



# clinical trials

sleep system



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Principal: Mrs Chris Davies

September

## Case Study – Sleep System

There are 95 students from age 3 to 19 attending Victoria Education Centre. It has a multi-disciplinary team; the Physiotherapy team of 5 provides the following service

The aim of Physiotherapy treatment at Victoria Education Centre is to encourage each pupil to achieve his or her maximum physical potential.

The Physiotherapy staff will assess each pupil and create a school and home therapy plan. This may include some or all of the treatments below.

**Passive exercises:** to maintain joint and muscle flexibility including Orthotic provision.

**Active exercises:** to assist the pupil to progress through physical development milestones. Specialist equipment such as the Brunel Active Balance Saddle and the Static Bicycle may be used.

**Postural care:** to encourage a symmetrical body posture. This may include using positioning equipment as necessary such as a standing frame, sleep systems, corner seat, prone or supine trolley, side lying board or a wedge.

Greg is 10 years of age. He has Quadriplegic cerebral palsy with associated profound learning difficulties. He has bilateral dislocation of his hips and spinal scoliosis. He is experiencing pain probably as a result of his orthopaedic problems and this is causing an increase in his extensor patterns of movement. This is making it difficult for him to settle in his current sleep system and his seating in his wheelchair. As part of Greg's 24 hour postural management programme he spends time out of his seating during the day in side lying. He needs a support system to maintain him in a good position to protect his hips and spine but also to allow him to interact in the classroom.

In supine, Greg lies with both legs adducted and internally rotated. The left is considerably worse than the right. This position is exacerbated by his extensor patterning in his lower limbs and drives his hips into a poor position.

He also tends to turn his head towards the right which drives his ATNR. His left arm is more often flexed up and his right extended.

His trunk is side flexed to the left with pelvic obliquity and rib asymmetry.



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On assessment with the sleep system the following components were tried and prescribed for Greg.

For use on the Acheeva Bed:

- Horseshoe (9014) S2 with 3 inner cushions.
- Star (9021) S2
- 2 x sheets (160cm x64cm x8cm)
- For use with his previously prescribed sleep system:
- Snooze W leg trough (9005) S2 with wrap.

Outcome: In a short trial with the equipment Greg was able to be more comfortably positioned and maintained in a more symmetrical position.

Following his extensor patterning when his tone increases he relaxes well back into the system, requiring minimal repositioning. His head can be well positioned using the star cushion and being able to change the arms of the star individually is very helpful for when Greg is working in class or when he is just relaxing.

The ease of repositioning the horseshoe quickly and accurately when he is turned from side to side is assisting with keeping him comfortable and minimising the likelihood of further deterioration of his spinal scoliosis.

