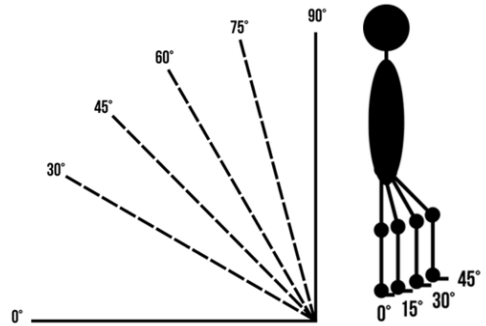


Effects of inclination angle and joint angles on weight bearing in supine standers in children with CP

1 Can therapeutically relevant weight-bearing be achieved in case of reduced joint extension?

- Study investigating the influence of various angles of verticalization as well as hip and knee flexion on the loading of the feet and knee joints
- **Participants:** 26 children aged 6–17 with CP (GMFCS level IV–V)
- **Apparatus:** Supine stander with pressure-sensitive footplates and sensor-equipped knee supports
- Measured weight load at feet and knee level in varying combinations of verticalisation angle and hip/knee angle



2 Results.

- Clinically relevant weight load (70% BW) was found in some measurements at 30° verticalization
- Mean weight loads in verticalization of 60° and more were clinically relevant
- Knee joint loads were below 50% and well tolerated
- Considerable interindividual variability underlines need for personalized adjustment

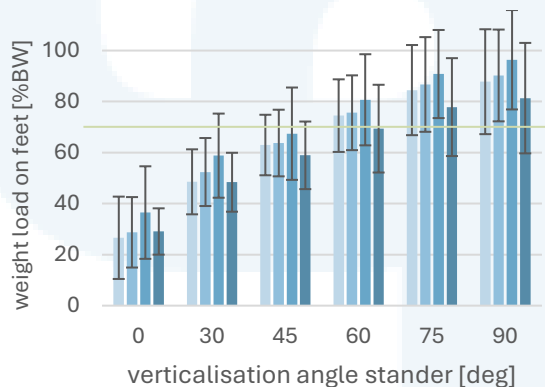


3 Take home message.

Targeted and individually adapted standing therapy can be an effective measure to promote:

- bone health
- functional stability
- postural control

in children with limited joint mobility.



- 0° hip/knee angle
- 15° hip/knee angle
- 30° hip/knee angle
- 45° hip/knee angle
- Threshold for therapeutically relevant weight bearing (70% BW)