Major Amputations of the Lower Limb

Murray Cox

Vascular Surgeon - Taranaki Base Hospital



Major Amputations of the Lower Limb

Critical Limb ischaemia	> 200	(85%)
Acute Limb Ischaemia	20	(9%)
Trauma	5.	(2%)
Tumours/ vascular malformations	2	(1%)
Necrotizing infection	5	(2%)
Pain Syndromes	2	(1%)

Principles

- Remove pathology
- Establish well healed wound
- Best rehabilitation possible
- Increase in energy for Ambulation on

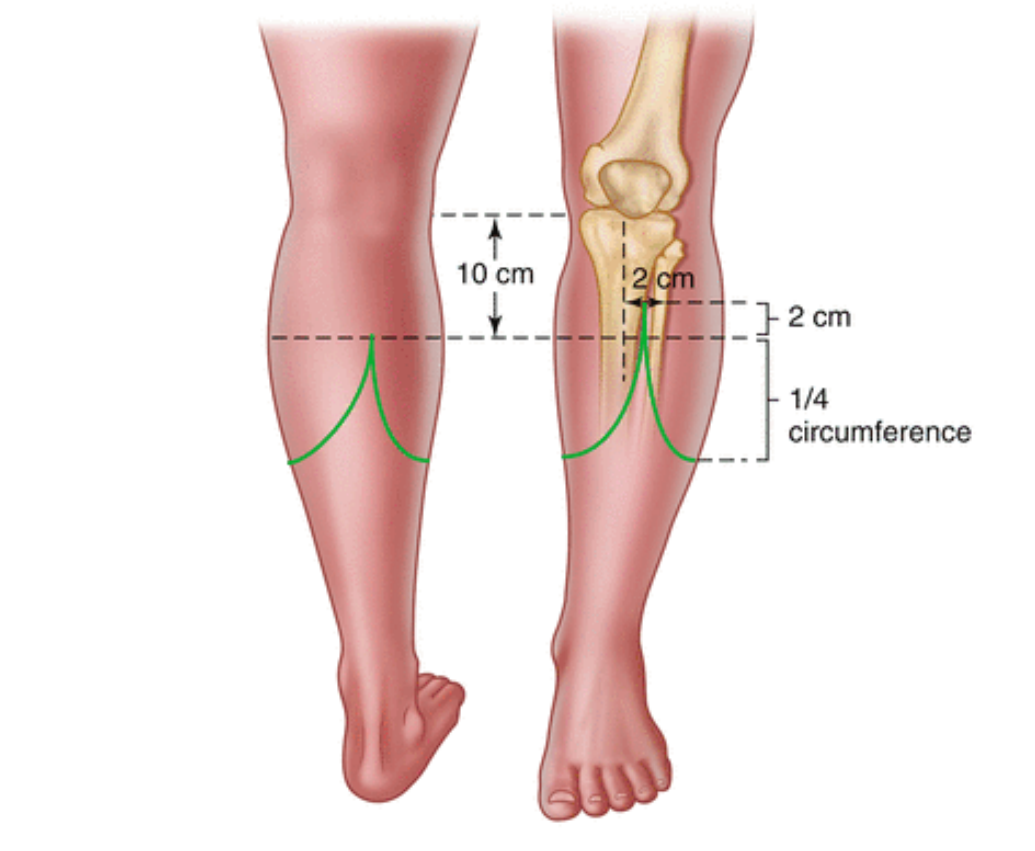
  AKA 50 – 70%

  BKA 10 - 40%

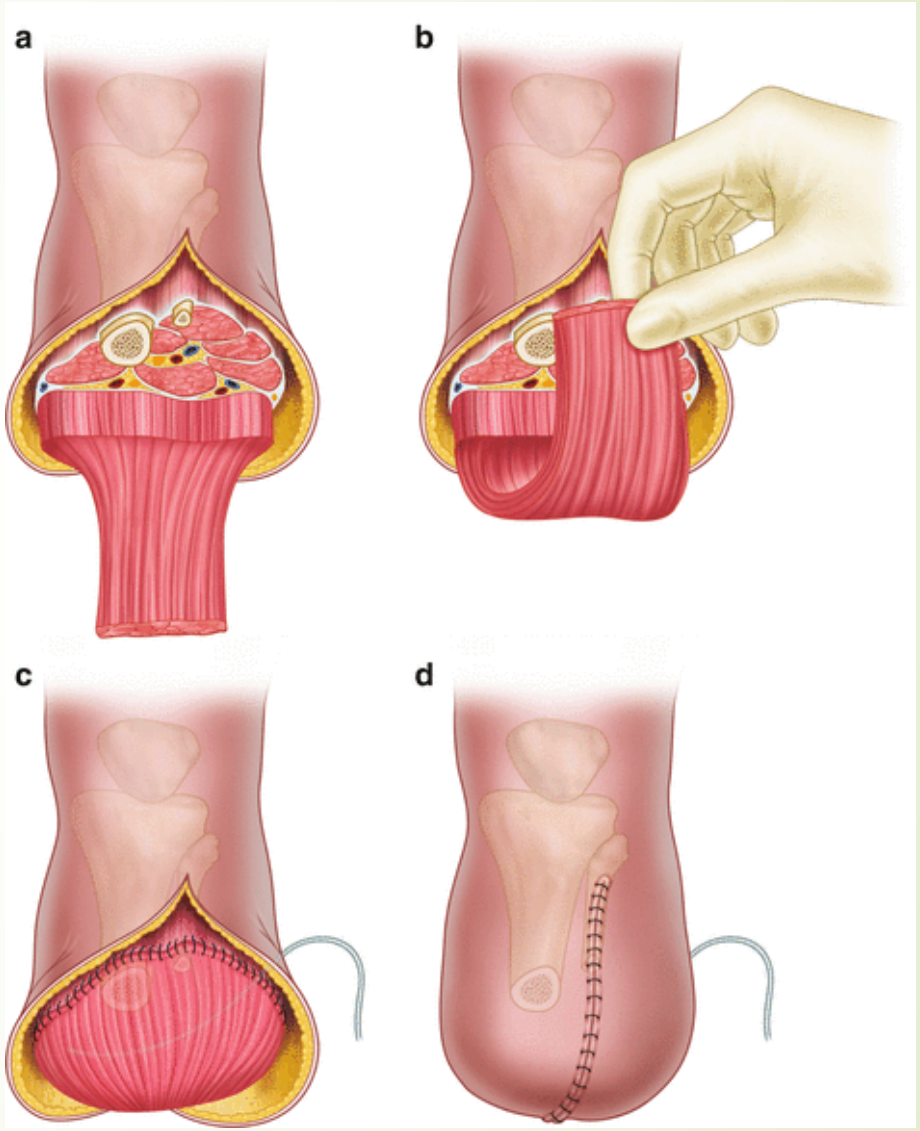
