

ONCODAILY MEDICAL JOURNAL

abstract

Pre-rehabilitation Of Children With Soft Tissue And Bone Sarcomas Requiring Joint Replacement

**Volha Mishkova, Elena Gutkovskaya, Tatsiana
Bakevich, Angelica Solntseva**

doi.org/10.69690/ODMJ-018-0425-2078



**SIOP ASIA 2025
SAUDI ARABIA**

ONCODAILY MEDICAL JOURNAL

SIOP ASIA 2025 SAUDI ARABIA

Pre-rehabilitation Of Children With Soft Tissue And Bone Sarcomas Requiring Joint Replacement

Author: Volha Mishkova¹, Elena Gutkovskaya, Tatsiana Bakevich, Angelica Solntseva

Affiliation: ¹ Belarusian Research Center for Pediatric Oncology, Hematology, and Immunology

DOI: <https://doi.org/10.69690/ODMJ-018-0425-2078>

Introduction: Maintaining the function of the endoprosthetic joint is essential to preserving the patient's quality of life. Postoperative rehabilitation is a prerequisite for restoring joint function. The pilot project "Pre-rehabilitation before joint arthroplasty" aims to prepare the patient for the upcoming treatment and develop skills that can further improve the effectiveness of rehabilitation.

Methodology: The pre-rehabilitation program before joint arthroplasty was launched at the Belarusian Research Center for Pediatric Oncology, Hematology, and Immunology in September 2024. The following diagnostic tests were used to assess the initial condition of the patient and the effectiveness of pre-rehabilitation Methodology:: evaluation of actual nutrition, goniometry (measuring a joint's range of motion), psychosocial consulting, and informational consulting considering the operation and following rehabilitation.

Results: Four patients have undergone pre-rehabilitation training for knee arthroplasty and one patient for elbow arthroplasty. An individual pre-rehabilitation plan was developed for each patient, covering nutritional support, training in walking on axillary/elbow crutches, putting on/taking off the orthosis, and walking in the orthosis. Patients were also taught exercises to increase joint mobility, balance, and coordination (learning to walk upstairs on various surfaces (tiles, asphalt, sand). If necessary, patients were provided with psychological support. Classes are held daily by a physical and occupational therapist with mandatory monitoring of parameters such as heart rate, respiratory rate, and blood pressure. The session lasts 10 to 30 minutes, depending on the patient's well-being and physical activity tolerance.

ONCODAILY MEDICAL JOURNAL

SIOP ASIA 2025 SAUDI ARABIA

Conclusion: Patients who underwent pre-rehabilitation were significantly better adapted to the consequences of surgery and further rehabilitation, which affected their and their families' quality of life. This area is of great interest for pediatric oncology practice.