



PÉCSI TUDOMÁNYEGYETEM
ÁLTALÁNOS ORVOSTUDOMÁNYI KAR

The Role of Physiotherapists in Pediatrics and Gynecology

Petra Mayer

Physiotherapist
University of Pécs, Faculty of Medicine
Sport Medicine Department

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Warm-up question:

- „If a child or a woman came to your clinic, in which cases would you refer them to a physiotherapist?“



Motor Development Disorders

- **Delayed motor development**
- <https://pathways.org/side-by-side-motor-development-video-series>
<https://www.youtube.com/watch?v=nXGMds8szMw>
- **Hypotonia/hypertonia**
- <https://www.youtube.com/watch?v=LzMM4yrkjQA>
- <https://www.youtube.com/watch?v=qnWcOKfJeaQ>
- **Asymmetries (e.g., torticollis)**
https://www.youtube.com/watch?v=4yHt_JMLfbk

Characteristics

Delayed developmental milestones, weak head control, asymmetry, stiff or floppy tone, and difficulty with rolling/crawling/transitions.

Physiotherapy goals

- Facilitate normal movement patterns
- Regulate muscle tone
- Improve sensorimotor integration
- Teach parents safe handling and positioning



Cerebral Palsy

Main types:

- Spastic (hemi-, di-, tetraplegia)
- Ataxic
- Dystonic/athetoid

Physiotherapy goals

- Normalize tone
- Prevent contractures
- Support standing and walking
- Assistive device assessment and training
- Maximize functional independence

<https://www.youtube.com/watch?v=c9LyCzhvFPE>

Pethő Institute

<https://www.youtube.com/watch?v=wXnxUzBvmvg>



Peto Institute in Hungary

- Conductors at the **Peto Institute** specialize in **Conductive Education**, a holistic approach to helping children with motor disabilities, especially **cerebral palsy**.
- They focus on **teaching functional movement** through repetitive, task-based activities integrated into daily routines.
- Conductors use **rhythmic intention**, group activities, and specialized furniture to enhance coordination and independence.
- Their work combines **physical, cognitive, and social development**, encouraging active participation and problem-solving.
- They collaborate closely with families and other professionals to support long-term progress in mobility and self-care.
- <https://www.youtube.com/watch?v=eSb3vBVGk2g>



Respiratory Diseases

- Bronchiolitis
- Asthma
- Cystic Fibrosis

Therapy principles

Bronchiolitis:

- Positioning, gentle airway clearance
- Education for parents (nasal irrigation, safe positioning)

Asthma:

- Prolonged exhalation
- Diaphragmatic breathing
- Relaxation and breath control

Cystic Fibrosis:

- ACBT (Active Cycle of Breathing Technique)
- Elements of autogenic drainage
- PEP devices, Flutter

<https://www.youtube.com/watch?v=OAm4pm7ufQc>



Mini practice

Orthopedic Conditions

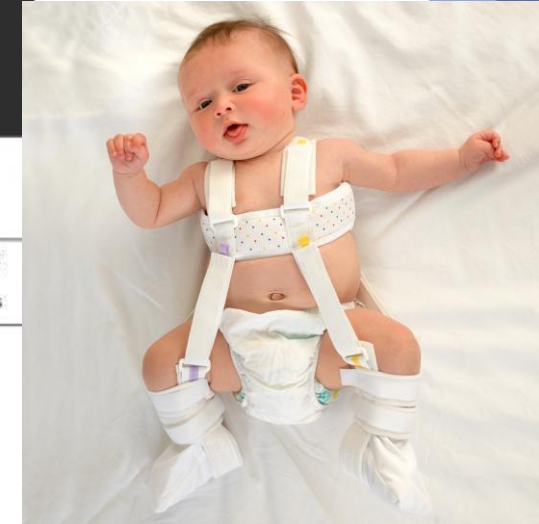
- **Clubfoot** (Ponseti method follow-up)
- **Developmental dysplasia of the hip (DDH)**
- **Scoliosis and Scheuermann's disease**

Therapy focus

- Joint alignment
- Strengthening postural muscles
- Schroth principles (elongation, rotational breathing)

https://www.youtube.com/watch?v=H9KauES5_Qc

Mini practice: lumbar scoliosis



Physiotherapy for Overweight & Obese Children

Key Goals

- Increase **physical activity** safely and enjoyably
- Improve **cardiorespiratory fitness**
- Build **core and lower-limb strength**
- Correct **postural issues** and movement patterns
- Reduce **joint overload**
- Support long-term **healthy lifestyle habits**



Common Physical Problems

- Postural deviations: valgus knees, pronated feet, lumbar hyperlordosis
- Weak core and gluteal muscles
- Reduced balance and coordination
- Low endurance, rapid fatigue
- Joint pain (knees, ankles, lower back)



CNS/psychosocial

Pseudotumor cerebri
Decreased quality of life

Cardiovascular

Elevated blood pressure
Dyslipidemia
Atherosclerosis
Chronic inflammation
Coagulopathy