Options

- Transmetatarsal (forefoot) (30-40)
- Peg (Symes) (3-5)
- Below Knee Amputation
  - Posterior Flap (>100)
  - Skew Flap (5-10)
- Through Knee amputation.
  - Gritti-Stokes (10-20)
- Above Knee amputation (>100)
- Hindquater – very rare (2)

Total: approx. 250



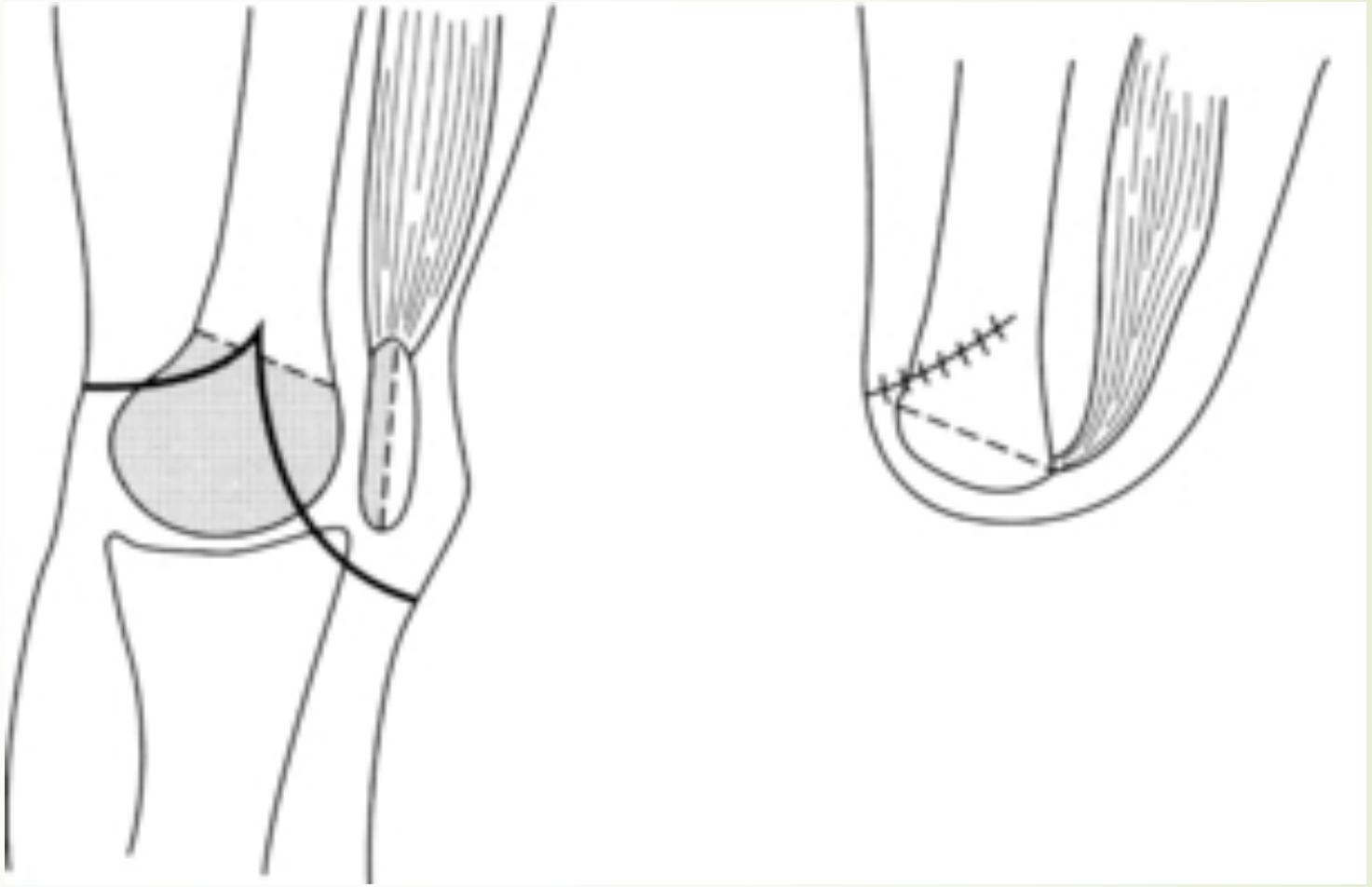
SKEW FLAP



Options

- Transmetatarsal (forefoot)
- Peg (Symes)
- Below Knee Amputation
  - Posterior Flap
  - Skew Flap
- Through Knee amputation
  - Gritti-Stokes
- Above Knee amputation
- Hindquater – very rare

