FLEXION CONTRACTURES, INCREASING THE RISK OF PRESSURE ULCERATION

Pauline Beldon is Tissue Viability Nurse Consultant, Epsom and St Helier University Hospitals NHS Trust

The potential for pressure damage increases with age due to a range of interrelated risk factors, namely; the skin becomes more fragile and comorbidities more common, including those associated with decreased mobility and perhaps immobility as a result of age or disease.

Figure 1. Severe flexion contracture at the left hip and knee.

FLEXION CONTRACTURES OR FLEXION DEFORMITY

Flexion contractures or flexion deformity are defined as a shortening of the connective tissue thereby stiffening the joint (Chitnavis, 1997).

They are particularly common among the elderly population with senile dementia, those who have had a poor recovery from a cerebral vascular accident and those who have lost sensation in lower limbs for a variety of neurological pathologies, such as multiple sclerosis, Parkinson's disease and post cerebrovascular accident (CVA). The patient becomes extremely vulnerable to pressure damage, especially if their nutritional status is compromised and they suffer from sarcopenia — extreme muscle wasting. In the elderly patient, once a flexion contracture has formed it is often irreversible with muscle wasting.

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CASE REPORT

Mrs B was admitted to hospital from a nursing home where she had been living for the last two years. Her medical problems included Parkinson's disease, type 2 diabetes and senile dementia. Mrs B had become unable to walk four years earlier and was cared for either in bed or in her wheelchair. She had quickly developed flexion contractures in both her lower limbs at knee and hip joints, but the care staff in her nursing home were unaware of the danger. Her cognitive ability had gradually faded away until she was unable to articulate at all. However, her discomfort on being moved was apparent from her facial expression and the sounds she made when being repositioned.

Mrs B had been weighed monthly at her nursing home and had lost more than two stone during the last year. Swallowing had become difficult and she was admitted to hospital due to repeated chest infections, the cause for which was suspected aspiration of fluids/food.

On examination Mrs B had pressure damage to her sacrum (*Figure 2*), and her left heel (*Figure 3*). Due to her flexion contractures, Mrs B could only be positioned on her back or in a lateral position. She had spent long hours in her wheelchair and due to her weight loss and inability to sit unsupported in the chair, had sustained the sacral pressure ulcer (*Figure 2*). The pressure ulcer on her left heel was the result of having her foot drawn into a hyperflexed position (*Figure 3*).

Mrs B was nursed on a low air loss mattress (Breeze™, Huntleigh Healthcare) in order to reduce the pressure under her whole body and allow good perfusion of the surrounding healthy tissue with blood. This is vital to enable white cells to move into the wound area to initiate the process of autolytic debridement — the body's own process of wound cleansing and removal of any dead/sloughy tissue.

A speech and language therapist assessed Mrs B's ability to swallow and considered this to be very poor. Medical staff concluded that this was the probable cause of Mrs B's repeated chest infections. Arrangements were made for Mrs B to have a percutaneous gastrostomy tube inserted which would allow her to receive nutrition.

Mrs B was also assessed by a neurological physiotherapist to determine whether passive exercises would help. Unfortunately, Mrs B's flexion contractures were too well established. A surgeon also assessed Mrs B with a view to performing a tenotomy — removal or cutting of the tendon to release the flexion contracture. However, he felt that the surgery would pose too great a risk to this fragile patient.

From the assessments and conclusions drawn by both physiotherapist and surgeon, it is clear that it is vital to prevent flexion contractures wherever possible. This can be achieved by a number of measures, i.e. the use of postural support and passive exercises (Pope, 2007), which should be directed by a physiotherapist.

Mrs B's pressure ulcers did eventually improve and she was returned to her nursing home with a low air loss mattress to use, and restricted to bed rest until her sacral pressure ulcer improved. Sadly, she died two months later due to another severe chest infection.

CONCLUSION

With the extended age of the older population it is likely that nurses and other practitioners will see more individuals with flexion contractures. Learning how to prevent such deformities from our physiotherapy colleagues is vital to protect patients from severe pressure damage. WE

Figure 2. Grade 4 (European Pressure Ulcer Advisory Panel [EPUAP] scale), sacral pressure ulcer, approximately 75% clean and 25% sloughy tissue.

Figure 3. Grade 3 (EPUAP scale) pressure ulcer to left heel. Approximately 55% clean, granulating tissue, 45% dense slough.

Chitnavis J, Sinsheimer JS, Clipsham K (1997) Genetic influences in end-stage osteoarthritis. Sibling risks of hip and knee replacement for idiopathic osteoarthritis. *J Bone Joint Surg Br* **79**: 660–4

Pope P (2007) Night-time postural support for people with multiple sclerosis. *Way Ahead* **11(4):** 6–8

Key points

- **Development of flexion contractures can be prevented.**
- **Flexion contractures increase the risk of pressure ulceration.**
- **Patients with flexion contractures require specific pressure-relieving equipment.**