Pulmonary

Obstructive sleep apnea
Asthma
Exercise intolerance

Renal

Hyperfiltration
Glomerulopathy

Endocrine

Insulin resistance
PCOS
Pubertal advancement

GI/nutrition

Fatty liver disease
Gastroesophageal reflux
Cholelithiasis
Iron deficiency
Vitamin D deficiency

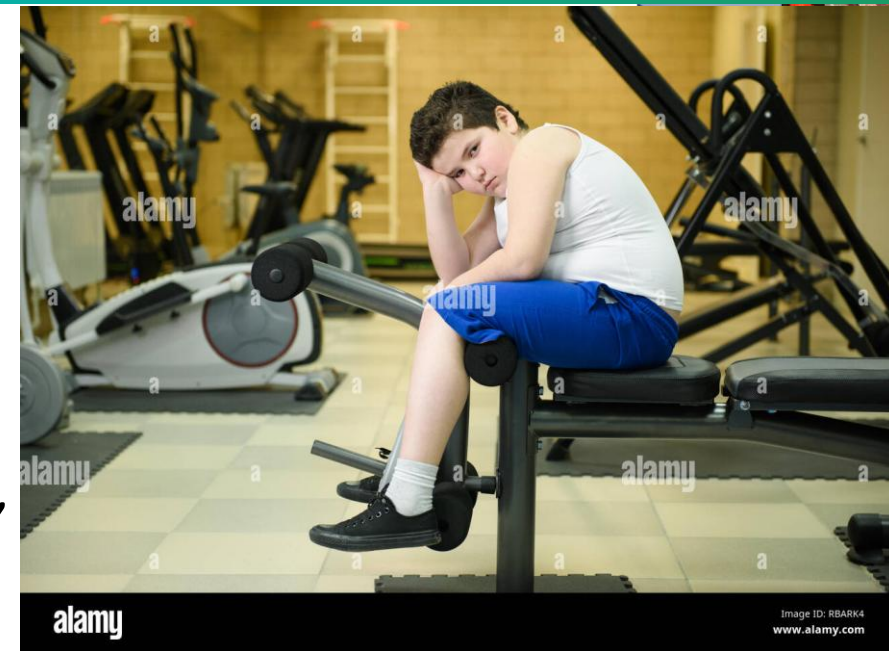
Orthopedic

Lower limb malalignment
SCFE
Osteoarthritis

Figure 3. Complications associated with childhood obesity. Images obtained by

Physiotherapy Principles

- **Low-impact, joint-friendly activities:** swimming, cycling, walking,
- **Gradual progression** of intensity and duration
- **Strengthening:** core, glutes, quadriceps, postural muscles
- **Balance & coordination:** obstacle courses, ball games, single-leg tasks
- **Flexibility:** hip flexors, hamstrings, calves, chest
- **Functional play-based training** to maintain motivation



Psychosocial & Educational Components

- Provide **positive movement experiences**
- Encourage **family involvement**
- Address sedentary habits and screen time
- Focus on **confidence**, not weight stigma
- Multidisciplinary cooperation with pediatricians, dietitians, psychologists

<https://www.youtube.com/watch?v=4v88XbXpnGM>



Gynecological Physiotherapy–Women’s Health Physiotherapy



Pregnancy-related back pain

- **Hormonal, postural, and mechanical changes** in the body mainly cause lower back pain during pregnancy.
- The hormone **relaxin** loosens ligaments and joints, reducing stability in the pelvis and spine.
- As the baby grows, the **center of gravity shifts**, leading to poor posture and increased strain on the lower back. Weak or overstretched abdominal muscles provide less support, forcing the back muscles to compensate.
- Additionally, increased **weight gain** adds pressure to the spine and pelvic structures.
- These factors combined can lead to **muscle fatigue, joint stress, and nerve compression**, resulting in **pain**.

Physiotherapy in Pregnancy

Major goals

- Relieve back and pelvic pain
- Improve pelvic stability
- Introduce safe strengthening and mobility
- Teach breathing and relaxation techniques