GRITTI-STOKES



Options

- Transmetatarsal (forefoot)
- Peg (Symes)
- Below Knee Amputation
  - Posterior Flap
  - Skew Flap
- Through Knee amputation
  - Gritti-Stokes
- Above Knee amputation
- Hindquater – very rare

Determining Level

- Comorbidities
- Current Functional Status
- Rehabilitation potential

Levels of Rehabilitation

- Ambulation
- Ambulation with aid
- Transfer independently
- Transfer with one nurse
- Transfer with 2 nurses
- Transfer with Hoist



PERIOP CONSIDERATIONS…
Assessment of Level

- Surgeon assessment
- Femoral pulse +/-
- Skin temperature
- Skin quality
- Transcutaneous O2 but still a percentage game

PERIOP CONSIDERATIONS…

Establishing Arterial Flow

- Establishing arterial inflow to the groin so a BKA can be performed
  - (AKA BKA)
- Endovascular intervention
  - Eg iliac stents (10)
- Operations
  - CFA endarterectomy. (1)
  - FFXO. (1)
  - Ax Fem. (1)

PERIOP CONSIDERATIONS…

Analgesia

- Residual Limb pain
- Phantom Pain
  - Sensation
  - Pain
- Pain free before surgery
- Epidural prior to surgery
- Nerve blocks +/- catheters
  - Femoral / sciatic
  - Surgeon placed sciatic / tibial nerve catheters
- Ketamine infusions
- PCA
- Specialist meds for Phantom pain
  - TCD, Calcitonin, Gabapentin

PERIOP CONSIDERATION…

DVT prophylaxis

- Contralateral limb
- Amputated side
  - Chemical + mechanical prophylaxis
  - Liaise with anesthetist regarding timing

PERIOP CONSIDERATIONS…

Antibiotic Prophylaxis

- Antibiotic Prophylaxis
- Need anerobic cover for AKA
  - ie Augmentin / Cefazolin and Metronidazole
- If significant foot sepsis – be guided by micro cultures
- Cefazolin is otherwise adequate

PERIOP CONSIDERATION…

Physiotherapy

- Mechanical DVT prophylaxis
- Thigh
- Stump (BKA)

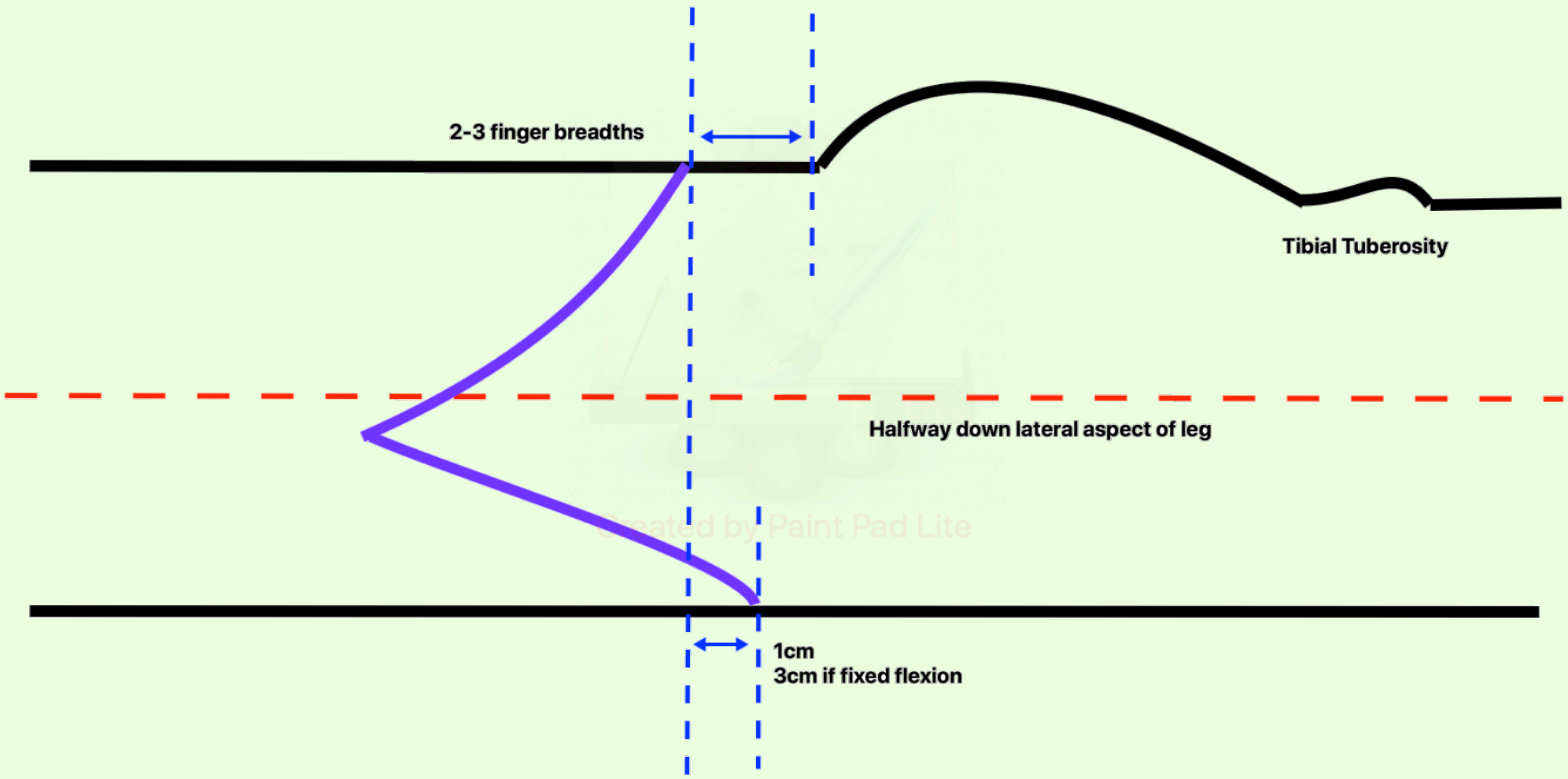
- Avoid trauma to BKA stump
  - Cot Sides
  - Patient mindfulness

Scenario 1.



