MAASSTAD ZIEKENHUIS

Measuring the strength of the intrinsic muscles of the hand in patients with ulnar and median nerve injuries: reliability of the Rotterdam Intrinsic Hand Myometer (RIHM).
Schreuders TA, Roebroeck ME, Jaquet JB, Hovius SE, Stam HJ.
J Hand Surg Am. 2004 Mar;29(2):318-24.

Abstract
PURPOSE:
To determine the reliability and measurement error of measurements of intrinsic muscle strength of a new hand-held dynamometer (the Rotterdam Intrinsic Hand Myometer [RIHM]).

METHODS:
With the RIHM we obtained repeated measurements of the intrinsic muscle strength of the hand in 27 patients with peripheral nerve injury of the ulnar and/or median nerve in different stages of rehabilitation. The average time period after injury was 4.4 years (range, 99 days-11 years).

RESULTS:
Differences between 2 measurements greater than 6.3 N were interpreted as a real change in assessing the strength of the abduction of the little and index finger; for the median innervated muscles of the thumb this value was 16 N.

CONCLUSIONS:
In patients with nerve injuries the muscle strength is usually assessed with manual muscle strength testing and grip-and pinch-strength dynamometers. Preferably the intrinsic muscle strength should be measured in isolation and quantitatively. The RIHM is a new dynamometer that allows for measurements of the intrinsic muscle strength in isolation with reliability comparable to grip and pinch measurements.