiting list on adult service and lack of chemotherapy
- Pathology: lack of immunohistochemistry analysis
- Radiology: lack of PET scanner
- Orthopaedic surgery: Need for additional subspecialty fellowship training in tumour surgery



provision of allograft for reconstructive procedures
need for a tumour nurse specialist to counsel and liaise with patients and families

The recommendations of the summit are communicated to the Minister of Health, H.E. Prof Yifru.





MSK Malignancies in ETHIOPIA: Burden, Incidence, Challenges.

Drs. Biruk L. WAMISHO¹, Ermias G. 1 and Ananya K. 1

*¹ AAU, Department of Orthopedics.

According to WHO, there is a shift of burden of disease from communicable to Non-communicable. 7 out of 10 deaths by 2020 will be due to NCDs. Included are: heart disease, stroke, cancer, diabetes and chronic lung disease, which are collectively responsible for almost 70% of all deaths worldwide. Almost three quarters of all NCD deaths, and 82% of the 16 million people who died prematurely, or before reaching 70 years of age, occur in low- and middle-income countries. The rise of NCDs has been driven by primarily four major risk factors: tobacco use, physical inactivity, the harmful use of alcohol and unhealthy diets.

Nearly every cancer from major primaries finally metastasizes to the bone, posing a challenge to an Orthopaedic surgeon. Primary and secondary Muskuloskeletal (MSK) tumors are increasing in incidence and prevalence.

At Addis Ababa University, TASH, we analyzed over 20 thousand ADULT patients with a proven malignancy! (Hematologic malignancies excluded). Sex ratio is F= 72%, Males=28% (Almost 3:1). Age Average= 45.2 Years (Range=12-95Yrs).The following primary malignancies are of Orthopaedic interest: Breast, Prostate, Thyroid, Lung, Kidney, GI, etc. Their distribution is shown on the bar chart. Major MSK Tumors account for 1348/20344 = 6.6%. PRIMARY Malignant bone tumors accounted for = 268/20433=1.3% of all tumors seen at the oncology department in last three decades. These are shown on the bar graph. 68% of the patients presented to the oncology department lately. In the last five years, 1 out of 10 patients waiting for bed/admission has MSK tumor (300/3,133).

In our study, we will share the challenges an Orthopaedic surgeon faces when handling patients with MSK malignancy in Ethiopia.

This is a huge data of three decades and from the only malignancy treating center in the country, hence it fairly represents what is going on in the country. The recommendations passed at the ‘Tumor Summit’ meeting held in our Capital this month will be shared.



LETTER

G. Walker

The early days of the Orthopaedic Training Project, Addis Ababa

In his excellent article 'A 'faranji' in Addis', published in *BJJ News* (September 2015), David Jones makes brief mention of how World Orthopaedic Concern (WOC) became involved in the creation of the Orthopaedic Training Project at the Black Lion Hospital, and is happy that I am now expanding on what he described.

I think it was in 1985 that as Secretary of the slowly developing UK region of WOC, I received a request for help with the establishment of a separate orthopaedic department and training scheme in Addis Ababa. This request for assistance originated from the then current Head of the Surgical Department at the Black Lion Hospital (BLH) in Addis, and had been forwarded to me either by the British Council or the UK government, as I was then helping the late J.N. 'Ginger' Wilson with the creation of WOC UK. I passed this letter to Ginger who undertook appropriate mildly complex negotiations with the UK government. These involved discussing accommodation, salary and the length of possible support. At first the UK government suggested that help for six months would be adequate to train the first group of Ethiopian orthopaedic surgeons. This was obviously quite ridiculous, so with the help of appropriate friends in high places, it was agreed that a new orthopaedic training project in Addis would receive UK financial help for four years, and that all the necessary administration would be managed by the British Council.

As a result, Ginger Wilson persuaded the late Reginald 'Reggie' Merryweather to go to Addis; he arrived there during January 1987 and stayed

until May 1989. During this period he was greatly helped with the establishment of the Orthopaedic Training Project by the late Dr Ron Garst, a remarkable American missionary orthopaedic surgeon who had already established an orthopaedic training scheme in Ludhiana, India. Ron Garst was a most remarkable man whom I grew to know well during my early visits in the 1970s to the training scheme he was setting up in Dhaka, Bangladesh very soon after their separation from West Pakistan in 1972. Ron was an expert in persuading relevant government and other officials to accept his suggestions, and when I arrived in Dacca five months after the war, Ron already had 150 orthopaedic beds supported by four functioning orthopaedic theatres. Ron was thus the ideal person to spend time with Reggie in Addis, and together they established a four-year training scheme which also included working in general surgery, anaesthesia and radiology.