- Locum in a provincial town. The overworked sole vascular surgeon has asked you to do an AKA one Saturday so they can go to golf
- Markings

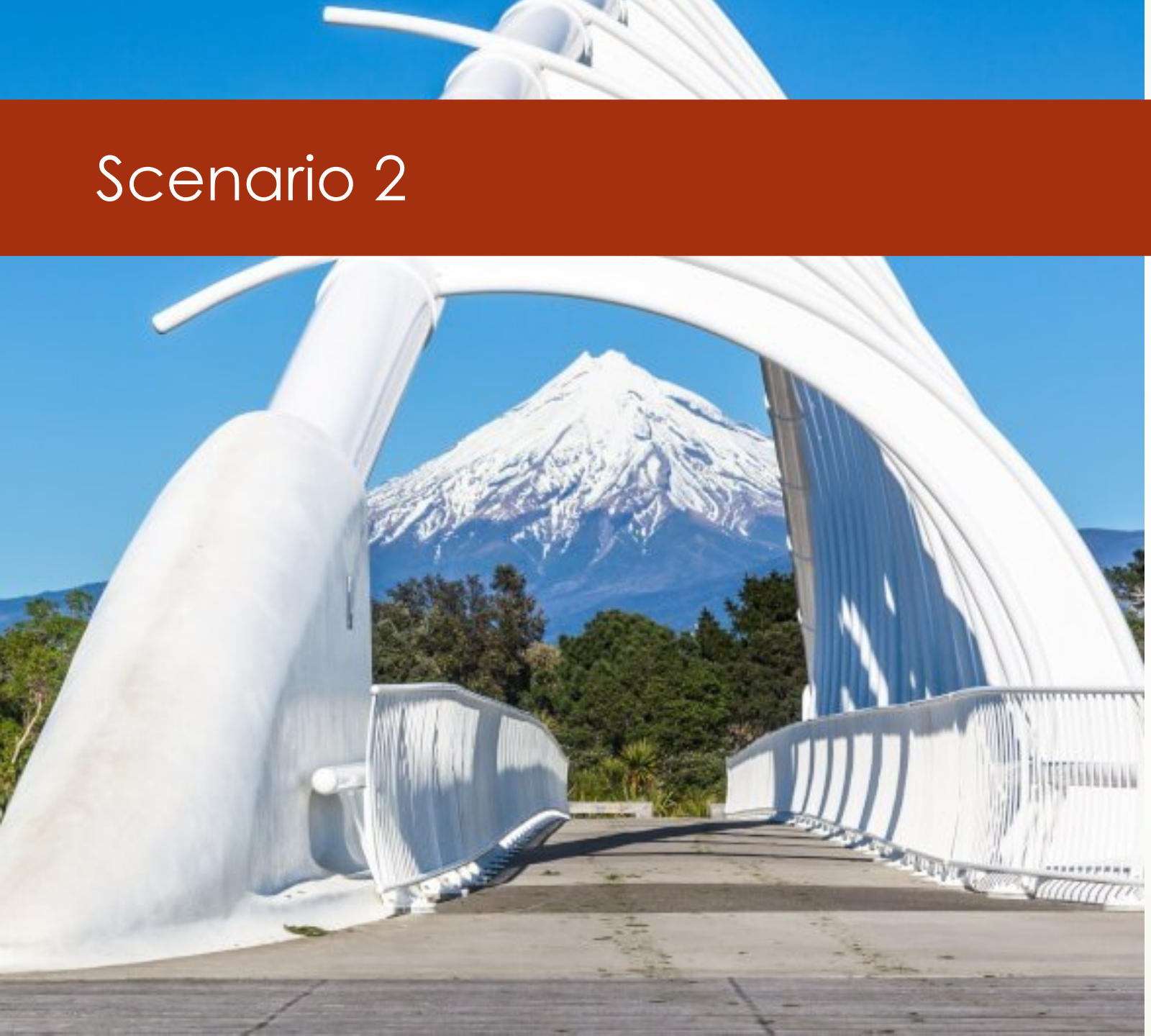
PREOPERATIVE MARKINGS FOR A BELOW KNEE AMPUTATION



Above Knee Amputation

- Fish mouth incision
- Posterior flap 2cm longer (especially if flexion contracture)
- Divide femur mid thigh
- 3:0 prolene transfixation suture if SFA patent
- Divide sciatic nerve as distal as possible initially – Beware of large nutrient arteries
- Sciatic nerve catheter
- Redi Vac drain

