

Abstract
Instrumented Assessment of Abnormal Muscle Reaction
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Muscle spasticity affects more than 12 million people worldwide and 80 percent of this population is diagnosed with cerebral palsy (Nationwide's Children's Hospital). Unfortunately, it is very difficult for health care professionals to manually assess the severity of the patient's muscle spasticity with accuracy, and thus makes it difficult to determine the appropriate treatment. To combat these difficulties, an automated method using two sensors was developed for the measurement of the spastic joint angle. Throughout the course of the experiment, it became apparent that the spasticity has a very clear signature in the position data. This signature allowed for the identification of the joint angle and velocity at the moment of spasticity. After further refinement, this device should make diagnosis and treatment of muscle spasticity easier and more accurate.