

## **Dynamic Splinting After Total Knee Arthroplasty: a Randomized, Controlled Trial**

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Over 130,000 Total Knee Arthroplasty (TKA) operations are performed each year in the United States, and over 40% of these patients experience Knee Flexion Contracture secondary to the TKA. Stretching is considered a vital protocol to reduce contracture following a TKA and Ouellet and Moffet suggested the need for a “More intensive rehabilitation program” (greater frequency, greater intensity appropriate to the end-range of motion, and greater duration).

A retrospective analysis by Anderson and Willis (N=107) had a mean 150 hours of passive end-range stretching each month, which was responsible for the 40% improvement and lasting contracture reduction. The **purpose** of this study is to evaluate the efficacy of dynamic splinting for knee flexion contracture following a total knee arthroplasty in a randomized, controlled trial.

**One hundred patients** will be enrolled in this study after diagnosis of flexion contracture following a TKA and giving their informed consent for study participation. All patients will be treated with the current Standard of Care (SOC): standardized physical therapy plus NSAIDs. Experimental subjects will also be treated with the Knee Extension Dynasplint (KED). Control patients will be treated with SOC and given a placebo static splint.

**The duration** of this study will be 18 weeks with a 12 month follow up. Dependent variables will be maximal Active Range of Motion in Extension and the WOMAC pain survey questionnaire. Data analysis will be accomplished with a Repeated Measures ANOVA in the longitudinal comparison trial.