Scenario 2

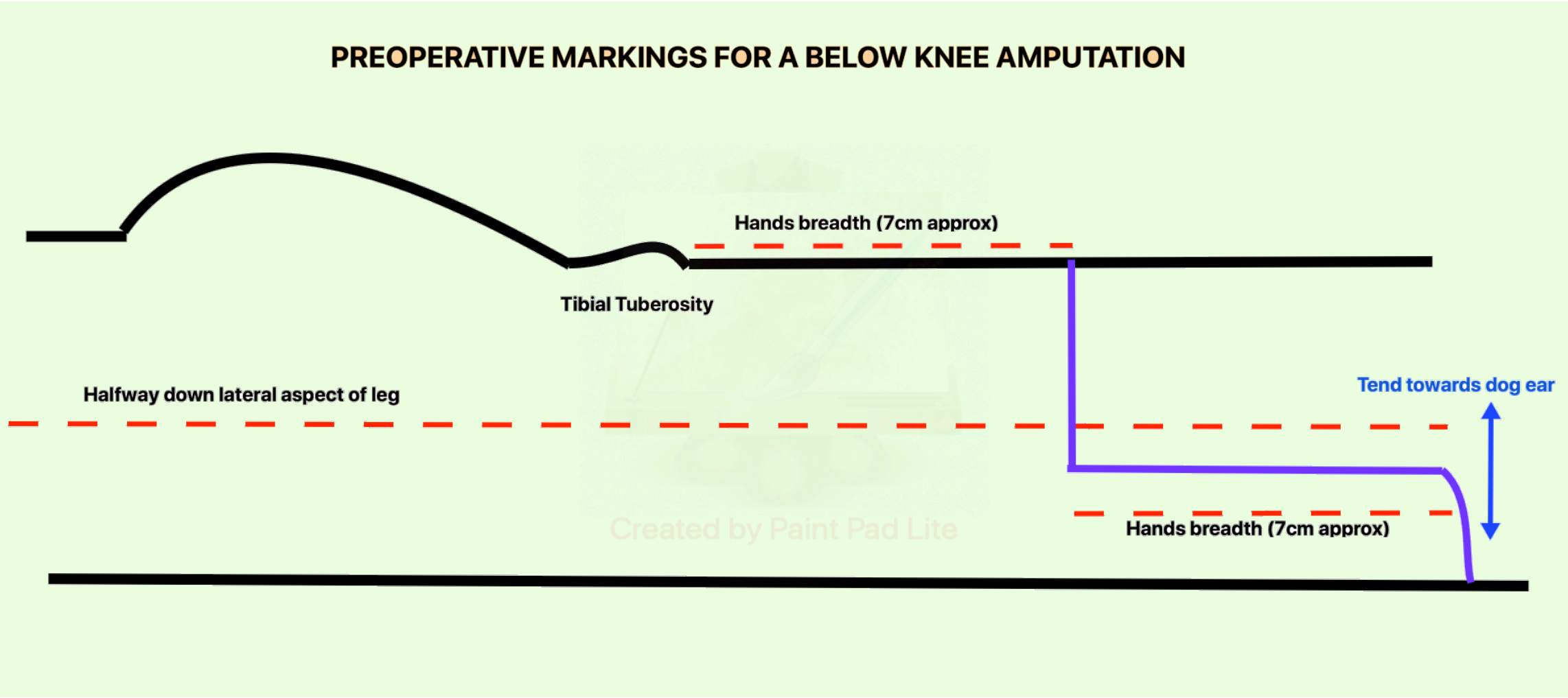


- Man presents in extremis with rapidly progressive necrotizing soft tissue infection and needs urgent amputation

- 1. Guillotine
- 2. Below Knee amputation
  - With oedema may be a staged operation

