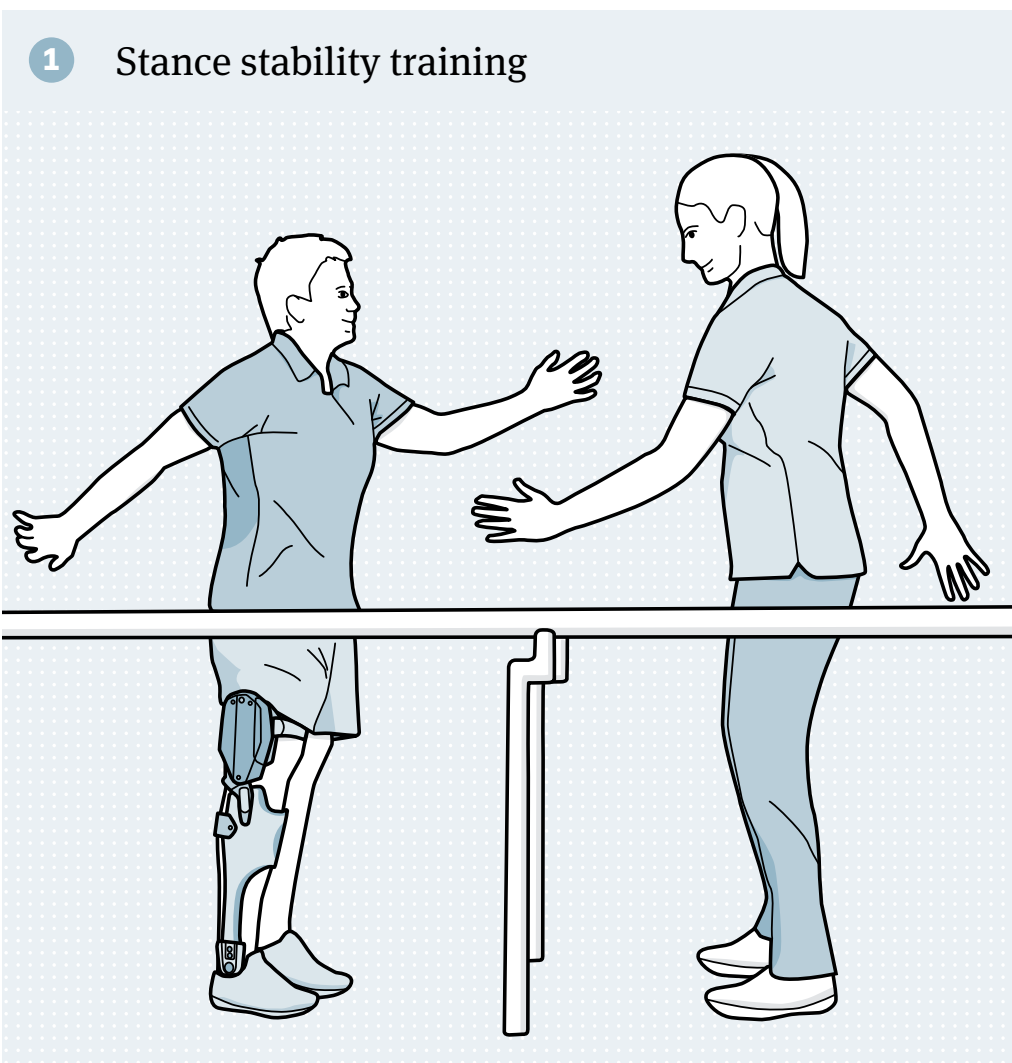


C-Brace® orthotronic mobility system

Training tailored to daily life



1 Stance stability training

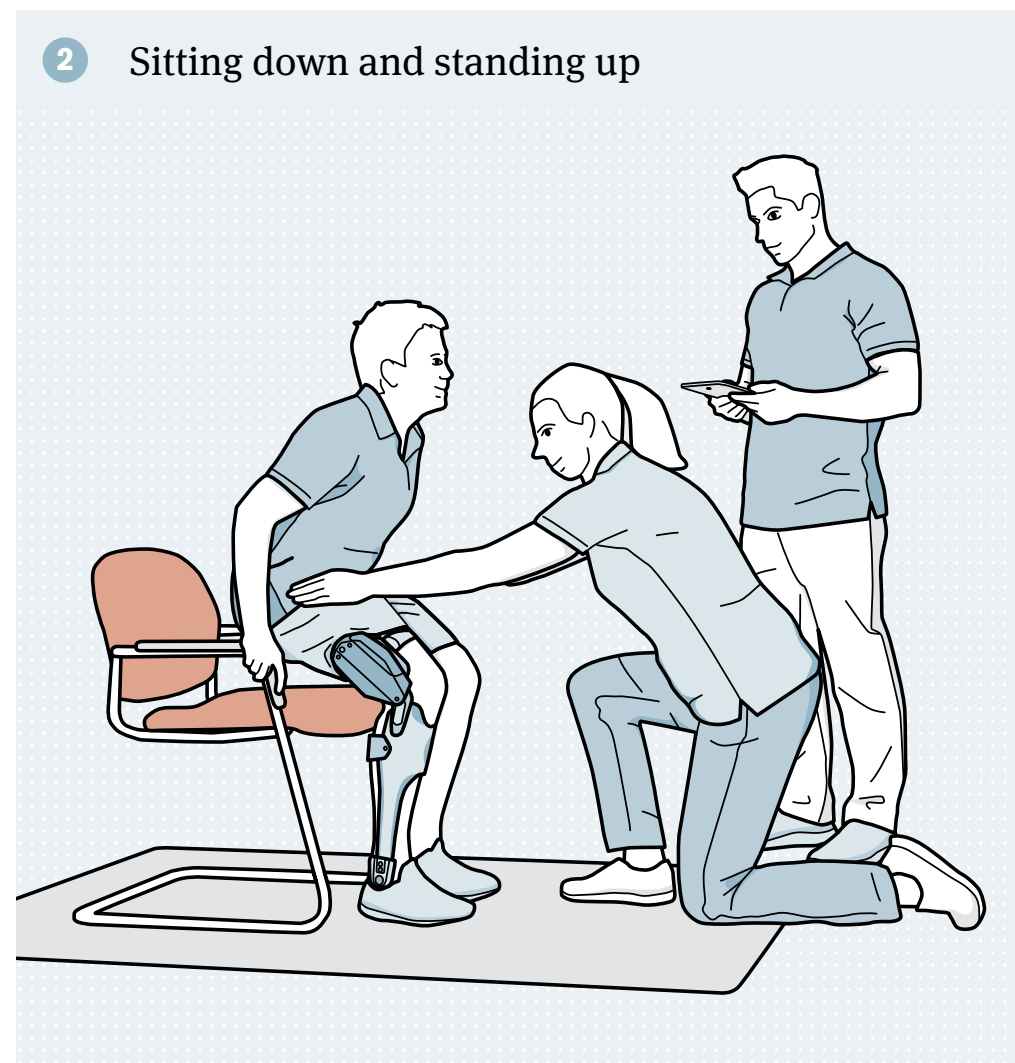
Start Standing upright between parallel bars, weight evenly distributed between both legs

