

APOA Foot & Ankle Council Presents..

Case of the Month

July 2025

Presented by:

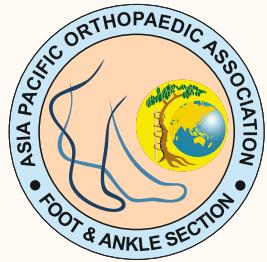


Dr. Wong Chong Hing

Consultant, Department of Orthopaedics and Traumatology
Princess Margaret Hospital, Hong Kong SAR

Learning Points:

- ◎ Soft Tissue Considerations: High-energy trauma often results in significant soft tissue damage. Allowing sufficient time for tissue recovery before surgery is crucial to reducing surgical risks and promoting optimal healing.
- ◎ Surgical Exposure: Dual incisions, with or without medial malleolus osteotomy, may be necessary to enhance fracture exposure and facilitate precise reduction and fixation.
- ◎ Surgical Outcomes: A well-executed fracture reduction and fixation can still lead to a satisfactory surgical outcome, even in complex cases.



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Title:

Surgical Strategies for Bilateral Severe Comminuted Talus Fractures

Upcoming Case of the Month
August 2025

Presented by:



Dr. Astuti Pitarini, MD

Department of Orthopaedics and Traumatology
St. Carolus Bone and Joint Centre,
St. Carolus Hospital
Lecturer at Faculty of Medicine Atmajaya
University, Jakarta, Indonesia

Title:

Hallux Valgus: How to Correct it Well

Want to present a case? Write to...



Prof. Chayanan Anthong
chatthara@yahoo.com

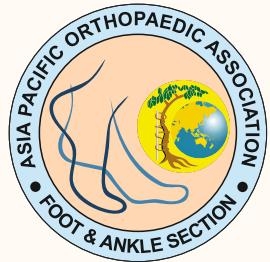


Dr Kwai Ming Siu
siukmhk@hotmail.com

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Surgical Strategies for Bilateral Severe Comminuted Talus Fractures

Dr. Wong Chong Hing

Consultant, Department of Orthopaedics and Traumatology, Princess Margaret Hospital, Hong Kong SAR

Case Presentation:

A 20-year-old young man with a history of depression was admitted to our unit after jumping from a height. He sustained back and bilateral lower limb injuries. Physical examination showed both ankles and feet swelling with bruising. There were no signs of compartment syndrome or distal neurovascular deficits. Subsequently, imaging revealed collapse of L3 and L5, left Pilon and talar body fractures (Sneppen type C) (*Figure 1*), and right distal anterior tibial plafond and comminuted Sneppen type F talar body fractures (*Figure 2*). His lumbar vertebra collapses were treated conservatively.

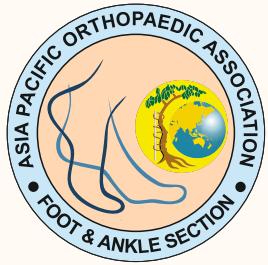


(Fig. 1)

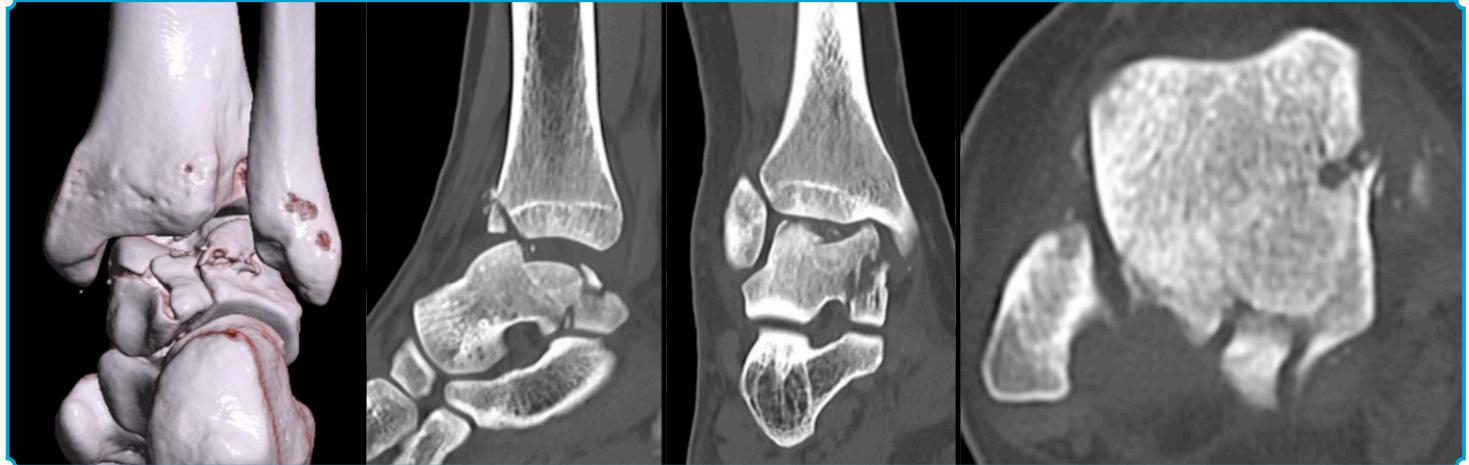
X ray and computer tomography of left ankle showing left Pilon fracture with major anteromedial, anterolateral and posterior fragments and also longitudinal split of talar body with comminutions (Sneppen type C).