I had agreed to follow Reggie, but as I was then moving house, Ginger Wilson and Brian Madden each spent a few months in the new orthopaedic department at the BLH until I was able to arrive in Addis early in 1990. At that time there were already two other senior doctors in the Department, Dr D.N. Singh, an Indian orthopaedic surgeon, and Dr Tesfaye Gebreyes, an Ethiopian general surgeon, who had spent some time studying orthopaedics in Edinburgh. The orthopaedic training scheme had already started with a total of 13 trainees. Four in the final of four years, five in the third year, and two in each of the second and first year. The senior year included one from the Yemen, who returned home after passing his final examination.

Unfortunately during the early years of our training scheme, the popularity among Ethiopians for becoming an orthopaedic surgeon was not as great as training as a general surgeon, but this situation has steadily improved and now there will soon be 77 orthopaedic trainees. However as there are insufficient facilities at the BLH (only 60 orthopaedic beds) for this steadily increasing number, our trainees now spend part of their four year training in four other hospitals which have active orthopaedic departments. It is pleasing that both our trainees and trainers all appreciate these additional training opportunities.

It is only fair to mention that colleagues from the USA had been visiting and teaching orthopaedics at the BLH for quite a while before the official training scheme was born. A Dr Anderson was very active in this respect, and I think that he may have been born in Ethiopia. I was able to welcome several US teachers during my time as Professor, and some of these made repeated and very helpful visits.

Although now 88 years of age, I maintain my interest in this training scheme and hope that other elderly colleagues who can remember how to use plaster and traction will continue to help to train our keen young colleagues in Ethiopia. Anyone interested should contact WOC UK – or even me.

AUTHOR DETAILS

Geoffrey Walker,
Retired Orthopaedic Surgeon, UK
Geoffreyf2.Walker@gmail.com



PROSTHESES FOR AMPUTATIONS OR AMPUTATIONS FOR PROSTHESES?

Rowan English, Prosthetist Orthotist, Education Advisor,
ICRC

International Committee of the Red Cross (ICRC)
<http://www.icrc.org/et>

More than 6000 prostheses are fitted and supplied to persons with a disability (PWD) across Ethiopia each year, within the centers supported by the International Committee of the Red Cross (ICRC). Many of these persons are successfully fitted and go on to lead successful and happy lives using a prosthesis.

When fitting a prosthesis and re-educating a person to walk with a prosthesis, it is essential that all factors impacting on the client or patient are as positive as possible. This includes the pre-operative care, surgical procedures, post-operative care, pre-fitting care, prosthetic fitting, post-fitting care, gait re-education and transition back into the home or work environment.

This presentation will discuss some of these variables, including the outcomes of surgical intervention, so the benefits to the clients are maximised.

ICRC PHYSICAL REHABILITATION PROGRAM IN ETHIOPIA

Imad Aldibee, Prosthetist Orthotist
International Committee of the Red Cross (ICRC)
<http://www.icrc.org/et>

Since 1979, ICRC has been supporting the Physical Rehabilitation Program (PRP) in Ethiopia with technical knowhow in form of formal and informal trainings, financial support, supply of raw materials and components. The PRP sector has come a long way since 1979 in terms of quality and quantity of services provided to beneficiaries (Patients).

The purpose of this presentation is to show the progress in the PRP sector, the diversity of services provided and also the challenges that it faces today. It will also shed some light on the future of PRP in Ethiopia.

After this presentation, we hope that all participants will have a clearer view on the scope of PRP services provided in the country. We also hope that it will give a clear idea on how and where to refer beneficiaries (patients) in the future.



AOAF/ADF
Fracture
Management for
Surgeons

Alliance
Foundation



06

05





Great AO-Basics workshop this year as well!

All 48 first Year Orthopedic Residents from our 4 residency training universities participated. So exciting-20 from AAU, 12 from SPMMC, 8 from BDU and 8 from MU; Brilliant youngsters! Quality residents is our agenda!

External Fixator Designed and Manufactured in Ethiopia

The METEC Initiative

Modern orthopedics service in Ethiopia started few decades back, most of the treatment in the department of orthopedics at Tikur Anbessa hospital as well as throughout the country was none operative, few surgeries were done with instruments and implants purchased or donated from abroad. The trend has been changed with time and the need for more implants and instruments increased, purchasing and donations not fulfill the demand, therefore the other option being manufacturing at home.

