DEVICE-MEASURED

GRIP STRENGTH

A valid and objective measurement tool that has been proven to help guide management of CIDP along with other assessment scales in clinical practice[1-3]

Used across decades of research, device-measured grip strength offers clinicians a consistent way to objectively evaluate functional change in adults with CIDP.[1,2,4]

CIDP=chronic inflammatory demyelinating polyneuropathy.

CIDP: A complex disease with many presentations

A heterogeneous disease spectrum

TYPICAL		
Typical CIDP[5,6] 	>50%	Symmetric weakness affecting proximal and distal muscles of the upper and lower limbs

The other **~50% of patients present with CIDP variants**, each showing distinct patterns of weakness and sensory loss.[6]

CIDP VARIANT		
Distal CIDP[5,6] 	2-10%	Distal sensory loss and muscle weakness mainly in the lower limbs
Focal*/Multifocal CIDP[5,6] 	9-16%	Sensory loss and muscle weakness in more than one limb, usually asymmetric, upper limb predominant (multifocal), or one limb (focal) Multifocal CIDP usually **affects the upper limbs first**. Lower limbs may become involved later or sometimes are affected from the onset

CIDP VARIANT		
Motor CIDP[5-7] 	4-10%	Symmetric proximal and distal muscle weakness in upper and lower limbs, no sensory symptoms
Sensory CIDP[5-7] 	4-35%	Sensory loss in all limbs without muscle weakness

Upper limb involvement may be more common than you think:

≥60%

of patients with CIDP experience proximal and distal weakness of the upper limbs[6†]

*Focal CIDP accounts for ~1% of patients with CIDP.[6]

†Based on aggregating lower-bound estimates across CIDP subtypes with upper limb involvement, including typical CIDP (>50%), multifocal CIDP (8-15%), distal CIDP (2-10%), and motor CIDP (4-10%).[6]

CIDP=chronic inflammatory demyelinating polyneuropathy.

Device-measured grip strength: A window into function in CIDP[3]

Weakening grip strength may compromise daily tasks and independence[3]

Grip strength is essential for grasping, lifting, and manipulating objects, actions that are fundamental to independence and everyday activities.[3]

When grip strength declines, patients may struggle with[3]:

- Cooking
- Dressing and buttoning clothes
- Driving
- Carrying objects

In clinical trials, reduced grip strength, alongside other disability measures (ie, INCAT and MRC sum score), is associated with worsened daily activities.[8]*

Patient portrayal.
Individual ability may vary.

In an observational cohort study of 40 patients with CIDP, **45% continued to demonstrate residual grip-strength impairment after one year of treatment, despite clinical improvement**[9†]

Discover the debilitating impact CIDP progression or relapse has on patients at CIDPProgress.com

*Post-hoc analyses of a randomized, double-blind, multicenter, placebo-controlled trial in 117 patients with CIDP treated with IGIV-C or placebo every 3 weeks for up to 24 weeks, with grip strength assessed as a secondary endpoint using the Martin Vigorimeter. Changes in grip strength, along with changes in other disability measures, were associated with changes in the physical summary component of SF-36.[8,10,11]

†The International CIDP Outcome Study (ICOS) is a prospective observational cohort study in 40 treatment-naive adults diagnosed with definite, probable, or possible CIDP according to the EFNS/PNS 2010 diagnostic criteria for CIDP. Patients received IVIG (n=18), corticosteroids (n=6), or IVIG and corticosteroids combination treatment (n=16), and were followed up for a year. Changes in outcome measures (ie, I-RODS, grip strength, and MRC sum score), response to treatment, and treatment status were assessed. At one year, 31 patients improved on at least one of the outcome measures; 19 patients improved on I-RODS, 28 patients improved on grip strength, and 22 patients improved on MRC sum score. Residual symptoms, including residual grip strength deficits (defined as impairment below age-adjusted normal values), were also assessed.[9]

CIDP=chronic inflammatory demyelinating polyneuropathy; EFNS=European Federation of Neurological Societies; IGIV-C=immune globulin intravenous (human), 10% caprylate/chromatography purified; INCAT=Inflammatory Neuropathy Cause and Treatment; I-RODS=Inflammatory Rasch-built Overall Disability Scale; IVIG=intravenous immunoglobulin; MRC=Medical Research Council; PNS=Peripheral Nerve Society; SF-36=36-Item Short Form Health Survey.

