



# SAOA 2023

POSTER ABSTRACTS  
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E-POSTER  
PRESENTATIONS

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## E1. Osteo-articular TB specimen yield

**Category:** Infection

**Presentation:** Poster

Tiego Hlapolosa (Wits University orthopaedics) , Paul Kgagudi (Wits University orthopaedics)  
, Maxwell Jingo (Wits University orthopaedics)

### **Background**

TB remains endemic in South Africa. The spine, hip and knee joints are common extra- pulmonary TB sites. Sound history taking, key clinical judgement and basic cheap laboratory and pathological tests remain key important elements of osteo-articular TB diagnosis in an endemic environment.

### **Objectives**

To document the epidemiology of musculoskeletal TB infection and highlight the diagnostic yield of standard laboratory methods(MC&S) compared to real-time PCR for osteo-articular TB diagnosis in a single infection unit of our hospital.

### **Methods**

Retrospective record review was done for all patients treated for osteo-articular TB infection in our hospital from 1 June 2016 to 31 December 2021. Patients demographics, clinical history and clinical results including arthrotomy and incisional biopsy results for fluids and tissue samples were analysed.

### **Results**

A total of 34 cases were identified, with 32 of the cases being osteo-articular and 2 osseous. In terms of site the knee (15), Hip (5) were commonly affected, followed by the ankle joint (4).

The adult group (40-60 years) accounted for the majority of cases. Acid Fast Bacilli (AFB) positive cases were found to be 32%( 11 out 34), TB culture 29% (7 out 24), histopathological examination 66% and with real-time PCR was found to contribute 63% of the cases. HIV co- infection was found in 50% of the patients ( 11 of 22).

### **Conclusion**

Our findings indicate that a proper clinical assessment with a high index of suspicion including the utilization of standard laboratory culture and histological specimens in diagnosing osteo- articular TB is sufficient in a setting of high TB infection prevalence.

## E2. Case Report: Foot Tuberculosis

**Category:** Infection

**Presentation:** Poster

Loyiso Gqamana (Wits university)

Foot and ankle tuberculosis is a rare presentation of skeletal tuberculosis. With delayed presentation it may result in making a decision for joint preservation impossible. Treatment involves the use of anti-tuberculosis drugs initially with surgical intervention following to address the osteoarticular complications.

### **Case report:**

A 35 year old male known retroviral disease and Nyaope user, presents with six months history of right foot pain and inability to weight bear. Clinically, the foot was swollen with dorsal pus oozing skin lesion associated with hyperpigmented and indurated skin and hyperpigmented nails. The dorsalis pedis and posterior tibialis pulses were palpable and comparative to the contralateral side.

Serological investigation revealed a bicytopenia, iron deficiency anaemia, liver failure and a CD4+ count of 145 and VLL value of 67. X-rays of the right foot showed forefoot osteoarticular destruction, chest x-ray - miliary tuberculosis was observed and CT scan of the abdomen showed a hepatosplenomegaly with ascites. The histology results post amputation showed an active mycobacterial infection inducing necrotising granulomatous inflammation.

### **Conclusion**

Skeletal tuberculosis may present a challenge in joint preservation surgery, especially when posed with a delay in presentation and in a patient that may be unfit for a prolonged surgery.

### E3. Soft tissue reconstruction of Gustilo-Anderson grade 3b open tibia fractures at a tertiary hospital: Aretrospective case series

**Category:** Trauma

**Presentation:** Poster

Dane Maimin (UCT Dept of Orthopaedic Surgery) , Elyas Barouni (UCT Dept of Plastic and Reconstructive Surgery) , Maritz Laubscher (UCT Dept of Orthopaedic Surgery) , Saleigh Adams (UCT Dept of Plastic and Reconstructive Surgery) , Donald Hudson (UCT Dept of Plastic and Reconstructive Surgery) , Christopher Pryce (UCT Dept of Plastic and Reconstructive Surgery)

**Introduction:**

The management of Gustilo- Anderson grade 3b open tibia fractures are challenging due to the high complication rates. The optimal soft tissue cover option and timing of definitive surgery remains unclear and is often dictated by local context and available surgical expertise rather than the gold standard of care.

**Aim:**

We aimed to review the surgical techniques and outcomes for the management and reconstruction of the soft tissues in grade 3b tibia fractures treated at a tertiary hospital in South Africa.

**Methods:**

A retrospective study was conducted on 22 patients who underwent soft tissue reconstruction for 3b tibia fractures from January 2014 to July 2017. Demographics, comorbidities, injury characteristics and management practices e.g. time to debridement, relook time, use of negative pressure wound therapy (NPWT), soft tissue coverage techniques and complications were recorded and analysed.