In 2009GC an idea of manufacturing light box for x ray reading and external fixators introduced by Dr. Fintan Shannon from Ireland. During this time, different types of external fixators both copies and new purely Ethiopian were manufactured and demonstrated to ESOT meetings by Bewketu Demisie the well-known by almost all the members of ESOT and Dr. Yiheyis Feleke orthopedic surgeon currently working at Alert hospital and **Dr. Biruk Lambisso** the current chief of ESOT. Clinical trial done successfully on patients with different fracture patterns only using standard shanz screws imported.

Now the time comes to manufacture all components including the Shanz screws in large scale by meeting all criteria's and national and international standards, and the team consists of Ato Bewketu Demise, **Dr Yihey-is Feleke and Dr Zeynu Zuber** approached the QMC, Research and development institute (EX-FIX) Modified and fully designed using the scientific Engineering methods (3D drawing, technical/detail drawing (2D), Assembly animation and the analysis of Static strength study Using SOLIDWORKS Premium 2017 and SOLIDWORKS Simulation 2017 software) and fabricate the three type of prototype in sister company (Hibrat Manufacturing and Machine Building Industry) of METEC.

Quality management center (QMC) is one of the com-

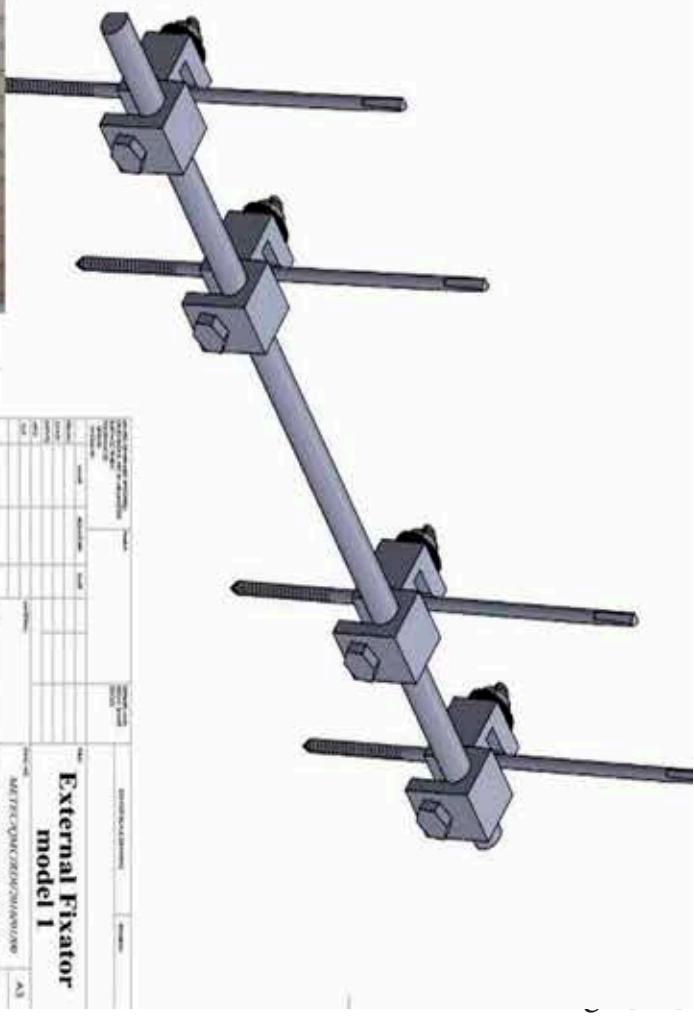
panies of the FDRE Metal and engineering corporation (METEC), which established on June 2010 to improve and increase product quality and customer satisfaction of the METEC industry and other government and private organizations, by developing new standard, adaptation, calibration and certifying the product and quality management system as well as provision of training on engineering software (CAD/CAM); quality management system ISO; 9000; 2005, maintenance and manufacturing of electro mechanical and biomedical devices. QMC also give technical advice and support, involve in research and development, innovation and upgrading of machine design, redesign and modification, works as consultant and quality supervisor from small to mega projects which being constructed in the country to accelerate the development.

The manufacturing process of the three types of external fixators is on the way using materials which meets quality standards of both biomedical and biomechanical properties.





The prototypes will be demonstrated at ESOT annual meeting. We thank all stakeholders and invite to bring new idea of development of other orthopedic and medical implant equipment we wish we can fulfill all our needs our-



WHAT A LONG DAY IN THE ALERT-OR!