Below Knee Amputation

PREOPERATIVE MARKINGS FOR A BELOW KNEE AMPUTATION



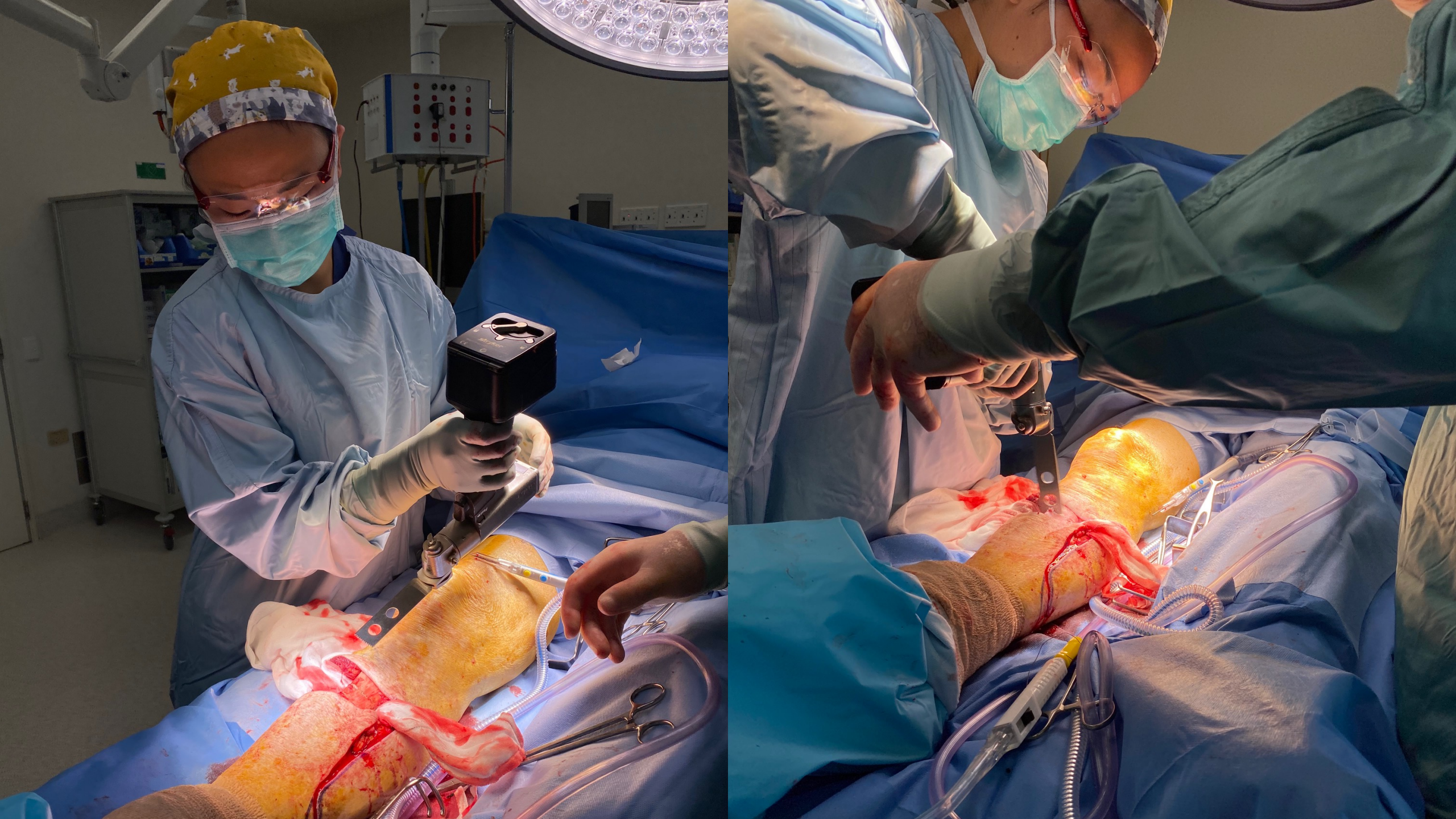