Exercise

- Static position: stabilise stance against any resistance applied by the therapist
- Dynamic position: swing arms forwards/backwards while standing

Objective

- Building trust in orthosis
- Gain confidence when standing and while placing weight on the orthosis



2 Sitting down and standing up

Start

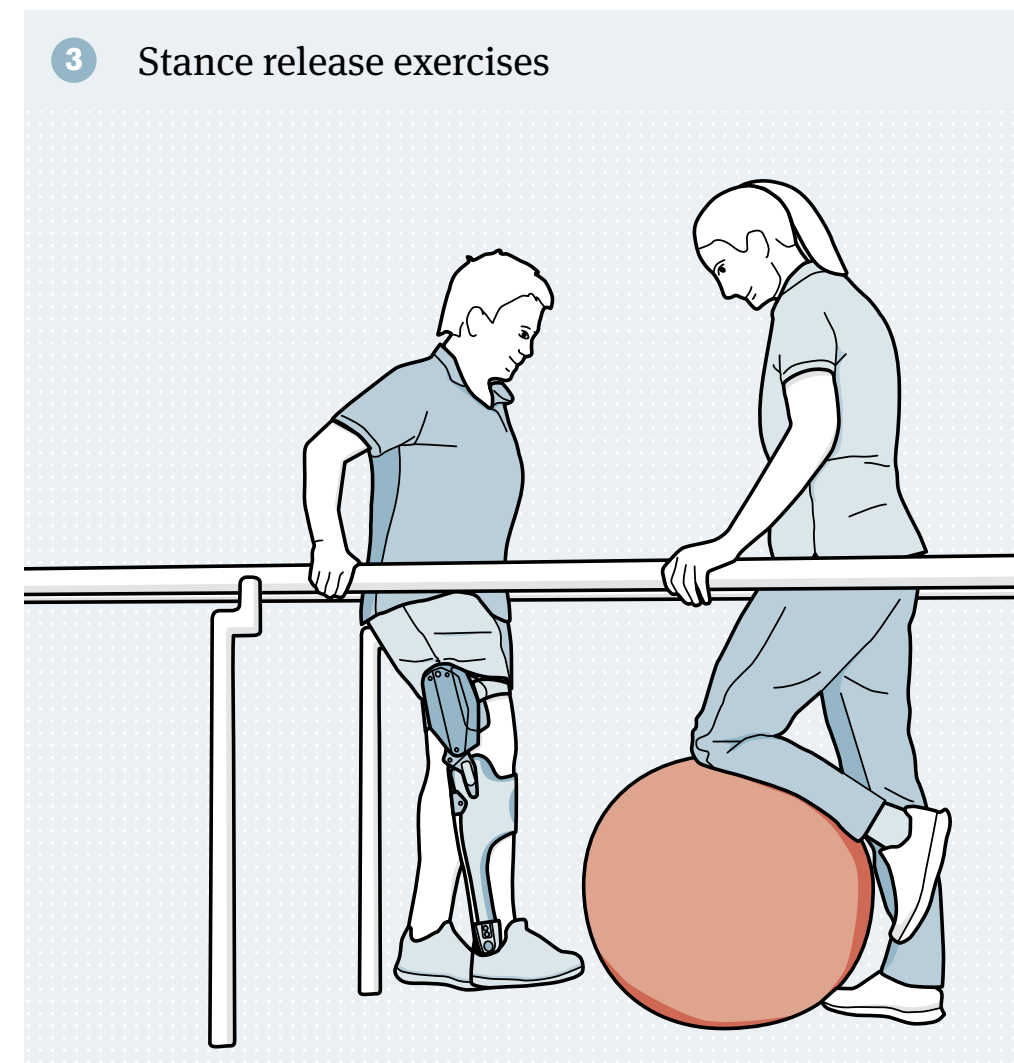
- Sitting down:
 - Ensure the chair is in a stable position
 - Upright position, distribute weight evenly between both legs
- Standing up:
 - Sit on front edge of chair, place hands on armrests

Exercise

- Sitting down:
 - Lean upper body far forwards, move buttocks backwards and move hands to the armrests
 - Distribute weight evenly between both legs while flexing knees and use the flexion resistance of the joint unit
- Standing up:
 - Leaning the upper body far forwards makes standing up easier

Objective

- Distribute weight evenly when sitting down to reduce strain on sound leg
- Feel and use the resistance in the hydraulics of the joint unit while sitting down