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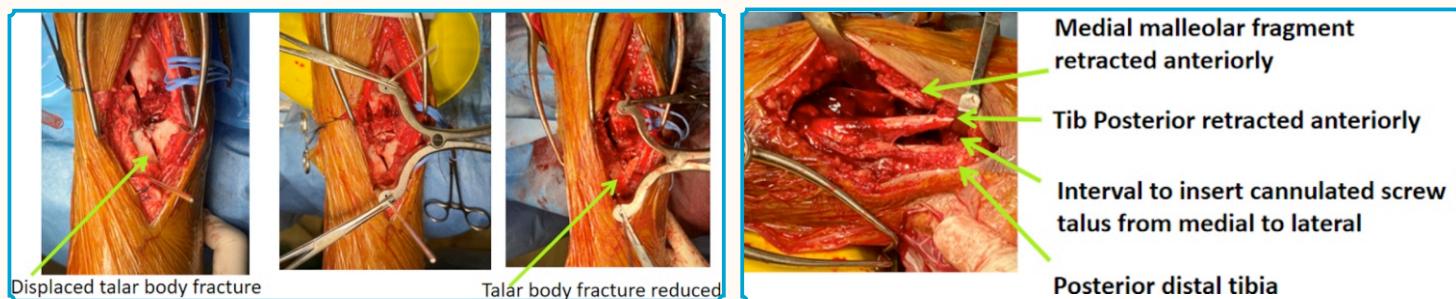
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(Fig. 2)

X ray and computer tomography of right ankle showing fracture of anterior distal tibial plafond and Sneppen type F talar body fracture characterized by coronal split of the body with comminution over posterior talus involving the posterior tubercles.

After initial soft tissue rest, ORIF of the left Pilon and talar body fractures was performed on post-injury day 10 using an anterior and posteromedial approach. The Pilon fracture was stabilized with an anterolateral and a medial plate, while the sagittal split of the talus was fixed with two screws from medial to lateral direction. **(Figure 3).**



(Fig. 3)

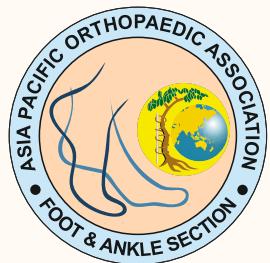
Intra-op photos of fixation of left pilon and talar fracture through anterior and posteromedial approach approach.

The ankle joint was distracted with distractor. Talus was reduced through anterior approach.

Screw insertion for fixation of the talar fracture through the posteromedial wound after retraction of medial tibial fragment and tibialis posterior tendon anteriorly.

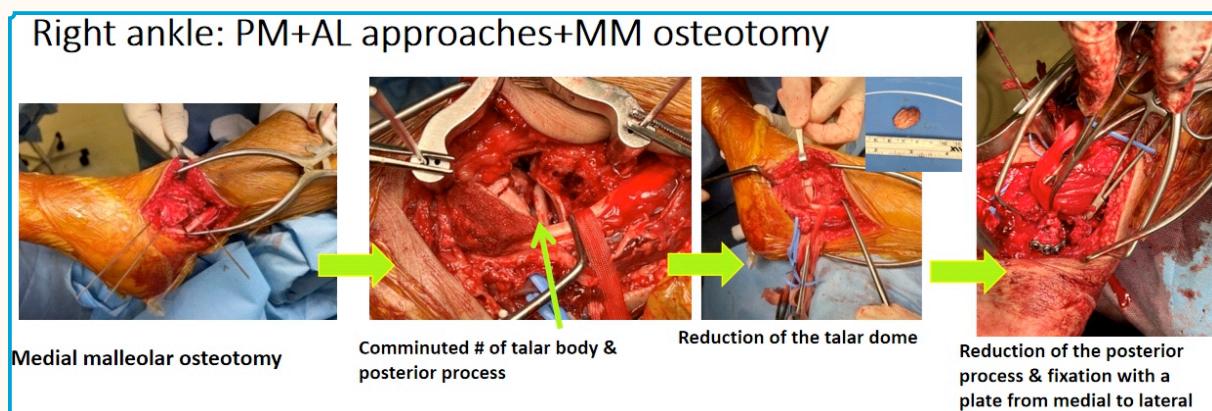
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On post-injury day 18, the right distal tibia and talar body fractures were operated using dual incisions (anterolateral and posteromedial approaches) with medial malleolar osteotomy to improve visualization of the posterior talar body. The distal tibia fracture was fixed with an anterior buttress plate. Autologous iliac crest bone graft was used to fill the talar body defect, and a buttress plate was applied to the posterior talar processes (**Figure 4**). Postoperative radiographs demonstrated satisfactory alignment and joint congruity (**Figure 5**).



