

Multidisciplinary Pressure Management for the Complex Client

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Background

Pressure ulcers can be difficult to manage for multiple reasons. Foremost is an inability to offload pressure from risk areas, often due to postural asymmetries or joint limitations, but also lack of awareness, strength or control. Many pressure ulcers resolve themselves with standard measures, local management and basic equipment. However, some pressure ulcers are difficult to heal, with more complex scenarios. This requires multi-disciplinary support, tailored education and sometimes bespoke equipment. A holistic and co-productive approach must be used in order to manage the overall implications of pressure.

The four case studies below exemplify the challenges supported by PUPIS with our complex clients, demonstrating the need for an MDT approach and bespoke solutions. Sharing experiences and learning from others in the field, we hope to progress our practice and that of others, to more effectively support those clients who call for us to explore beyond our standard box of tools.

“Complex Spine – personalised protection”



Figure 1 – Spinal prominence; client wearing vest with silicon protection

Patient – Miss A

- Spina Bifida; Osteopenia
- 8 years old
- Repeat spinal surgery (Fig 1)
- Regular skin breakdown to spinal prominence
- Limited sensation in back
- Various seating equipment used
- Mobilises on floor
- Very active!
- Silicone pad added to vest for added protection (Fig 1,2)

WHAT IS IMPORTANT?

- **Bespoke** – options to adapt equipment (clothing in this case) with silicon protective layer
- Multi-disciplinary approach working with OT on seating surfaces
- Active clients often use a wide range of surfaces – all of these must be considered
- Education/engagement – interface pressure mapping; ‘special’ vest/pad

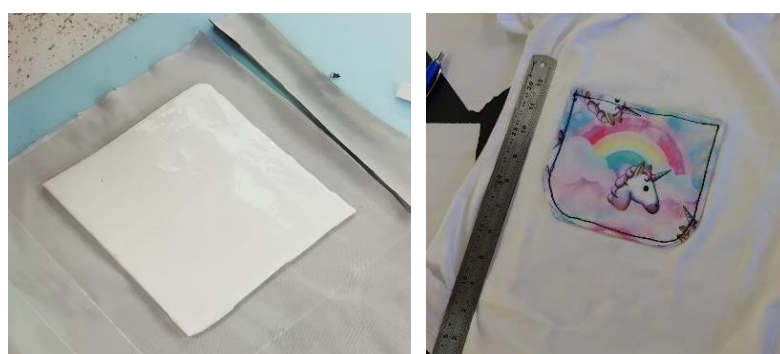


Figure 2 – Silicone sheet used, sewn section in T-shirt

“Mega Bony – customisation”

WHAT IS IMPORTANT?

Shape is significant for pressure distribution¹. Previous PUPIS experiences have found that individuals with extreme muscle atrophy and who have very **prominent ischial tuberosities** can struggle to optimise pressure distribution with standard pressure relieving equipment.

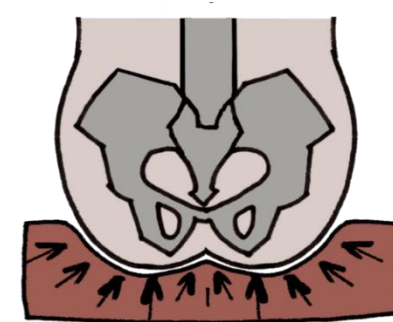


Figure 3 – Principle of immersion



Figure 4 – Cast to produce custom contoured cushion

PATIENT – Mr B

- Paraplegic due to aortic aneurysm surgery complication
- Category 4 pressure ulcers to left ischial tuberosity, left hip and sacrum.
- Single valve air cell based cushion – fully inflated for comfort; knowingly compromising on pressure relief.
- On >2 occasions, the single valve air cell based cushion deflated - cannot independently repair the cushion and has no regular support.
- **Custom moulded seating** was a reliable option, combining postural support, function and pressure distribution (Fig 4,5).
- Over 2 years later, the bespoke cushion is still in use and working well.



Figure 5 – Front and overhead view of custom contoured cushion

“Contractures – MDT approach”

WHAT IS IMPORTANT?