Turning measurement into management

CIDP is a heterogeneous and often progressive disease. It is important to monitor a patient's disease activity over time with assessment scales (ie, INCAT, I-RODS, and grip strength), including identifying potential worsening or improvement with treatment.[5]

Device-measured grip strength is a well-established objective assessment in clinical trials across neuromuscular diseases (ie, ALS, MMN, DMD, and SMA). It can play a meaningful role in the evaluation of patients with CIDP, along with other assessment tools.[3,5,12-14]

Why use grip strength?

Grip strength evaluation has been used in CIDP clinical trials for almost 30 years.[2]* Device-measured grip strength is a measure of impairment that:

- May offer a sensitive, objective way to detect early signs of improvement or progression[4,11,15,16†‡]
- Has been shown to complement other assessments, such as INCAT and I-RODS[1,4†§]

*A prospective, double-blind study published in 1996 of 18 Canadian patients with untreated CIDP, randomized to receive 10 plasma exchange treatments or placebo over 4 weeks. Grip strength was assessed with the Jamar Dynamometer as a part of neurological assessments.[2]
†Post-hoc analyses of a randomized, double-blind, multicenter, placebo-controlled trial in 117 patients with CIDP treated with IGIV-C or placebo every 3 weeks for up to 24 weeks, with grip strength assessed as a secondary endpoint using the Martin Vigorimeter.[4,10,11]
‡A prospective observational study of 10 patients with CIDP receiving IVIG, who measured grip strength daily from one IVIG infusion to the next using a Martin Vigorimeter.[16]
§A prospective, observational study of 25 patients with CIDP receiving IVIG for at least 3 months, who recorded daily grip strength over 6 months using a Jamar Dynamometer.[1]

ALS=amyotrophic lateral sclerosis; CIDP=chronic inflammatory demyelinating polyneuropathy; DMD=Duchenne muscular dystrophy; IGIV-C=immune globulin intravenous (human), 10% caprylate/chromatography purified; INCAT=Inflammatory Neuropathy Cause and Treatment; I-RODS=Inflammatory Rasch-built Overall Disability Scale; IVIG=intravenous immunoglobulin; MMN=multifocal motor neuropathy; MRC=Medical Research Council; SMA=spinal muscular atrophy.

Common Clinical Outcome Assessments (COAs) used in CIDP[17,18]

Device-measured grip strength is a commonly reported measurement for assessing impairment (see pages 10 and 11). Other commonly reported COAs include[5,18]:

- INCAT for assessing functional ability in the arms and legs[10]
- MRC sum score for assessing muscle strength[19]
- I-RODS disability score for assessing ability to perform daily and social activities[20]

Grip strength correlates with other clinical scales

- In 2 studies in patients with CIDP, improvement in grip strength was correlated with the INCAT disability scale and I-RODS[1,4†§]

In conjunction with other assessments, device-measured grip strength can provide a useful snapshot of clinical trajectory[1,4]

Patient portrayal.
Individual ability may vary.

Turning measurement into management (cont'd)

Routinely measure what is actionable

Grip strength may provide objective clinical insight that can allow for monitoring of patient progress.[3,18]

By tracking grip strength alongside INCAT and I-RODS, clinicians can:

- Identify subtle functional changes early, which may help detect relapse or improvement sooner[4,5,11,15]
- Make treatment adjustments in real time[1]

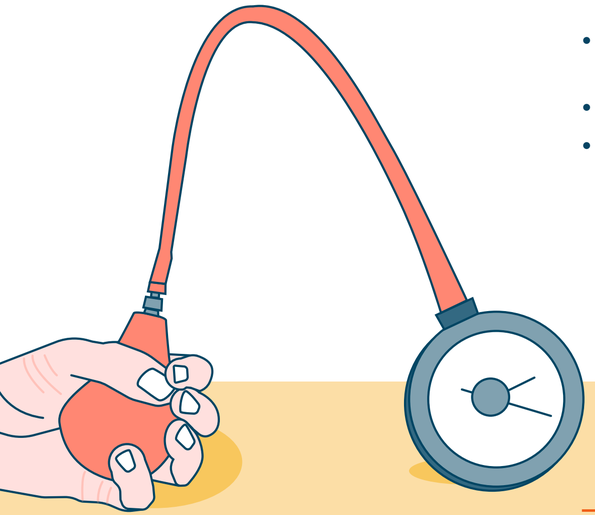
Even small changes in grip strength may reflect functional improvement or decline. In combination with other disability scales (ie, INCAT and I-RODS), this data can impact treatment decisions[4,5,11]*

