



XXIX IFSO World Congress

1-4 September 2026 | Toronto, Canada

TORONTO 2026

The Future of Obesity Management:
From Weight Loss to Health Gain



ifso2026.org

Disclosure

Nothing to Disclose



RETHINKING SURGICAL READINESS IN BARIATRIC CARE:

THE ROLE OF PREHABILITATION IN IMPROVING OUTCOMES

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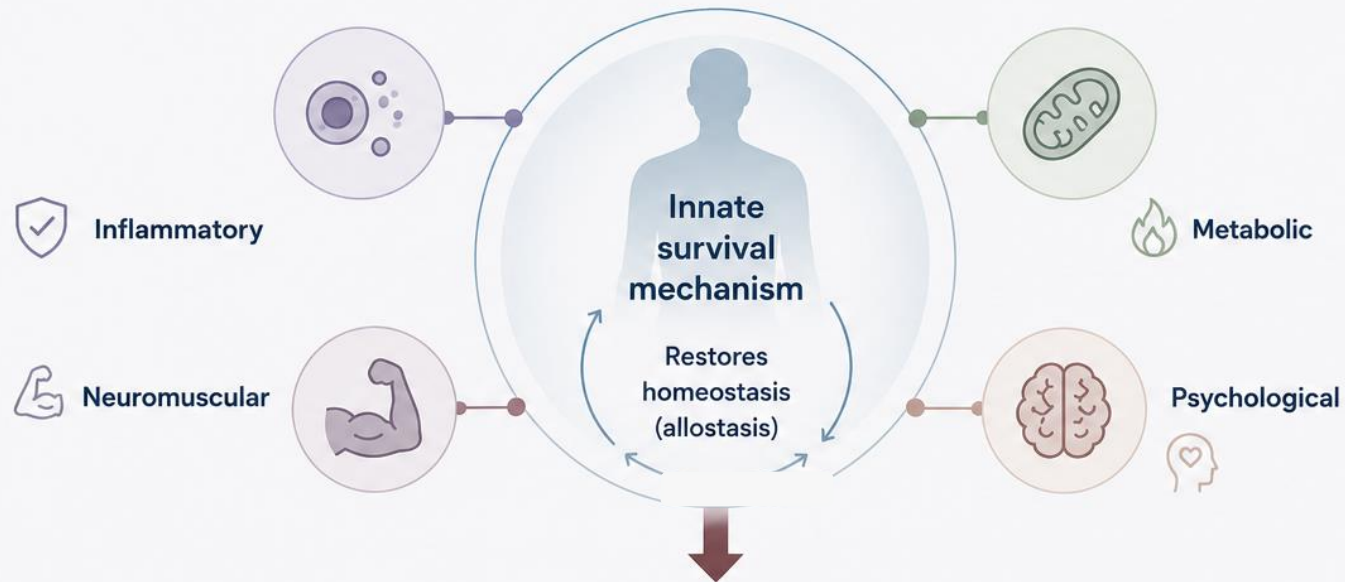
Objectives

- To illustrate the idea of prehabilitation in surgical care
- To discuss what the prehabilitation is
- To present some evidence of prehabilitation program
- To illustrate what the implications of the prehabilitation are for bariatric surgery



