

CASE STUDY

BMI Contracture Knee

Contracture Management in the long term
patient

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A description of the physical therapy intervention of a long term medically complex resident with bilateral knee flexion contractures and the use of the application of BMI Contracture Knee splints as an intervention tool.

for follow up. FC first used bilateral BMI Contracture Knee splints toward the end of week 5 and immediately was able to comfortably tolerate donning them for >3-4 hours while seated in wheelchair with elevating leg rests. FC also tolerated use of splints during transfer and standing balance training.

Outcome

FC was on skilled P.T. treatment for a total of 12 weeks and demonstrated the following status at discharge:

Bed mobility = Minimal assistance x 1

Sitting Balance = Good

Standing Balance = Fair -

Sit <-> Stand Transfer = Moderate Assistance

Bed <-> W/C Transfer = Moderate Assistance

Lower Extremity Range of Motion (LE ROM) = Ankles are within functional limits (WFL), hips are WFL, R knee lacks 15 degrees of full extension (-15) and L knee lacks 10 degrees from full extension (-10).

Gait = 20 feet with rolling walker, Moderate assistance on even surfaces.

Staff consistently donned bilateral BMI Contracture Knee splints accurately while FC sat in wheelchair, typically between 4-6 hours a day during day shift. After splints were in place, she was able to move LEs actively but did not flex her knees under wheelchair as she had previously, allowing for improved joint alignment of both knees for more prolonged periods of time. FC had no complaints of pain but occasionally she would release the Velcro straps to give herself "a break" from the splints when seated out of bed for longer periods during the day. No evidence of redness or skin breakdown was exhibited on any part of the LEs in contact with the splints.

FC was able to meet her goals established for both LE knee ROM improvements, splint tolerance and for staff follow up on splint donning. Multiple medical and cognitive factors limited her improvement in functional mobility, and she was ultimately unable to restore her previous level of function fully. She was transitioned to a Restorative Nursing Program for continued exercises and ambulation for follow up in facility.

Discussion

The BMI Contracture Knee splints proved to be a very effective, easily applied, well tolerated and safe for the skin orthotic, which was used to treat and manage knee flexion contracture in a long term care patient with multiple medical problems. The splints proved very easy to apply for the staff involved, as well as safe and comfortable to wear for the patient on a consistent basis.

Conclusion

As a tool in treating knee contractures in a medically complex patient, the BMI Contracture knee splints proved to be effective in this case for not only aiding in improvement of knee extension ROM, but also in the long term management of the patient's contractures through effective follow up with the nursing staff.