Carolyn McNally  
Senior Physiotherapist

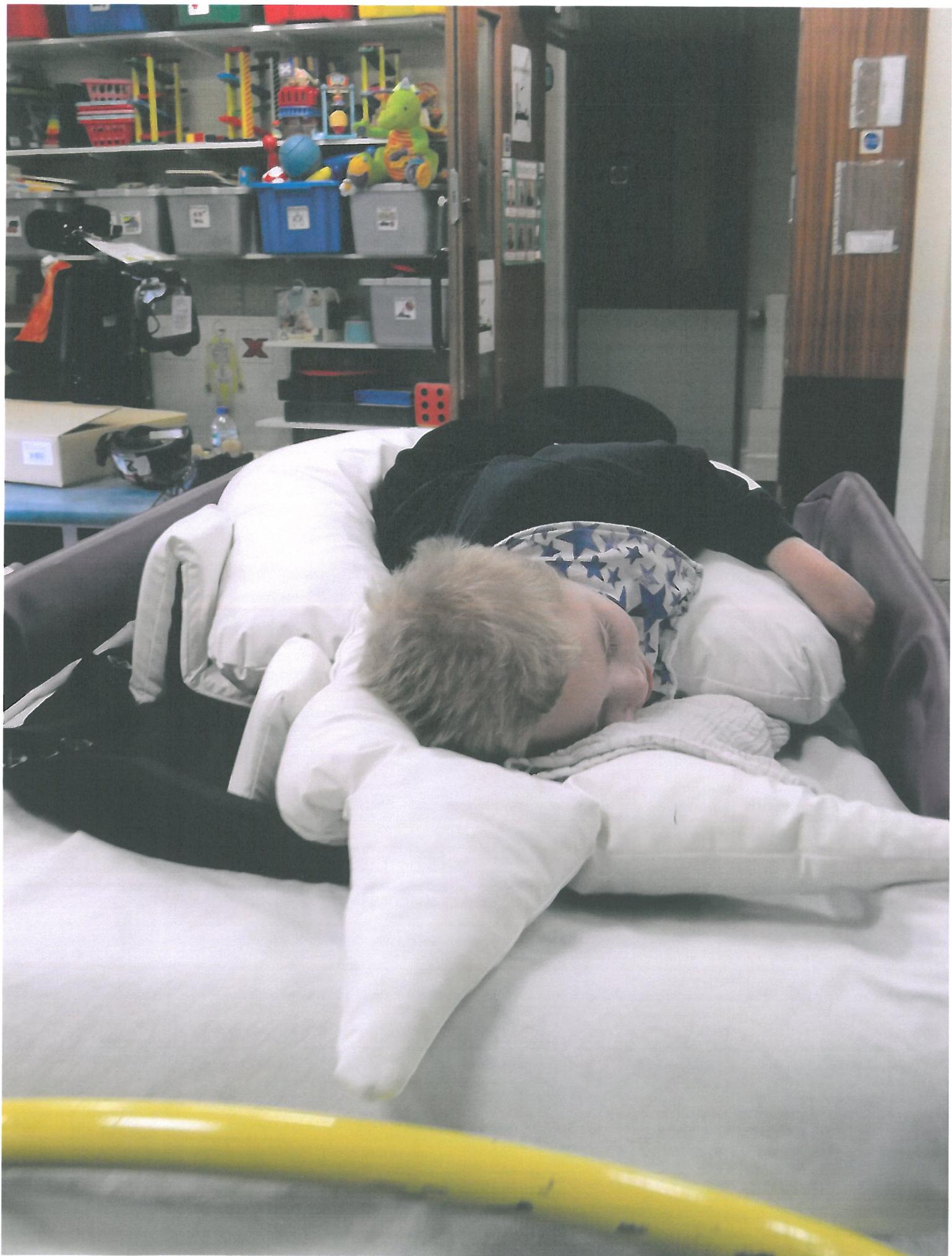


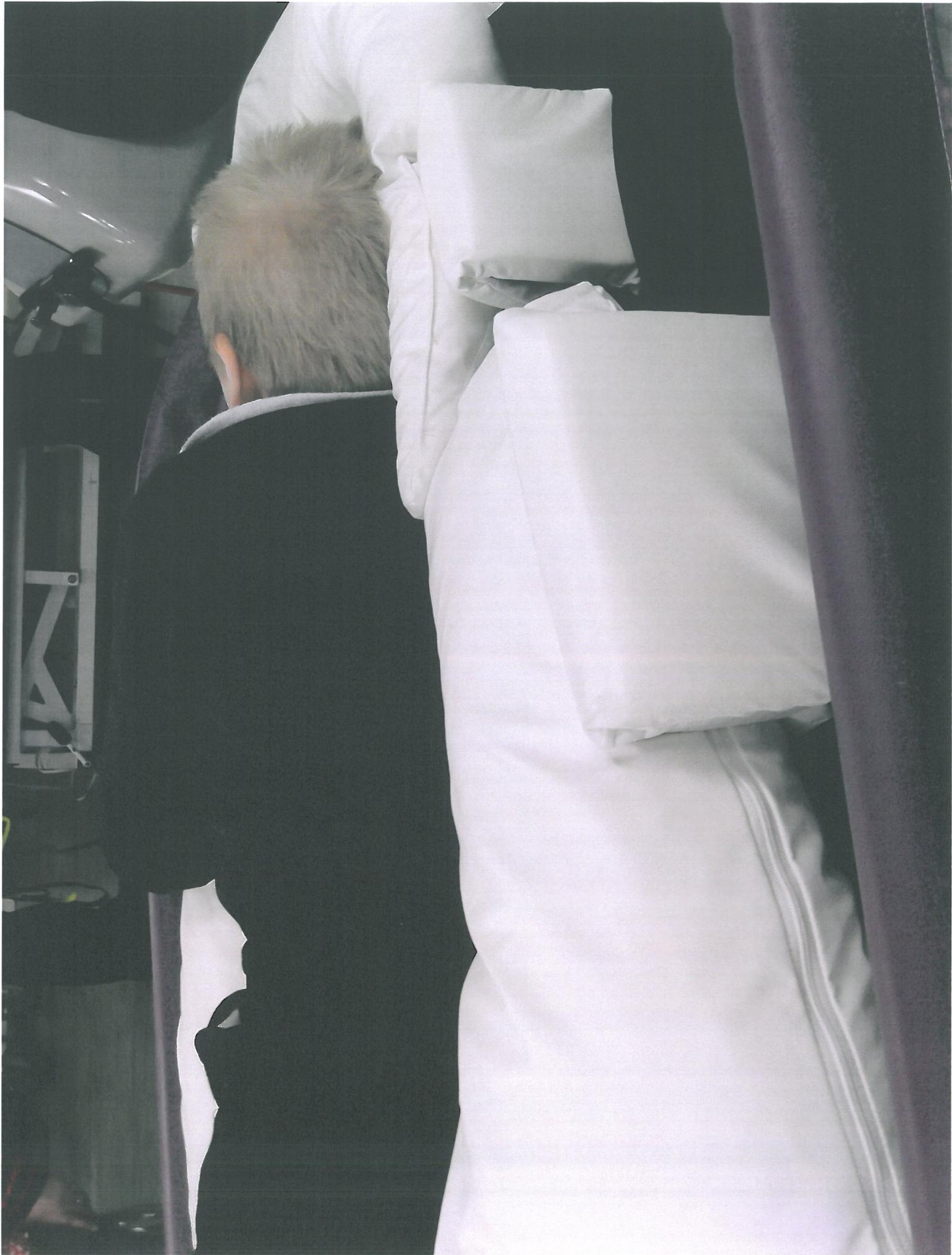