The Perioperative Period

A critical phase of stress, adaptation, and recovery

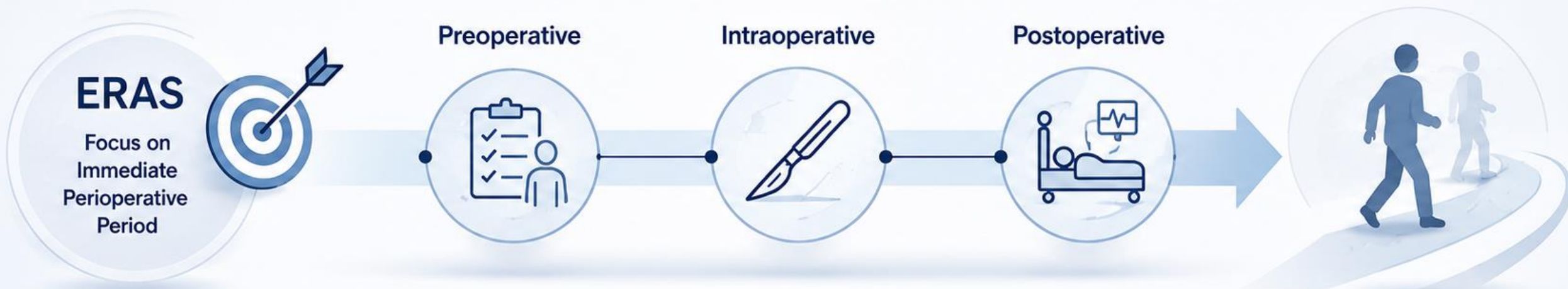


When the response exceeds adaptive capacity



ERAS: A Step Forward, But Not the Whole Solution

JAMA Surgery. 2017;152(3):292–298.



**Complications
Remain High**



**Many Do Not Return
to Baseline Function**



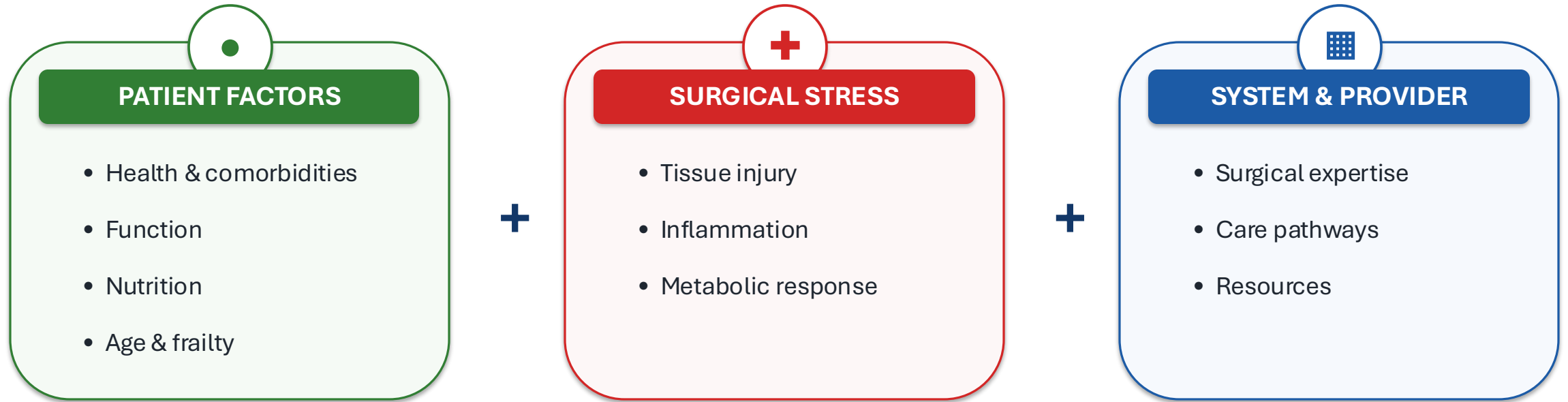
**Unchecked Preoperative
Patient-Related Factors**



ERAS alone does not fully optimize patients before surgery.

OUTCOMES AFTER SURGERY

Determined by three key domains



RELATIVE CONTRIBUTION TO VARIATION IN OUTCOMES



Patient factors account for substantially more outcome variation.

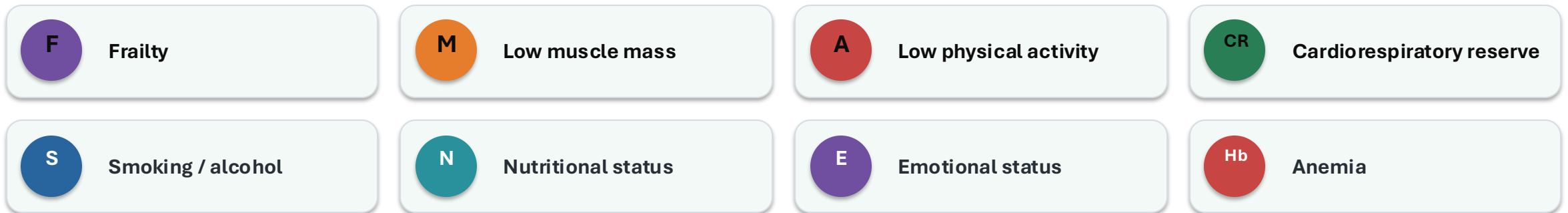
J Am Coll Surg. 2022;234(3):300–309.

