

CLINICAL INTERVENTIONS WITH LUMBAR PRESSURE ULCERS CAUSED BY POOR SEATED POSTURE: A CASE REPORT OF D.G.

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Summary

D.G. is a young male who suffered a C5-C6 level complete spinal cord injury. Over time he has developed a pressure ulcer at stage 4 at the lumbar spine. We will discuss the many interventions by the entire care team, which have impacted D.G.'s wound healing.

Aims and Objectives

We want to achieve full closure of D.G.'s wound so he can continue his life and ADLs. We want to achieve this by eliminating all risk factors in order to improve the wound healing process. Two of D.G.'s main risk factors are pressure at the wound and poor seated posture.

Background

D.G. has a history of pressure ulcers at the lumbar spine. In 2011 he developed a pressure ulcer, which closed following a skin graft. D.G. currently has a stage 4 pressure ulcer and a score of eleven on the Braden Scale, which places him in a 'high risk category of developing pressure ulcers'.

After a full assessment, special attention has been given to the following risk areas:

- Moisture management has been followed up with the nursing staff and special care has been given in setting up fixed times where D.G. catheterizes himself in order to avoid moisture at the wound bed.
- The nursing staff, in conjunction with a nutritional consultant, is managing D.G.'s nutritional status.
- The physical therapist is focusing on joint and muscle mobility. In order to avoid contractions the postural muscles are strengthened and stretched.
- The ADLs are supervised by the occupational therapists.
- His seated posture while using his manual and powered wheelchair is being monitored by the OT.

From a tissue integrity point of view, the manual wheelchair is being encouraged to use, because it is fitted with a ROHO® QUADTRO SELECT® seat cushion and a ROHO® AGILITY BACK™ support. At the moment this is also installed at his powered wheelchair, but now this is in a testing phase. This shell back support system provides improved pressure distribution at the lumbar pressure ulcer location while improving his seated posture.

Because we're still testing the RoHo in the powered wheelchair he can only be used for outdoor activities and for three consecutive hours at a time (except for excursions).

When seated D.G. is avoiding crossing his legs, which helps to decrease peak pressures at the lumbar spine. Because D.G. has no sensory awareness of the lower extremities, but can provide feedback related to pain at the spine caused by poor posture. The physical therapist is also following up with a postural management program.

The listed interventions take a lot of effort from both the care team and D.G., but improvements are apparent. In January 2013, prior to using the ROHO® AGILITY BACK™, the first pressure ulcer wound bed measured 2 cm in width, 6 cm in length and 2 cm in depth, while the second pressure ulcer

measured 3cm in width, 4 cm in length and 2 cm in depth. By June 2013, the first pressure ulcer wound bed decreased in size to 2 cm width, 3,5 cm in length and 1,5 cm in depth, while the second pressure ulcer decreased in size to 2 cm width, 1cm in length and 0,5 cm in depth. Both wound edges are showing visible sign of re-epithelisation. In April 2014 the first wound is 3cm width, 3cm in length and 0,5cm in depth. The second wound is increased to 1cm width and 0,5cm in length and very superficial.

Upon a pressure imaging assessment, there is also noticeable improvement. In January 2013, the contact area at the spine with the standard back upholstery of the manual wheelchair was 661 cm² with a peak pressure of 81 mmHg. When using the ROHO® AGILITY BACK™, the contact area at the spine increased to 1064 cm² with a peak pressure of 81 mmHg. The recordings show the entire lower back is weight bearing when using the ROHO® AGILITY BACK™ and the magnitude of pressures at the pressure ulcer areas is considerably less. In February 2014 we changed the ROHO® AGILITY BACK™. Now D.G. has a full ROHO® AGILITY BACK™. Now is the peak pressure 40,2 mm Hg. The average pressure is 19,4 mm Hg.

Discussion

There are many factors impacting the healing of the pressure ulcers. The seated posture and pressure distribution at the lumbar spine play a very important role in the healing process. The entire team feels the wound closure process improved because of better posture and lower pressures at the lumbar pressure ulcers. We hope the ROHO® AGILITY BACK™ will continue to provide enough pressure distribution in order to avoid relapse of D.G.'s skin integrity status in the future.

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