Dr. Mesfin Hailemariam, MD

Department of Orthopedics and Traumatology, AAU

Respect a Haemangioma!

The patient was a 16yrs old girl who presented at the OPD of xxx hospital, complaining of a painless growth at the back of her hand, present for the last 3yrs with no significant increase in size. On examination it was soft, round, approximately 2x3cms located centrally over the 3rd and 4th metacarpals, with questionable extension towards the wrist, no attachment to the tendons. Aspiration revealed frank blood. Suspecting a haemangioma!!!

The patient was referred to ALERT. However, a well-regarded visiting expatriate orthopedic surgeon decided he could operate on her. As he was leaving shortly, he added her on the next day's OR schedule as his 4th and last case. He has to catch a flight in few hours.

Her operation started well past noon, incision over the back of the hand was quickly followed with good dissection, taking out the entire tumor. On closer look there appeared to be some extension to the back the wrist, necessitating more incision, all went well until tourniquet is released,

Torrential bleeding followed, tourniquet back on, more cauterization, more incision to the forearm more dissection in the extensor compartment some suspicious tissue removed, tourniquet off, even more massive bleeding followed, by this time more than 2hrs have gone since the procedure. Desperation looming over the OR team. It appeared that, it is one of those days, tourniquet back, more incision in the flexor compartment of the forearm, dissecting out some suspect tissue, transfusion started before tourniquet is released which is followed with heavy bleeding five hours into the operation and desperation. The visiting surgeon has to go to the airport! He is flying tonight!

Patient went into shock, prompting more IV lines. Now the surgeon for the first time talked about amputation, , Family waiting outside was informed and refused consent for amputation which forced him to suture the wound under tourniquet, apply heavy

dressing from armpit to the tip of her fingers using elastic bandages before once more releasing tourniquet. Her fingers were deeply cyanotic for the next two days, no one dared to loosen or change dressing before that.

She made full recovery. I saw her several months later with biopsy results; the growth on her hand is back. Recurrence!

The literature supports surgery if symptomatic, small and well defined. Although recurrence is high. Symptoms can be controlled with compression hose.

Asymptomatic lesions can be observed.

Some intramuscular hemangiomas are infiltrative and extremely difficult to remove except by radical means.



Treatment options include embolization or injection of sclerosing agents.

Take home messages:

- Never underestimate an operation, be fully prepared before hand for any eventuality.
- There is NO MINOR Surgery, as such!
- Discuss possible outcomes with patients or family members prior to surgery.
- Do not schedule an event, a trip, a flight or any major program ahead of a surgery.



12th AGM.

and SIGN 4th Conference

Scientific Conference & Exhibition.

**Meeting Date: March 23-24, 2017
and March 27, 2017
(SIGN with Dr.Zirkle)**

**VENUE:- Intercontinental Hotel
Addis Ababa.**

Tel: +251-0115522995 (Secretary)

Visit our website:

www.esto-ethiopianorthopaedics.org

Any sponsor is welcome!

Distal radial physeal arrest resulting in RADIAL CLUB HAND management at CURE children's ho

Consultant: Dr Rick Gardner, FRCS (Tr&ortho)

Presenter: Dr. Leul Merid

Abstract

Distal radius growth arrest is an uncommon presentation and when severe can clinically mimic radial club hand. The primary aetiologies are infection and post –traumatic growth arrest. We present a consecutive series of 6 children with this condition that have been treated with a variety of techniques including gradual distraction, joint leveling procedures (radial osteotomy and ulnar shortening) and wrist arthrodesis. We discuss our challenges and recommendations for the management of this condition.







DR PRADEEP SHARMA

EDUCATION

MCh(Orth) Jan1985 – Dec1986
University of Liverpool
United Kingdom

MS (Orth) July1974 – June1977
Post graduate Inst. of Medical Edu.
And Research Chandigarh

MBBS July1968 – March1974
SN Medical College Jodhpur
University of Rajasthan

PROFESSIONAL ASSIGNMENTS

Director & Head Sep 2015 – till present
Centre for orthopaedics,
Joint Replacement & Ortho Spine
BLK Super Specialty Hospital
Pusa Road, New Delhi

Senior Consultant Orthopaedic Surgeon Feb1991 - 14th Sep 2015
Chief Coordinator Dep't of Orthopaedics
Holy Family Hospital New Delhi

*Responsible for running orthopaedic department and trauma services of the hospital.
Also the member of, Executive Committee of the hospital. The department comprises of three senior consultants and four senior residents managing between us approx2000 patient OPD and approx. one hundred orthopaedic surgeries per month.