**Results:**

Most patients were males (n=18; 81.8%) with an average age of 39.3 years. Most patients (n=18; 81.8%) were initially debrided within 24 hours. The mean time for NPWT usage prior to cover was 12.5 days. The mean time before soft tissue cover was attempted was 13.7 days (range 2-35).

## E4. Time intervals for the treatment of femur fractures at a tertiary hospital in the Eastern Cape, South Africa

**Category:** Trauma

**Presentation:** Poster

Nabeela Adam (Walter Sisulu University) , Vincent Adeniyi (Walter Sisulu University)

### Background

There is increasing demand for orthopaedic services at Frere Hospital in the Eastern Cape. As such, the proposed study will provide evidence for the treatment of femur fractures in the Eastern Cape.

### Aim

This study aims to determine the burden of disease and time to treatment of femur fractures at a tertiary hospital in the Eastern Cape.

**Objectives: These specific objectives will provide guidance for implementation of the study:**

1. To determine the prevalence and management of different types of femur fractures in patients presenting to a tertiary hospital in the Eastern Cape.
2. To assess the time intervals from injury to admission, admission to surgery, and surgery to discharge in a tertiary hospital in the Eastern Cape.
3. To examine the reasons for delays in accessing surgical intervention for femur fractures in the cohort.

### Methods:

This study will be adopting a prospective cohort design over six months to identify all adult patients presenting to Frere hospital with a femur fracture. Data will be analyzed using descriptive and inferential statistics.

### Critical Output:

This study will describe the demographics of all patients presenting with femur fractures disaggregated by age, gender, and socioeconomic indicators.

### Expected results

This study will identify the demographic information of all patients presenting to Frere Hospital and describe the delays in the treatment of femur fractures. By extrapolating data that can enable for change on a local, provincial, as well as a national level, this study will try to identify the delays in the treatment of femur fractures.

## E5. Pycnodystosis: Treatment of a young teenager with a mid shaft femur fracture

**Category:** Trauma

**Presentation:** Poster

Yenziwe Ngema (Witswatersrand) , Gerald Karera (Witswatersand) , Billy Ramokgopa (Witswatersrand)

Background: Pycnodystosis, a rare disease that can be characterised as a subtype of osteopetrosis and manifests as global osteosclerosis. The patients often present with multiple fractures because of the brittle bone. Other clinical features include; short stature, distal dysplasia of the clavicle, crowding of teeth, other oral and facial manifestations and unfused posterior and anterior fontanelle.

Our 15 year old male, known to the paediatric orthopaedic department and now presenting in the orthopaedic casualty with a 1 day history of a painful left thigh secondary to a fall while playing soccer. The patient had previous right and left femur fractures; both which were non-operatively managed. Prior to this injury, the patient had last presented in 2016.

On examination the patient had features of pycnodystosis; including a short stature with short limbs, crowding of teeth, a large head. The left thigh was tender, moderately swollen with and neurovascularly intact.

Blood investigations were normal and x-rays of both femurs were done revealing; a midshaft transverse femur fracture with evidence of previous injury. .

The patient was optimised and the decision was for operative management and for Open reduction and plating of the femur. The particular concern was the sclerosis and whether diamond-tip and various drill bits would have to be utilised. The surgery was uneventful barring the fracture gap. The patient mobilised non-weight bearing initially and progressed to full weight bearing as pain allowed. The patient has subsequently been seen by the metabolic and continues to be under our care as we await union.

Conclusion: Though pycnodystosis is rare, it is important that we are aware of clinical signs so that the fracture or injury is not only treated by its merit, but the patient is treated holistically through a multi disciplinary team approach and early involvement of metabolic team.

## E6. Epidemiology of Patellar Fractures in a /South African Tertiary Hospital

**Category:** Trauma

**Presentation:** Poster

Yenziwe Ngema (Witwatersrand University) , Mmampatla Ramokgopa (Witwatersrand University)

**Background :** Patellar Fractures make up 1% of the trauma that presents to hospitals. The epidemiology has been assessed, mostly looking at patient registries based in Europe.

**Aims:** To Assess and describe the epidemiology of patellar fracture in an African context

**Methods:** A retrospective study was done in a tertiary hospital in Gauteng. The study assessed all the patients admitted with Patellar fractures between March 2022 to March 2023. Factors looked at included (amongst others); age, mechanism of injury, type and time to fixation and gender.