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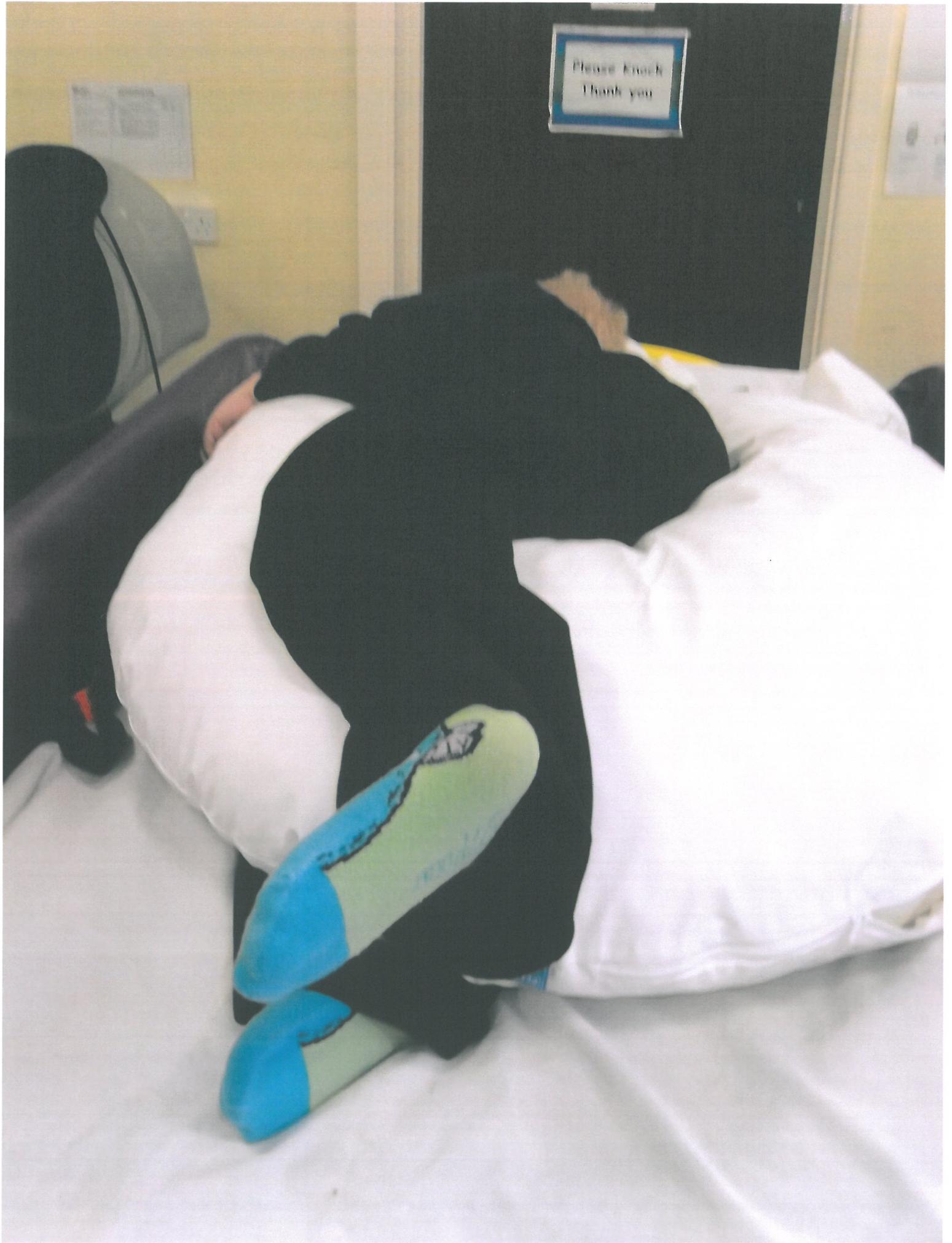








