



**Service Priorities and Programmes**  
**Electronic Presentations**

**Convention ID:** 717

**Submitting author:** Ms Menda CHAU

**Post title:** Occupational Therapist I, Wong Chuk Hang Hospital, HKEC

**The effectiveness of splintage programme on infirmity patients after hamstring tenotomy procedure in WCHH**

*Chau PC (1), Wong CC (1), Ip FK(2), Chan WY(3), Ho ML(4)*

*(1)Occupational Therapy Department, Wong Chuk Hnage Hosptial(WCHH), (2)O&T Department, PYNEH (3)Geriatric Department, WCHH (4)NSD, WCHH*

**Keywords:**

splintage programme

infirmity patient

tenotomy

occupational therapy

effectiveness

**Introduction**

Contracture is a pathological shortening that could not be corrected by passive stretch or manipulation (Surya, 2007). It is one of the complications of infirmity patients who are bedbound for many years. Severe limb contracture can result in pain (Young, 1987) and pressure sores (Mayer, 1997). Surgical methods are reserved as a last resort for severe contracture that cannot be adequately managed with medical and physical measures. Since 2011, selected infirmity patients in WCHH would be applied custom-made thermoplastic static knee splints for 6 months with adjustment angles from time to time by Occupational Therapist in order to reserve the most optimal passive range of motion (PROM) of involved knees after the hamstring tenotomy procedures.

**Objectives**

1) To maintain the most optimal PROM of involved knees after the hamstring tenotomy procedures. 2) To prevent further contracture occurred in the same involved joints.

**Methodology**

1) Multiple paired t-tests were applied. 2) Subjects: infirmity patients were undergone hamstring tenotomy procedures since Oct 2011 to Apr 2012. 3) Intervention(6 months splintage programme): daily application (6 hours per working day) of custom-made thermoplastic static knee splints for 6 months with adjustment angles from time to time by Occupational Therapist, starting from 14 days post hamstring tenotomy procedures and wounds healed. 4) Outcome measure: PROM of involved knee joints were measured at the following intervals by goniometer manually: i) Off stitches day after hamstring tenotomy procedures (i.e. post operation 14 days) ii) Post 6 weeks of splintage application over involved knee joints iii) Post 6 months of splintage application over involved knee joints iv) Post 6 months after the completion of the 6 months of splintage application over involved knee joints

## **Result**

14 subjects with 21 involved joints were studied from Oct 2011 to Feb 2014. 87% of the subjects were female. All the patients were presenting with different extent of residual knee fixed flexion contracture ranging from 90° – 130°, with a mean degree of 112.6° ± 13.4°, 14 days after hamstring tenotomy procedure. Thermoplastic static splints were custom made and applied to each patient for 6 months with adjustments from time to time by Occupational Therapist. Multiple paired t-tests were applied and we considered as statistical significance when the p value was below 0.05. There are statistical significant findings with a mean increase in 10.2° (p=0.05) after 6 weeks of splintage application over knee joint. Significant therapeutic difference over knee joint was also being observed with a mean improvement of 18.8° (p=0.01) after the completion of 6 months splintage regime. The carry over effect of splintage regime not only able to maintain 6 months after weaning off knee extension splint but further improve the involved joint with a 23.9° mean increase (p=0.01).