- My main area of interest is Joint Replacement Surgery of the Hip and Knee and Trauma Surgery. I am extensively trained abroad in all aspects of joint replacements and adult reconstructive surgery which I have been practising for more than twenty-five years. I have a specialized proficiency in Revision Surgery of the hip and knee with challenging reconstructions using modern day technology. and computer assisted technology. I have interest in uni



CURRICULUM - VITAE

| | |
|--|--|
| NAME | DR. KAPIL KUMAR |
| DATE OF BIRTH | 2nd July 1957 |
| RESIDENTIAL ADDRESS | F-3/27 Rohini sector 11 New Delhi - 110085 |
| TELEPHONE | (M) 9810065202 (O) 01130653199 |
| E-MAIL | kdrkapil@yahoo.in |
| MEDICAL SCHOOL | |
| • M.B.B.S from Medical College, Amritsar from 1974 to 1979. | |
| POST GRADUATION | |
| • M.S. (Surgery), Medical College, Amritsar passed December 1982. | |
| CLINICAL APPOINTMENTS | |
| • Internship - Medical Collage, Amritsar from January, 1979 to December1979. • House Surgeon, General Surgery, Medical Collage, Amritsar January 1980 to Dec' 1983. • Registrar, General Surgery Nanavati Hospital, Bombay from January 1983 to Feb'1983. | |
| SURGICAL ONCOLOGY APPOINTMENTS | |
| • Research Fellow - Tata Memorial Hospital, Bombay from March 1983 to August 1983. • Junior Resident- Tata Memorial Hospital,Bombay from September 1983 to August 1986. • Senior Resident- Tata Memorial Hospital, Bombay from September 1984 to August1986. | |
| RESEARCH APPOINTMENTS | |
| • Senior Research Fellow to CRIR, New Delhi, on project " Peritoneovenous Shunts in Intractable Ascites". Papers submitted to CSIR. | |



ADFA and AOAF 2017
Ethiopia activity Report by Dr. med Claude Martin Jr
Managing Director

2017 Australian Doctors for Africa / AO Alliance
Basic Principles Course for residents

Australian Doctors for Africa (ADFA) and AO Alliance (AOA) have again this year combined their commitments to helping Ethiopian orthopedic advancement in what is now the sixth year that a training course in orthopedic trauma principles and surgical skills has been run at the Black Lion Hospital (BLH) in Addis Ababa.

The course is a highly anticipated and regarded contribution to the curriculum for advanced training in orthopedic and trauma surgery in Ethiopia, and again this year has received excellent rating in feedback from participants.

The first course was run in 2012, at that stage independently by ADFA, with a faculty of only four and a little over dozen participants, which included the whole of the four years of trainees for Ethiopia at the time. Back then, training in orthopedic surgery was confined to the BLH. Over the years, we have received very positive feedback and request for more, from the participants. We have constantly modified the course based on our observations and feedback from the participants. The course was expanded to a three-day program in 2015.

The trauma training course has progressively expanded in size and adapted to other requirements with the rapid growth in trainee numbers. This year, 48 orthopedic trainees successfully completed the course which is internationally recognised by AO Foundation and AOA. This group included the whole of the first-year trainees for the country with 20 registrants from BLH, as well as 12 from St Paul's Hospital, 8 from Mekelle University and 8 from Bahir Dar University, the later institutions that have all commenced orthopedic training in the last few years.

The co-sharing of running of this event with AOA over the past two years has been greatly appreci-

ated by ADFA and faculty. This year, the whole of the resource requirements for running a three-day course including hands on workshops for internal fixation using large and small fragment sets and tension band wiring and external fixators were provided by AOA. The logistics of the shipment of training materials for sawbones, drills, instrument sets and implants is a large (and costly) exercise. The organisers and participants wish to extend their thanks to the two AOA orthopedic technicians, William Jenkins and Grant Slinger, who in good humour rapidly turned workstations around between workshops so that there was no time lost between lectures and workshop events and were trouble shooters for any problems with power tools and equipment during the course. They were also assisted in their set up by BLH operating room nurse Jerusalem and by organisational efforts of Head of Department Professor Biruk Lambisso and Dr Samuel Hailu.

Following on from the Resident's course, an AOA course for education of Operating Room nurses and Operating room personnel was run in Addis Ababa.