Determinants of Surgical Risk

NON-MODIFIABLE FACTORS



MODIFIABLE FACTORS



FUNCTIONAL CAPACITY

A modifiable pathway linked to surgical risk and recovery

From Reactive Care to Proactive Surgical Readiness

Anesthesiology Clinics. 2015;33(1):17–33



REACTIVE

Treat complications
after they occur



PROACTIVE

Prepare patients
before surgery



WINDOW OF OPPORTUNITY



Surgical
Candidate



Time to prepare
and optimize



Surgery



Recovery

From Reactive Care to Proactive Surgical Readiness

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PREHABILITATION: BUILDING RESILIENCE BEFORE SURGERY



Proactive.
Multimodal.



PHYSICAL

Enhance fitness
and strength



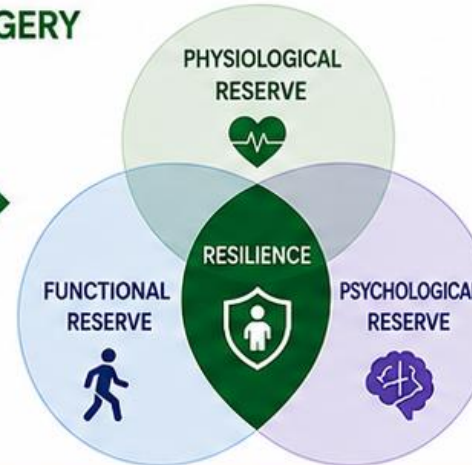
NUTRITIONAL OPTIMIZATION

Improve nutrition
and support recovery



PSYCHOLOGICAL

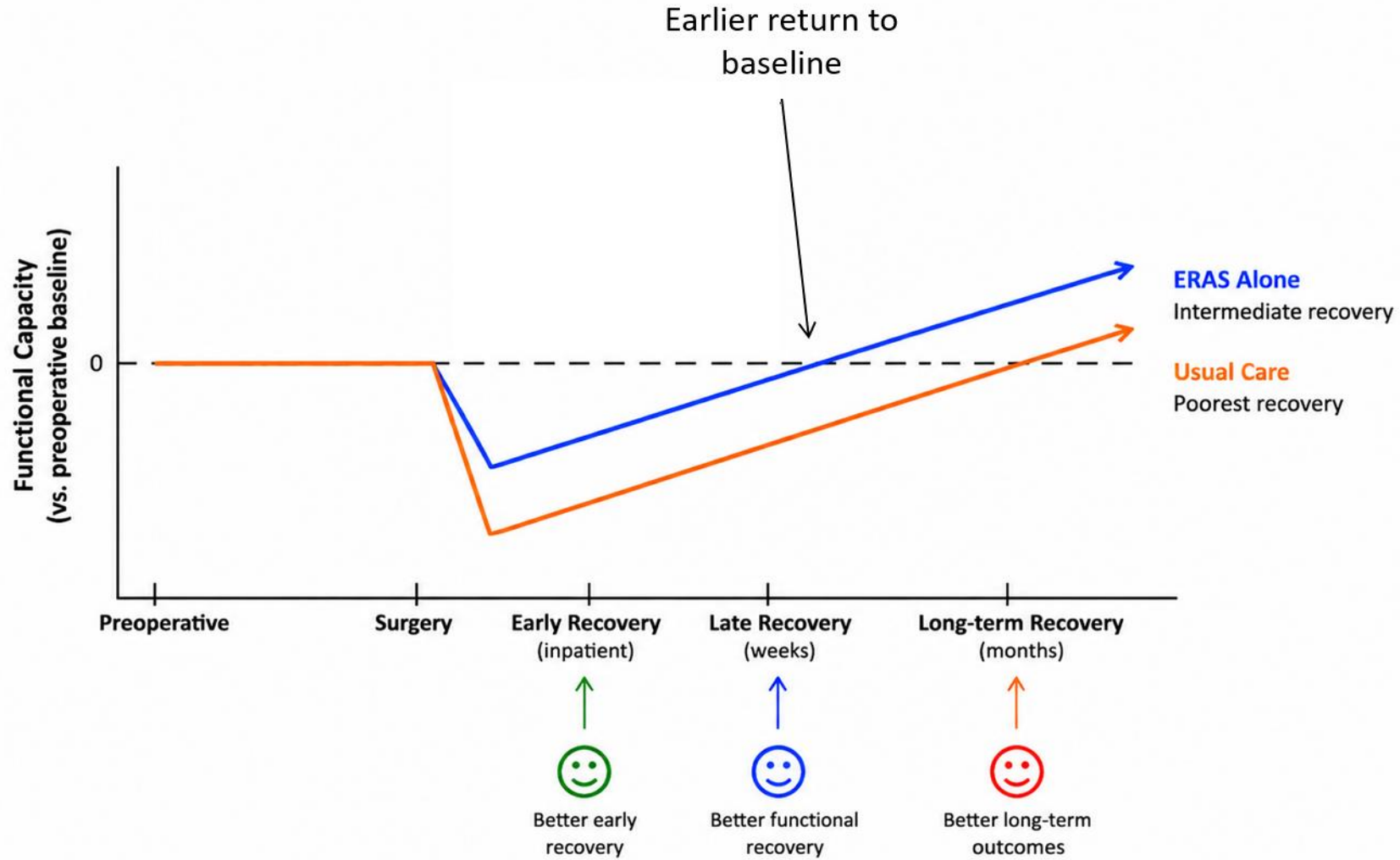
Reduce stress and
improve well-being



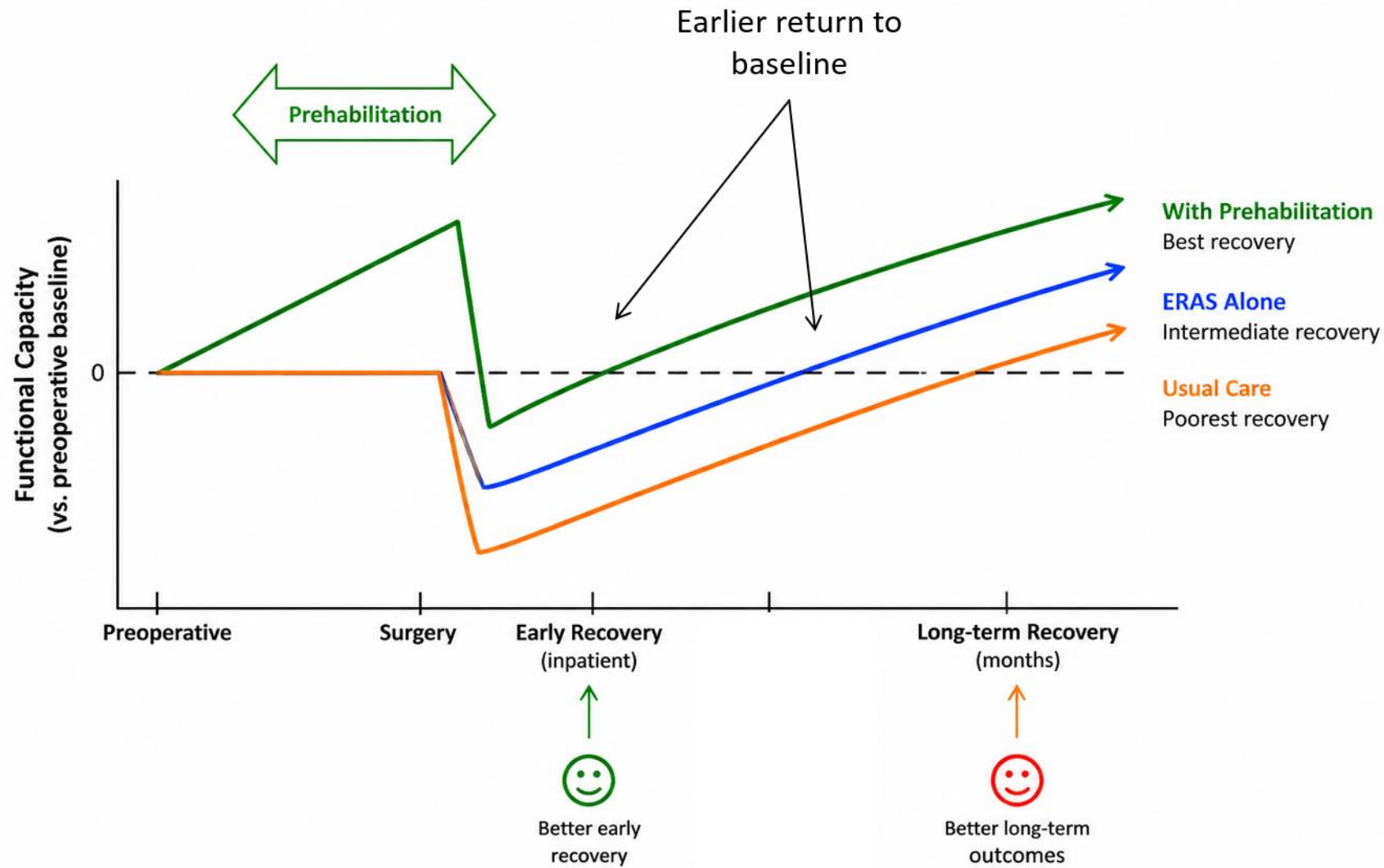
- ↑ Better tolerate stress
- ↑ Faster recovery
- ↑ Return to baseline or better
- ↑ Better quality of life



