

Oak Tree Long-Term Acute Care Hospital: balancing high-acuity with streamlined processes and products to optimize wound care and nearly eliminate facility-acquired pressure ulcers

Ann Bingham, RN, BSN, CWOCN

Della Rains, RN, BSN, Director of Nursing

Treena King, RN, ICU Director

Regina Harris, RN, Infection Preventionist

THE CHALLENGE

Oak Tree Hospital (a long-term acute care hospital [LTAC]) is similar in many ways to most other LTACs; we commonly admit patients with a very high-acuity who have multiple co-morbid conditions and require mechanical ventilation, hemodialysis, and a fairly prolonged stay. The goal of care is to rehabilitate the patient for either home discharge or transition to a less-acute facility. Approximately 50%-60% of the patients we admit have wounds, and about 30% are pressure ulcers. The difference between our facility and many other LTACs is that Oak Tree has achieved and maintained a nearly 0% facility-acquired (FA) pressure ulcer prevalence during the past 24 months. In comparison, the 2011 International Pressure Ulcer Prevalence™ Survey reported an average FA prevalence of 8.4% among US LTACs, an increase from 4.4% in 2010.¹

THE SOLUTION

Beginning in 2005, Oak Tree hired a certified wound and ostomy care nurse (CWOCN) to revamp the entire wound care program. At that time, approximately 60% of our patients had pressure ulcers, and staff knowledge of support surfaces, heel off-loading, incontinence management, skin care, utilization of enzymatic debridement agents, and appropriate dressing types was minimal. The assumed role of the CWOCN was direct patient wound care. Support surface decisions were commonly made by the admitting physician. Therapy rental costs were very high and could not be sustained for very much longer.

KEY HIGHLIGHTS

The Challenge:

- Oak Tree's LTAC commonly admits patients with a very high-acuity
- Approximately 50%-60% of admitted patients have wounds (30% pressure ulcers)

The Solution:

Oak Tree revamped their entire wound care program by:

- Gaining 100% administrative backing
- Reviewing patient acuity and current surface rental utilization
- Purchasing VersaCare® P500 surfaces and TotalCare® Bariatric Plus bed systems
- Developing a support surface decision algorithm
- Individualizing appropriate therapy surfaces, linen utilization, wound dressings, nutrition, and infection control for patients; changing these components when necessary
- Implementing clinical education and process changes

A Better Outcome:

- A paradigm shift has occurred within our culture; the CWOCN's role is now accepted as consultatory
- Rental therapy costs have been substantially reduced
- Current facility-acquired prevalence has been maintained close to 0% during a consecutive 24-month period

Oak Tree's Long-Term Acute Care Pressure Ulcer Success Story

The next 24 months required many, sometimes painful, changes. We gathered our collective resources, which included collaborative, proactive support from the multidisciplinary clinical staff and 100% backing from our administrative team. We began clinical education and process changes, and changed many of the wound care products, including support surfaces.

We reviewed the acuity and needs of our patients with our Hill-Rom Account Clinical Director, and our current utilization of rental therapy. We began by assessing our acuity levels and the number and type of therapy beds currently used. This analysis assisted us in determining the number of beds and the type of mattresses we needed to purchase to maintain clinical outcomes while reducing therapy rental costs. The facility previously owned VersaCare® bed frames with the VersaCare A.I.R.® support surfaces, which we used for lower-acuity patients (the acuity level in the LTAC environment is very high relative to most care settings), and Clinitron® Rite•Hite® beds and Envision® surfaces were rented for wound patients and patients at high risk for pressure ulcers. We decided to purchase seven VersaCare® P500 surfaces for higher-acuity/wound patients, as well as two TotalCare® Bariatric Plus bed systems. A support surface decision algorithm was developed with assistance from the Hill-Rom Account Clinical Director (Figure 1), which allowed rental of additional specialty beds when necessary, and the general nursing staff were able to start ordering support surfaces using this algorithm. Initially, the staff were reluctant to adjust, as the CWOCN was no longer just taking direct care of patients, but was implementing change. Admitting physicians were included in these changes through consultation with the CWOCN as to why one support surface may be more beneficial than another, and discussions related to shear, friction, pressure, and moisture management for the specific patient ensued. Dressings were also discussed, and best practice changes were implemented.

A BETTER OUTCOME

Over time, Oak Tree began to experience positive outcomes. Our staff became excited about the changes they were seeing in their patients' wound outcomes. There was a paradigm shift in culture from reluctance to change, to seeking out the CWOCN for consultation and confirmation that appropriate care is being provided. The support surface algorithm is now placed in the front of every patient chart, to support educated staff decisions when the CWOCN is not available.

