Can early operative intervention for ankles fracture reduce inpatient stay at a specialist critical care centre in South-East Wales?

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INTRODUCTION

- Most commonly injured weight bearing joint
- Ankle fractures in patients >65 rose steadily between 1970-1977
- Geriatric population growing - approximately 20% of the population in the UK by 2030.
- Problems with post-operative rehabilitation = extended length of stay in hospital.
- BOAST ankle fracture fixation guidelines support early fixation
- The Grange Hospital → "specialist critical care centre" → clinical model designed to treat acute patients whilst stepping down those requiring rehabilitation.

Objectives

- The aim of this study was to identify whether early ankle fracture fixation, led to a reduction in inpatient stay at the Grange

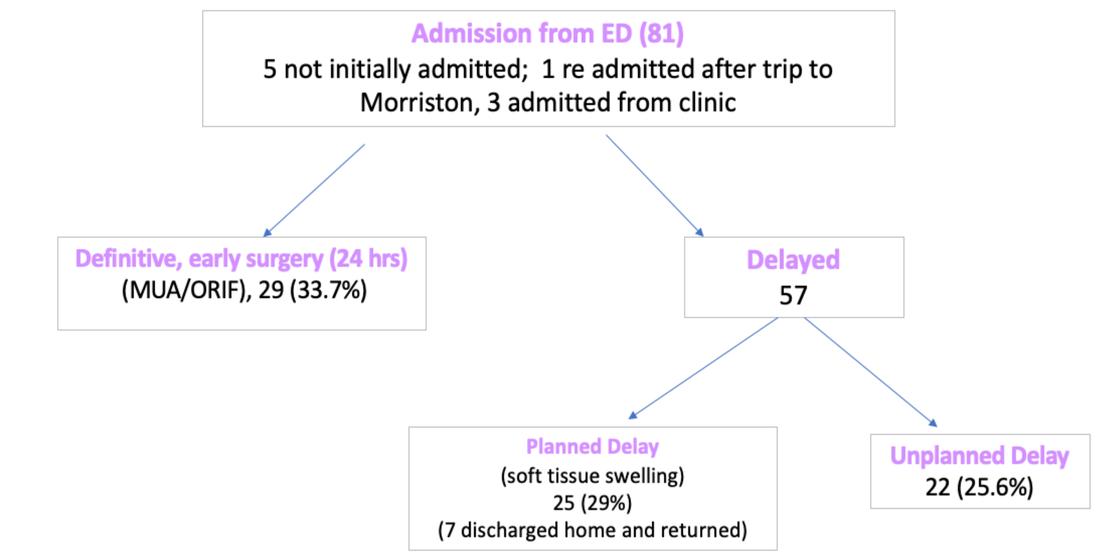
Background

- *Schepers et al,* 2013 examined timing of ankle fracture surgery and effect on infectious complications → delayed fixation resulted in wound complications.
- *Zelle et al*, 2021 examined incidence of surgical site complication in patients with closed unstable ankle fracture, requiring ORIF → delayed surgical timing led to an increased risk of postoperative surgical site infection

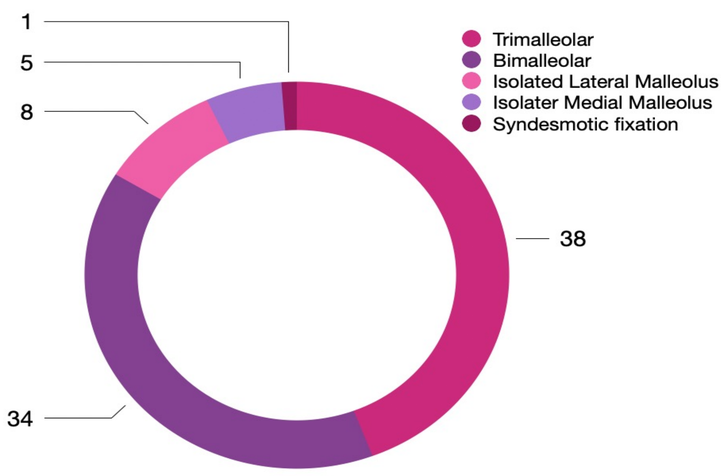
Methods

- Retrospective review of ankle fractures, undergoing definitive surgical treatment between November 2020 and November 2021
- Ankles identified from the ORMIS clinical management perioperative system (IPath Technologies Inc, Virginia, USA) and diagnosis confirmed from Clinical Work Station and Synapse PACS system.
- Pilon, distal tibia fibula and triplanar fractures excluded.
- Surgery within 24 hours was described as early fracture fixation, whilst delayed surgery was surgery after 24 hours.
- Delays were further classified as planned (soft tissue swelling) or unplanned (e.g. more investigations/no beds/busy theatre list)

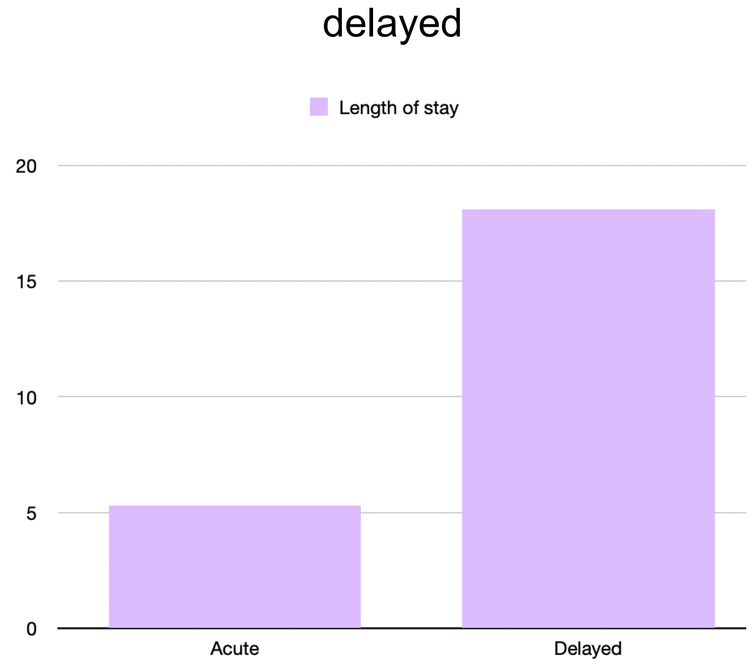
Results



- 86 ankle fractures. The average age was 54 (12-91 years).



- Fracture morphology was trimalleolar (38), bimalleolar (34), isolated lateral malleolus (8), isolated medial malleolus (5) and 1 syndesmotic fixation.
- 29 patients underwent surgery within 24 hours, 57 were delayed
- Length of inpatient stay for acute group was an average of 5.3 days compared to 18.1 days, p=0.018 for delayed group.
- Fracture morphology did not affect delay, p=0.1828 and neither did age.



CONCLUSION

- Fracture fixation within 24 hrs reduces inpatient stay and ought to be prioritised, delivering an important cost benefit

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ACKNOWLEDGEMENTS

- Mr Mark Kemp, Consultant Orthopaedic Surgeon (mark.kemp@wales.nhs.uk)
- Mr Yusuf Mirza, SPR Trauma and Orthopaedics (Yusuf.Mirza@wales.nhs.uk)
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