

### Background

Reported reasons to use Sleep Systems as part of a 24hr Postural Management Programme

Maintain Posture    Reduce Pain    Pressure management    Improve Sleep Quality    Protect Body Shape    Manage Spasticity    Respiratory Benefits

### Case study

- Fifteen-year-old girl with CP
- Referred to Chailey Clinical Services posture clinic
- To consider night-time management of posture
- To optimise position for management of oral secretions

Health considerations:

- GMFCS Level 5
- Severe learning disability
- Respiratory symptoms/recurrent chest infections
- Communication difficulties
- Gastrostomy fed
- Epilepsy

### Clinic Assessment Findings

- Comfortable and relaxed in right side lying introduced as part of Breath Easy study.
- Lack of stability and maintenance of position on existing mattress with current set up of pillows and bolster not give consistent and easy repeatability
- No critical limitations of range of movement in lying

### Equipment prescription

- Jenx Dreama
- Positioning pad 1 XL and 4 L
- Dreama memory foam pad
- Ziggy
- Side lying pad
- 2 x pillows (1 x behind head/ 1 x between legs)



### Method

- Single case study
- Young person with complex Neuro-disability
- Comparison between pressure relieving foam mattress and Jenx Dreama sleep system
- Two lying positions, supine and side lying

### Equipment used

#### Pressure measurement system

- Boditrak pressure measurement system
- With torso pressure matt

#### Sleep equipment

- Foam pressure relieving mattress
- Jenx Dreama sleep system (no lateral supports in place in supine)



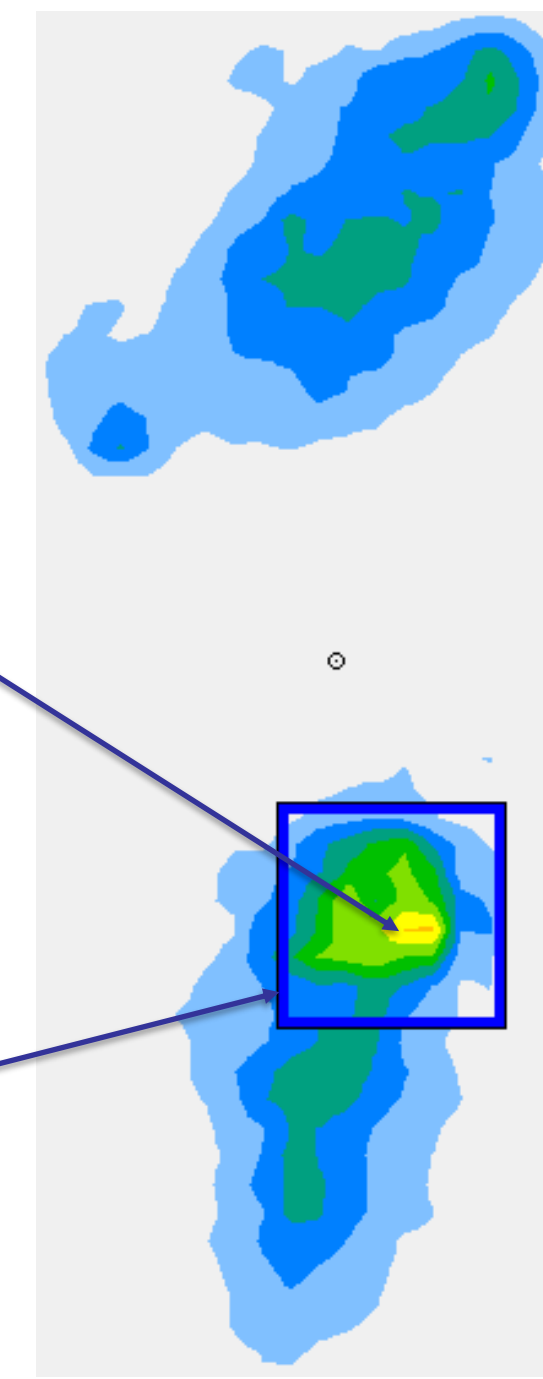
Shoulder and hip side lying on R/H side standard foam pressure relieving mattress