3 Stance release exercises

Start

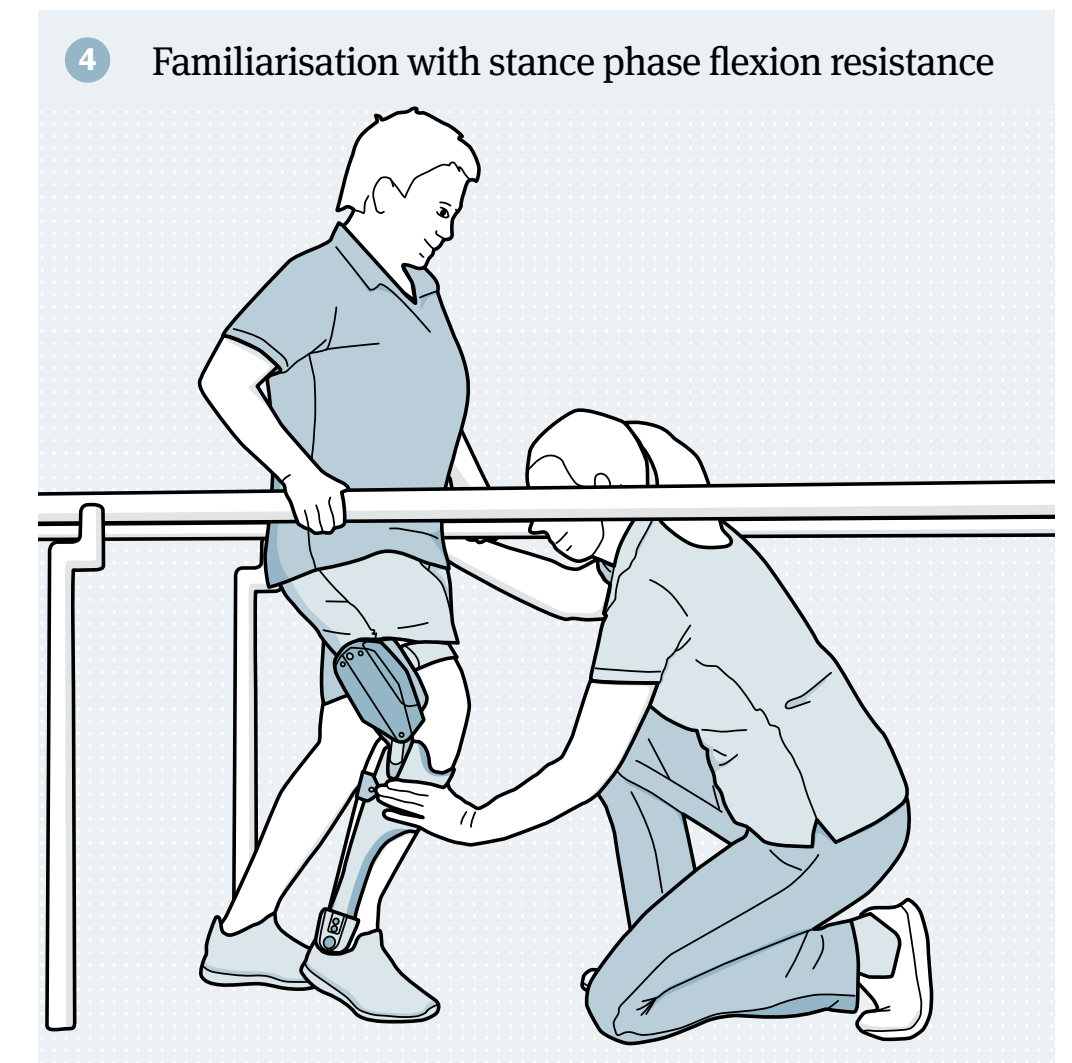
- Walking stance – orthosis leg back, knee on the orthosis side extended, forefoot contact (corresponds to terminal stance phase)
- Holding on to the parallel bars, placing as little body weight as possible on the bars

Exercise

- Move the orthosis leg forward by flexing the hip or via compensation with the abdominal muscles
- Initiate swing phase and kick a ball

Objective

- Imagining kicking a ball can help prevent a circumduction
- Building confidence in the orthosis
- Stance release training



4 Familiarisation with stance phase flexion resistance

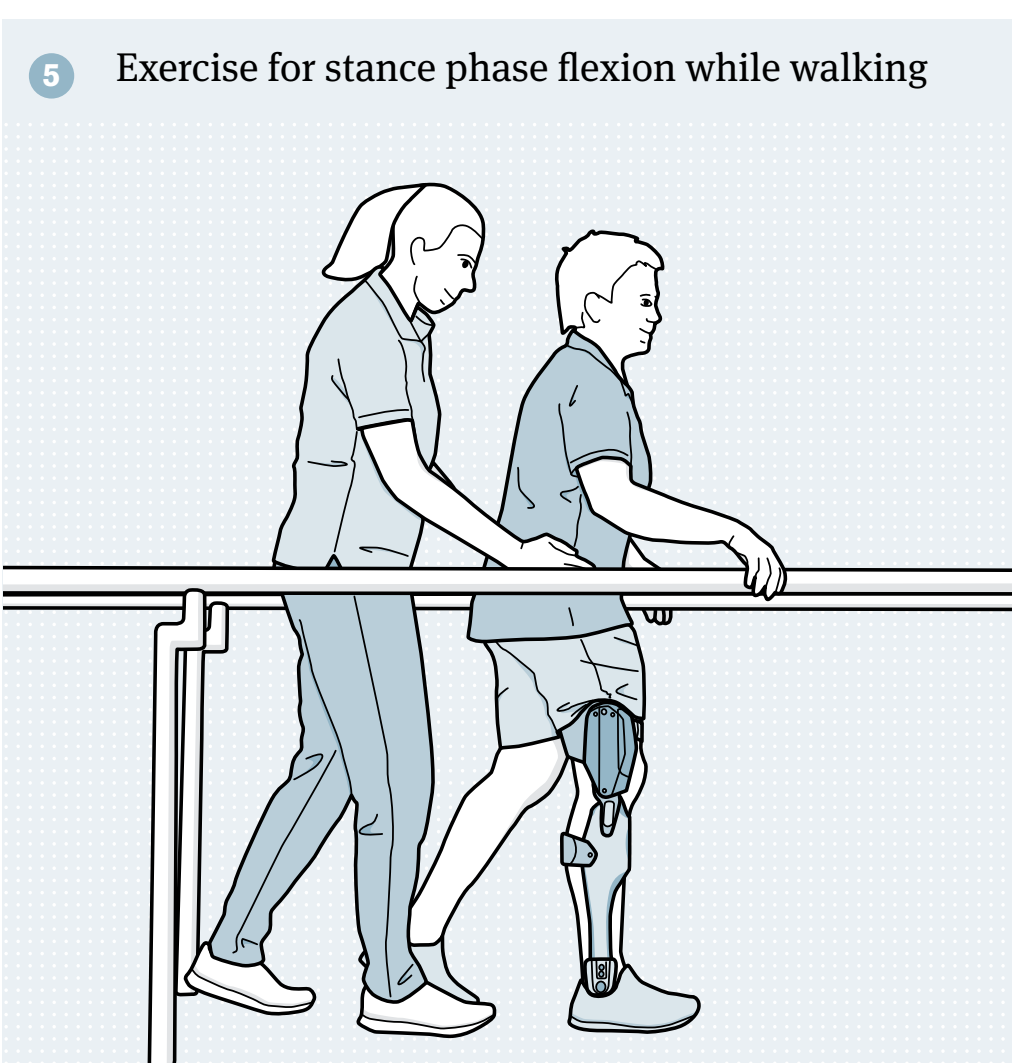
Start Standing upright between parallel bars, walking stance with the orthosis leg forward