**Inclusion Criteria:** All patellar fractures admitted for theatre.

**Exclusion Criteria:** Chronic patellar fractures, patellar fractures with sepsis

**Data Collection:** Retrospectively data was entered and reviewed using our electronic database. The data was assessed according to epidemiology criteria.

**Results:**

Thirty-eight patients met the inclusion criteria. The average age was 38 years (mean 14-68). The primary mechanism of injury was a fall, followed by assault. Transverse fractures accounted for 58% while fractures with distal pole comminution were 37%. 76% of the fractures were treated operative with tension band construct; either with tension band wire or cannulated screws. Open fractures accounted for 18% of the fractures.

**Conclusion:** The epidemiology of patellar fractures in a developing country is comparable to the developed world in some aspects including age, whether its an open fracture and mechanism, but does deviate when it comes to time to surgery,type of surgery performed and type of fracture pattern seen.



## E7. Management of pertrochanteric femur fractures secondary to gunshot injuries in a tertiary institution of a developing country in young patients

**Category:** Trauma

**Presentation:** Poster

Yenziwe Ngema (Witwatersrand University) , Tamsanqa Mazibuko (Witwatersrand University)

**Background :** There is an increase in gunshot injuries resulting in proximal femur fractures including neck of femur fractures, intertrochanteric fractures and subtrochanteric fractures in younger patients. The management of these injuries currently remains controversial.

**Aims:** To assess the management of pertrochanteric femur fractures secondary to gunshot injuries and the outcomes thereof..

**Hypothesis:** Internal Fixation of civilian gunshot injuries is safe and offers good outcomes

**Methods:** Twenty-five consecutive cases of fractures to the proximal femur secondary to low velocity civilian gunshot wounds, with ages ranging from 23 to 54 years were retrospectively reviewed.

Debridement, Open reduction Internal fixation and expectant or exploratory management of nerve injuries.

**Inclusion Criteria:** All gunshot pertrochanteric femur fractures

**Exclusion Criteria:** Fractures of the femur not caused by gunshot injuries.

**Data Collection and analysis:** Prospectively entered data was retrospectively reviewed using our electronic database. Patients soft tissue status at presentation as well as fracture type and location in the femur were reviewed. Fracture treatment method was chosen according to the fracture type, location and the condition of the soft tissues at presentations.

**Results:**

Twenty-five patients met the inclusion criteria for this study. The average age was 37 years (mean 23-54. Seven patients presented with neck of femur fracture fractures. Subtrochanteric fractures accounted for eleven of the cases. Seven patients had intertrochanteric femur fractures. All the patients were treated surgically. Cephalomedullary nails were performed in 18 patients, whilst seven patients underwent internal fixation.

fractures can offer satisfactory functional outcomes. This study supports the view that surgical fixation of the pertrochanteric femur fracture following low velocity civilian injuries is safe.

## E8. Management of gunshot injuries to the forearm

**Category:** Trauma

**Presentation:** Poster

Tamsanga Mazibuko (Witwatersrand university south africa)

**Background :** Patients with penetrating trauma are more likely to sustain neurovascular complications due to their injuries.

**Objectives:** To assess the outcomes of treatment of gunshot injuries of the forearm.

**Hypothesis:** Internal Fixation of civilian gunshot injuries is safe and offers good outcomes

**Methods:** twenty consecutive cases of fractures to the forearm secondary to low velocity civilian gunshot wounds, with ages ranging from 15 to 57 years were retrospectively reviewed. Debridement, Open reduction Internal fixation and expectant or exploratory management of nerve injuries.

**Inclusion:** All gunshot forearm fractures

**Exclusion :** Fractures of the forearm not caused by gunshots.

**Data Collection and analysis:** Prospectively entered data was retrospectively reviewed using our electronic database. Patients soft tissue status at presentation as well as fracture type and location in the forearm were reviewed. Single vs both forearm bone fractures were reviewed. Fracture treatment was chosen according to the fracture type, location and the condition of the soft tissues at presentation.

**Results:**

Eighteen patients met the inclusion criteria for this study. Average age was 20 years (mean 16-57). Six patients presented with Proximal humerus fractures. Midshaft fractures accounted for 7 of the cases. Five patients had distal humerus fractures. 16 out of the 18 patients were treated surgically. Plating osteosynthesis of the humerus was performed in 10 patients, whilst 6 patients underwent intramedullary nailing. Two patients were treated in a brace. 16%(4/20) incidence of nerve injuries. 3 nerve injuries were radial nerve and 1 ulnar nerve injury.

**Conclusion:** Timely presentation of gunshots to the forearm coupled with surgical fixation of the fractures can offer satisfactory functional outcomes. This study supports the view that surgical fixation of the humerus following low velocity civilian injuries is safe, Nerve injuries can be addressed expectantly or in a staged procedure.