- A multi-disciplinary approach allows the **holistic and proactive approach** for the management of pressure ulcers in combination with dementia and contractures⁶.
- MDT – Rehabilitation medicine consultant, occupational therapist, physiotherapist, clinical nurse specialist, rehabilitation engineer
- Contractures, both fixed and flexible, can make pressure ulcer management problematic as standard equipment isn't always practical.



Figure 6 – bed position post-Botox



Figure 7 – bed position pre-Botox

PATIENT – Mrs C

- Primary diagnosis is Parkinson's, secondary diagnosis of dementia
- Patient goals – to wash her own hair.
- **Medical management** – botulinum toxin administered to right hamstrings, left adductor, right ankle inverters.
- **Physiotherapist** input post botulinum toxin
- **Occupational therapist** for equipment
- **Clinical nurse specialist** for wound management
- **Rehabilitation engineer** for custom moulded seating to allow sitting out.
- Micro bead bad for immersion
- Able to use paediatric T-Roll post-Botox

“Empowering independence”

WHAT IS IMPORTANT?

- **Independence** is a vital factor for some clients, which can present challenges with pressure ulcer management⁵.
- **Self-management** is crucial.
- The development of technology for healthcare allows healthcare professionals to educate and engage with clients at the point-of-care².
- Goal to allow clients to be independent, as safe as possible, ensuring they have knowledge to make informed decision

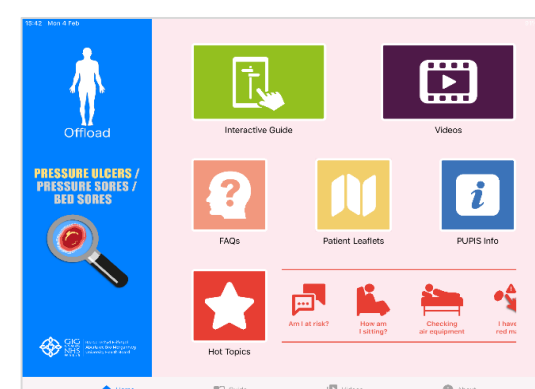


Figure 8 – Front screen of Offload app³

PATIENT - Mr D:

- Lives alone and fights to remain independent.
- Left above knee amputation
- Right knee fixed contracture.
- Declined hoisted transfers to maximise independence.
- Surgical closure of category 4 pressure ulcers to left and right ischial tuberosity.
- **Interface pressure mapping** (Fig 9) provided Mr D with the knowledge of his posture in relation to pressure, and the effect of pressure relieving exercise.
- **Offload app** (Fig 8) was used to further enhance knowledge for pressure ulcer prevention.

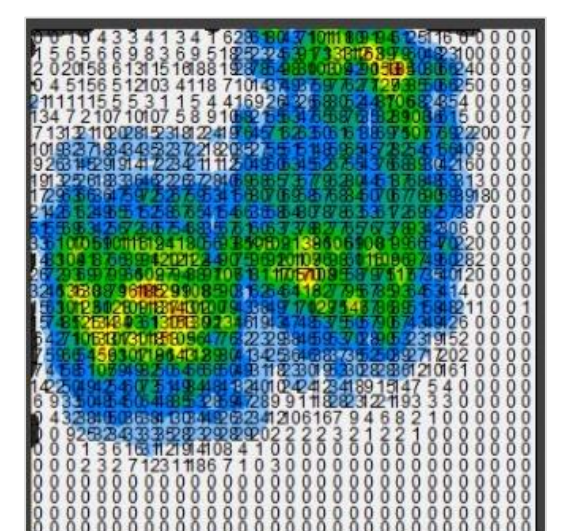


Figure 9 – Interface pressure mat output⁴

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References

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Pressure Ulcer Prevention and Intervention Service

PUPIS, part of the Rehabilitation Engineering Unit, is an award-winning, collaborative team which sees in excess of 250 complex pressure ulcers per year. Consisting of nurse specialists, rehabilitation engineers and clinical scientists it adopts a truly multidisciplinary and holistic approach to pressure ulcer management