The faculty requirements have expanded over the years. Dr Graham Forward, founder and CEO of ADFA commented that the approach of his NGO "has always been one of engagement with and working with local surgeons, hospitals, government and community groups to achieve the greatest long term impact on improving health care and delivery to areas where Australian Doctors for Africa can be of assistance." The approach of ADFA has also been to work co-operatively with whichever other NGO's are like minded in approach. It was this that led to the co-sharing of this event with AOA after an introduction to Dr Claude Martin jr., managing director of AOA a little over two years ago. AOA is based in Switzerland, but Dr Martin spends a good deal of his year travelling to Africa and Asia, performing needs assessments and providing financial and logistical support and follow up to existing and developing new initiatives in orthopaedic and trauma education and delivery and other areas of health



needs in low-income countries (LICs).

When offered the opportunity to become involved in orthopedic teaching in Ethiopia two years ago, Dr Martin immediately accepted the invitation to attend as faculty. Impressed by what he saw, he then committed his group to continue to support this event, and that commitment has grown with the course.

“The incorporation of national and local faculty is an important part of the broader philosophy of AOA”, commented Dr Martin. “With time they (the trainees) will become the leaders in continuing that education”. In a happy twist of fate to underscore that approach of both organisations, it is an obvious measure of success that Dr. Ephrem Gebrehana attended the very first course in 2012 run by ADFA as a trainee, now 5 years later was part of faculty of this course as a trainer. The ADFA group has, with co-operation from the Minister for Health and Hawassa University help fund hospital and theatre refurbishment and supply of some basic equipment, so that Hawassa Hospital which previously had no formal orthopedic service, now has two recently graduated consultants, with Dr. Gebrehana the inaugural Head of Department of the newly developed unit.

Other NGO's active in orthopaedic surgery delivery in Ethiopia also welcomed the invitation to participate this year. “Happy to help” was the comment of Dr Richard Gardner and the obvious approach of his colleagues from CURE Hospital Ethiopia, together with visiting orthopedic surgeon Dr Babar Shafiq on his first visit to Ethiopia from Baltimore, USA.

It was great to see inclusiveness and international co-operation cut both ways. At this year's course, three first-year orthopedic trainees from South Sudan attended as participants. They expressed their gratitude for the opportunity to train in Ethiopia due to the assistance from the Ethiopian government in providing for their tuition fees. They would otherwise have not had the chance to pursue a ca-

reer in Orthopaedics.

It was a pleasure to have on Regional faculty Dr Leonard Banza, an experienced orthopedic surgeon who shared a wealth of wisdom with the trainees. Dr Banza is from Malawi, where the population to orthopedic surgeon ratio is more than 1 million to one.

There were many highlights to the event. As faculty, the greatest reward is to see enthusiasm and advancement in knowledge and surgical skills develop throughout the course. For the first time this year we introduced group discussion workshops, where participants are presented clinical scenarios and asked to discuss aspects of patient assessment and treatment. The demonstrated knowledge base of their basic learning was obvious, and a compliment to their universities and teachers that have provided their basic orthopedic tuition, as well as their own contribution to their studies. It is a pleasure to teach young people who are interested in learning. They demonstrated acquisition of new concepts discussed during the course and a capacity to think around concepts.

Another focus of the course has been a deliberate approach to require and advance the expression of opinion in a group setting. This is incorporated a little into some of the lectures and an important part of some of the workshop activities in which participants are given a degree of freedom in planning their surgical tactics to fracture treatment. They are then required to articulate their surgical plan and to be cross-examined on their plan, and at the conclusion of their fixation, to express to the audience as a whole, where their surgical tactic did, or didn't go well and why.

As might be expected, participants were a little quiet and nervous to speak to a large audience initially. The shyness diminished noticeably day by day. By end of day three, the confidence to express a considered Orthopaedic opinion in public was great to see.

“Hands on” use of orthopedic tools and power



equipment is always one of the favourite activities of the students. Proper technique and safety to both patient and other staff is always a strong emphasis of their training. We hope by the time they get to operate on real patients and real bones they will never “go naked” by forgetting the use of protective drill guide or tap guide, nor forget which drill bit or tap goes with which screw, nor lunge past the far cortex with a drill bit.

There were prizes presented at points throughout the course to those participants who were judged to have produced “the best” preoperative plan, internal and external fixation. But in reality, there were no winners or losers, they were all winners. The future of all our countries will be in the hands of what we now consider to be our young ones. On that basis, I think the future for Orthopaedic Surgery in Ethiopia and South Sudan is looking bright.