Please knock  
Thank you





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Sam is a 10 years old young man. He has been diagnosed with CP, affecting all 4 limbs, epilepsy, VP shunt inserted due to left arachnoid cyst and enlargement of his head. Sam is able to drive a powered wheelchair he sits in fully supportive seating. He can balance in sitting for a few seconds with very close supervision. He walks in physio sessions in a walker with maximum support. Sam has generalised under lying low tone which increases on effort and excitement. As a result his legs will fall into a position of abduction; his head leans to the left; and he is starting to develop a scoliosis of the spine.

As Sam is starting to get increasingly more asymmetrical therefore it is important to support him in a more symmetrical position at night as part of his 24hour postural care. A large part of this is spent in bed therefore a good position is essential.

In supine Sam tends to tilt and rotate his head to the left, his trunk flexes to the left, his left arm is kept external rotation and abduction his legs drop into abduction and his feet are supinating.

On assessment with the sleep system the following components were tried and prescribed for Sam.



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## Case Study – Sleep System.../2

The W- Leg trough (Size 3 9006) with extended length to support the full length of his legs was used together with a pair of Curved Wedges (Size 2 9023). The W-leg trough helped to keep his lower limbs in alignment, preventing abduction, however Sam is still able to move in the W-trough but his legs will go back to the symmetrical position we want him to be in. The curved wedges worked like hip guides increasing hip symmetry. The foot support was extended to make it longer and we requested for the manufacturer to supply 'hook' under the foot support so that it can be used in an upright position to keep Sam's feet in alignment.

Another pair of Curved Wedges (Size 2 9023) was used in the chest area to help prevent his trunk from side flexion. His arms tends to abduct and externally rotate and a Trifold (Size 2 9027) was placed just above this left upper arm, this helped Sam to come back to a slightly corrected position without restraining the arm.

Finally, the Star Cushion (Size 2 9020) was used with 2 of its arms folded under on the left. This helped to keep Sam's head in mid-line.