Exercise

- Place weight on the orthosis and flex the knee slightly, initially while holding on
- Feel the flexion resistance (hydraulics of the joint unit) while flexing the knee
- Only flex the knee as far as the user can stabilise themselves; potentially perform the exercise without holding on

Objective

- Feeling the stance phase flexion resistance and developing confidence in it
- Learning to consciously place a load on the orthosis in the flexion direction



5 Exercise for stance phase flexion while walking

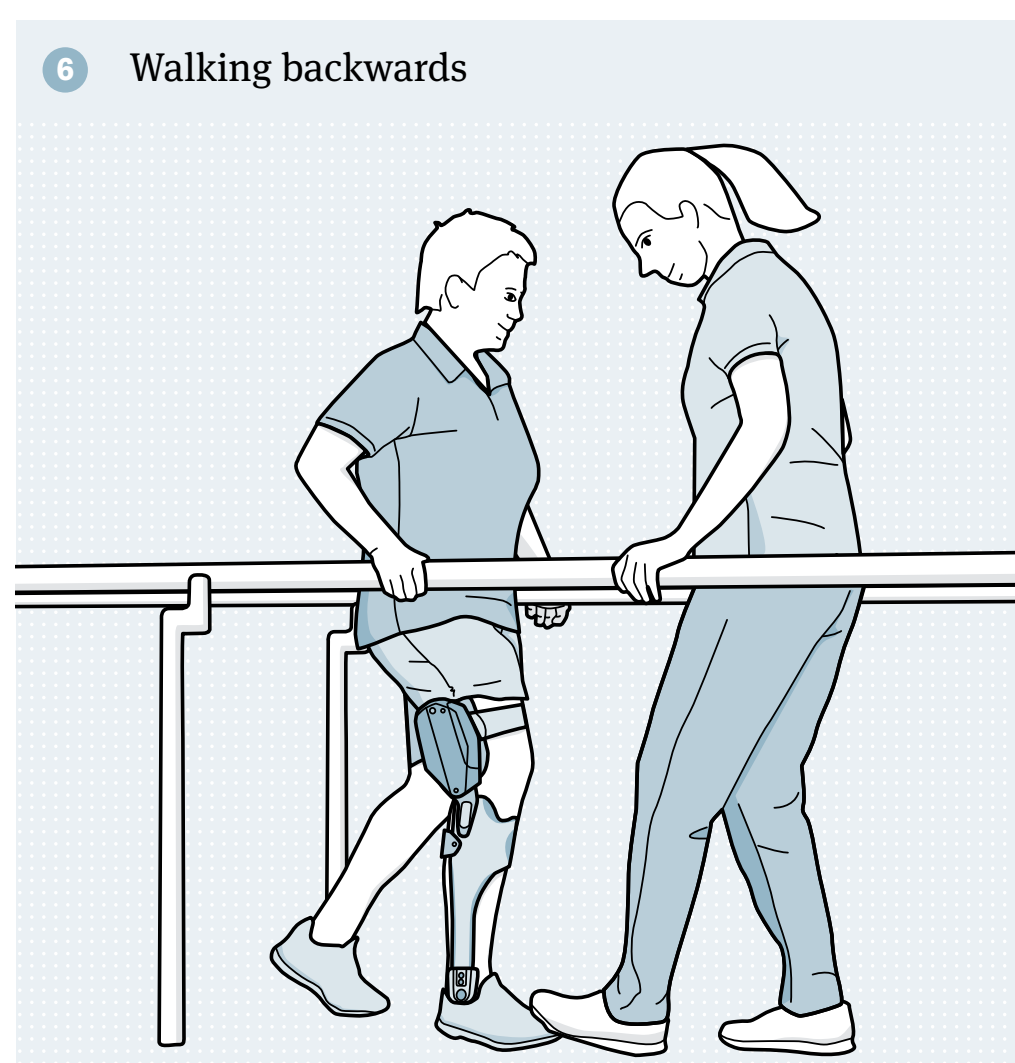
Start Standing while holding on to parallel bars, walking stance, orthosis leg forward (corresponds to initial contact)

Exercise

- Place weight on the foot of the orthosis leg, lowering it toward the floor
- This initiates knee flexion
- Hold the knee flexion while the body's centre of gravity moves forward
- In the terminal stance phase, extend the knee while the sound leg takes a step forward

Objective

- Learning initial knee flexion under load with subsequent knee extension so the next swing phase can be initiated



