



# Measuring Femoral and Tibial Torsion in Children with Cerebral Palsy

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## Abstract

Lower limb torsional deformity is one of the most common musculoskeletal pathologies in children with cerebral palsy. Lower limb torsional deformity may cause many functional issues, such as problems of intoeing or out-toeing gait pattern and decreased energy efficiency during walking. Understanding more about how the rotational profile should be measured and the measurement accuracy

enables more precise location of the deformity and should improve clinical treatment decision-making. In this chapter, we are going to discuss the measuring techniques for lower limb torsional deformities, specifically tibial torsion and femoral anteversion or torsion, which are described in the literature. Methods including physical examination, imaging study, and three-dimensional motion analysis are reviewed and discussed. Understanding the wide range of measurement options are important when assessing lower extremity torsional problem and planning treatment options for the musculoskeletal pathology in cerebral palsy.

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© Springer International Publishing AG 2018  
F. Miller et al. (eds.), *Cerebral Palsy*,  
[https://doi.org/10.1007/978-3-319-50592-3\\_203-1](https://doi.org/10.1007/978-3-319-50592-3_203-1)