powered by

dkfz.
GERMAN
CANCER RESEARCH CENTER
IN THE HELMHOLTZ ASSOCIATION

Contribution ID: **224** Type: **1 - Scientific Poster**

Effect of early exercise on functional recovery and surgical outcomes after post-mastectomy breast reconstruction: A Randomized Clinical Trial

Thursday 23 July 2026 14:55 (20 minutes)

Background: Postoperative shoulder dysfunction and discomfort are common after mastectomy with immediate breast reconstruction and may delay functional recovery and reduce quality of life. This study evaluated the effects of an early structured exercise program on shoulder functional recovery, discomfort, and safety in women undergoing mastectomy with immediate reconstruction.
Methods: Sixty women aged 19–70 years undergoing mastectomy with immediate breast reconstruction were randomized 1:1 to an exercise or control group. The exercise group initiated a structured program on postoperative day 5, consisting of weekly supervised sessions for 4 weeks followed by home-based exercise for 6 months, emphasizing progressive shoulder range-of-motion, resistance, and aerobic training tailored to recovery status. The control group received usual postoperative care. The primary outcome was shoulder range of motion (ROM) and strength of the operated side. Secondary outcomes included upper-extremity discomfort (DASH score), body composition, physical activity, and postoperative complications. Outcomes were assessed at baseline, postoperative day 5, day 10–14, and at 1, 3, and 6 months.
Results: At 3 months, 70% of participants in the exercise group achieved ≥95% recovery of baseline shoulder strength compared with 10% in the control group ($p < .001$); at 6 months, recovery remained higher in the exercise group (87% vs 47%, $p = .004$). Recovery of shoulder ROM was also greater in the exercise group at 3 months (73% vs 33%, $p = .002$) and at 6 months (83% vs 42%, $p = .004$). DASH scores were lower in the exercise group at 6 months, indicating reduced shoulder discomfort. Body composition, physical activity levels, and postoperative complication rates did not differ significantly between groups.
Conclusions: Early structured exercise after mastectomy with immediate breast reconstruction safely accelerates shoulder functional recovery and reduces postoperative discomfort, supporting its integration into standard postoperative care.

Keywords

Breast cancer, Mastectomy with immediate reconstruction, Early exercise, Shoulder functional recovery

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

Author: PARK, Rosa (Yonsei University)

Co-authors: KANG, Jiwon (Yonsei University); JUN, Susanna; Ms YEON, Sujin (Yonsei University); Dr MIN, Jihee (National Cancer Survivorship Center, National Cancer Control Institution); OH, Jung Min (Yonsei University College of Medicine); Dr JEON, Justin Y. (Yonsei University); Dr LEE, Dong Won (Yonsei University College of Medicine)

Presenter: PARK, Rosa (Yonsei University)

Session Classification: Poster Session