

# Getting a Grip on Nutrition Related Muscle Function Losses

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## Background

### Malnutrition

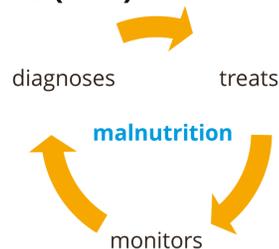
prevalence: 30-50% of patients admitted to inpatient rehab program<sup>1</sup>.

characterized by: inadequate protein-energy intakes, muscle losses and **functional changes**<sup>2</sup>.

impact: increases risk for pressure sores, length of stay and risk of being discharged to higher level of care<sup>1,2</sup>.

### Registered Dietitians (RDs)

provide care that:



currently lack: objective measures of nutrition related muscle function changes<sup>3</sup>

### Handgrip Strength (HGS)

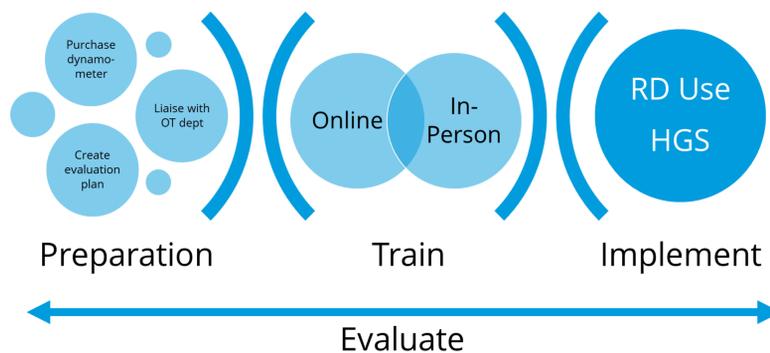
is an accepted criterion for assessing malnutrition related muscle function losses<sup>2,4</sup>.

## Context

**three specialized inpatient rehabilitation units:**  
stroke, neuro-musculoskeletal (MSK), brain injury

**1.1 Registered Dietitian full time equivalents**

## Methods

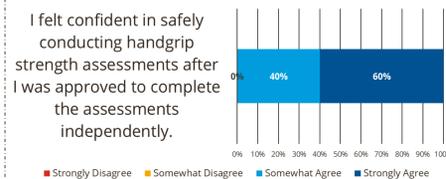


collected measures of HGS training effectiveness, clinical uptake and clinical utility before and at 2, 4, 6 months after implementation.

## Outcomes

### Training Effectiveness

total of seven RDs trained over four sessions



"The pre-readings provide a **good knowledge base.**"  
(similar comments from 40% of trainees)

"I enjoyed completing the training in a **group** as it brought good questions and **discussion points.**"  
(similar comments from 60% of trainees)

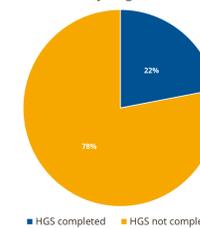
"The video training was a bit long and covered topics that **weren't always relevant to this population**"  
(similar comments from 80% of trainees)

"The supervised assessments with patients was very helpful. I really appreciated **getting immediate feedback**"  
(similar comments from 80% of trainees)

### Clinical Uptake

no clinically significant impact on RD efficiency

Patients Seen by Registered Dietitians



### Reasons for missing HGS:



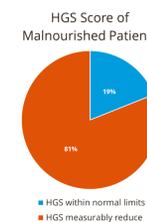
cognition/behaviours

timing around therapy

### Clinical Utility

useful as a...

#### A) diagnostic tool



"can help give a **more conclusive diagnosis of malnutrition.**"

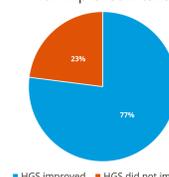
"gave me **empirical information about my diet.**"  
(patient feedback)

#### B) monitoring tool

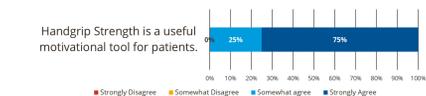
"an **efficient and objective measure** to track **patient's nutrition progress.**"

"helps patients make the connection **between their functional status and their nutrition**"

Change in HGS Score for Malnourished Patients with Improved Intakes



#### C) motivational tool



## Case Study



**60 year old male assessed on admission to neuro-MSK rehab**

- Body Mass Index = 18.9  
(normal=18.5-25)

- eating poorly at home
- eating better in hospital before rehab
- gained some weight



but **HGS measurably reduced**



...2 weeks later...

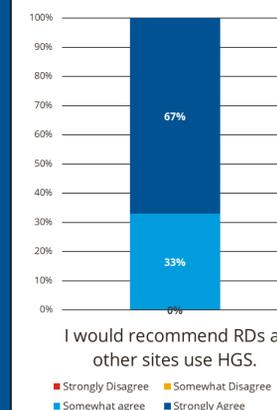
- eating nutrient dense items
- wounds healing
- **HGS within normal limits**

## Lessons Learned

- Handgrip strength **adds value** to dietetic practice **without impacting efficiency.**
- **Regular discussion** of difficult and interesting cases **maintains use and builds confidence.**

## Next Steps

- **Share findings.**
- Plan to **roll out** with RDs working in:
  - pediatric obesity
  - outpatient RDs, &
  - sub-acute inpatient wards.



## References

1. Watterson C, Fraser A, Banks M, et al (2009) Evidence based practice guidelines for the nutritional management of malnutrition in patients across the continuum of care. Nutr Diet 66:51-534.
2. White J, Guenter P, Jensen G, Malone A, et al (2012) Consensus statement of the academy of nutrition and dietetics/ American society for parenteral and enteral nutrition: characteristics recommended for the identification. Journal of the Academy of Nutrition and Dietetics. 112(5):730-738.
3. Russell M. (2015) Functional assessment of nutrition status. Nutrition in Clinical Practice. 30(2):210-218.
4. Cederholm T, Jensen G, Correia M, et al (2018) GLIM criteria for the diagnosis of malnutrition—A consensus report from the glob clinical nutrition community. Clinical Nutrition. 38(1):1-9.