

Surgery Recovery: The Right Equipment at the Right Time Aided Recovery and Rehabilitation from a Fracture, Septic Cellulitis and a Split Skin Graft

- ↑ **Skin protected amid difficult challenges**
- ↑ **Mobilisation achieved by introducing a range of appropriate equipment**
- ↑ **Improved following complex recovery and discharged home**

Introduction

Robert* (age 36) was admitted to hospital following a right tibial fracture requiring external fixation to his right leg. On admission he was drowsy, possibly due to septic cellulitis around the fracture site.

Robert weighed 135kg on admission. Prior to hospital admission he was able to walk short distances with the assistance of two people and a walking frame. He suffered from agoraphobia and was housebound as a result. Other comorbidities/past medical history included:

- Epilepsy
- Asthma
- Type 2 diabetes
- Schizophrenia

On admission, both of Robert's buttocks and his sacrum were red and blanching. He had a blister to his right hip. His left heel was red and blanching and he had an abscess on his right knee.

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

Clinical Challenges

Robert was initially bedbound and very unwell. In-bed mobilisation was important to reduce deconditioning and prevent complications of immobility.

Robert's skin was extremely vulnerable with several areas of deterioration and breakdown already. He was in danger of further skin damage, made worse by being immobile and bedbound.

As soon as possible after surgery, it was important for Robert to start to get out of bed to aid his recovery and get his mobility back to as close to baseline as possible.

Patient Objectives

- **Early mobilisation**
- **Sit out of bed when able to aid rehabilitation and well-being**
- **Heal fracture and existing skin damage**
- **Prevent further skin breakdown**



Introduction of Medstrom's Bariatric Equipment Package

Medstrom's Clinical Advisor was asked to assess Robert three days after his surgery. He was being nursed on a foam mattress and standard width bed which was too narrow for staff to be able to turn and reposition him safely. Because he was so unwell and immobile, and his skin was so vulnerable, it was decided to step his surface up to the Dolphin Therapy Extra-Wide fluid immersion simulation surface.

Dolphin Therapy Extra-Wide Surface: Dolphin Therapy Extra-Wide offers fluid immersion simulation that is evidenced¹ to support complex patients with the prevention and treatment of complex wounds. The simulated fluid environment allows patients to benefit from maintained tissue symmetry and tissue perfusion. It enables full immersion and envelopment, significantly reducing pressure, shear and tissue deformation. For Robert, Dolphin Therapy would help to protect his skin which was intact but vulnerable and help to heal existing damage.

After two weeks of using Dolphin Therapy, Robert's condition had improved considerably. It was decided he no longer needed the Dolphin Therapy surface, so was stepped down:

TurnCair 1000 Low Air Loss Surface: At this stage, it was felt that stepping down to a surface which assisted with turning would be the most beneficial. The TurnCair 1000 surface provides a high level of support surface for pressure redistribution, plus a TurnAssist feature that enables safe and dignified handling of patients. The low air loss feature helps to keep the patient's skin drier and cooler, preventing further skin breakdown and helping existing damage to heal. The AutoFirm feature is useful for mobilisation as it provides a firm and stable surface to transfer the patient to and from, benefitting Robert when he started to mobilise.

MMO 8000 Bed: This bed has a platform width of 110cm (about 20cm wider than a standard width bed). This extra room enabled caregivers to move and reposition Robert more safely and easily, which was more comfortable for him and reduced manual handling risks. The bed's electric controls could be used for in-bed mobilisation, and once he was well enough, Robert could use them to reposition himself in bed.

Initially, the hospital used their own hoist to transfer Robert from his bed to a chair. The open 'A' frame of the MMO 8000 bed gives unrestricted hoist access, meaning a suitable hoist would be able to be used to get him out of bed.

The bed was also selected to promote mobility and encourage Robert with the early stages of standing up once he was well enough. Based on clinical evidence², an ultra low height of 21cm provides an optimum mobilisation height for 99% of UK males, and the electric height adjustment can be used to help the patient stand.

Bariatric Tilt-in-Space Chair: This chair is fully electrically adjustable and has a foam/gel-based seat for comfort and pressure redistribution. The tilt-in-space function can also be used for added comfort. It is also fully compatible with a hoist.

Bariatric Shower Chair/Commode: This enabled Robert to go into the bathroom when he was well enough, for dignity and psychological well-being.

In addition to the equipment above, Robert had a trust-owned hoist and walking frame.

Robert suffered some complications during his recovery. The abscess on his knee needed to be debrided multiple times and he required a split skin graft to the fracture site. Despite this, his mobility continued to improve; he was initially hoisted into the chair. When he was able, he practiced sit-to-stand from the bed on one leg and then turning round using the walking frame and with assistance of two carers to transfer to his chair and later the commode/shower chair.

Robert spent a total of three months in hospital. He still had the external fixation in place and a cast on his right foot. His buttocks and sacrum were still blanching but the abscess on his knee and the blister on his hip had healed. He was discharged with a package of care and a bariatric bed and commode were installed into his home prior to discharge.



Summary

Robert had a difficult few months in hospital, but the multi-disciplinary team felt the bariatric equipment he was given played a major role in his recovery.

The utilisation of the Dolphin Therapy Extra-Wide fluid immersion simulation surface gave added protection and therapy when he most needed it. Once he didn't require therapy at that level, stepping him down to the TurnCair 1000 low air loss surface meant he could be repositioned and turned more easily, which helped with pressure area care and reduced risks to caregivers.

Robert was initially transferred out of bed using a hoist, but once he'd improved, he practiced sit-to-stand, aided by the bed, and was eventually able to transfer to the chair on his weight-bearing leg. The right equipment, supplied at the right time, including the provision of community equipment, enabled him to go home.



Skin protected



Early mobilisation



Fit for discharge home

References

1. Medstrom (2021) Dolphin Therapy 2000 patient outcomes.
2. Martindale D (2021). Calculating bed height for hospital patients using popliteal measurement. Nursing Times [online]; 117:10

To discover more about Medstrom's range of solutions for dignified plus-size patient care and enhanced support for caregivers, contact Medstrom's Bariatric Product Specialists 24/7/365 on:

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