*Post-hoc analyses of a randomized, double-blind, multicenter, placebo-controlled trial in 117 patients with CIDP treated with IGIV-C or placebo every 3 weeks for up to 24 weeks, with grip strength assessed as a secondary endpoint using the Martin Vigorimeter.[4,10,11]

CIDP=chronic inflammatory demyelinating polyneuropathy; IGIV-C=immune globulin intravenous (human), 10% caprylate/chromatography purified; INCAT=Inflammatory Neuropathy Cause and Treatment; I-RODS=Inflammatory Rasch-built Overall Disability Scale.

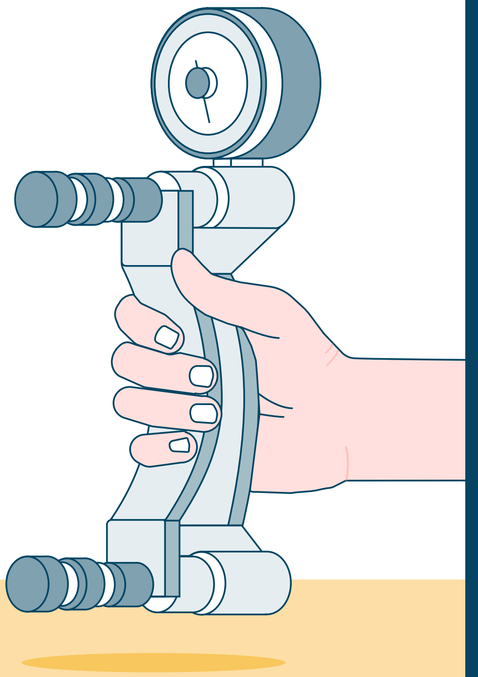
Patient portrayal.
Individual ability may vary.

How grip strength is measured



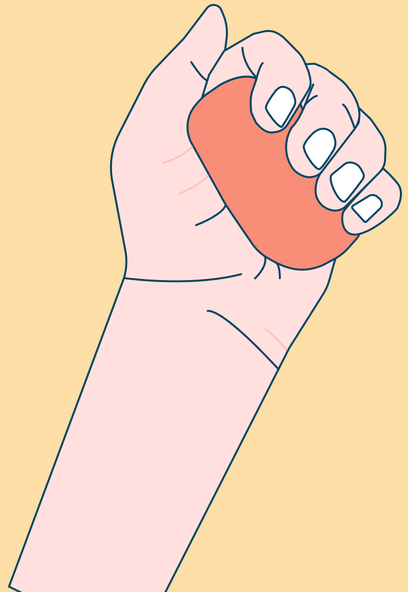
Martin Vigorimeter™[21]

- Measures the force of compression in kPa using a soft rubber bulb sensitive to minimal force
- Range: 0-160 kPa
- The Martin Vigorimeter is a frequently used assessment tool for grip strength in clinical trials in CIDP



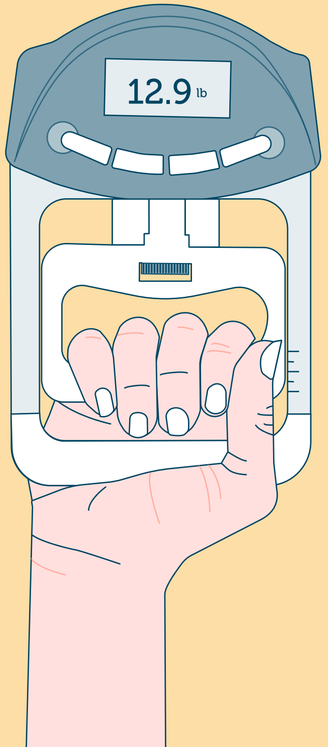
Jamar® Dynamometer[1,12]

- Measures isometric force (in lbs) through a hydraulic gauge
- Range: 0-200 lbs
- The Jamar Dynamometer provides a comparable, validated option for clinical or at-home use, supporting consistent monitoring across settings



Squegg™[22]

- Measures grip and pinch strength in lbs
- Offers data tracking
- Allows progress to be monitored over time, remotely or in clinical settings



Handeful Hand Strength Dynamometer[23]

- Measures grip strength up to 198 lbs
- Allows HCPs and patients to monitor fluctuations in grip strength
- Fits all hand sizes

For nearly 30 years, device-measured grip strength has been widely accepted and utilized in clinical trials for CIDP[2,21]

CIDP=chronic inflammatory demyelinating polyneuropathy; HCP=healthcare professional; kPa=kilopascals.