GOAL: BETTER PREPARED PATIENTS. BETTER OUTCOMES.



Adapted from Carli et al. Curr Op Clin Nutr Met Care 2005



Adapted from Carli et al. Curr Op Clin Nutr Met Care 2005

Prehabilitation can improve surgical outcomes

186 RCTs | 15,684 participants



COMPLICATIONS

50% lower odds

Exercise



HOSPITAL STAY

↓ ~1 day

Exercise or nutrition



QUALITY OF LIFE

↑ 3.48

Exercise + nutrition +
psychosocial
SF-36 physical score



PHYSICAL RECOVERY

↑ 43 m

Exercise + nutrition +
psychosocial
6-minute walk distance

BEST-SUPPORTED COMPONENTS

EXERCISE + NUTRITION

What our data in prehabilitation clinic shows?



preadaptation@muhc.mcgill.ca

Prehabilitation Clinic

Opened Sept 2021

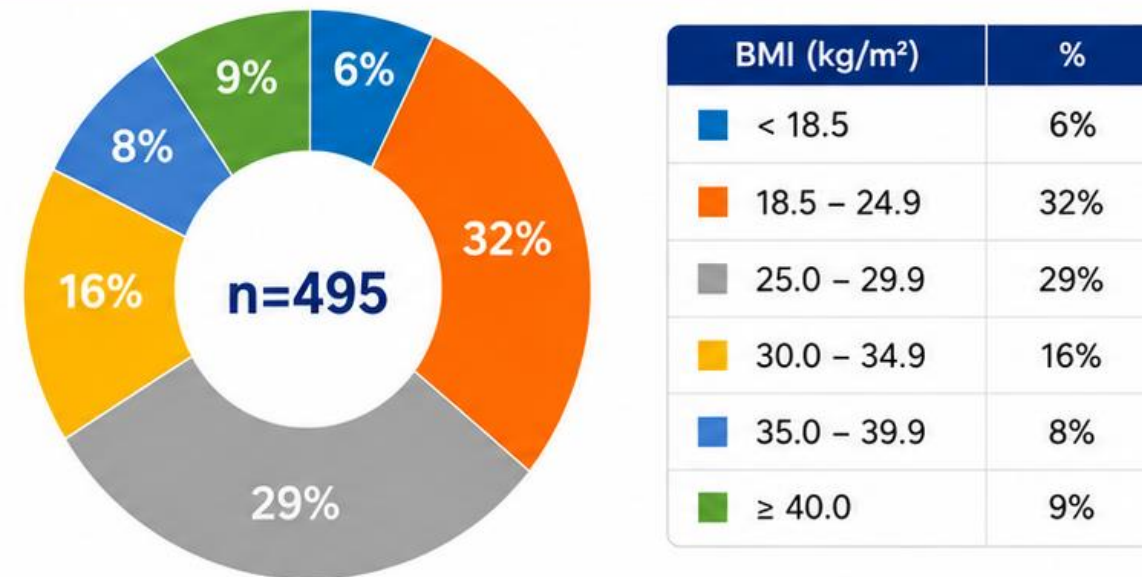
Surgeons' referrals
cancer > non-cancer
(65% vs 35%)

