LIVEWELL HEALTH

RESEARCH ANALYSIS

Validating Hand Grip Strength Asymmetry

LIVEWELL HEALTH

THE RESEARCH

A RECENT ARTICLE PUBLISHED IN THE AGING CLINICAL AND EXPERIMENTAL RESEARCH JOURNAL DREW OUR ATTENTION AS THEY AIMED TO UNDERSTAND IF HAND GRIP ASYMMETRY COULD INDICATE SARCOPENIA

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THE RESEARCH

THE AUTHORS PREDICTED 10 PERCENTAGE POINTS OF ASYMMETRY BETWEEN LEFT AND RIGHT SIDES, REGARDLESS OF HAND DOMINANCE COULD POTENTIALLY BE A BIOMARKER FOR SARCOPENIA.

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PUTTING DATA TO THE TEST

WE WANTED TO UNDERSTAND HOW THE FINDINGS IN THE ARTICLE WOULD ALIGN WITH OUR MEMBERS.

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STRATIFY LIVEWELL HEALTH DATA

- TOTAL SIZE: 116
- MALE: 64 (55%)

  FEMALE: 52 (45%)
- MIX OF COMMUNITY AND PRIVATE HOME DWELLING.

USING AN AUTOMATIC SELECTION GENERATOR WE HAD NAMES SELECTED AND PROCEEDED TO UTILIZE THE VALD HUB TO COLLECT DATA.

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MALE

244 N
OR
24.89KG

158 N
OR
16.12 KG

FEMALE

METHODS

WE ANALYZED THE AVERAGE HGS AMONG MEN AND WOMEN

BASED ON OUR FINDINGS, THE AVERAGE MALE HGS WAS BELOW THE RECOMMENDED THRESHOLD, WHILE FEMALE WAS SLIGHTLY ABOVE.

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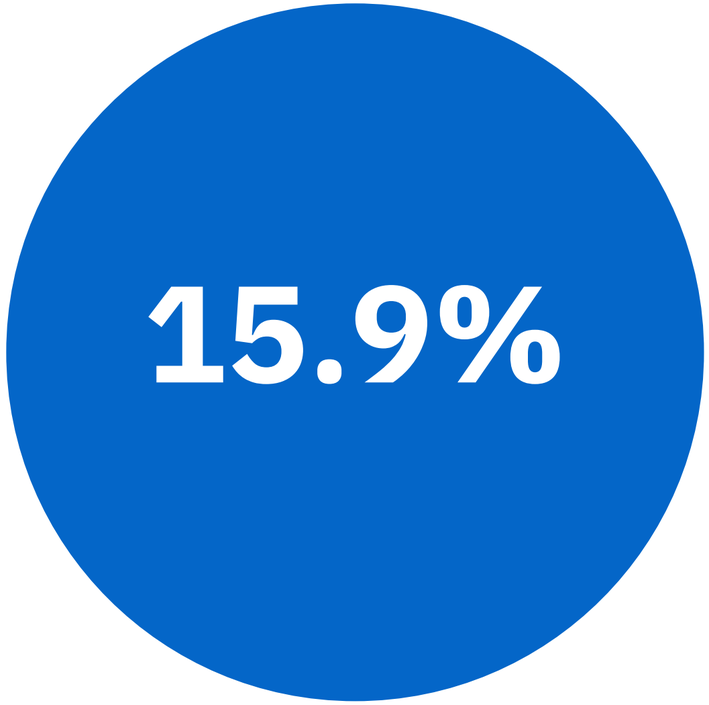

METHODS

AFTER COLLECTING THE DATA WE CALCULATED THE AVERAGE ASYMMETRY PRESENT AMONG MEMBER HGS.

THE AVERAGE ASYMMETRY AMONG OUR COHORT WAS 15.9%.

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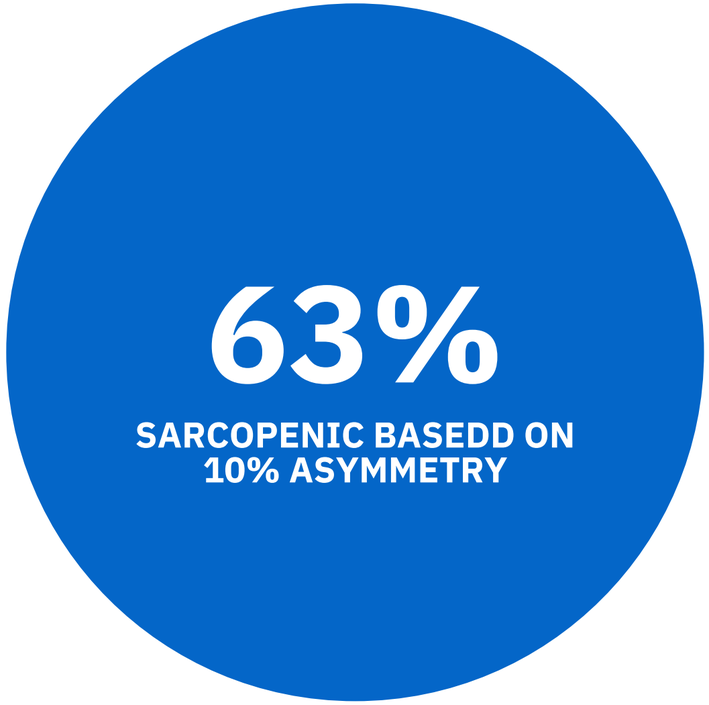
10% HYPOTHESIS



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.