6 Walking backwards

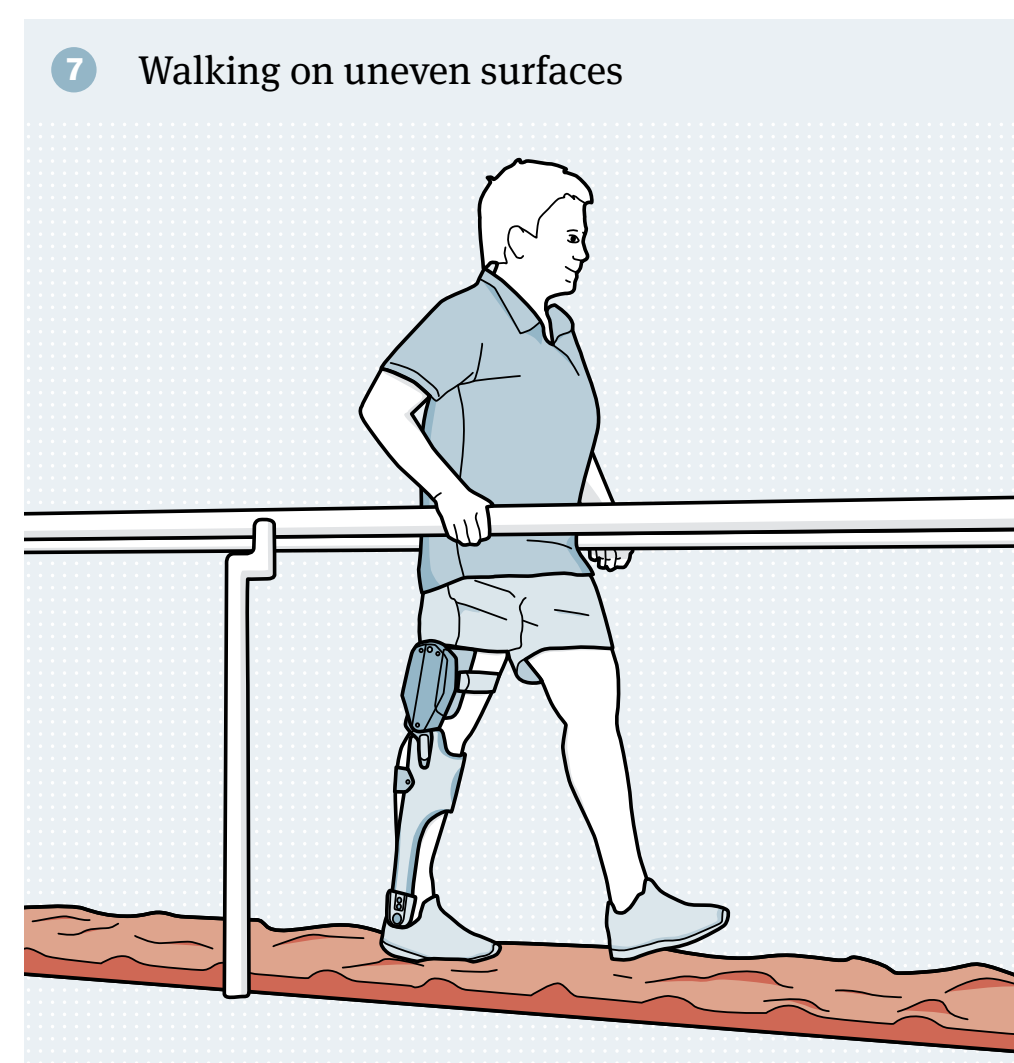
Start Standing while holding on to parallel bars

Exercise

- First step backwards with the sound leg
- Permit knee flexion of the orthosis leg
- The therapist gently steps on the patient's foot to force knee flexion in the orthosis leg
- Step backwards with the orthosis leg

Objective

- Building trust in orthosis
- Learning to walk backwards safely



7 Walking on uneven surfaces

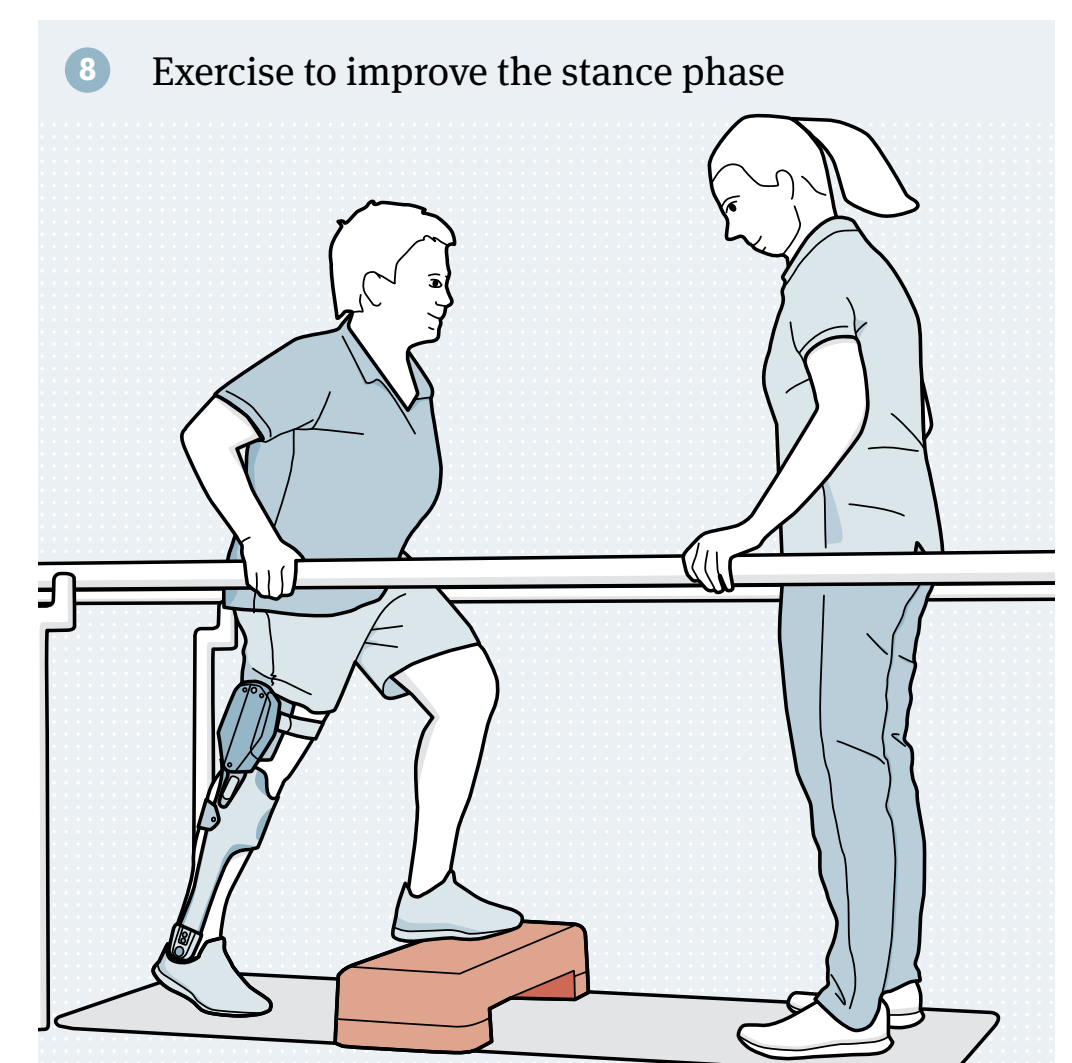
Start Standing while holding on to parallel bars