CANCER PATIENTS IN A PREHABILITATION PROGRAM (n=495)

1 PATIENT CHARACTERISTICS (n=495)

 Age 69 ± 10 years	 Low FFMI 39%
 ASA III–IV 65%	 Diabetes mellitus 30%
 High comorbidity 95%	 Respiratory disease 41%
 6MWT < 400 m 40%	 High anxiety 20%
 Poor daily activity 60%	 Prehabilitation duration Median (IQR) 60 days (34–94.5)
 Malnutrition risk 84%	

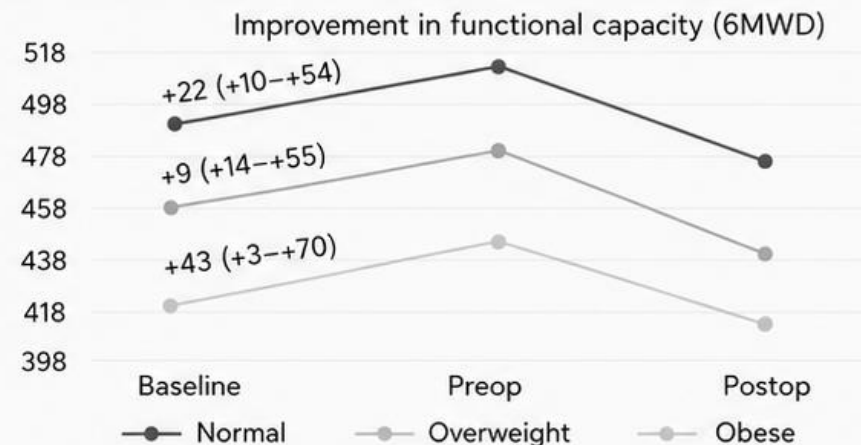
2 BMI DISTRIBUTION (n=495)



3 POSTOPERATIVE OUTCOMES (n=375)

 Median length of stay (LOS)	4 (2–7) days
 Medical complications	22%
 CCI ≥ 20	36%
 ICU admission	5%
 Readmission (30 days)	10%

4 6MWD IMPROVEMENT WITH PREHABILITATION



Greatest improvement in BMI ≥ 30

CANCER PATIENTS IN A PREHABILITATION PROGRAM (n=495)

1 PATIENT CHARACTERISTICS (n=495)



Age
69 ± 10 years



ASA III–IV
65%



High comorbidity
95%



6MWT < 400 m
40%



Poor daily activity
60%



Malnutrition risk
84%



Low FFMI
39%



Diabetes mellitus
30%



Respiratory disease
41%

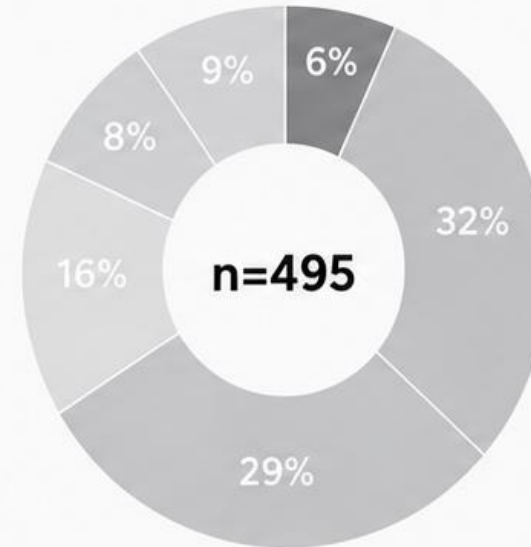


High anxiety
20%



Prehabilitation duration
Median (IQR)
60 days (34–94.5)

2 BMI DISTRIBUTION (n=495)



BMI (kg/m ²)	%
< 18.5	6%
18.5 – 24.9	32%
25.0 – 29.9	29%
30.0 – 34.9	16%
35.0 – 39.9	8%
≥ 40.0	9%