When it comes to measuring grip strength...

Each data point reflects a patient's ability to hold, lift, write, and live independently.[3,8]

Consistent, objective assessments may offer valuable insight into patients' functional ability[5]

Srikanth Muppidi, MD

Hear an expert in CIDP discuss why measuring grip strength is an essential assessment at CIDPProgress.com/dse-assessment-tools-kol-video

CIDP=chronic inflammatory demyelinating polyneuropathy.

References: 1. Allen JA et al. *Neurology*. 2021;96(14):e1876-e1886. doi:10.1212/WNL.0000000000011703 **2.** Hahn AF et al. *Brain*. 1996;119(Pt 4):1055-1066. doi:10.1093/brain/119.4.1055 **3.** Tsoumanis P et al. *J Clin Med Res*. 2025;17(3):136-144. doi:10.14740/jocmr6179 **4.** Vanhoutte EK et al. *Eur J Neurol*. 2013;20(5):748-755. doi:10.1111/j.1468-1331.2012.03851.x **5.** Van den Bergh PYK et al. *Eur J Neurol*. 2021;28(11):3556-3583. doi:10.1111/ene.14959 **6.** Bunschoten C et al. *Lancet Neurol*. 2019;18(8):784-794. doi:10.1016/S1474-4422(19)30144-9 **7.** Lewis RA et al. *J Neurol Sci*. 2022;443:120478. doi:10.1016/j.jns.2022.120478 **8.** Merkies IS et al. *J Peripher Nerv Syst*. 2010;15(3):208-215. doi:10.1111/j.1529-8027.2010.00274.x **9.** Bus SRM et al. *J Neurol*. 2022;269(2):945-955. doi:10.1007/s00415-021-10677-5 **10.** Hughes RA et al. *Lancet Neurol*. 2008;7(2):136-144. doi:10.1016/S1474-4422(07)70329-0 **11.** Latov N et al. *Arch Neurol*. 2010;67(7):802-807. doi:10.1001/archneurol.2010.105 **12.** Draak TH et al. *J Peripher Nerv Syst*. 2015;20(3):269-276. doi:10.1111/jns.12126 **13.** Shefner JM et al. *Amyotroph Lateral Scler Frontotemporal Degener*. 2024;25(1-2):162-169. doi:10.1080/21678421.2023.2252468 **14.** Decostre V et al. *J Neuromuscul Dis*. 2024;11(4):777-790. doi:10.3233/JND-230182 **15.** Bril V et al. *Muscle Nerve*. 2010;42(4):492-497. doi:10.1002/mus.21733 **16.** Doneddu PE, Hadden RDM. *Muscle Nerve*. 2020;62(1):103-110. doi:10.1002/mus.26898 **17.** VYVGART Hytrulo. Prescribing information. argenx US Inc; 2026. **18.** Rajabally YA et al. *J Neurol Sci*. 2025;477:123654. doi:10.1016/j.jns.2025.123654 **19.** Kleyweg RP et al. *Muscle Nerve*. 1991;14(11):1103-1109. doi:10.1002/mus.880141111 **20.** van Nes SI et al. *Neurology*. 2011;76(4):337-345. doi:10.1212/WNL.0b013e318208824b **21.** Merkies IS et al. *Muscle Nerve*. 2000;23(9):1393-1401. doi:10.1002/1097-4598(200009)23:9<1393::aid-mus10>3.0.co;2-o **22.** Squegg. Squegg PRO: Clinician's Solution For Upper Extremity Therapy. Accessed November 25, 2025. https://www.mysquegg.com/pages/therapy **23.** Handeful. Handeful Hand Strength Dynamometer. Accessed November 26, 2025. https://handeful.com/products/hand-strength-dynamometer

argenx