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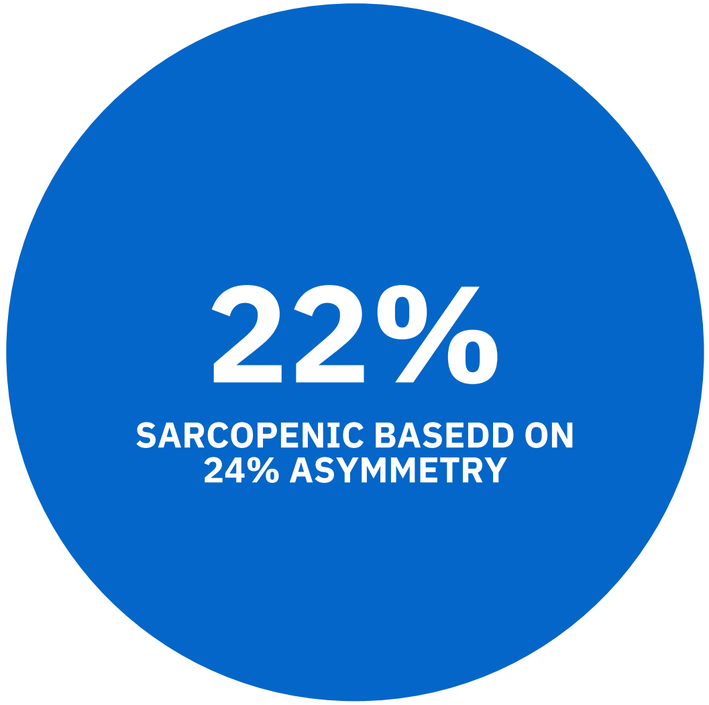

24% ASYMMETRY

HOWEVER, WHEN DISCUSSING RESULTS AUTHORS NOTE THAT A 24% DIFFERENCE WAS MORE PREDICTIVE OF SARCOPENIA COMPARED TO THE ORIGINAL 10% HYPOTHESIS.

WHEN USING THE NEWLY FOUND ASYMMETRY METRIC SIGNIFICANTLY LESS WERE FOUND TO BE SARCOPENIC.

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CONCLUSIONS

- HGS STRENGTH IS A RELIABLE MEASURE FOR UNDERSTANDING LEVEL OF PHYSICAL FUNCTION, MORTALITY RISK, AND QUALITY OF LIFE, BUT ADDITIONAL MEASURES SHOULD BE USED TO CONFIRM.

- HGS ASYMMETRY SHOULD BE TAKEN INTO ACCOUNT WHEN ASSESSING OLDER ADULTS AS THERE APPEARS TO BE RELIABILITY IN DETERMINING SARCOPENIA.

- PERHAPS ASYMMETRY CAN BE VIEWED AS VARIOUS LEVELS OR TYPES SIMILAR TO HYPERTENSION. A 10% ASYMMETRY MAY BE LABELED AS TYPE I SARCOPENIA WHILE 11-24% MAY BE LABELED AS TYPE II SARCOPENIA.

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CONCLUSIONS

- AT LIVEWELL HEALTH WE UTILIZE A NUMBER OF METRICS TO UNDERSTAND POTENTIAL SARCOPENIA AND OVERALL LEVEL OF FUNCTION.
  - HAND GRIP STRENGTH
  - LOWER BODY FORCE AND POWER OUTPUT WITH SQUAT ASSESSMENT
  - LOWER BODY FORCE AND POWER OUTPUT WITH SIT TO STAND ASSESSMENT
  - MUSCLE STRENGTH ASYMMETRY AT ALL JOINTS
  - HAND GRIP STRENGTH ASYMMETRY*

RECENTLY ADDED*

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LIMITATIONS

- THE MEN IN THE STUDY AVERAGED A HAND GRIP STRENGTH THAT WOULD BE SYNONYMOUS WITH SARCOPENIA
- WE DID NOT ANALYZE THE ENTIRE LIVEWELL MEMBER POPULATION. UTILIZING THE ENTIRE LIVEWELL MEMBER POPULATION MAY PROVIDE VARYING RESULTS.
- CONTINUED RESEARCH IS NEEDED TO UNDERSTAND ACCURATE ASYMMETRY

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