## E9. Management of the fractures of the Humerus: a follow up

**Category:** Trauma

**Presentation:** Poster

Tamsanqa Mazibuko (Witwatersrand university south africa)

**Background :** Patients with penetrating trauma are more likely to sustain neurovascular complications due to their injuries.

**Aims:**

**Objectives:** To assess the outcomes of treatment of gunshot injuries of the humerus.

**Hypothesis:** Internal Fixation of civilian gunshot injuries is safe and offers good outcomes

**Methods:** Eighteen consecutive cases of fractures to the humerus secondary to low velocity civilian gunshot wounds, with ages ranging from 15 to 57 years were retrospectively reviewed. Debridement, Open reduction Internal fixation and expectant or exploratory management of nerve injuries.

**Inclusion Criteria:** gunshot humerus fractures

**Exclusion Criteria:** Fractures of the humerus not caused by gunshot injuries.

**Data Collection and analysis:** Prospectively entered data was retrospectively reviewed using our electronic database. Patients soft tissue status at presentation as well as fracture type and location in the humerus were reviewed. Fracture treatment method was chosen according to the fracture type, location and the condition of the soft tissues at presentations.

**Results:**

Eighteen patients met the inclusion criteria for this study. average age was 20 years (mean 16-57). Six patients presented with Proximal humerus fractures. Midshaft fractures accounted for 7 of the cases. Five patients had distal humerus fractures. 16 out of the 18 patients were treated surgically. Plating osteosynthesis of the humerus was performed in 10 patients, whilst 6 patients underwent intramedullary nailing. Two patients were treated in a brace. There was a 16%(3/18) incidence of nerve injuries. 2 nerve injuries were radial nerve and 1 ulnar nerve injury.

**Conclusion:** Timely presentation of gunshots to the humerus coupled with surgical fixation of the fractures can offer satisfactory functional outcomes. This study supports the view that surgical fixation of the humerus following low velocity civilian injuries is safe, Nerve injuries can be addressed expectantly or in a staged procedure. Our results have been satisfactory.

## E12. Metalware failure in the presence of Cervical-Spine Tuberculosis in the background of Sickle Cell Disease.

**Category:** Spine

**Presentation:** Poster

Sepelong Johannes Mabusha (King Dinuzulu hospital)

We report a case of Sickle Cell Disease, HIV negative, with cervical spinal tuberculosis. A ten years old girl presented with progressive neck swelling and neck deformity.

Physical examination revealed torticollis, neck swelling anteriorly, and a kyphotic defromity. She did not have dysphagia, dyspnoea or neurological fallout.

Imaging modalities revealed all signs of spine at risk, such as splaying, toppling. retropulsion and lateral translation.

MRI scan showed large absecess and eroson of cervical spine vertebral bodies. AntiTB treatment was commenced empirically. The paediatric haematologist was consulted to help optimkize patient to avoid dreaded complication of sickle cell disease. The patient underwent anterior neck surgery.

Biopsy confirmed Mycobacterium tuberculosis. subsequent clinic follolw up revealed metalware failure. A revision suregry was planned. Anterior and posterior approacehs were used to achieve stability.

Sickle cell disease and cervical spine tuberculosis in the paediatric population is extremely uncommon. Meticulous history, thourough examination and pre-operative planning is mandatory to prevent adverse events before surgical intervention.

## E13. A Massive unilateral Petit triangle abscess in an HIV positive adult

**Category:** Spine

**Presentation:** Poster

Sepelong Johannes Mabusha (King Dinuzulu Hospital) , Siphamandla Sebastian Mfaku (King Dinuzulu Hospital)

We report a case of a massive petit triangle abscess, RVD reactive on ART with Lumbar spine tuberculosis. He presented to us with a one-year history of chronic lower back pain and a progressive growing lump on his back and constitutional symptoms.

On physical examination he was pale, with antalgic gait and unable to sit in erect position. He had an obvious lump on the right lumbar paraspinal region over the petit triangle of about 10cm x 15 cm, fluctuant, immobile, and tender. Neurologically he was Frankel E with no bowel or bladder involvement.

Radiological images showed contiguous involvement of multiple lumbar vertebral bodies from L2 to L5, with lytic and sclerotic lesions with no signs of spine at risk.

CT SCAN showed L2 to L5 vertebral body destruction affecting L5 the most, paravertebral abscess spans L3 -S2 and Bilateral Psoas abscess with right extending to the back.

