Pretibial Injury

- Annual incidence is estimated to be ~ 1 in 9000 in New Zealand.
- The average age is between 63 and 77 years.
- 85-91% of these patients are females.
Pretibial Injury

**Mechanism**

- The injury results in a degloving injury of the soft tissue over the tibia which may occur at any tissue level.

- The degloved soft tissue is avulsed with a pedicle based inferiorly, superiorly or laterally.

- In some cases the soft tissue is completely detached.
Pretibial Injury

Mechanism

- The pretibial area is prone to injury.
- The skin in the elderly is thin, atrophic and inelastic
- Little subcutaneous fat to absorb the impact of any blow.
- This predisposition is often compounded by the effect of concurrent medications such as steroids.
**Pretibial Injury**

### Classification

<table>
<thead>
<tr>
<th>Type</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Haematoma, no significant skin wound</td>
</tr>
<tr>
<td>2</td>
<td>Skin degloved at the epidermal / dermal junction</td>
</tr>
<tr>
<td>3</td>
<td>Degloving at the subcutaneous level</td>
</tr>
<tr>
<td>4</td>
<td>Extending to fascia or periosteum</td>
</tr>
<tr>
<td>5</td>
<td>Flap extending to bare bone or tendon</td>
</tr>
</tbody>
</table>
Pretibial Injury

**Type 1 - closed injury**

- Closed injury with an underlying haematoma causing swelling and tension.
- The tension will kill the overlying skin.
Pretibial injury

Type 1 - Treatment

- Early incision & drainage of haematoma & insertion of drain.
  - Refer for debridement if there is overlying skin necrosis, as split skin grafting will be required.

- Padded dressing with elastic support.

- Elevate the foot for **24 hours** then mobilize, still keeping the leg up when sitting.

- Prophylactic antibiotics.
Pretibial Injury

Type 2 - epidermal/dermal

- Rare.

- Epidermal loss - like an abrasion or a partial thickness burn.

- The dermis remains and healing will be from this dermis.
Pretibial injury

**Type 2 - Treatment**

- If the epidermal layer is still present, it is cleaned & laid on the wound.
  - No attempt to suture or tape.
- If the epidermis is dirty or too traumatised, cut it off.
- If epidermal layer is missing, a skin graft is not usually required.
- Padded dressing with elastic support.
- Elevate the foot for 24 hours then mobilize, still keeping the leg up when sitting.
- Prophylactic antibiotics.
Pretibial Injury

**Type 3 - subcutaneous plane**

- Skin is usually **absent or not viable**.
Pretibial injury

**Type 3 - Treatment**

- If the flap is viable, the wound is cleaned and dressed
  - Do not suture or steristrip.
- Otherwise, refer so all devitalised tissue is removed & the wound repaired with a skin graft.
- Jelonet, padded bandage, elevation, AB’s
Pretibial Injury

**Type 4 - periosteal / fascial plane**

- Patient is referred acutely to A&E.
- Exposed fascia is excised & a skin graft laid directly onto muscle
- The limb is Splinted.
- Mobilised at 24hrs.
- Prophylactic antibiotics.
Pretibial Injury

**Type 5** - exposed bare bone / tendon

- Patient requires admission.
- Local flap for bone / tendon coverage & skin graft of secondary defect.
- Small drain used.
- Splinted and mobilised at 4 days.
- Prophylactic antibiotics.