Exercise

- Walking between parallel bars on an uneven surface using stance phase flexion resistance
- This exercise can also be performed while walking backwards

Objective

- Building confidence in stance phase flexion resistance
- Learning a safe gait as preparation for outdoor training



8 Exercise to improve the stance phase

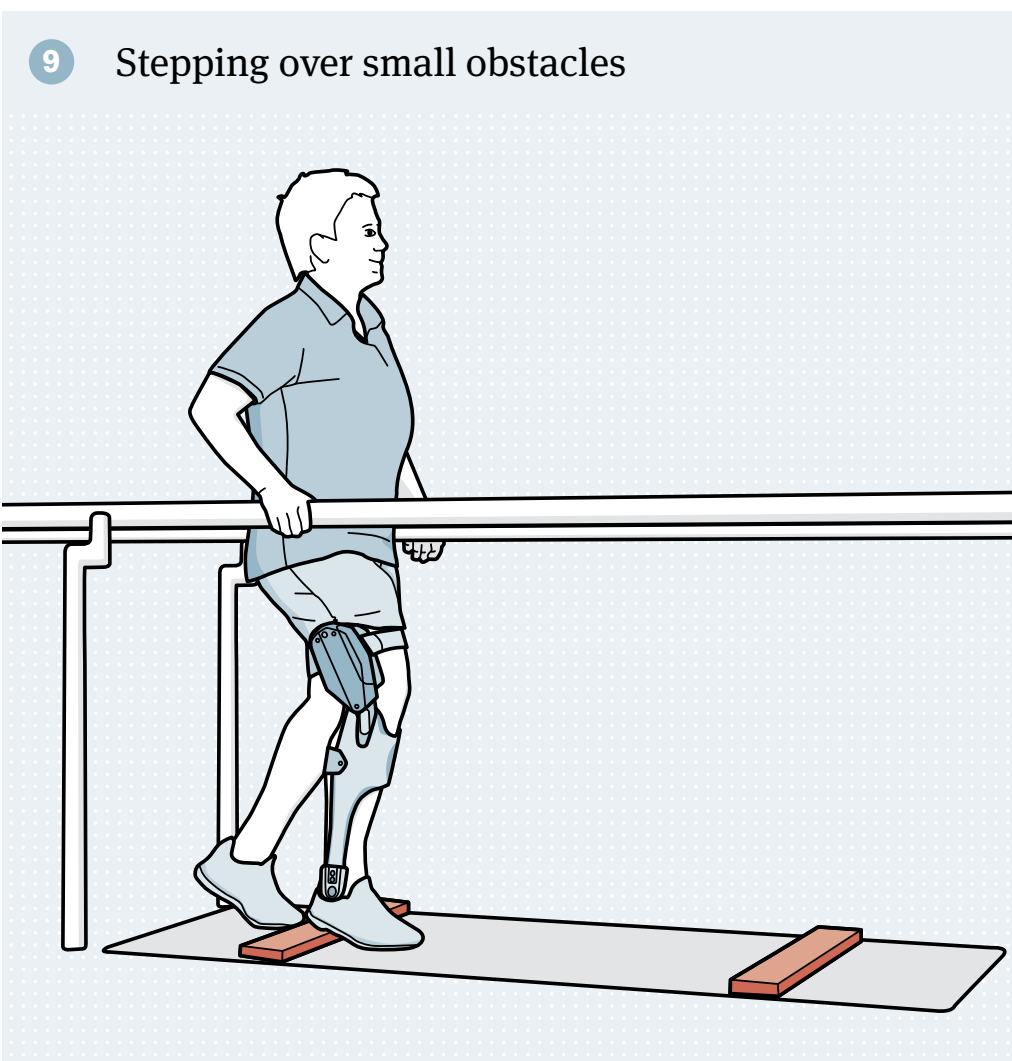
Start Standing between parallel bars, full weight on orthosis leg

Exercise

- Step onto a stepper with the sound leg, ensuring the body remains upright, and stabilise the pelvis
- Move the sound leg forwards, backwards and to the side without shifting the body weight