Side lying position on pressure mat

Pressure map reading

Max 226.86 mm Hg

Pressure loading is concentrated over a small area, i.e. the greater Trochanter



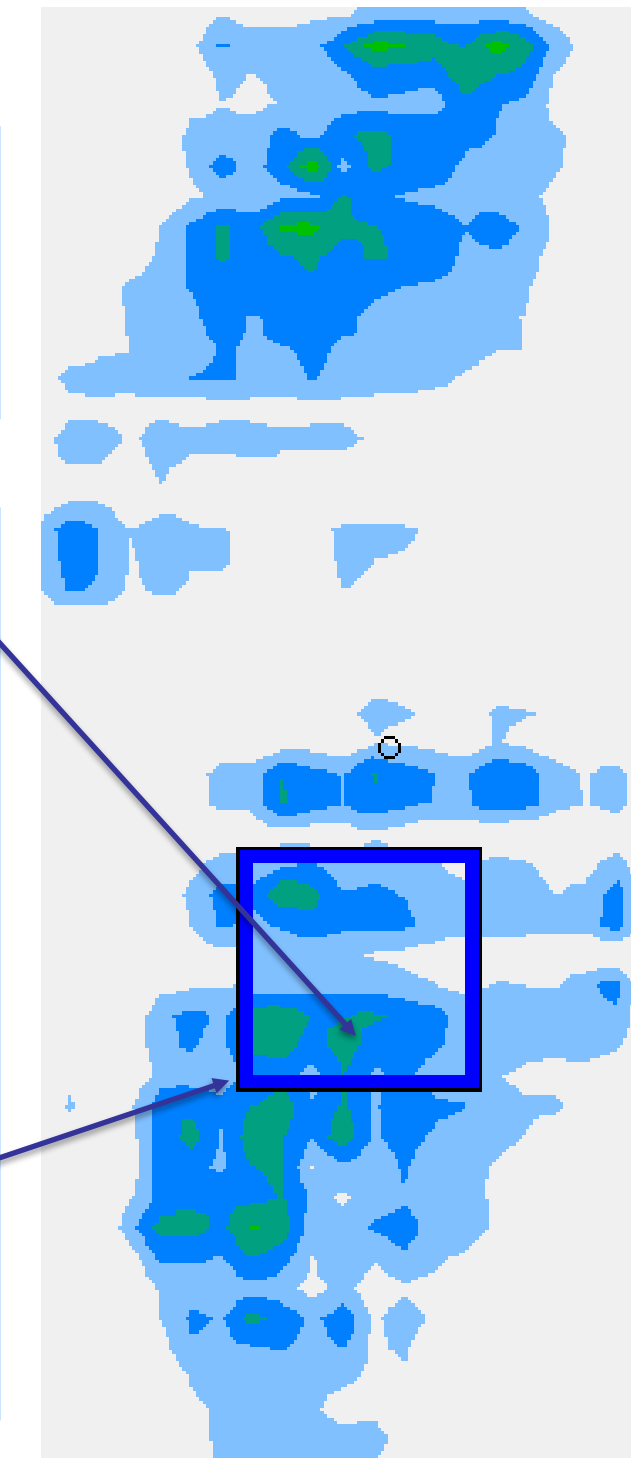
Shoulder and hip side lying on R/H the Dreama

Side lying position on pressure mat

Pressure map reading  
Max 116.30 mm Hg

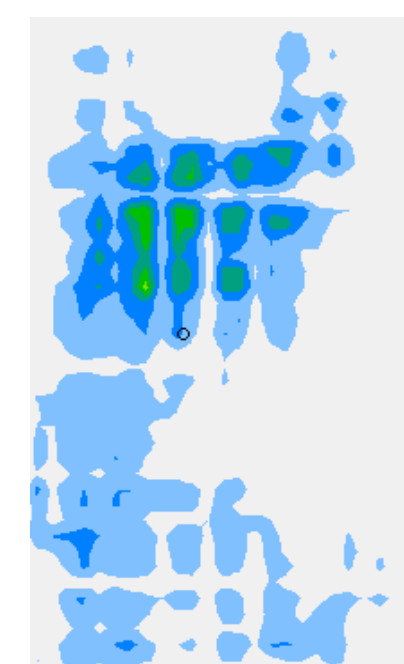
Pressure loading has been distributed over a larger area, leading to a 50% reduction of pressure.

Over-all mat pressure was reduced by 64%

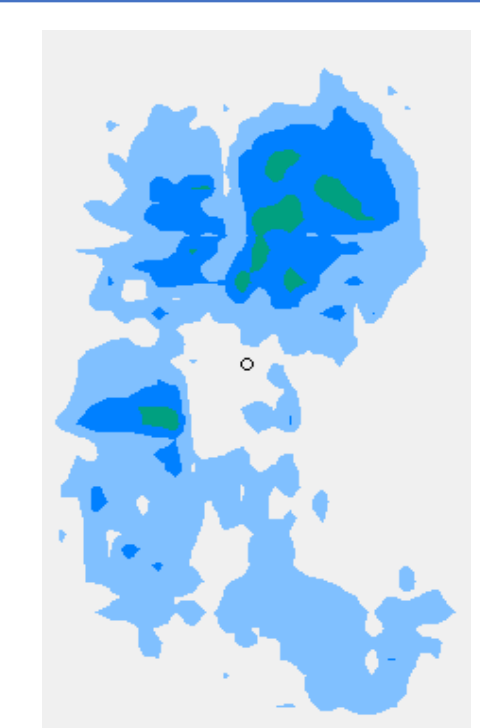


Supine lying on the Dreama

Supine lying on standard pressure relieving foam mattress



In supine lying, similar results in pressure distribution were found on both surfaces



### Discussion

- Lower maximum pressure reading over a more uniform pressure distribution when in side-lying on Dreama sleep system
- Good repeatable alignment of posture achieved in Dreama
- Stable side lying position achieved
- Dreama system supported strong dystonic movement pattern
- Positive impact on posture for secretion management
- Good carer engagement with use of the system
- Carer reports good sleep outcomes for young person
- Carer reports ease of manual handling in and out of the sleep system

### Summary

- Identifying and reducing high pressure gradients is an essential consideration when prescribing postural management systems
- Sleep systems, such as a Dreama, can help to reduce higher pressure gradients and maximum pressure values
- Dreama provided good positioning in supine and side lying for this YP
- Position maintained during use of equipment
- Positive carer feedback

### References

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- [Our Breathe Easy Study | Sussex Community Trust Foundation Research](#)
- Polak, Frances; Clift, Maxine; Clift, Laurence (2009). Buyers' guide: night-time postural management equipment for children. Loughborough University. Journal contribution.
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- Wood and Brown. An Exploratory study: The effects of sleep systems on sleep quality, pain and carer goals for non-ambulant children. J Rehab Assist Technol. 2022 Jan-Dec; 9