

WHEELCHAIR AND SEATING: AN INTEGRAL PART OF WOUND MANAGEMENT

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The prevention and management of pressure ulcers for wheelchair users can pose significant challenges. All too often, patients with Stage III or IV ulcers are placed on total bed rest for months or even years in order to promote healing of the ulcer. Is this necessary and in the best interest of the patient? Clinicians should remember that bed rest is not an innocuous treatment modality, but may result in the advent of severe physical, cognitive, psychosocial, and perceptual sequelae, not the least of which are the following: contractures, muscle atrophy, osteoporosis, pathologic fractures, anorexia, constipation, pneumonia, atelectasis, depression, fatigue, diminished intellectual function. Alternatives to bed rest need to be explored to reduce complications of this treatment and improve patient outcomes.¹

The integration and mobilization of team expertise in the assessment and management of pressure ulcers is not a new phenomenon. Wound management for wheelchair users requires an interdisciplinary approach including, but not limited to, nurses, physicians, registered dietitians, occupational therapists and physiotherapists. The recently updated Canadian Association of Wound Care (CAWC) best practice recommendations for the prevention and treatment of pressure ulcers are directly linked to the Registered Nurses Association of Ontario (RNAO) guidelines for the prevention and treatment of pressure ulcers: there is evidence to support an interdisciplinary approach to care. The RNAO guidelines are well regarded not only in Ontario, but also in other provinces, because of the rigorous process in their development. These guidelines, while intended for nurses should not prevent other health related disciplines from using the framework.²

The Parkwood Hospital Outpatient Chronic Wound management clinic uses the CAWC best practice guidelines. Often the initial appointment is the patient's first experience with members of an interdisciplinary team. At this appointment, the patient's pressure ulcer(s) is staged using the NPUAP Staging system.³ This system has been in place since 1992 and has been updated to account for changes in Stage I and II as well as darkly pigmented skin. A consensus forum of the National Pressure Ulcer Advisory Panel took place in February 2005 where the definitions of Stage I and Stage II ulcers were reviewed. It is the general consensus that some stage I ulcers are in fact worse than they appear on the surface, and may involve deep tissue injury (DTI). It is the opinion of many clinicians as well that not all stage II ulcers are caused by pressure, but are likely caused from friction/shear or maceration. No decisions have been made to date regarding any change in definition, thus the current staging system remains. What is important to note is that clinicians should expand on their assessments with descriptive words when a pressure area or wound does not seem to fit the NPUAP staging system.⁴

Once the presence or risk of skin breakdown is identified, a complete wheelchair and seating assessment by an OT &/or PT experienced in the field, is required. A patient with a pressure ulcer may be able to get up in a chair for limited periods of time as long as the pressure is adequately managed in the seated position. If available, pressure mapping may be used to determine high points of interface pressure.

The possible underlying causes of the pressure need to be identified and analyzed in order to develop a plan for wheelchair and seating intervention. The first step is the gathering of preliminary information such as location and duration of the pressure ulcer, sensation, continence, nutritional status and sitting tolerance. The primary cause of the pressure &/or friction and shear must be

determined. There are many factors that must be considered that may lead to the development of a pressure ulcer. Some of these include but are not limited to:

- Support surfaces: all surfaces that the patient lies or sits on must be considered, e.g. wheelchair cushions, mattresses, commodes, bath seats, car seats, lazy boy chairs, lawn mower seats, etc.
- Type of transfer: friction and shear of a sliding board transfer, contacting a wheelchair brake or clothing guard in a side to side transfer, mechanical lift sheet.
- Clothing: seams or other folds in clothes e.g. blue jeans
- Daily activities: assuming an abnormal posture while working at a computer, scooting self across the floor or dragging oneself up and down stairs.
- Nutritional status: intake and weight loss or gain.

Some of the factors that may lead to pressure sore development as a result of wheelchair and seating include but are not limited to:

- Condition of current wheelchair and seating
- Poor postural alignment
- Ill fitting wheelchair
- Extended periods of sitting/inability to weight shift
- Inappropriate seating equipment
- Incorrectly set up equipment
- Patient's comfort
- Balance & stability for functional activities
- Patient non adherence and readiness to change

Through the use of case presentations, continued wheelchair use and wheelchair features and seating systems beneficial to wound care and pressure management will be highlighted.

References

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