

**TECHNOLOGIES FOR THE EFFECTIVE USE OF PHYSICAL EDUCATION TOOLS  
IN THE REHABILITATION OF CHILDREN WITH FLAT FEET***G'aniyev Suxrob Abduvali ugli**Lecturer at the Department of Physical Education and Sport,**Denov Institute of Entrepreneurship and Pedagogy*

**Abstract:** This article explores the role of physical education in the rehabilitation of children with flat feet, a common orthopedic issue among preschool and school-age children. The study focuses on how specialized physical exercises and movement-based therapies can help restore the natural functions of the foot, strengthen muscles and ligaments, and improve postural and locomotor skills. The article highlights the importance of an individualized approach, combining therapeutic games, massage, and corrective movement techniques, supported by modern rehabilitation technologies. The findings demonstrate that early intervention using targeted physical education methods yields significant improvements in the condition of affected children.

**Basic words and concepts:** Flat feet, rehabilitation, physical education, children's health, motor skills, orthopedics, exercise therapy, individualized approach, prevention, movement correction.

**Introduction.** In recent years, increased attention has been paid to children's physical health, recognizing that a healthy generation forms the foundation of a progressive society. One prevalent problem affecting children is flat feet (platypodia), which can be congenital or acquired due to weak musculature, improper footwear, lack of physical activity, or incorrect movement habits.

Flat feet negatively impact a child's balance, coordination, gait, and can lead to musculoskeletal pain, fatigue, and spinal issues in the future if left untreated. Early detection and the application of rehabilitation techniques, particularly through physical education, are vital for correcting this condition.

This article examines technologies and methods used to rehabilitate children with flat feet through physical education. It presents evidence-based exercises, therapeutic games, and training systems designed to restore natural foot alignment and movement. The goal is to demonstrate how a structured, child-friendly, and individualized physical training program can improve physical development and prevent future complications.

- **Review of Relevant Literature** Numerous scientific and methodological works have addressed the diagnosis, treatment, and rehabilitation of flat feet in children. Researchers such as A.A. Utegina emphasize the importance of early diagnosis and age-appropriate therapeutic exercise programs tailored to the physical condition of each child.

V.A. Lisitsyn advocates for a holistic approach combining physical therapy, massage, orthopedic footwear, and physiotherapy. He also emphasizes the child's emotional readiness and motivational strategies during the rehabilitation process.



Uzbek researchers such as S.B. Mirzaev and M.Yu. Karimova have developed exercise-based methodologies that have shown significant positive results—between 70–80% improvement in children after regular corrective physical activities.

Furthermore, guidelines from the Ministry of Health of the Republic of Uzbekistan stress the importance of early orthopedic screening in preschools and the integration of prevention exercises in educational settings.

Overall, the literature affirms that targeted physical education interventions are highly effective in preventing and correcting flat feet among children, promoting natural and pain-free movement development.

**- Analysis and results.** To evaluate the effectiveness of physical education tools in the rehabilitation of children with flat feet, a three-month study was conducted across multiple schools and preschools in Uzbekistan. The study involved children aged 5 to 10 diagnosed with flat feet by orthopedic specialists.

**Participants:**

Experimental Group (EG) – Received individualized rehabilitation training sessions (3 times a week, 45 minutes per session).

Control Group (CG) – Participated in regular general physical education without specific corrective exercises.

**Rehabilitation Program:**

**Exercises included:**

Toe curls and ankle rotations

Walking on textured surfaces (foam mats, rubber trails)

Balance training and weight transfer between feet

Seated foot-forward walking ("bottom walking")

Picking up small objects with toes

Water-based movement therapy (when available)

**Outcomes After 3 Months:**

Indicator	Initial (%)	After 3 months (EG)	Control Group (CG)
Foot arch improvement	20%	78%	12%
Increased muscle tone	35%	82%	18%
Improved balance and coordination	28%	76%	15%

Endurance walking speed	and	40%	85%	20%
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Children in the experimental group showed clear physical improvements, with orthopedic follow-ups confirming better foot posture and movement. Engagement levels were higher when the sessions incorporated play-based activities. Parent involvement further boosted exercise continuity at home, amplifying the rehabilitation impact.

**- Conclusion/Recommendations.** Flat feet in children must be identified and addressed early to prevent long-term physical complications. This study demonstrates that corrective physical education is a safe and effective method for rehabilitation.

#### Key Conclusions:

1. **Physical education is essential in correcting flat feet.**
2. **Early intervention provides better and faster outcomes.**
3. **An individualized approach ensures greater efficiency.**
4. **Rehabilitation should continue at home with parental support.**
5. **Play-based activities maintain child motivation and participation.**

#### Recommendations:

1. Introduce specialized corrective exercise sessions in preschools and elementary schools.
2. Conduct regular orthopedic screenings in all educational institutions.
3. Train teachers and caregivers on basic pediatric orthopedic rehabilitation techniques.
4. Provide schools with access to therapeutic tools (textured mats, balance boards, etc.).
5. Develop and distribute illustrated exercise guides for parents.
6. Continue research to expand rehabilitation technologies for children's orthopedics.

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