(Fig. 4)

Medial malleolus osteotomy was performed to improve the exposure for the talus fracture.

The talar body fracture was fixed with screws and posteromedial plating.

Bone void was filled with bone graft harvested from iliac crest using trephine cannula.

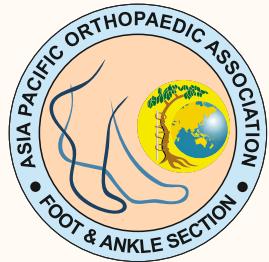


(Fig. 5)

Post-operative X ray showed satisfactory reduction of the fractures.

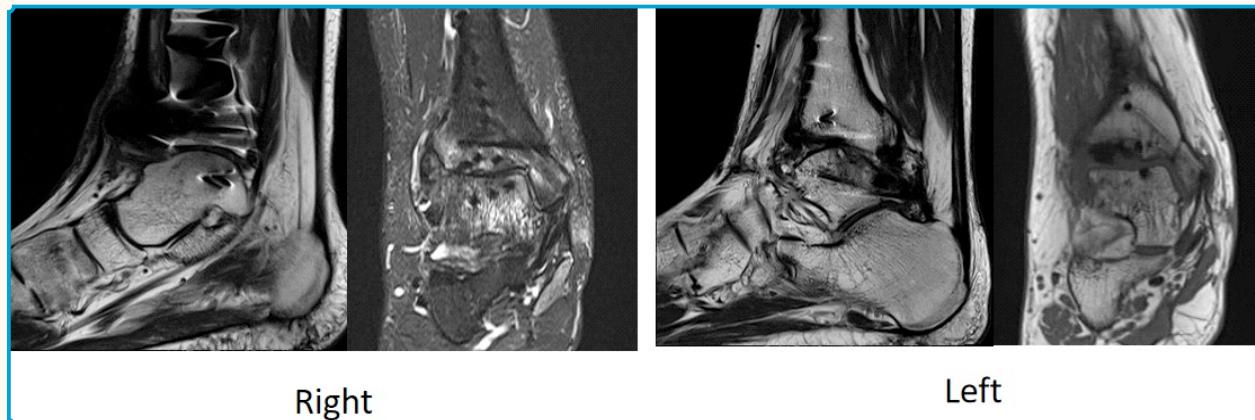
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The patient's wound was complicated with minor superficial anterior tibial wound infection, which subsided with daily dressing and antibiotics. He was maintained in non-weight-bearing status for 12 weeks, followed by gradual weight-bearing as tolerated. Follow-up imaging confirmed fracture union, and post-operation MRI at post-op 1 year showed no evidence of avascular necrosis (**Figure 6**). At the latest follow-up at 18 months post injury, the patient reported only mild, occasional posterolateral left ankle pain, with no symptoms on the right side. He had returned to work as a bouldering gym tutor and could ambulate unaided for up to 6 hours. Range of motion was neutral to 40° plantarflexion on the left, and 10° dorsiflexion to 40° plantarflexion on the right; both subtalar joints remained supple.



(Fig. 6)

MRI at post-op 1 year showing no avascular necrosis over both talus.

Discussion:

Talar body fractures are uncommon and challenging orthopaedic conditions. It constitutes <1% of all fractures and 13%–23% of talus fractures. It often results from high energy trauma and therefore associated with significant soft tissue injuries. Its retrograde blood supply to talar body predisposes it to the risk of avascular necrosis despite operative treatment. The deep seated position of talar body inside the ankle mortise also makes the surgical exposure, reduction and fixation difficult. As the talar body involves both the ankle and subtalar joints, any imperfect reduction may cause early secondary osteoarthritis of either or both joints. Concomitant Pilon fracture results in a more challenging situation. Primary arthrodesis was reported as treatment of choice in case report for that condition. We present a case of bilateral talar body fractures with concomitant Pilon fracture. It demonstrates that satisfactory surgical outcomes can still be achieved with open reduction and internal fixation (ORIF) in complex case.

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References

- ▲ *Acute Arthrodesis of Ipsilateral Pilon and Talus Fracture A Case Report*, Sanders, Drew MD, *JBJS Case Connector* 11(2):e20.00175, April-June 2021. | DOI: 10.2106/JBJS.CC.20.00175
- ▲ *Clinical outcome of fractures of the talar body*, *Int Orthop.* 2007 Jun 22;32(6):773–777. doi: 10.1007/s00264-007-0399-5
- ▲ *Management of Talar Body Fractures*, S R Sundararajan, Abdul Azeem Badurudeen, R Ramakanth, Shanmuganathan Rajasekaran, *Indian J Orthop.* 2018 May-Jun;52(3):258–268. doi: 10.4103/ortho.IJOrtho_563_17

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