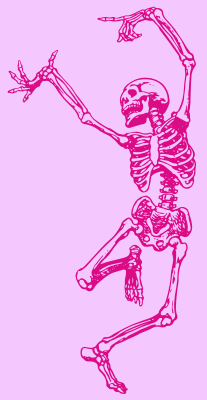
NHS
University Hospital Southampton
NHS Foundation Trust

Skin traction

WHEN, WHY AND HOW?



Tractions

Traction is the application of a pulling force for medical purposes, used to treat muscle or skeletal disorders. Nowadays, surgical treatment is the preferred method of treatment for fractures and tractions are used as a temporary method.

(RCN, 2021)

Let's focus on lower limb skin traction!

When?

- Pre-operative adults with midshaft femur fracture

(Agbley, Holdbrook-Smith and Ahonon, 2020).

- Pre-operative adults with hip fractures - on delayed surgeries.

(Kobayashi at al, 2020).

Why?

- Relieve pain (helps reduce muscle spasms and discomfort associated with the injury)
- Reduce a fracture (helps to align the fracture bone ends)
- Stabilise and maintain bone alignment

(Duperouzel, Gray & Santy-Tomlinson, 2018).

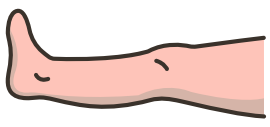
Before the procedure

- Explain it to the patient
- Administer pain relief
- Neurovascular assessement
- Check the skin for contraindications
- Get the weight prescription by a Doctor (ideally, 7% of patient's body weight).

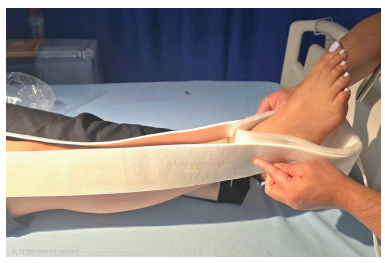
How?

You will need: two health care professionals, a traction kit, tape, scissors, weights and carriers ("swan neck").

1) Apply and maintain manual traction to the limb, keeping the leg in alignment;



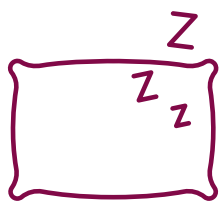
2) Apply skin extensions: cover bony prominences and leave space between patient's foot and the end of skin extension;



3) Bandage the skin extensions: 2cm above both malleoli and leave the knee area exposed;

5) Secure the ends of bandage with tape;

6) Elevate the leg on a pillow;



7) Provide counter traction (elevate the foot using bed features);

8) Connect the cord to the weights passing through the carrier ("swan neck").

Et voilá!

Nursing care

- Check neurovascular observations:
- Assess if weights are suitable and are hanging freely
- Confirm that weights and counter traction are maintained at all times.

- Remove bandages and check the skin at least every 24 hours
- Check neurovascular status
- Provide comfort and ensure pressure relief
- Adjust bed clothing
- Encourage deep breathing, upper limb strengthening and foot exercises

- Have I mentioned neurovascular observations??

Scan it for full step by step

Author: Maria Pereira, RN

References:
Royal College of Nursing (2021) Traction Principles and Application. London: Royal College of Nursing.
Duperouzel, W., Gray, B. and Santy-Tomlinson, J. (2018) 'The principles of traction and the application of lower limb skin traction', International journal of orthopaedic and trauma nursing, 29, pp. 54–57. doi:10.1016/j.ijotn.2017.10.004
Agbley, D.Y.D., Holdbrook-Smith, H.A. and Ahonon, Y. (2020) 'A comparative evaluation of the efficacy between skeletal traction and skin traction in pre-operative management of femur shaft fractures in Korle Bu Teaching Hospital', Ghana medical journal, 54(3), pp. 146–150. doi:10.4314/gmj.v54i3.4
Miedico, M. et al. (2023) 'The use of skin traction in the adult patients with proximal femur fracture. What are the effects, advantages and disadvantages? A scoping review', International journal of orthopaedic and trauma nursing, 49, p. 101004. doi:10.1016/j.ijotn.2023.101004
Kobayashi, T. et al. (2020) 'Pain relief after more than 24 hours of preoperative skin traction in patients with intertrochanteric fractures: A retrospective comparative cohort study', International journal of orthopaedic and trauma nursing, 37, p. 100754. doi:10.1016/j.ijotn.2020.100754