



Grip Strength: The New Essential Biomarker for Renal Disease

Imagine if a simple handshake could offer powerful insights into someone's vitality and overall health.

This isn't just a metaphor - grip strength has emerged as an indispensable data point for assessing and monitoring longevity and patients with complex health conditions.

The measurement of grip strength in patients with renal disease provides a quick, non-invasive health gauge. It reflects muscle health, often compromised in those with impaired kidney function. Advanced chronic kidney disease (CKD) frequently leads to protein-energy wasting (PEW), causing significant muscle and fat loss, which is linked to higher illness and mortality rates. Thus, diminished grip strength is a key biomarker for assessing renal disease risk and progression.

This document explains how grip strength can be used in clinical practice to assess risk, progression and prognosis in patients with renal disease.

Must-Know Metrics

Prediction of Mortality

For men with early-stage kidney disease, a grip strength below 37.5 lbs* signals poorer outcomes, while for women, the threshold is 15.4 lbs*. [1]

- grip strength below 37.5 lbs* correlates to a 52.9% chance of survival for men with early-stage kidney disease
- grip strength below 30.6 lbs* correlates to a 14.3% chance of survival for men with late-stage kidney disease
- grip strength below 15.4 lbs* correlates with a 50% chance of survival for women with early-stage kidney disease and 45.5% survival rate in late-stage kidney disease

Prediction of Prognosis and System Burden

A grip strength of at least 43.0 lbs* for men and 35.5 lbs* for women who receive maintenance haemodialysis can be key in improving nutritional status and reducing hospital visits. [2]

*Note that all cut off points have been converted to GripAble-equivalent measurements for consistency

Citations:

[1] [Chang et al., 2011](#) [2] [Silva et al., 2010](#)

Grip Strength in Practice

Clinical Application

Measure grip strength during routine check-ups to assess risk factors and track trends over time. For high-risk patients, consider providing a hand dynamometer for regular, at-home monitoring. Pay attention when grip strength drops below cut-off points or decreases by more than a quartile.

Patient Empowerment

Give patients access to their grip strength scores - a clear, tangible measure they can easily understand and actively improve with guidance. Unlike blood pressure, grip strength is relatable and empowering, enabling patients to track their progress as a key indicator of their independence.

Practical Considerations

Grip strength is an objective, non-invasive measure of patient condition and risk profiles. It helps guide treatment plans by assessing severity and identifying the most appropriate interventions.

Impact



Reduce Utilization: better risk stratification and monitoring



Improve Patient Satisfaction: where appropriate, give patients a quick, non-invasive tool to monitor disease status and response to treatment at home



Support Risk Adjustment: quantify disease and treatment impact by using grip strength as an objective measure of muscle health

What next?

Explore

Dive into our extensive collection of studies on grip strength and renal disease [here](#).

Understand

Get the essentials on hand dynamometry and how to integrate grip strength into your practice with our [guide](#).

Implement

Discover how Able Assess can enhance grip strength evaluation and streamline assessments in your practice.

Contribute

Partner with us in research or patient case studies to advance the knowledge of grip strength as a biomarker.

Get in touch via email to hello@able-care.co or visit our website at www.able-care.co