On six weeks follow up, the patient had a chronic oozing sinus, but no evidence of recollection and the pain had improved. On twelve weeks the sinus had closed, and the patient condition had improved.

A cold abscess as a result of tuberculosis can emerge in a number of anatomical regions, and perhaps most notably as a psoas abscess or as the abscess at the petit triangle. Finally, our case highlights that when a source of low back pain is elusive to work up, spinal TB should also be considered.

## E14. Unusual radiological presentation of pseudomeningocele

**Category:** Spine

**Presentation:** E-poster

Tshepo Batyi (King Dinuzulu Hospital) , Sepelong Johannes Mabusha (King Dinuzulu Hospital)

We report an unusual radiological presentation of pseudomeningocele in a 45-year-old female who had Lumbar disc disease and done a laminectomy 2018.

She initially presented with severe lower back pain with left leg radiculopathy. The pain had become debilitating with difficulty walking.

Clinically she had an antalgic gait, diminished sensation in the left S1 dermatome and a positive leg raise test.

Imaging modality: Pre-op

- Xray: revealed reduced Intervertebral, neural space at L5/S1. loss of normal spinal lordosis.
- MRI T2 weighted L-spine images; sagittal view, dehydrated disc L5/S1, contained disc herniation. Axial; posterior-lateral herniation with stenosed left neural foramina more than right, facet joints Osteoarthritic with Sarcopenia

Post Op imaging at 6/52

MRI: Psuedomeningocele

Management:

Patient taken to theatre 6/56 post op for Dural repair.

## E15. Hematomyelia: Unravelling spinal cord haemorrhage in minor cervical spine trauma; a case report

**Category:** Spine

**Presentation:** E-poster

Roelof Geertsema (Helen Joseph Hospital) , Aftab Younus (Helen Joseph Hospital)

### Introduction:

South Africans often suffer catastrophic cervical spine damage. Spinal hemorrhage, albeit rare, has a poorer prognosis and is most frequent after severe trauma. Hemorrhages seldom occur in the subdural or intraparenchymal compartments. Hematomyelia is an intraparenchymal spinal cord hemorrhage. Hemorrhages are usually caused by trauma to the cervical osteo-ligamentous complex. Hematomyelia may arise after mild injuries, as detailed below.

### Clinical Presentation

In a pedestrian car collision, a 22-year-old gentleman suffered a traction distraction injury and an isolated acute cervical spinal cord damage. The patient had sensory loss in both lower limbs and 0/5 motor power. He had bowel and bladder dysfunction and no bulbocavernosus response. X-rays and a CT scan indicated an extremely minor C7 single endplate fracture without posterior vertebral body wall involvement. MRI revealed acute hematomyelia with an intramedullary irregular region and hyperintensity ring. ASIA A, SLIC Score 3. Conservative treatment was given since there was no spine instability. Neurology improved after 3 weeks. Power and feeling restore to 5/5.

### Case discussion

Traumatic hematomyelia is a rare phenomenon typically associated with significant or unstable vertebral column injuries and ligamentous complex injuries. However, our case presents a unique scenario due to the stable fracture pattern observed. Despite the apparently minor vertebral injury—an almost insignificant C7 single endplate fracture without the involvement of the posterior vertebral body wall, the patient developed an acute hematomyelia.

### Conclusion

Anecdotal evidence and surgeon choice make therapy standardisation difficult due to the lack of such examples. Even with minimal vertebral fractures, cervical spine pain and neurological abnormalities should be considered hematomyelia. In unusual situations like this one, prompt diagnosis and treatment improve patient outcomes.

## E16. Review of the Bodies Reaction to Surgery and Injury and how to Modify it

**Category:** General

**Presentation:** Poster

Pieter Erasmus (Kneeclinic Stellenbosch)

Introduction:

There is a physiological response of the body to major surgery and trauma. In understanding and modifying both the catabolic and anabolic responses we can expect faster and better recovery.

The Physiology of Surgery and Injury:

The Acute Phase Response (APR) or catabolic response is driven by proinflammatory cytokines secreted by macrophages and results in fever, loss of appetite, negative nitrogen balance, and lethargy.

The anabolic response, which follows 4- 6 weeks later, is driven by a different group of cytokines.

Both catabolic and anabolic responses influence protein, lipid, and carbohydrate metabolism.

Modifying the catabolic and anabolic responses

Nutritional support consisting of micronutrients, protein, and a carbohydrate-balanced diet can have a positive effect on both the catabolic and anabolic phases of injury and healing.

Good control of blood glucose levels where there is a tendency for insulin-resistant glycemia is important.

The use of corticosteroids, both intra-operative and post-operative can have a positive effect if used judiciously.