Objective

- Shifting weight towards the orthosis leg while standing



9 Stepping over small obstacles

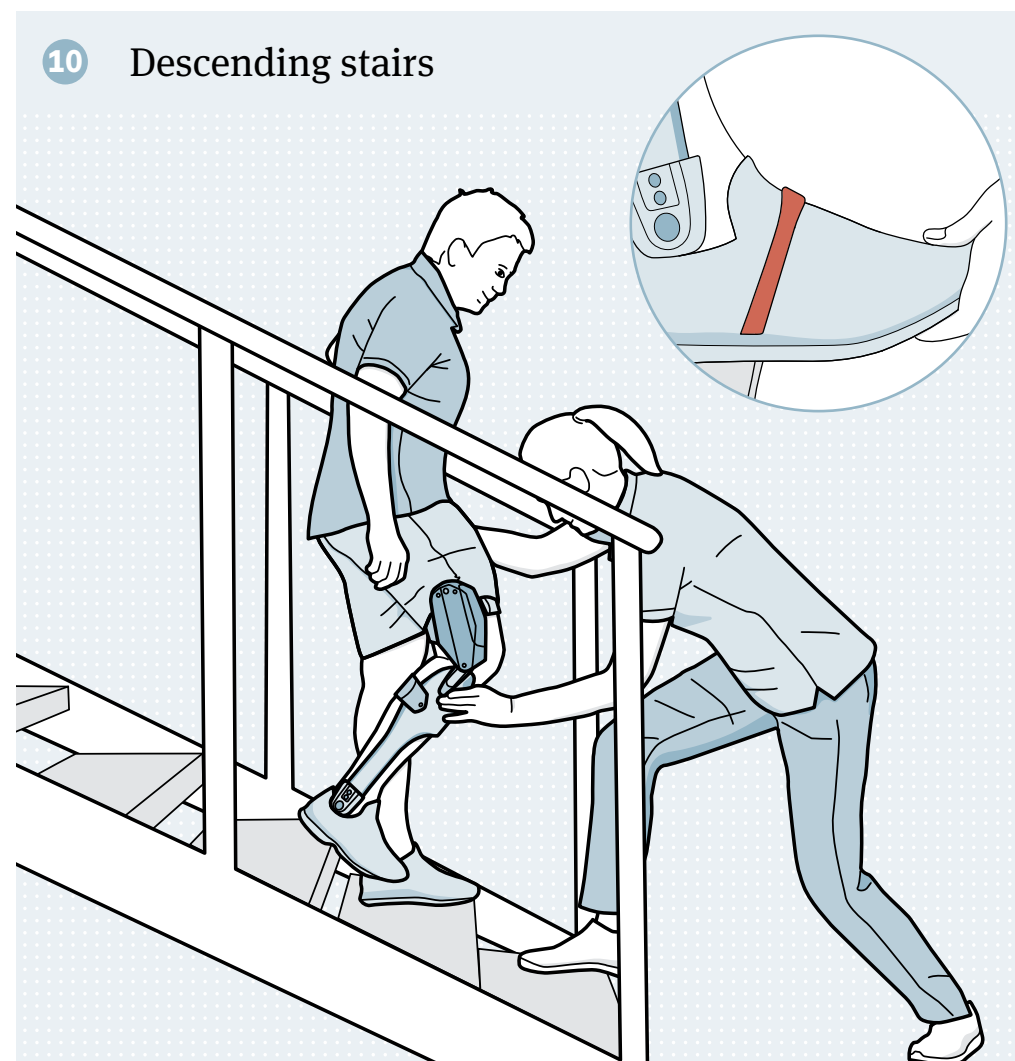
Start Standing between parallel bars, with two thin wooden boards lying on a mat

Exercise

- Step onto the obstacle with the heel of the orthosis leg
- This induces knee flexion
- With the knee flexed, step over the obstacle

Objective

- Developing a yielding step



10 Descending stairs

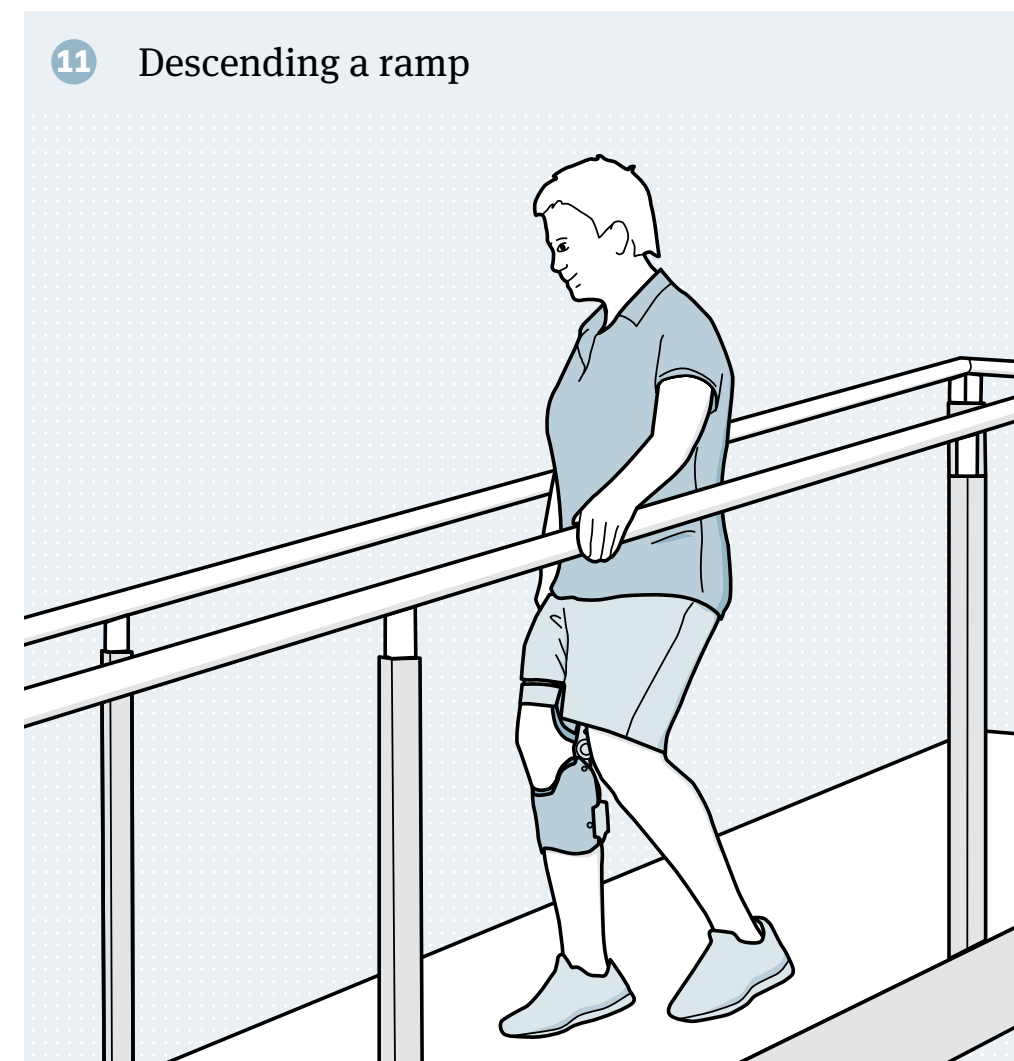
Start Stand on one of the bottom steps, holding on to the handrail

