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The Importance of Hand Grip Strength Asymmetry

A recent study titled, *Handgrip Strength Asymmetry as a New Biomarker for Sarcopenia and Individual Sarcopenia Signatures* was published September 2023. This research article explores the concept of handgrip strength asymmetry as a potential biomarker for sarcopenia, a condition characterized by the loss of muscle mass and function with age. Sarcopenia is a significant health concern among the elderly population, leading to decreased physical function and an increased risk of falls and fractures.

The study investigates the idea that differences in handgrip strength between the left and right hands can provide valuable insights into an individual's muscle health and the presence of sarcopenia. Handgrip strength is a well-established measure of overall muscle function.

Key findings from the research include:

- Handgrip strength asymmetry (greater than 10%) may serve as an early indicator of sarcopenia, potentially allowing for earlier intervention and treatment.
- The degree of handgrip strength asymmetry may vary among individuals and could be used to develop personalized "sarcopenia signatures" that reflect an individual's unique muscle health status.
- The study may suggest that addressing and correcting handgrip strength asymmetry through targeted interventions, such as strength training or physical therapy, could be beneficial in managing and preventing sarcopenia.
- The study found those with hand drip strength asymmetry greater than 24% were more likely to be diagnosed with sarcopenia.

Overall, this research article presents the concept of handgrip strength asymmetry as a novel biomarker for sarcopenia and suggests its potential utility in developing individualized strategies for the assessment and management of sarcopenia.

With the various findings in this article we wanted to understand how our member population might fare when comparing measures.

Using an automatic selection generator we had names selected and proceeded to utilize the VALD Hub to Collect Data. Overall we were left with a portion of the LiveWell member pool.

Total Size: 116

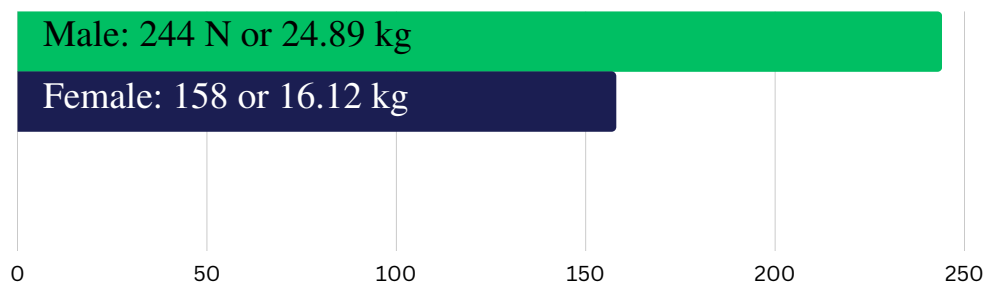
Male: 64 (55%)

Female: 52 (45%)

The measures included both home and community dwelling individuals.

Methods

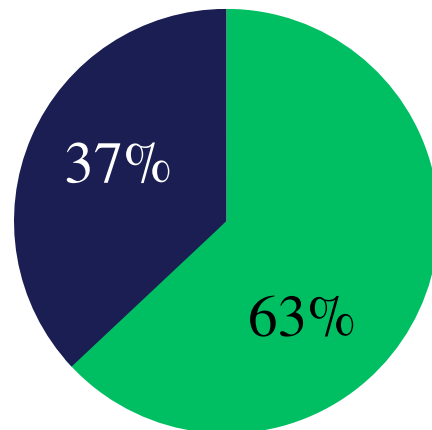
We first analyzed the average HGS among men and women. Based on our findings, the average Male HGS was below the recommended threshold (Male: 27kg / Female: 16 kg), while female was slightly above.



After collecting the data above we wanted to understand what the average amount of asymmetry was among our cohort. It was found the average individual presented asymmetry 15.9% when comparing one side versus the other. The average of the group does not necessarily indicate each and every individual to be sarcopenic, therefore we wanted to break down both, the 10% asymmetry and the 24% asymmetry noted in the research study.

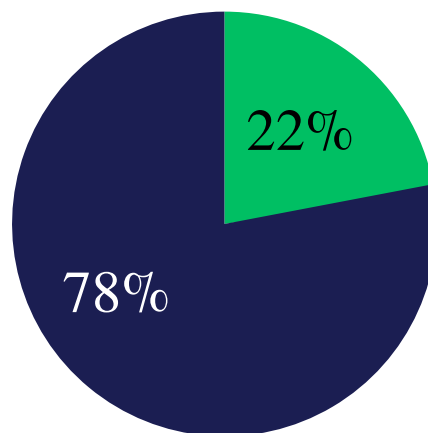
Results

When utilizing the initial 10% hypothesis we found a majority of members were at risk or may already have a sarcopenia diagnosis based on the 10% asymmetry with HGS.



63% of members measured HGS asymmetry at or greater than 10%, indicating sarcopenia based on the conclusions drawn in the study in discussion.

When utilizing the adjusted 24% findings we found less significantly less members would be considered sarcopenic.



22% of members measured HGS asymmetry at or greater than 24%, indicating sarcopenia based on the conclusions drawn in the study in discussion.

Conclusion

We discovered a substantial contrast between the initially hypothesized 10% asymmetry and the actual 24% asymmetry revealed during the study's discussion. This underscores the pressing need for further research to validate the specific degree of asymmetry that holds significance.

Upon closer examination of our measurements, it becomes evident that the 24% asymmetry might signify something more profound. Within the group of individuals exhibiting 24% handgrip strength (HGS) asymmetry, a noteworthy 19% had a lifespan of less than one year following our measurement. This includes individuals both above and below the defined threshold. A significant majority (84%) displayed HGS values below their respective threshold in addition to asymmetry exceeding 24%. The remaining 16% exhibited HGS above the threshold but still experienced substantial (greater than 24%) asymmetry.

These findings strongly indicate that handgrip strength alongside asymmetry measures serve as potent indicators of overall longevity, physical function, quality of life, and mortality. Given that many healthcare providers typically assess only the dominant hand, they may be overlooking valuable insights into their patients' health and well-being.

View the article here:

Article Title: Handgrip Strength Asymmetry as a New Biomarker for Sarcopenia and Individual Sarcopenia Signatures

Journal: Aging Clinical and Experimental Research

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