

The effect of early isolated lumbar extension exercise program for patients with herniated disc undergoing lumbar discectomy.

Choi G, Raiturker PP, Kim MJ, Jin CD, Chae YS.

Wooridul Spine Hospital, Seoul, South Korea. choigun@wooridul.co.kr

OBJECTIVE: To determine the effects of a postoperative early isolated lumbar extension muscle-strengthening program on pain, disability, return to work, and power of back muscle after operation for herniated lumbar disc. **METHODS:** Seventy-five patients were randomized into an exercise group (20 men, 15 women) and a control group (18 men, 22 women) to perform a prospective controlled trial of a lumbar extension exercise program in patients who underwent lumbar microdiscectomy or percutaneous endoscopic discectomy. Six weeks after surgery, patients in the exercise group undertook a 12-week lumbar extension exercise program. The assessment included measures of lumbar extensor power by the MedX (Ocala, FL) lumbar extension machine, muscle mass of multifidus and longissimus (L4-L5 cross-sectional area) by computed tomography. All patients completed the visual analog scale and the Oswestry disability index to assess pain and disability, respectively. Return to work data were also investigated. **RESULTS:** After the exercise program, significant improvements were observed in the exercise group versus the control group for lumbar extensor power (51.67% versus 17.55%, respectively; $P < 0.05$), the cross-sectional area of multifidus and longissimus muscle (29.23% versus 7.2%, respectively; $P < 0.05$), and the visual analog scale score (2.51 versus 4.30, respectively; $P < 0.05$). The percentages of returning to work within 4 months after surgery were significantly greater in the exercise group than in the control group (87% versus 24%, respectively). Although this was not statistically significant ($P > 0.05$), the Oswestry disability index scores in the exercise group were better than that in control group (24.6 versus 30.6, respectively). **CONCLUSION:** These results support the positive effects of the postoperative early lumbar extension muscle-strengthening program on pain, return to work, and strength of back muscles in patients after operation of herniated lumbar disc.