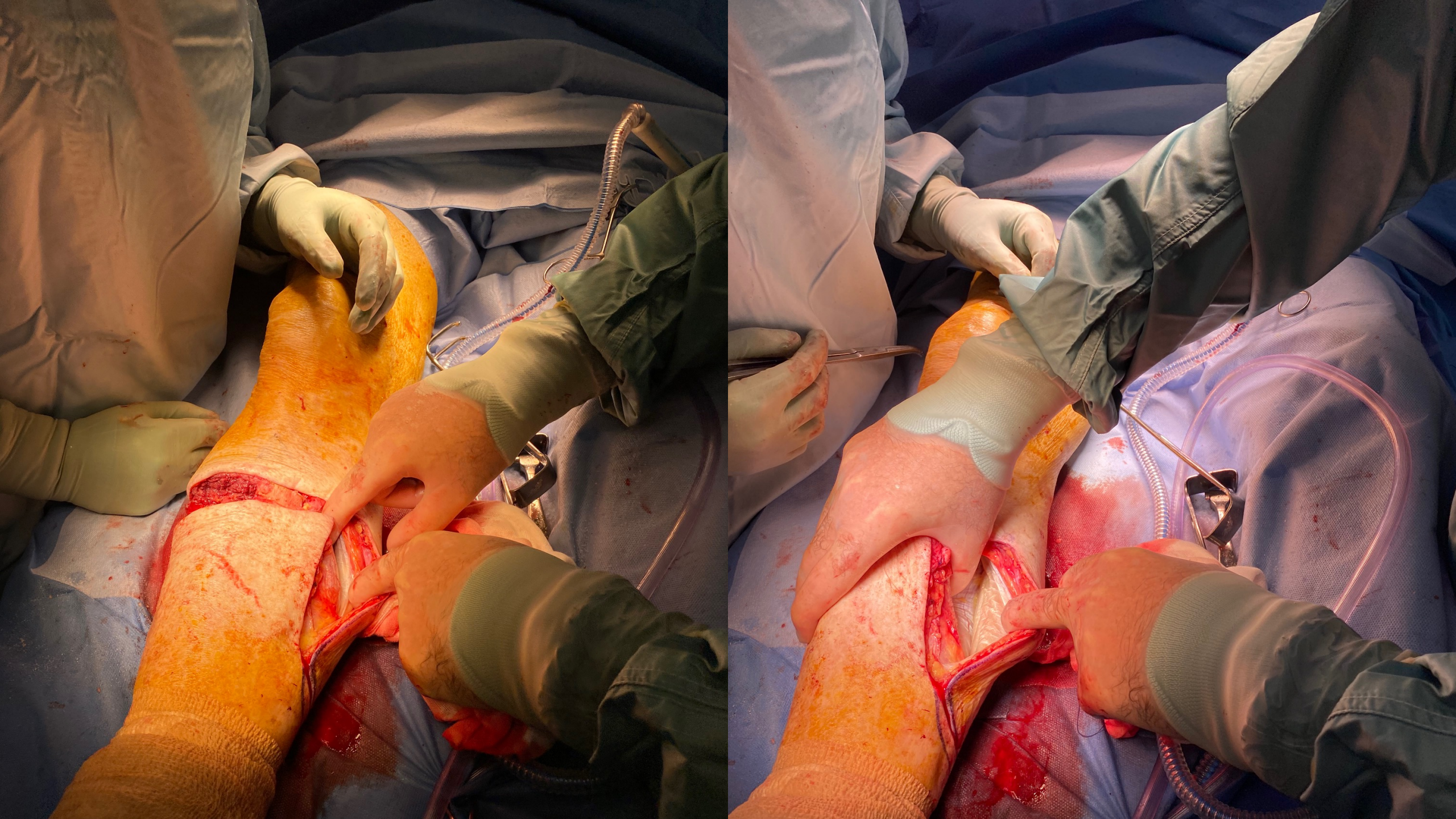




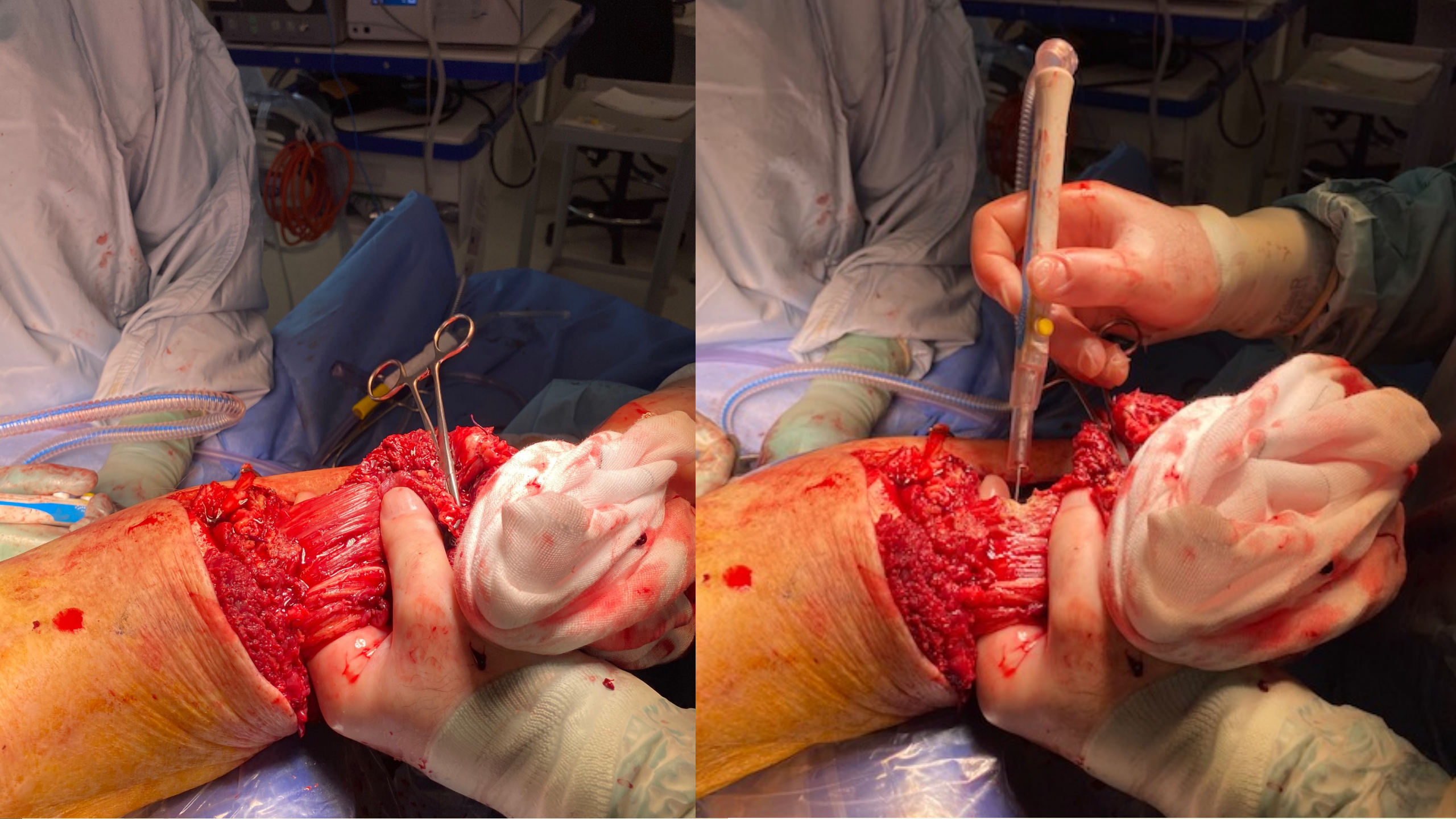




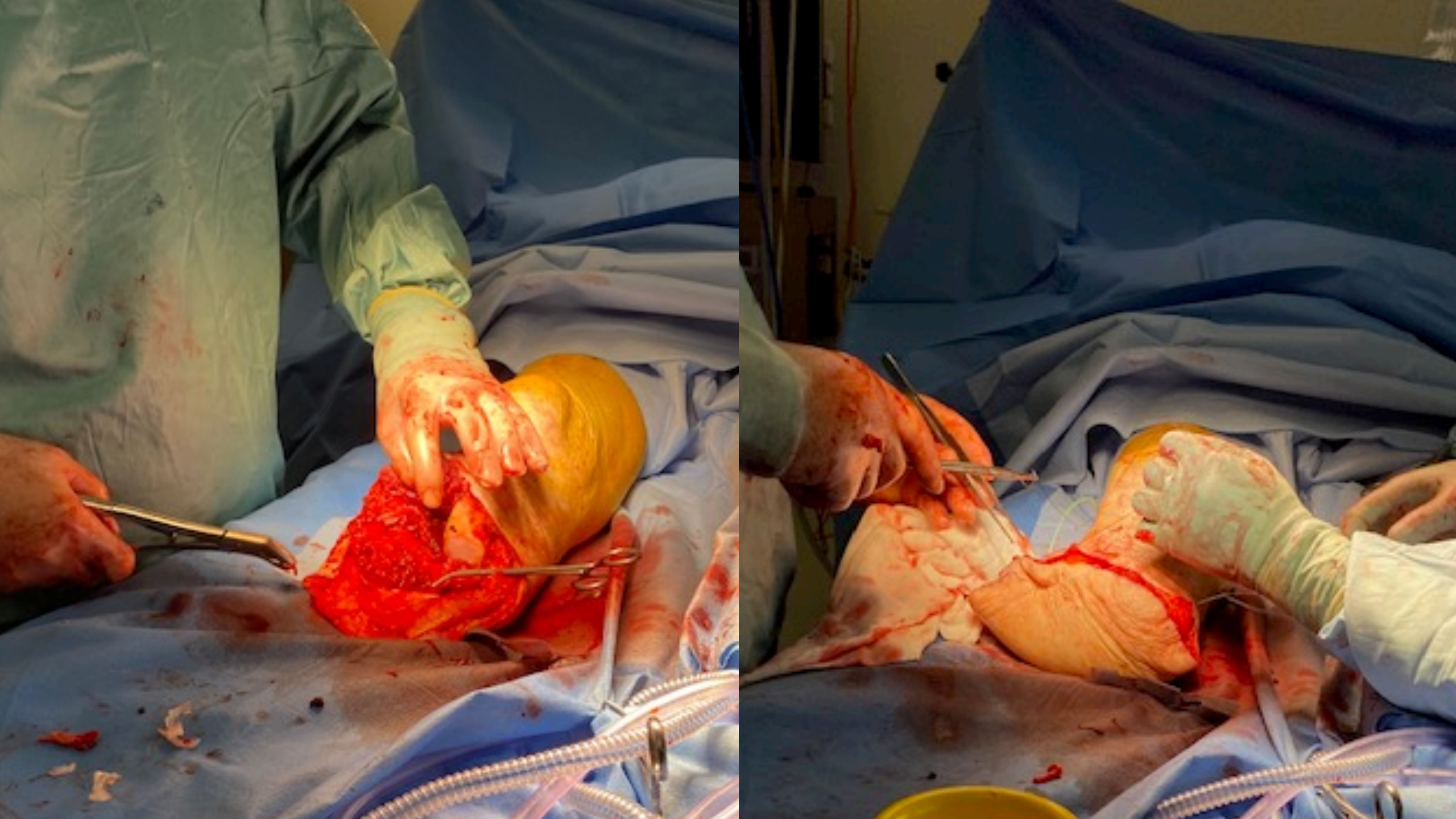








