Cost Effective Care without Clinical Compromise: Incorporating the Dolphin Fluid Immersion Simulation® Mattress System into the Postoperative Care of Patients undergoing Myocutaneous Flaps

Keum-Lee Mayes, RN, WCC, Supervisor, Wound/Dialysis Services, Sparrow Specialty Hospital, Lansing, MI
Julia Melendez, RN, BSN, JD, CWOCN, National Clinical Director, Joerns Healthcare

Problem
Myocutaneous flaps are the treatment of choice in full thickness pressure ulcers on the trunk or penis that have not healed with prior treatment. A comprehensive postoperative care plan is critical in rehabilitation of these patients and ultimate flap healing.

Objective and Methods
In an effort to decrease the facility’s costs without compromising clinical outcomes for these patients, the facility introduced the Dolphin Fluid Immersion Simulation (FIS) mattress system into the postoperative flap care protocol at Sparrow Specialty Hospital. The Dolphins Fluid Immersion Simulation® mattress system provides that the patient be flat in an air-fluidized bed system for six weeks, with minimal increase in head of bed (HOB) elevation, to provide optimal pressure redistribution and prevent tissue ischemia that could negatively impact the new flap.

Methods
Clinical outcomes for these patients and costs of the new therapy were tracked over the next year to determine if the Dolphin FIS system would become a permanent care protocol at Sparrow Specialty Hospital.

Outcomes
As evidenced by the photographs below, which are examples of 2 of the patients followed in the study, the post-flap incisions continued to heal well and excellent outcomes were achieved under the Dolphins FIS protocol.

Cost Savings
Provision of the essential technology to support the needs of clinically complex patients can significantly burden the facility’s bottom line. Use of the air fluidized bed system with post-operative flap patients, while viewed as necessary to achieve the desired clinical goals for these patients, placed a financial burden on the facility. Storage of the usual hospital bed system while providing the post-surgical flap patients with this bed system, it was expensive that could negatively impact the new flap. Although clinical outcomes achieved in the post-surgical flap patients were excellent with this bed system, it was expensive increments. All other components of the protocol, including nutritional support, were unchanged.

Conclusions
Implementation of the Dolphins FIS mattress system into the post-operative care protocol for patients in the facility status post myocutaneous flaps prevented new flap ischemia, successful flap healing, and successful flap healing. Use of the Dolphins Fluid Immersion Simulation® mattress system was significantly cost effective with no complications. Use of the Dolphins Fluid Immersion Simulation® mattress system would become a permanent part of the care plan toward expanding use of the Dolphins FIS into other facilities in the system.

References
Body interface point pressure point testing conducted on a Microsol-900T (Biologics™ Dolphins) low airloss mattress and wheelchair cushion. February 12, 1997. Testing conducted by: Maxim Technologies, Twin City Testing, St. Paul, MN.


About Sparrow Specialty Hospital
Sparrow Specialty Hospital is a 36-bed long-term acute care hospital that specializes in patients requiring a 25-day or longer length of stay in a hospital setting. Sparrow Specialty Hospital is fully accredited by the Healthcare Facilities Accreditation Program, an independent body that accredits and certifies health care organizations and programs.

Long-term acute care hospitals are designed for patients who need intensive extended care following treatment at a traditional acute care facility, outpatient care setting or home setting. These patients usually have medically complex or multiple medical conditions.