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Sattler, Larissa Nicole; Hing, Wayne A; Vertullo, Christopher

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## A PEDALLING-BASED PROTOCOL WAS SUPERIOR TO STANDARD PHYSIOTHERAPY FOR POST-OPERATIVE REHABILITATION AFTER TOTAL KNEE REPLACEMENT IN A RANDOMISED CONTROLLED TRIAL

**Sattler L**<sup>1,2</sup>, Hing W<sup>1</sup>, Vertullo C<sup>1,2,3</sup>

<sup>1</sup>Bond University, Robina, Australia, <sup>2</sup>Pindara Private Hospital, Benowa, Australia, <sup>3</sup>Knee Research Australia, Benowa, Australia

**Aim:** To determine if a self-directed pedalling protocol following total knee replacement surgery was superior to standard multi-exercise non-pedalling physiotherapy.

**Design:** Randomised controlled trial with concealed allocation, assessor blinding and intention-to-treat analysis.

**Method:** Sixty TKR patients were randomized to receive postoperative physiotherapy involving either a 3-exercise pedalling-based (3-Ex-Pedal-Group) or a standard 10-exercise, non-pedalling protocol (10-Ex-NonPedal-Group). Outcomes were assessed at 2 days, 2 weeks, and 4 months, and included tests of function, patient-reported outcomes, and other perioperative measures.

**Results:** For the primary outcome, the 6-minute walk test, distance walked was further in the 3-Ex-Pedal-Group at 2 days ( $p = 0.001$ ). The 10-m walk (10MWT) and the Timed Up & Go (TUG) tests, were faster for the 3-Ex-Pedal-Group at 2 days ( $p = 0.016$ ,  $p = 0.020$ ). Oxford Knee Scores were better in the 3-Ex-Pedal-Group at 2 days ( $p = 0.034$ ) and at 2 weeks ( $p = 0.007$ ), as was the EQ-5D score at 2 weeks ( $p = 0.037$ ). The EQ-5D-VAS was better for the 3-Ex-Pedal-Group at all three time points ( $p = 0.031$ ,  $p = 0.050$ , and  $p = 0.044$ ). Length of stay was shorter, by a half-day, for the 3-Ex-Pedal-Group ( $p = 0.024$ ). The 10-Ex-Nonpedal-Group was not superior for any outcome at any time point.

**Conclusion:** A pedalling-based protocol after TKR was superior to a standard multi-exercise physiotherapy protocol with these benefits decreasing over time.

**Key Practice Points:**

- An inexpensive and self-directed pedalling protocol is superior to standard multi-exercise physiotherapy following total knee replacement surgery.

**Proposed impact, if any, on the health outcomes of Aboriginal and Torres Strait Islander people:**  
As pedalling on a simple set of floor pedals is relatively inexpensive and can be done as a self-directed home program it would be an easily adopted protocol for those living in regional or remote areas.

## HOW OSTEOARTHRITIS CHANGES KNEE KINEMATICS.

Galvin C<sup>1,2</sup>, Perriman D<sup>1,2,3</sup>, Pickering M<sup>4</sup>, Lynch J<sup>2,3</sup>, Smith P<sup>2,3</sup>, **Scarvell J**<sup>1,2</sup>

<sup>1</sup>University Of Canberra, Bruce, Australia, <sup>2</sup>Trauma and Orthopaedic Research Unit, Canberra Health Services, Canberra, Australia, <sup>3</sup>Australian National University Medical School, Canberra, Australia, <sup>4</sup>University of New South Wales, Canberra, Australia

**Aim:** This research aims to compare the difference in kneeling kinematics in six-degrees-of-freedom for people with knee osteoarthritis.

**Design:** Cross-sectional observational study.