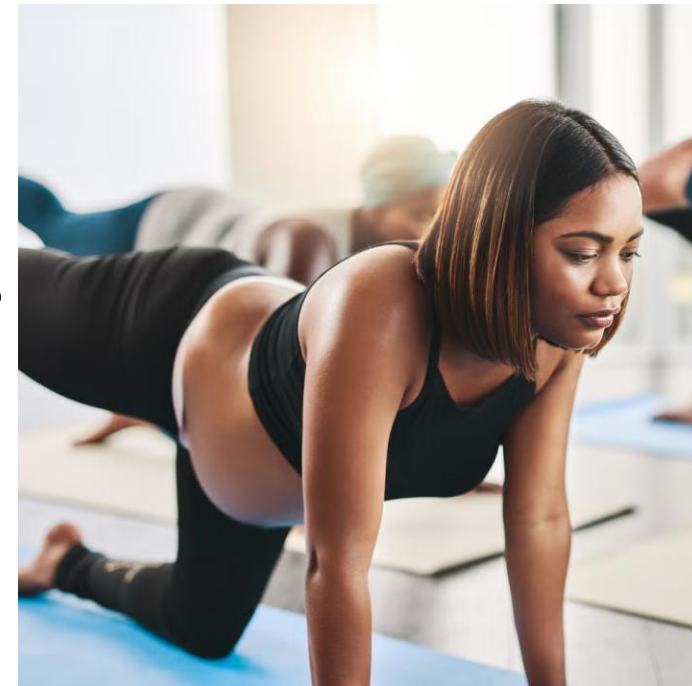
By trimester

1st trimester: light strengthening, fatigue management

2nd trimester: active strengthening and stabilization

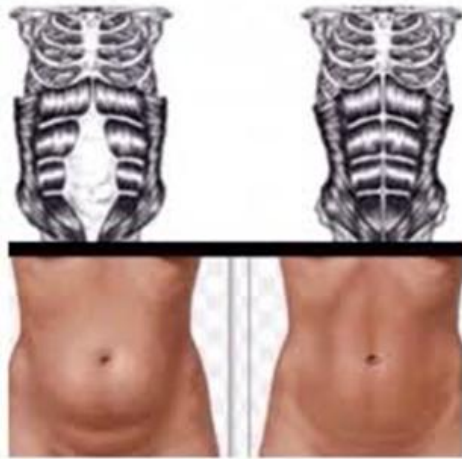
3rd trimester: edema management, breathing, comfortable positions

Interactive task: “What can the pregnant woman do?”



Rectus diastasis – Treatment, elimination

- Specific physiotherapy exercises can be used to centralise the rectus abdominis and, with proper strengthening, this condition can be reversed and long-term symptom relief maintained.



Pelvic floor dysfunction

Common referrals:

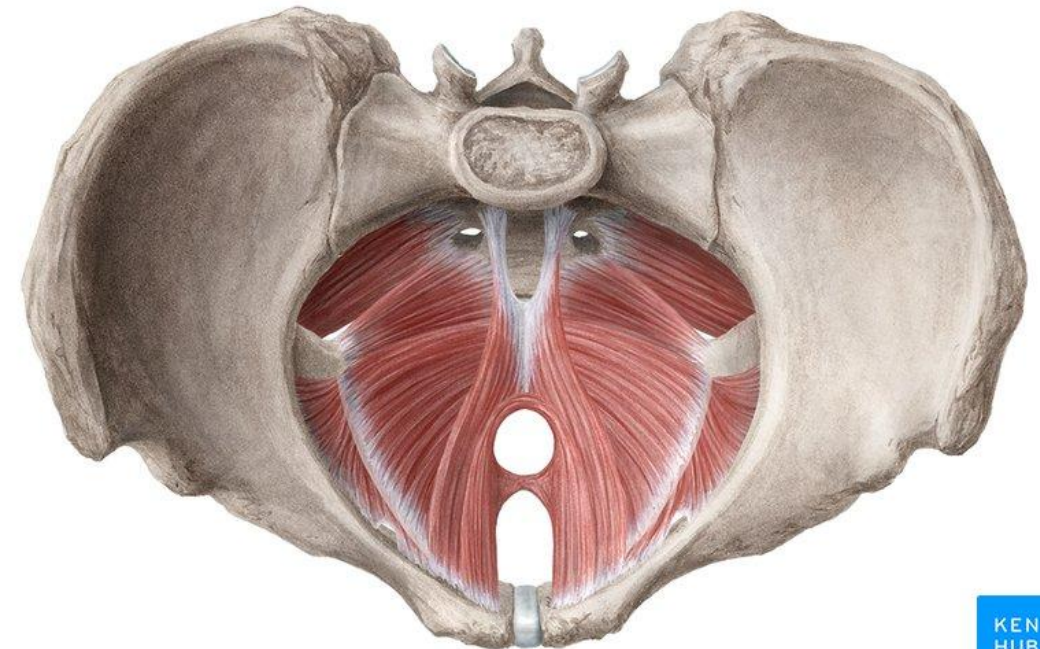
- Stress urinary incontinence
- Overactive bladder
- Pelvic floor weakness
- Pelvic floor hypertonus
- Rectus diastasis

Key physiotherapy principles

- Coordination of breath–core–pelvic floor

<https://www.youtube.com/shorts/POsIBVcnN6c>

- Correct activation (lifting, not squeezing)
- Relaxation techniques for hypertonus
- Core stability exercises
- Education (bladder habits, load management)



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- <https://www.youtube.com/watch?v=-1IViRMMdJg>

Physiotherapy After Gynecological Surgery

Common surgeries:

- Hysterectomy
- Laparoscopic gynecological procedures
- Incontinence surgeries

Therapy principles:

- Early mobilization
- Deep breathing
- Venous return exercises
- Gradual activity
- Safe movement strategies

Venous training in a seated position





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Thank you for your attention!

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