Grip Strength:
The New Essential Biomarker for Oncology

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.

Measuring grip strength is a valuable tool for assessing cancer-related health changes, reflecting overall muscle mass and strength impacted by the disease and its treatments. Muscle wasting, fatigue, and reduced physical activity lead to decreased grip strength, making it a critical indicator of a patient's physical status and the effectiveness of ongoing treatment. For cancer treatment platforms, incorporating grip strength measurement is essential for understanding patient outcomes, and overlooking this metric may have detrimental consequences.

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

Must-Know Metrics

Risk of Cancer Development

For patients aged between 40-69, each 7.7 lbs* drop in grip strength increases the risk of developing any type of cancer by 10% in women and 6% in men. [1]

Prediction of Prognosis and Mortality

Women aged between 40-69 with grip strength below 24.3 lbs* face a 61% higher risk of breast cancer mortality. [1]

Advanced cancer patients with a grip strength weaker than the 10th percentile (90% weaker than their peers) are 3.2 times higher risk of shorter survival and a 9.5 times greater chance of severe muscle loss. [2] e.g:

- A woman aged between 50-54 years with a grip strength of 27.1 lbs or lower.
- A man aged between 65-69 years with a grip strength of 39.7 lbs or lower.

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

Citations:
[1] Celis-Morales et al., 2018 [2] Kilgour et al., 2013

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 severity, identifying high-risk individuals and guiding treatment plans.
- Grip strength predicts cancer risk and prognosis, especially for cancers affected by metabolic and inflammatory pathways like colorectal, lung, and breast cancers.
- Grip strength also reflects frailty and reduced physiological reserve. These factors impair the body's ability to handle cancer and treatments, underscoring the importance of grip strength assessments in clinical practice and trials.

Impact

Reduce Utilization: identify disease early, and understand patient prognosis

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 loss

What next?

Explore

Dive into our extensive collection of studies on grip strength and oncology here.

Implement

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

Understand

Get the essentials on hand dynamometry and how to integrate grip strength into your practice with our guide.

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