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## Triceps Surae Hyper-Resistance

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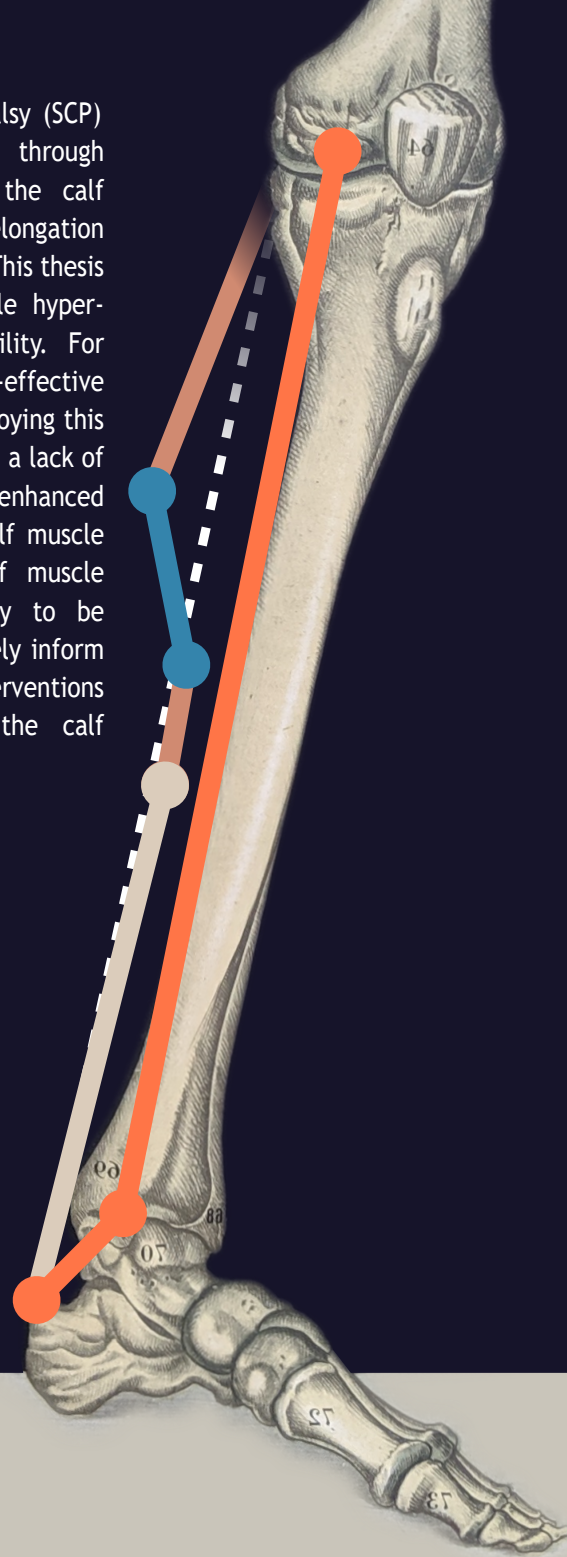
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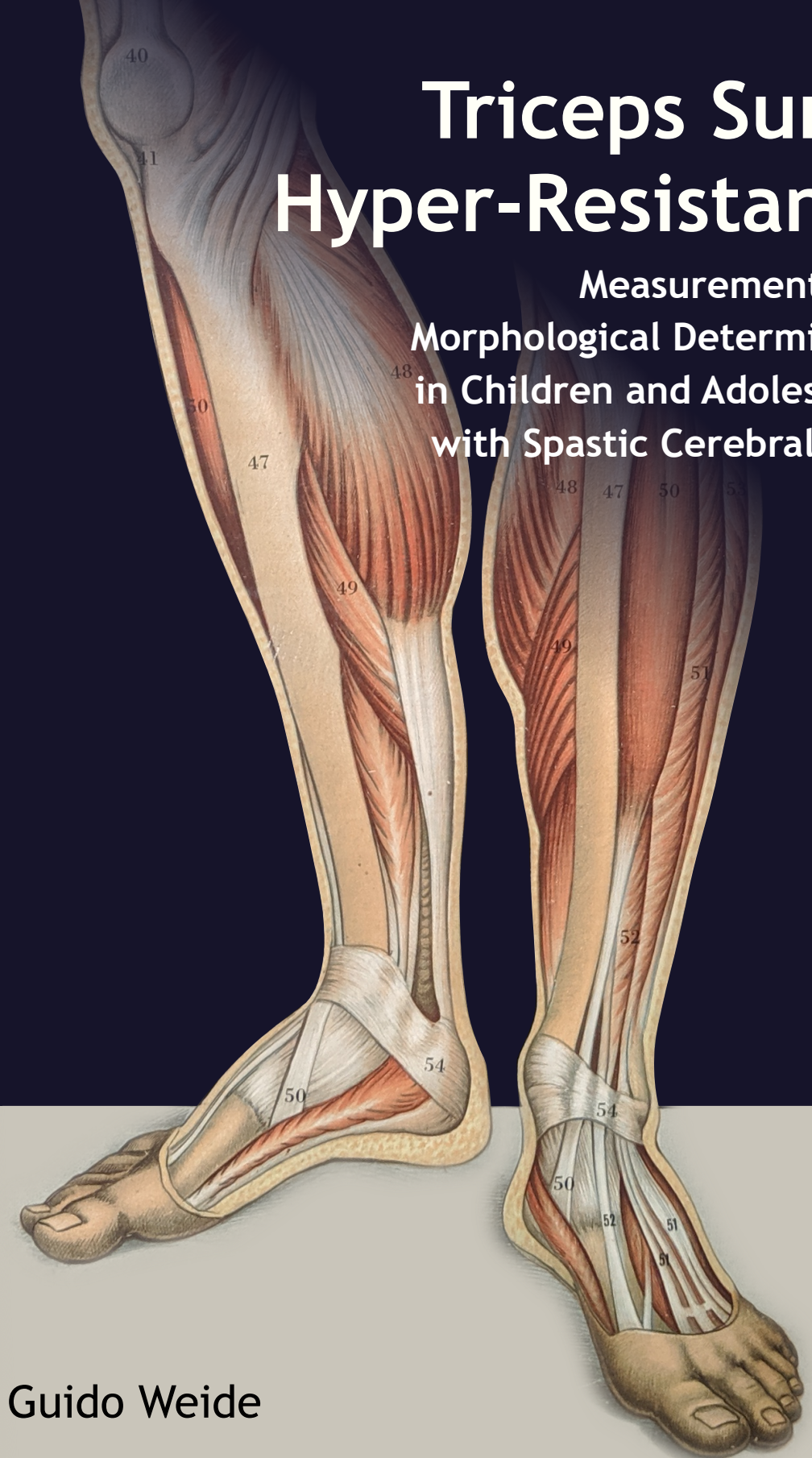
**Abstract:** Children with spastic cerebral palsy (SCP) often experience limited walking capacity through ankle dysfunction. Restrained growth of the calf muscles may increase resistance to its elongation yielding a decreased ankle range of motion. This thesis shows that clinical estimates of calf muscle hyper-resistance are confounded by foot flexibility. For measurements of muscle morphology, a cost-effective 3D ultrasound approach was developed. Employing this method in SCP children, this thesis shows that a lack of longitudinal fascicle growth and an enhanced longitudinal tendon growth contribute to calf muscle hyper-resistance. Assessments of both calf muscle morphology and foot flexibility are ready to be implemented in a clinical setting to accurately inform clinical decision making and to evaluate interventions aimed at reducing hyper-resistance of the calf muscles.



Triceps Surae Hyper-Resistance

# Triceps Surae Hyper-Resistance

Measurements and Morphological Determinants in Children and Adolescents with Spastic Cerebral Palsy



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