Dr. Michael Wren
on behalf of the faculty of
Australian Doctors for Africa / AO Alliance
Basic Principles of Fracture Management Course for Residents
Ethiopia 2017

Ethio-SIGN Conference

The Ethiopia Version of SIGN conference started in July 2010 in the compound of Blacklion. This Monday march 27, 2017 we will happily host the 4th conference on fracture care. You are all invited!

ESOT's Vision is to see all SIGN centers in Ethiopia to come together and discuss the treatment of difficult fractures we daily face. Residents learn original SIGN skills and lectures from Dr. Zirkle.

Last year's 3rd conference was officially addressed by Prof. Yifru, the then CED of our College.





ORTHOPAEDIC TRAUMA FELLOWSHIP

At the Addis Ababa University, College of health Sciences, department of Orthopedics (The 'Mother Department) it is right to start Orthopaedic Trauma Fellowship. Initiative was taken to start this 1-2 years Sub-Specialty training in the Department. The curriculum developed was presented for a comment by all stake holders. The event was graced by Dr. Daniel, Director of Clinical Services at Ministry of Health. The program will be launched once the University senate endorses it.

On the same pace, the Pediatric Orthopedics fellowship is also scheduled for stake holder's review next month. So is the curriculum to train Bachelors Prosthetics and Orthotics (PnO).

We are also developing the Masters curriculum of "ORTHOPAEDIC NURSING RESIDENCY".



ABYALAT ABYALAT ABYALAT ABYALAT ABYALAT ABYALAT ABYALAT ABYALAT

It took us 11 years to establish a reputable full flagged orthopaedic Implants, Sets, Tools and Instruments supplying company! We are ABYALAT ORTHOPAEDIC IMPLANTS AND SUPPLIES PLC.

Now we import the best and distribute at fair price, in the long term we will manufacture.

www.orthoimplants-ethiopian.com

- We legally import quality approved full range Orthopedic Implants, Instruments and Sets
- We officially represent renowned International Manufacturing Companies and distribute orthopedic products all over Ethiopia at fair price.
- ❖ Some of the products we have at stock/ our implant shop includes
- 1- All Orthopedic trauma/ fracture Implants (plates, screws, IM-nails, DHS, K-wire, PinsEtc.)
- 2- Orthopedic sets (Large fragment set, small fragment set.... Etc.)
- 3- External fixators (All types)
- 4- Spine Set and Implants
- 5- Hemiarthroplasty sets and Implants
- 6- Orthopedic tools (Electric drills and saws, hammers, drivers, retractors, hooks, forceps Etc.)
- ❖ Soon available in our shop
- 7- ACL reconstruction (coming soon)
- 8- All Arthroscopy Equipment (Coming soon)
- 9- All total Joint Replacement Sets and Implants (Coming Soon)
- 10- Other orthopedic Supplements and appliances (Coming soon)

Your client/patients deserve legally imported quality implants!!!



**ABYALAT ORTHOPAEDIC
IMPLANTS & SUPPLIES PLC.**

TEL. +251 911 884 007
+251 910 976 265
SOLE AGENT (DISTRIBUTOR IN ETHIOPIA)

E-mail: orthoimplantsethiopia@gmail.com
lilaihlemichael@gmail.com
Website: <http://orthoimplants-ethiopia.com>



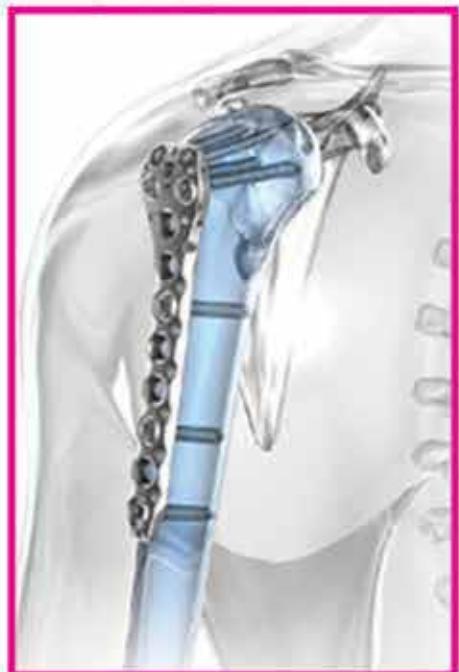


አ.Օ.