Today, when wound patients are admitted, we receive the physician orders and supplement those with standing wound care orders based on the type and stage of the wound. Pressure ulcers present on admission are documented; open wounds are cultured, and a consult for the CWOCN is generated. Each wound patient is seen by the CWOCN within 48 hours of admission. During this consultation, the CWOCN reviews and changes orders according to the patient's need, and if necessary, the CWOCN consults with the physician for a change in orders. The patient is reassessed weekly by the CWOCN to insure that his or her wound is progressing, and patient care is satisfactory. Support surfaces are re-evaluated during wound progression, and the patient is stepped down through the support surface algorithm continuum when appropriate. Upon discharge, if a patient still has ulcers requiring specialty support surfaces, the CWOCN nurse works with the Hill-Rom Home Care Consultant to enable a smooth transition for the patient into his or her home environment.

If cultures are positive for pathogens, patients are prescribed appropriate antimicrobial therapy and may require an infectious disease consult if the infection does not resolve. Wounds are re-cultured as needed. Most of the complicated wounds are seen routinely by the infectious disease physician.

Dietary performs nutritional consults on wound patients and follows the patients weekly to insure that optimal nutritional needs are met. Nutritional lab studies, calorie counts and supplemental needs are assessed.

Wound dressings are now directed by the CWOCN, who has implemented best practice decisions based on the specific patient and the specific type of wound. Dressing orders may be changed by the CWOCN during the course of admission as the wound progresses.

Linen utilization is another concern for the Wound Care Program. As demonstrated by Williamson et al (2010), interface pressure, moisture and heat withdraw are compromised with each additional linen layer.² In our facility, breathable, dry air flow chux are used on all patients to allow the support surface's Microclimate Management® feature and pressure redistribution technologies to be effective. Draw sheets are only used on patients weighing more than 250 lbs. This allows us to control moisture and maintain healthy skin by limiting the number of linens.

