

Pressure Redistribution Surfaces



authors

Sandra Dudziak

RN, NP Central Care Corporation

Debbie Green

RN, Central Care Corporation

Bernadette Culhane,

RN, Central Care Corporation

introduction

Long Term Care Homes must have a strong pressure ulcer prevention program. Pressure ulcers are no longer thought of as an unfortunate occurrence but rather can translate to residents/families/communities as suboptimal care. Among other interventions the essential care to maintain tissue integrity includes management of pressure on the skin and associated soft tissue. A comprehensive resident plan of care should include strategies for pressure offloading for residents in bed and or seated.

purpose

The purpose of this study was to demonstrate the importance and value of pressure redistribution surfaces in the management and prevention of pressure ulcers in the Long-Term Care population.

literature review

Pressure ulcers are an important health care concern. The prevalence of Pressure Ulcers in Long Term Care ranges from 15% to 25%¹. The primary cause of pressure ulcers has been established to be sustained compression of the cutaneous and subcutaneous tissue between bony prominences and the support surface². A wide range of clinical strategies are used in Long Term Care to manage the effects of pressure and shear on residents with different degrees of mobility. Resident turning and repositioning every two hours are the most effective ways to counteract impaired mobility; however, this strategy may not be enough. Therapeutic surfaces are integral components to prevention and management of pressure ulcers³.

& the prevention/management of pressure ulcers in Long Term Care

methodology

A multidisciplinary team approach was used in the treatment and prevention of pressure ulcers.

Different pressure ulcer redistribution surfaces were applied (DynaLaL, Diamond 8 & Elite Turn).

10 Residents with pressure ulcers Stages I to IV and Stage X were selected.

Consents were obtained from residents and/or Powers of Attorney for the usage of information for the purpose of developing this education poster.

Data were collected regarding residents' demographics, diagnosis, medications, cognitive status, bladder/bowel continence status, general mobility, and nutritional status. Particular attention was given to pain management and resident's comfort.

Treatment modality used: conventional moist wound healing was applied.

A Treatment Observation Record was used to document the initial Pressure Ulcer Assessment prior to pressure redistribution surface application and weekly healing progress. This included assessments of: wound length, width and depth, peri-wound area, appearance of underlying tissue, and wound exudate.

Digital Photographs and/or EZ-Graphs were also used in conjunction with weekly documentation.



Elite Turn	DynaLaL	Diamond 8
Prevention and treatment of pressure ulcers from Stages 1-1V	Appropriate for prevention and treatment of pressure ulcers from Stages 1-1V	Appropriate for prevention and treatment of pressure ulcers from Stages 1-11
Provides low air loss/lateral rotation therapy	An alternating, low air loss mattress replacement system	Dynamic alternating "micro" low air loss technology
Individual air cushion design for maximum pressure redistribution	Deep cell alternating therapy that gently inflate and deflate in a 3:1 cycle	Alternation cycle adjusts for residents comfort and treatment needs
Rotation cycle/angle can be set by caregiver for comfort and treatment needs	Cycles adjust for residents comfort and treatment goals	Simple, modular cell construction for ease of service
Permanently inflated lateral side bolsters for extra safety	Individual air cushion design for maximum pressure redistribution	3:1 alternating cycle allows 2/3rds of the body to be supported at all times

common features					
Offers static mode for clients unable to tolerate a moving surface	Waterproof cover designed to reduce shear and friction	Low air loss technology acts to wick moisture away from client	Auto firm mode provides stable surface for transfers and nursing procedures	2 inch sealed convoluted foam base provides added client protection	User friendly design

resident 1

RESULT pressure ulcer closed

resident 2

RESULT pressure ulcer closed

resident 3

RESULT pressure ulcer closed

resident 4

RESULT pressure ulcer closed

RESULTS

Decrease in wound length/width/depth and finally wound closure			
resident	pressure ulcer stage	initial size length/width /depth	present size length/width /depth
1	IV	3 x 3 x 1.0	.5 x .5 x superficial
1	X	3 x 5 x ?	closed
1	X	3 x 5 x ?	.5 x .5 x superficial
2	IV	6 x 6 x 2	1 x 1 x .25
3	X	.9 x .9 x ?	.5 x .5 x superficial
4	X	.9 x .9 x ?	closed
5	I	9 x 8 x 0	cleared
5	I	4 x 3 x 0	cleared
5	I	4 x 3 x 0	cleared
6	II	1 x 1 x .25	closed
7	III	4.5 x 3 x .5	2.25 x 1.5 x .25
8	IV	.5 x .5 x 6	.3 x .3 x .4
9	III	2 x 2 x .5	closed
10	X	3 x 5 x ?	closed

Eight out of the ten residents placed on a Pressure Redistribution Surface were on PRN medications for breakthrough pain. One Resident's pain medication and breakthrough PRN medication remained the same. In seven of the residents the amount of breakthrough PRN medication was decreased when placed on a surface, thus resulting in increased resident comfort and a decrease in overall pain medication.

summary

Pressure redistribution surfaces are an essential part of the management of prevention of pressure ulcers in Long Term Care. Clinicians need to take into account this basic understanding, along with the many other risk factors facing a resident for developing skin breakdown and the cost considerations of wound healing. They should be able to enhance and meet the needs of residents and continue to improve their quality of life.

references

Baranoski S., & Ayello E.A. (2004). Wound Care Essentials. Practice Principles. Philadelphia: Lippincott Williams & Wilkins.

Dukich J., & O'Conor D. (2001). Impact of practice Guidelines on support Surfaces selection, Incidence of Pressure ulcers, and Fiscal Dollars. Ostomy/Wound Management 47(3): 44-53.

(1) Flam E. & Raab L. (November/December 1991) Dynamics of pressure ulcer management: Interaction of load and duration. Journal of ET Nursing: 18 (6):184-189.

(3) Krasner D., Rodeheaver G. & Sibbald G. (2001). Chronic Wound Care: A Clinical Source Book for Helathcare Professionals. Third edition. Wayne: HMP Communications.

Pipier B., Sugrue M., Weiland M., Sprague K., & Heimann C. (July 1997). Presence of Pressure Ulcer Prevention Methods used Among Patients Considered at Risk Versus Those Considered Not at Risk. JWOCN:24(4): 191-198.

Rick J. (September 1995). Pressure and shear: Their effects on support surfaces choice. Ostomy/Wound Management: 41(8): 36-45.

(2) Holzapfel Kennedy S. (November/December 1993). Support surfaces and their use in the prevalence and treatment of pressure ulcers. Journal ET Nursing: 20 (6): 251-259.

Whittemore R. (January 1998). Pressure-Reduction Support Surfaces: A Review of the Literature. JWOCN 25(1):6-25.