አ.Օ. የዕላማ አ.የዕላማ
የአ.Օ. የዕላማ የአ.የዕላማ የአ.የዕላማ

ABYALAT
ORTHOPAEDIC IMPLANTS
and SUPPLIES PLC

“We sale/distribute legally imported all quality orthopedic sets, instruments and implants at fair price”



Sales Mobile: +(251) 911 186 763 / +(251) 911 884 007

Mobile: +(251) 911 448 112

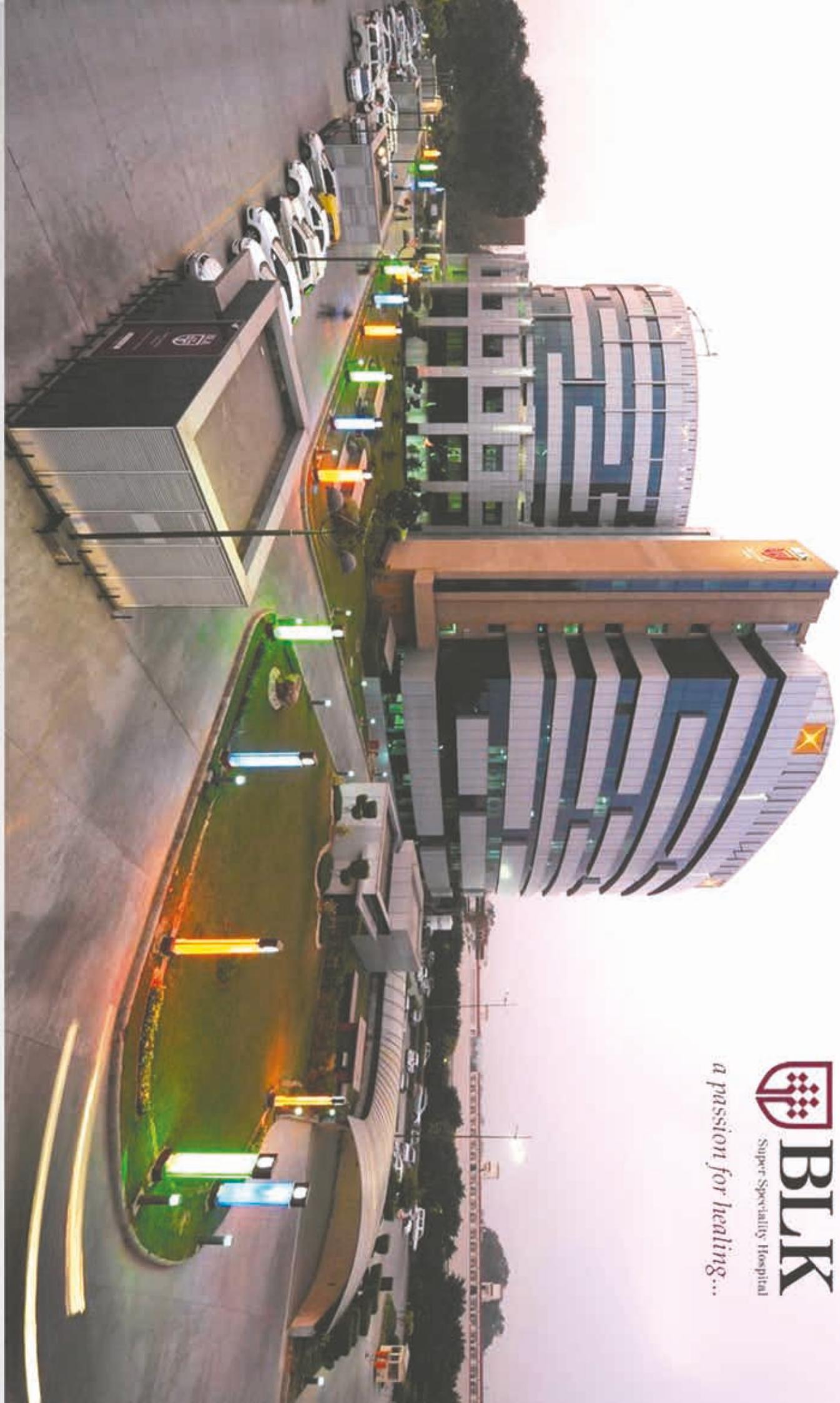
E-mail: orthoimplantsethiopia@gmail.com

lilihailemichael@gmail.com

Website: <http://orthoimplants-ethiopia.com>

ABYALAT

BLK Superspecialty Hospital, New Delhi



BLK
Super Speciality Hospital
a passion for healing...

MOST



Ministry of Science and Technology (MOST)

www.most.gov.et

የኢትዮጵያ
የኩልና
የኩልና