

## Tobias Goihl

### Title of the lecture:

Contributions to the evidence base supporting AFO provision for ambulatory children with CP- results and discussions from a PhD project

### Employer/affiliation:

TOV Trondheim



### Brief introduction about the presentation:

Brief introduction about the presentation: Most Children with Cerebral Palsy (CP) are able to walk but experience varying degrees of restrictions related to walking function. AFOs are the most widely used orthoses for children with CP and are often prescribed to maintain or improve gait function by controlling ankle-foot alignment. In the context of Evidence Based Practice (EBP), the domains of best available research evidence, clinical experience, and patient characteristics and preferences should inform evidence-based decision-making.

However, the evidence for choice of AFO-design is low, AFO-usage varies regionally and between countries, and the practice of AFO-provision in Norway is not documented. To contribute to the evidence for successful AFO management in ambulatory children with CP, this research focuses on three areas:

#### 1. The effect of AFOs on postural control and energy cost of walking.

This study explores the effect of AFO on postural control (measured by trunk accelerometry) and energy cost of walking. Can accelerometry be used as a low-cost method to describe the overall effect of AFOs on gait with a potential to be used in the clinic?

#### 2. Evaluate the effect of AFOs on energy cost of walking and gait kinematics

This study explores the use of a gait pattern classification system when investigating the effect of AFOs on gait kinematics and energy cost of walking. Is it clinically relevant to categorize children according to their gait pattern when assessing AFO effect?

#### 3. AFO provision for ambulatory children with CP – a national survey among Norwegian orthotists

This study investigates the practice of AFO provision: assessment, fabrication and fitting, and delivery of AFOs for children with CP. It also evaluates how current orthotic practice aligns with recommendations for crouch and short gastrocnemius.

This presentation will describe how the PhD project aims to contribute to Evidence Based Practice and reflect on the role of an orthotist in the world of research.

Brief presentation of the speaker: Tobias Goihl received his bachelor as CPO at Strathclyde, Glasgow, worked for five years in Lund, Sweden and has, for the last 18 years, worked at TOV in Trondheim with a part time position at the gait laboratory at St.Olavs. Since the end of 2019 he has been focusing on his PhD in a part-time position at NTNU.