

00139 **Effectiveness of Two Cryotherapy Modalities on Pain Relief and Knee Range of**
of

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Aims: To examine the effectiveness of two cryotherapy modalities among patients following an elective Total Knee Replacement (TKR) surgery on two primary outcomes namely pain and knee range of motion (ROM).

Methodology: A pilot quasi-experimental study was conducted in a tertiary hospital in Singapore between the period of August 2017 to February 2018 with 30 subjects in intervention group (IG) and 54 subjects in the control group (CG) respectively. In the IG, the cryotherapy modality applied was 'Physicool' while the CG used ice therapy according to surgeon post-operative instructions. Data parameters of subjects were recorded at a 3 time-interval over their admission period. Primary outcomes were subjects' subjective report of pain score and knee range of motion postoperatively. Secondary outcome included subjects' level of satisfaction.

Result: There was statistical difference only in pain score upon movement ($p = 0.002$) and knee ROM flexion ($p = <0.001$) between time-point 1 (T1) to time-point 2 (T2). Similarly, there was a significant difference only in pain score upon movement ($p = <0.001$) and knee ROM flexion ($p = <0.001$) between T2 to time-point 3 (T3).

Conclusion: The application of 'Physicool' for subjects following an elective TKR surgery generated a minimal improvement on the patient knee range of motion and a reduction in pain score. 'Physicool', being a relatively new advance cryotherapy is safe and effective for use. Nonetheless, more research is required to explore the effectiveness of 'Physicool' to further improve patients' rehabilitation and recovery process.