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## 14. Joint Pain in Relation to Changes in Weight and Body Composition in People Undergoing Bariatric Surgery

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**Objectives:** Body composition is an important factor that influences hip, knee and joint pain in the obese population (BMI >30 kg/m<sup>2</sup>). Improving hip, knee and joint pain may help reverse lower levels of physical activity (PA) which is one of the strongest predictors of successful long term weight loss maintenance. Our goal was to compare the prevalence of hip, knee, and back/other pain before and after bariatric surgery and explore interrelationships amongst joint pain, body composition, and PA.

**Method:** Data were drawn from a convenience sample of adults 167 undergoing bariatric surgery at an urban academic center. Nine individuals who underwent joint replacement or joint surgery were removed from further analysis. Participants reported whether they currently experienced knee, hip, and back/other pain. We compared changes in weight and body composition using DXA of individuals who reported their hip, knee, or joint pain improved or stayed the same/worsened since surgery using t-tests and chi square.

**Results:** Participants were most female (n=118; 75%) with a mean age (SD) of 51 (10) with a baseline weight of 145.6 (32.5) kg and BMI 52.6 (10.0). At follow up a mean of 9 (4), they had lost 49.3 (29.3) kg; 32%, 62%, and 62% reported current hip, knee, and other joint pain. Participants who reported having less joint pain had greater reductions in BMI, and a significantly larger proportion reported being more active than prior to surgery. Those with improved knee and back pain were also more likely to meet recommended PA guidelines.

**Conclusion:** Joint pain is common even after individuals lose substantial amounts of weight with bariatric surgery patients. Participants who reported improved hip and weight pain had lost substantially more weight; individuals with improved back and other joint pain had maintained a larger percentage of weight lost. Individuals with same or worsened knee pain also reported sitting significantly longer each day. These data suggest that joint pain is under-identified in people who have had bariatric surgery and that both weight loss; reducing sedentary time may help improve knee joint symptoms.