Outcome – In a short trial with the equipment at home Sam was kept in a more symmetrical position, especially his neck, trunk, hips and feet as part of his 24 hour postural care. He is sleeping better and does not need to be repositioned during the night, benefitting the whole family.

Ellen van Lamoen  
Senior Physiotherapist



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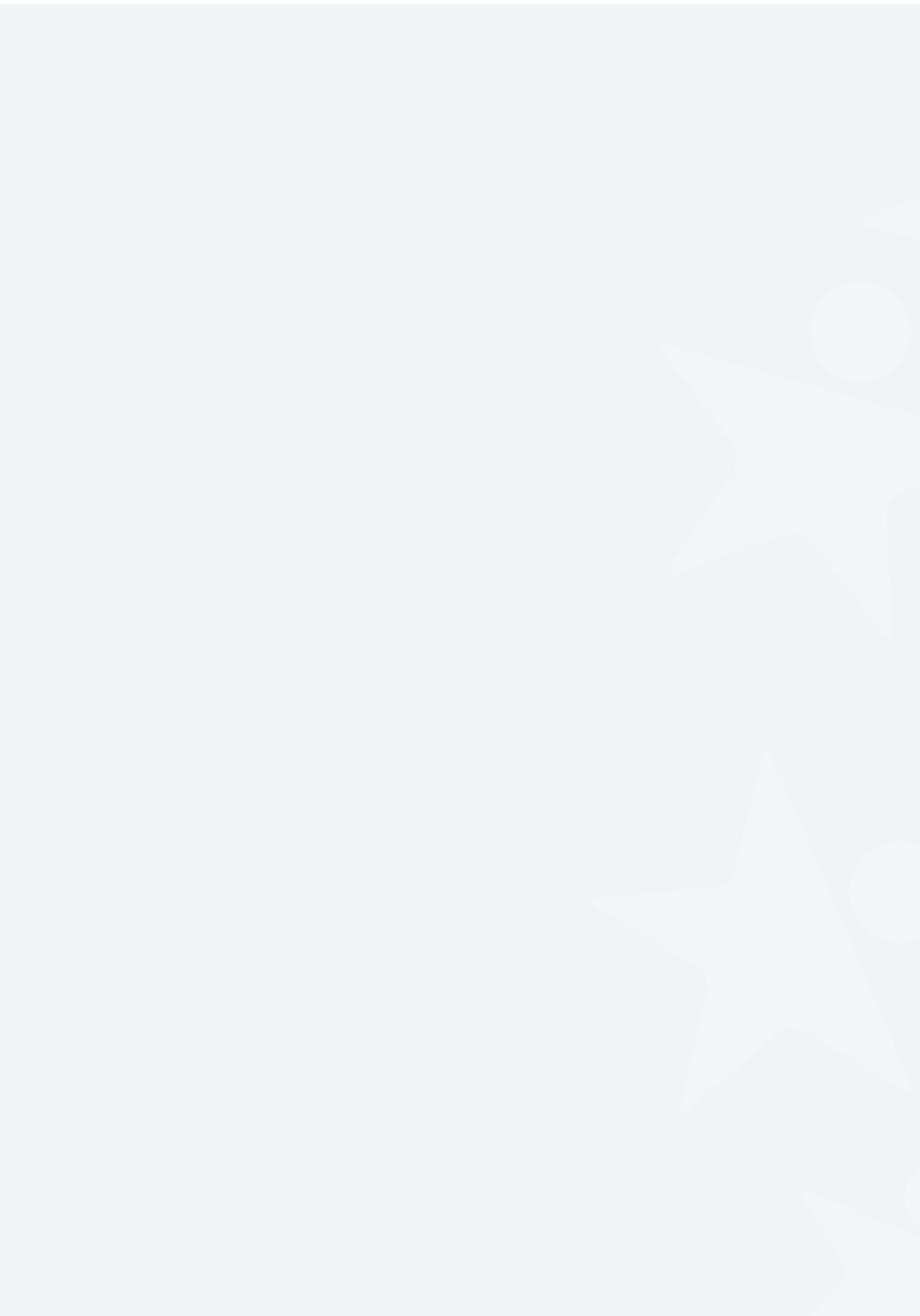












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