Oak Tree’s Long-Term Acute Care Pressure Ulcer Success Story

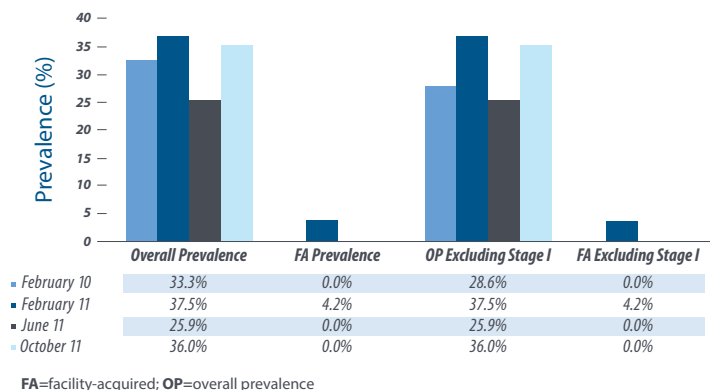
Figure 1 Therapy Bed/Mattress Algorithm

	Wound Severity	Patient	Product
 ZoneAire® Bed System	Prevention, Stage I or II	Mobility not impaired to slightly limited; weight up to 300 lbs	Length 84"; scale for daily weight measurements
 VersaCare A.I.R.® System	Stage III or IV, Unstageable	Mobility slightly limited to very limited; weight up to 500 lbs	Turn Assist; Max Inflate; Low Chair; mattress responds to patient movement; length 74"-86"; scale for daily weights; Bed Exit alarms
 VersaCare® Bed with P500 Surface	Stage III or IV, Unstageable, DTI	Mobility very limited to completely limited due to sedation; weight up to 500 lbs; moisture/maceration	Patient Turn Assist; Max Inflate; Low Chair; height 74"-86"; scale for daily weight measurements; Bed Exit alarm; SafeView® feature; digital head-of-Bed display; X-ray cassette sleeve
 Hill-Rom® P500 Therapy Surface Mattress Replacement System	Stage III or IV, DTI, Unstageable	Mobility slightly limited to very limited; weight up to 500 lbs; moisture/maceration	Length 84"; Turn Assist; Bed Exit alarms; head-of-Bed alarm; X-ray cassette sleeve
 Envision® Mattress Replacement System	Stage III or IV, Unstageable, DTI	Mobility limited to completely limited; weight up to 400 lbs; moisture/maceration	Length 84"; Turn Assist; Max Inflate; shear algorithm; Bed Exit alarms; head-of-Bed alarm
 Clinitron® Rite-Hite® AFT	Must contact CWOCN for this bed; for patients with multiple pressure ulcers; Stage III or IV, Unstageable, DTI; flap/graft	No turning surfaces; intractable pain; mobility very limited to completely limited; weight up to 350 lbs; moisture/maceration	Length 84"
 TotalCare SpO ₂ RT® 2 System	Must contact CWOCN for this bed; prevention and Stage I to Stage IV, including DTI and Unstageable	Mobility slightly limited to completely limited; patients who require CLRT/percussion/vibration and Progressive Mobility® therapy; weight up to 500 lbs; moisture/maceration	Turn Assist; Max Inflate; Tilt Table; FullChair® feature; Chair Egress; height 74"-84"; scale for daily weight measurements; Bed Exit alarms
 Excel Care® Bariatric Bed with Turn Assist	Prevention and Stage I to Stage IV, including DTI and Unstageable	For patients who require a wider surface of 40"-50"; weight up to 1,000 lbs; mobility slightly limited to completely limited	Length 84"-88"; Turn Assist; Max Inflate; Seat Deflate; scale for daily weight measurements; trapeze available
 TotalCare® Bariatric Plus Bed	Prevention and Stage I to Stage IV, including DTI and Unstageable	For patients over weight of 300 lbs and who require wider surface; mobility slightly limited to completely limited; patients who require CLRT/percussion/vibration and Progressive Mobility® therapy; moisture/maceration	Turn Assist; Max Inflate; FullChair® feature; Chair Egress; Tilt Table; Bed Exit alarms; scale for daily weight measurements; trapeze available

Oak Tree's Long-Term Acute Care Pressure Ulcer Success Story

Figure 2 Oak Tree's Pressure Ulcer Prevalence Over Time

Pressure Ulcer Prevalence



Heel ulcers are aggressively prevented by the initial placement of the Foot WAFFLE® Heel Elevator (EHOB Inc, Indianapolis, Indiana) for patients with very early signs of skin compromise (which may consist of pink heels). If any signs of future tissue breakdown occur, patients are moved onto the Prevalon® Pressure-Relieving Heel Protector (Sage Products Inc., London, UK)—an early, aggressive, prevention measure.

Examples of support surface decisions are noted below, and additional information is available in Figure 1:

- Surface flap reconstruction patients: Patients who require flap surgery for primary pressure ulcer closure on the supine surface are maintained on air fluidized therapy (AFT) during their 3 week to 4 week postoperative period.
- Patients with Stage IV pressure ulcers who can maintain an appropriate head-of-bed angle are placed on AFT if their wounds are located in an appropriate area. Similar patients who cannot maintain an

appropriate head-of-bed angle and have feeding tubes (for prevention of aspiration) or whose wounds are not in the AFT area of the Clinitron® bed, are placed on the Envision® surface.

- Patients who have multiple Stage III pressure ulcers are also commonly placed on the Envision® or P500 therapy surfaces, depending on the severity of their wounds. The facility-owned P500 surfaces manage many patients with suspected deep tissue injuries.
- Placement decisions for patients with Stage I-IV ulcers are based on the patient's overall mobility level, nutrition status, and other physiologic risk factors. The facility-owned P500 surfaces are supplemented by rental therapy when additional units are needed.

Appropriate therapy surfaces, linen utilization, wound dressings, nutrition and infection control are all individualized for each patient. These combined decisions contribute to our successful wound care program.

Current FA prevalence has been maintained at nearly 0% over the course of 24 months (see Figure 2). The Oak Tree facility is now known in the community for its excellent wound care program and high level of patient, staff and physician satisfaction. Rental therapy costs have been substantially reduced. **We continue to admit critically-ill patients with all of the risk factors previously stated; the difference is that we now know how to administer individualized, multi-faceted wound management care.**

CONCLUSION

Clinical and financial outcomes can be achieved in the LTAC environment with diligent care practices, including appropriate support surface placement, aggressive management of early changes in patient condition, and continual assessment of interventions and patient needs.

REFERENCES

- ¹ 2011 International Pressure Ulcer Prevalence Report. Hill-Rom Clinical Information Services. 2011.
- ² Williamson R, Sauser FE. Linen usage, impact on pressure and microclimate. Hill-Rom Whitepaper. January 29, 2009.

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