

Respiratory and Skin Support: How the Eleganza 5 Bed and Dolphin Therapy Surface Helped a Patient to Recover from Pneumonia and Heal Skin Damage

- ↑ Skin breakdown healed
- ↑ Recovery from pneumonia
- ↑ Medically fit for discharge

Introduction

Jack* (age 23) was admitted to hospital with aspiration pneumonia. He had been fit and healthy until 12 months earlier, when he suffered a traumatic brain injury following a road traffic collision.

The traumatic brain injury resulted in long-term cerebral hypoxia. At home, he was bedbound with a long-term catheter. He was fed via NG tube, and it was thought this was the probable cause of his pneumonia.

On admission to hospital, his skin was intact but at high risk of breakdown due to immobility and reduced blood oxygen levels, caused by pneumonia.

**Jack is not the patient's real name*

Clinical Challenges

Jack needed airway support to mobilise and remove secretions, and to improve blood oxygenation. A tracheostomy was performed to assist with this, and he was receiving oxygen therapy.

To help mobilise respiratory secretions, Jack was being repositioned from side to side every two hours. This was requiring three members of staff, and they were finding it difficult to keep him on his side - they were using pillows, but he was rolling back onto them.

When Jack was first admitted, he was nursed on a powered semi-dynamic mattress and the Trust's standard med/surg bed. However, because he was immobile and it was difficult to reposition him, after two weeks he developed two hospital-acquired deep tissue injuries (DTIs) to his sacrum and buttock, which were at high risk of becoming unstageable. He was also at very high risk of further skin breakdown.

Manual repositioning was not working well for Jack for respiratory management or pressure area care. Staff were also concerned about associated moving and handling risks.



Patient Objectives

- **Treat existing skin damage**
- **Prevent further skin breakdown**
- **Improve respiratory management**
- **Achieve 'medically fit for discharge' status**

Introduction of the Dolphin Therapy Fluid Immersion Simulation Support Surface and the Eleganza 5 Bed

After Jack's skin broke down, it was apparent that he required a 'step up' to a higher specification surface to help heal the existing skin damage and prevent further breakdown.

He also needed a better solution for repositioning and respiratory management, ideally introduced at the same time as the higher specification surface.

Dolphin Therapy is a unique reactive support surface that simulates a fluid environment. Currently, immersion (fluid simulation/air fluidised) is one of the only viable 'step up' options from a dynamic air mattress. It helps to maintain tissue symmetry,¹ maximise the contact surface area and minimise pressure. In turn, this minimises vascular occlusion² and helps to prevent tissue ischaemia, even when the wound is directly in contact with the surface.³

Data collected from over 3,000 patients nursed on Dolphin Therapy has demonstrated that it is extremely effective at treatment of skin damage, with 58% of wounds healed or improved at the end of placement. It is also highly effective at preventing skin damage. From the same data, 98% of patients nursed on Dolphin Therapy for prevention purposes did not develop any skin damage.⁴

Eleganza 5 is a specialist bed, often used in intensive care. However, it can also be highly beneficial for patients and staff in other areas when the patient's needs are complex, and not best met with a standard electric profiling bed.

The bed has full platform electrically operated lateral tilt, up to 15° to both the left and right. It can also be moved to lower angles of tilt (approximately 4° to 7°) by one person, which helps to off-load and redistribute pressure. This helps to reduce the amount of physical repositioning required.

In addition, and very important for Jack's recovery, the lateral tilt also helps to mobilise respiratory secretions, to avoid consolidation and therefore aid removal.

Eleganza 5 has a built-in Class III weighing scale. This was used to weigh Jack for drug dosage calculations and to help monitor his nutritional status. Prior to Eleganza 5, he was being hoisted daily to monitor his weight, so the bed was a much better solution for him and his caregivers.

Repositioning Jack became much easier using the lateral tilt on Eleganza 5. A turning regime was started where he was nursed at 4° tilts to the left, then the right. This helped his recovery from pneumonia, and with repositioning and off-loading. It was also much more easy to document his positional changes accurately.

The number of staff required to reposition Jack reduced from three to two, and from a moving and handling perspective was significantly safer.

Twelve days after the introduction of Eleganza 5 and Dolphin Therapy, Jack's lungs had improved enough for the tracheostomy to be removed, and he was weaned off oxygen. By the time he was discharged home, four days later, both DTIs had healed and he'd not developed any new skin damage.



Summary

The combination of the Dolphin Therapy surface and Eleganza 5 bed played a key role in Jack's care and outcomes. It addressed the two most worrying issues he was struggling to overcome - skin integrity and respiratory improvement.

It was also extremely beneficial for the staff, reducing the number of caregivers needed to move Jack and eliminating the need for daily hoisting. As well as reducing moving and handling risks, this also improved efficiency, freeing up time and staff.

All objectives for Jack had been met, and he was able to be declared medically fit for discharge, and go home. This was an excellent achievement and outcome given how unwell he had been when he was stepped up to Dolphin Therapy and Eleganza 5.

After Jack was discharged home, the Ward Manager commented to Medstrom's Clinical Advisor:

"Eleganza 5 is **very effective** in helping us **manage respiratory issues**, and it was a huge help with Jack's care. It's also great that the areas of **pressure damage healed**, which is a **testament to the Dolphin mattress** as well as the off-loading provided by tilting the bed. And the **reduction in staff and time needed** was also very beneficial. We are constantly busy here, and any time that can be saved is very welcome."



DTIs healed



Tracheostomy removed



Discharged home

References

1. CT scans from St Joseph's Hospital, Tampa, Florida.
2. Worsley PR et al (2015). The effects of a fluid immersion mattresses; an evaluation of fluid immersion therapy for the prevention of pressure ulcers. 18th Annual Meeting of the European Pressure Ulcer Advisory Panel, 17th September 2015. Faculty of Health Sciences, University of Southampton.
3. Mayes KL et al (2012). Cost effective care without clinical compromise: Incorporating the Dolphin Fluid Immersion Simulation Mattress System into the postoperative care of patients undergoing myocutaneous flaps. Poster presented at Wild on Wounds National Conference, September 12 - 15, 2012, Las Vegas, NV.
4. Medstrom (2023). The effectiveness of Dolphin Therapy fluid immersion simulation support surface. Outcomes for over 3,000 highly complex patients. Available online: <https://www.medstrom.com/wp-content/uploads/2023/03/SM1153-Dolphin-Therapy-3000-Patient-Outcomes-Report-Rev1-Mar-2023-1.pdf>



To discover more about Dolphin Therapy, Eleganza 5, and how Medstrom can support you, contact our Clinical Advisors 24/7/365 on:

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