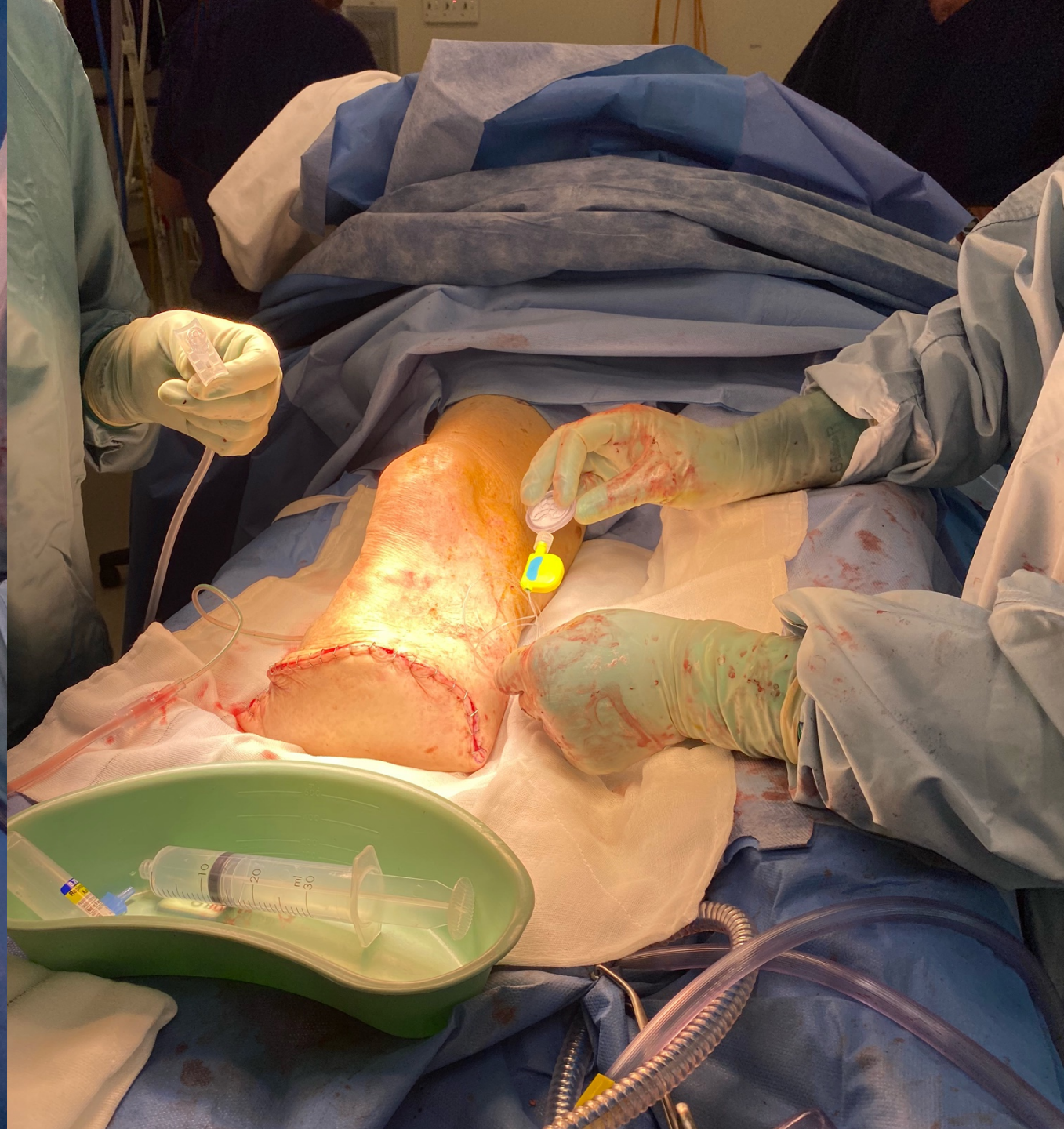


















- Happy customer




PATAI??