Exercise

- Place the heel of the orthosis leg on the step, supported by the therapist if necessary
- Place weight on the orthosis
- Permit knee flexion while the sound leg steps down

Objective

- Correct foot positioning
- Learning a flowing motion sequence while walking down step-over-step
- Learning to bear full weight on the orthosis leg and flex it under load



11 Descending a ramp

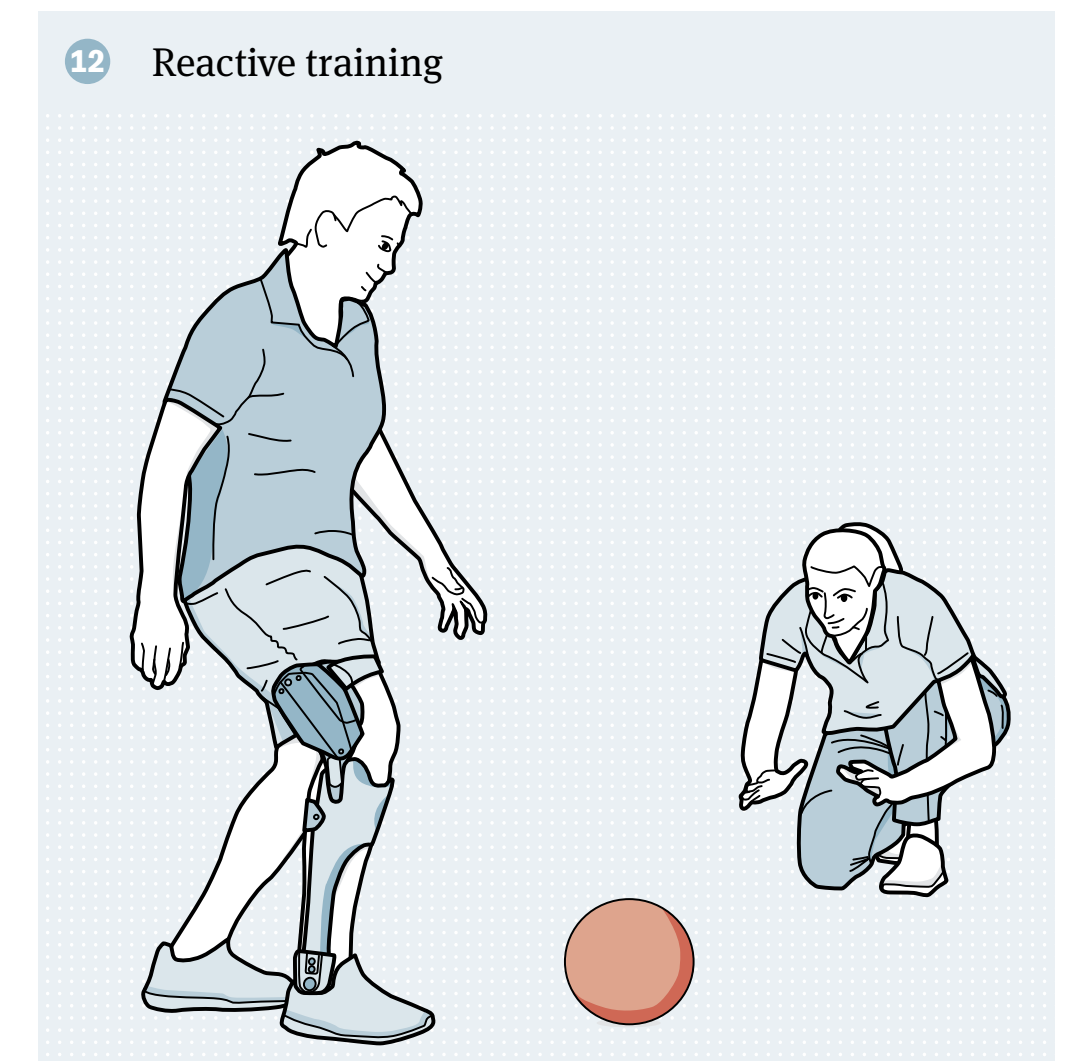
Start Upright position while holding the handrail

Exercise

- Set down the heel of the orthosis leg and transfer weight to the orthosis leg while the sound leg takes a step forward
- Permit knee flexion of the orthosis leg under load
- Roll over the entire foot

Objective

- Learning to distribute weight evenly while walking down a ramp step-over-step
- Learning the yielding step on the ramp



12 Reactive training

Start User walks through the room

Exercise

- The therapist rolls a ball into the user's path without prior warning
- Stop with a yielding step and permit knee flexion of the orthosis leg under load
- Decelerate safely and stop in a stable stance

Objective

- Developing sufficient control in the event that an obstacle suddenly appears
- Developing confidence for outdoor training