Clinical Manifestations of Friction and Shear Related Skin Breakdown. Resolution of Oedema and Inflammation Measured by Ultrasound on Heels Treated with Low Friction Fabric Bootees

Cathie Bree-Aslan
Why Bother about Friction?
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What are we trying to achieve?

Comfort

Maintaining skin integrity

Prevention of harm
How do we achieve it?

Ensuring good positioning

Careful repositioning

Specialist friction-reducing equipment
Positioning and Repositioning

- Bringing the knee break up first on the bed
- Using slide sheets to aid repositioning
- Correct/appropriate seating
- Ensuring patient is comfortable before walking away
- Checking back regularly (Comfort Rounds/SKIN Bundles)
Conditions that might increase risk of friction-related damage

e.g.
- Neurological Disorders (Parkinson’s Disease/tremors)
- Brain Injuries (increased agitation)
- Dementia (repetitive movements)
- Spinal Injured (e.g. transfer techniques)
- Mobile patients??

Know Your Patient
The patient that is able to push themselves up in the bed is at great risk of friction and related shear injury.

Check their skin regularly (sacral area, elbows, heels)
Why Bother about Friction?

EPUAP – NPUAP Guidelines (2014)

Recommend we consider the potential impact of contributory factors in pressure ulcer etiology including Friction

Consider using silk-like fabrics rather than cotton or cotton-blend fabrics to reduce shear and friction
Parafricta low friction fabric

Designed to reduce friction and shear stress associated with movement

Has a low friction co-efficient = 0.2
(compared with other textiles = typical range 0.3 - 0.7)

Reduced “Stiction”
(additional force needed to overcome skin sticking to surface before sliding)
Results with Parafricta bootees

Patient as their own “control”
High Frequency Ultrasound Scanning

Normal skin

Sub-dermal oedema
High Frequency Ultrasound Scanning

High Frequency Ultrasound scans before and after using Parafricta bootee
High Frequency Ultrasound Scanning

Control ➔

Normal

Treated ➔

0  ➔  2Week  ➔  4Week
High Frequency Ultrasound Scanning

Hampton, S et al, “Parafricta material, can it reduce the potential for pressure damage?” Journal of Community Nursing 23(4) (2009) 28-31
Oedema and Redness

SUMMARY:

Can be reversed by low friction fabric bootees

Leaving tissues less vulnerable to effects of shearing

Reducing risk of progression to open ulceration
Managing Friction

Should be part of a pressure ulcer/friction lesion prevention strategy

*Can* be avoided by:

- Good positioning
- Careful repositioning
- Specialist equipment
Thank you!
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