RESEARCH & EVIDENCE-BASED PRACTICE FOR PRESSURE MANAGEMENT AND TISSUE INTEGRITY

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Research comprises "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of humans, culture and society, and the use of this stock of knowledge to devise new applications."[1] It is used to establish or confirm facts, reaffirm the results of previous work, solve new or existing problems, support theorems, or develop new theories.

Seating and Mobility intervention is a complex combination of assessment, trial, teamwork, prescription, funding, sales, service and provision of information. The team works with the client as a team member and the goal is to provide appropriate devices that fit the client, work within all environments and allow function and daily activities. The devices will assist with postural alignment, skin protection, mobility, stability, comfort and function. We are regularly learning new strategies and using new products. There is consistent product development as well as challenges related to funding, service provision and competency of team members. We are faced with the challenge of maintaining and upgrading our knowledge base, using current strategies and Best Practice methods. There is research and evidence, both old and new, that we must be aware of and analyze as to how it impacts our own knowledge and how we intervene with our clients.

How do the research findings help us as clinicians to practice better and to provide recommendations to our clients? Our daily practice requires that we are up to date on what is current and 'new'. We are expected to utilize Best Practice methods to ensure that our clients are receiving the intervention appropriate for their situation now and in the future. What we do and recommend to our clients today have implications for their function, health and quality of life in the long term.

Historically, pressure injury etiology has revolved around ischemic changes in the skin, and soft tissue. However, recent evidence has been introduced where tissue deformation of the skin and soft tissue has earlier implications in pressure injury development versus just ischemia alone. It is now understood that there is a difference in development of a superficial pressure injury versus a suspected deep tissue pressure injury.

A pressure injury is defined as "localized damage to the skin and underlying soft tissue usually over a bony prominence or related to a medical or other device. The injury can present as intact skin or an open ulcer and may be painful. The injury occurs as a result of intense and/or prolonged pressure or pressure in combination with shear. The tolerance of soft tissue for pressure and shear may also be affected by microclimate, nutrition, perfusion, co-morbidities and condition of the soft tissue." There are a variety of intrinsic and extrinsic risk factors associated with the development of tissue and skin damage and through our seating and mobility devices, modalities and regimens; we attempt to minimize the risk factors to
allow our clients safe sitting time and independence.

Following assessment of a client, goals are determined to meet postural and tissue protection needs. We utilize cushions and back supports, bed support surfaces and secondary supports within a seating and mobility system for each client. In addition to the equipment or system itself, we recommend various strategies and regimens for pressure management and repositioning, that we hope our clients are able to and willing to complete. Pressure management maneuvers or 'weight shifting' in a wheelchair, use of dynamic seat functions such as tilt/recline and elevating legrests, and standing are all manners in which our clients are able to protect tissues and skin, maintain alignment and function throughout their day as independently as possible.

The method of pressure management through 'weight shifting' or 'pressure relief maneuvers' as they have been called differs from client to client depending on the client's abilities and strength. What has

not been considered historically when teaching our clients how to perform the various maneuvers is the how the movement itself and the surface being moved upon effects the deep tissues and skin. A different type of pressure management maneuver might be considered for a client depending not only on their ability, but also on the surface underneath their buttocks.

The use of tilt, recline and power elevating legrests for pressure management and postural alignment are all functions that can be utilized separately or in combination with one another. Prescription of these dynamic seat functions is based on client presentation and client need. Recommendations around angles of movement, duration of maintaining a change in position and frequency of changes are all provided based on best practice and experiential knowledge. However, it is noted in the literature that although clients are educated and provided with the equipment, the changes in position do not occur as often or as exact as recommended by the clinician involved. Standing is a well-documented method of redistributing pressures as well as numerous other health, quality of life and functional issues. We must find ways to ensure that our clients are able to utilize the devices provided to them and to ensure that consistent and correct methods are followed.

Research is imperative to furthering our understanding of what we do on a daily basis to assist our clients. Taking the findings and utilizing them to better assist our clients with practical strategies and adaptive device selection is imperative.

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