

# **A pilot study investigating the dietetic weight loss interventions and 12 month functional outcomes of patients undergoing total joint replacement**

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**Background:** Despite poorer outcomes, numbers of obese patients undergoing hip and knee arthroplasty surgery is increasing, with more than 40% of total hip (THR) and 70% of total knee (TKR) recipients obese at the time of surgery. This pilot randomised control study investigated the effect of providing weight loss intervention to a group of elective THR and TKR patients and compared 12-month clinical outcomes to a group receiving usual care. We hypothesized the intervention group would achieve weight loss resulting in positive outcomes on pain and function.

**Method:** Forty individuals with a body mass index (BMI) > 30kg/m<sup>2</sup> undergoing THR or TKR were randomised into either a treatment or control group. The treatment group received a weight loss intervention comprising at least four sessions conducted either face to face or via telephone with an Accredited Practising Dietitian. The control group received usual care comprising healthy eating advice by a preadmission clinic nurse.

**Results:** At 12 months, the intervention group demonstrated significant improvements in weight related measurements; BMI, weight loss and % weight loss, compared to the control group. The control group gained weight at 12 months, +2.01kg (6.45), whereas the treatment group lost weight, -3.38kg (6.62), (p=0.015). Percentage weight change in the treatment group was -3.20% (5.24), compared to +1.67% (6.16) for the usual care group, (p=0.015), and more participants in the intervention group (45%) lost  $\geq$  5% of their baseline weight compared to the usual care group (13%), (p=0.057). Physical health scores were significantly better for the intervention group compared to the usual care group, [42.2 (11.80); 32.86 (9.91), p=0.014].

**Discussion:** This study demonstrated that a structured dietitian-led weight loss intervention in patients undergoing THR and TKR is more effective in achieving weight loss than usual care, and can result in improved physical health scores at 12 months post-surgery.