3 POSTOPERATIVE OUTCOMES (n=375)



Median length of stay (LOS) 4 (2–7) days



Medical complications 22%



CCI ≥ 20 36%

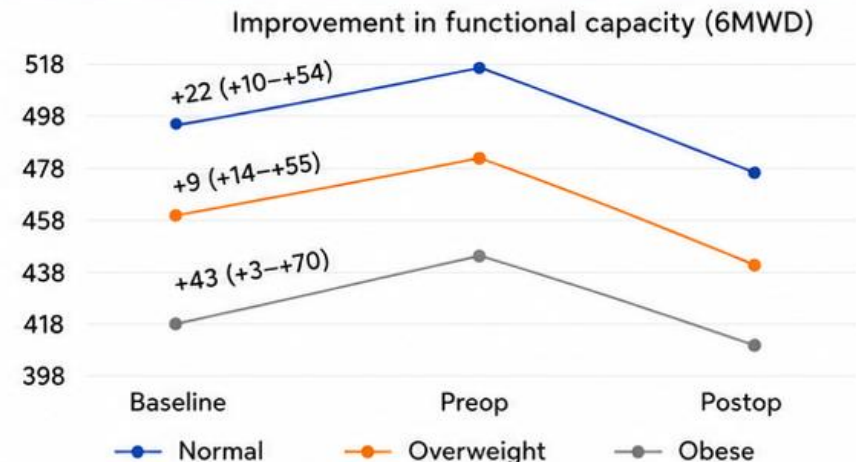


ICU admission 5%



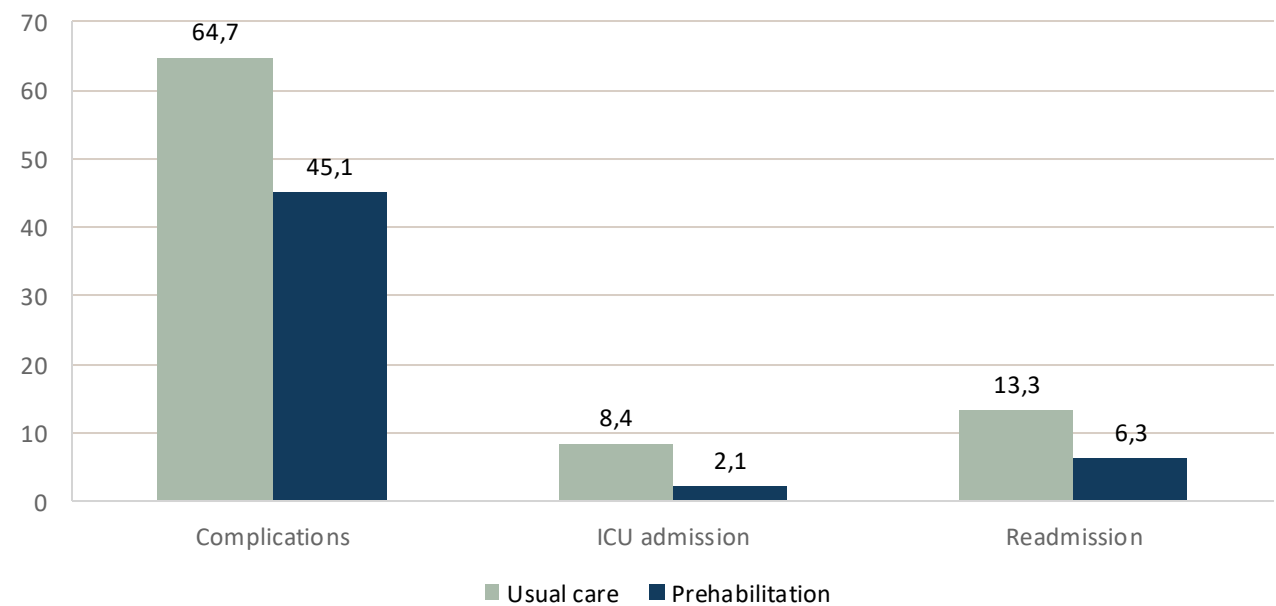
Readmission (30 days) 10%

4 6MWD IMPROVEMENT WITH PREHABILITATION



Greatest improvement
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Cost Evaluation of a Multimodal Prehabilitation Program for High-risk Lung Cancer Surgery, n=284



\$387

Program cost per patient

\$5,084

Estimated net savings per patient

Non-Cancer Patients in Prehabilitation Program



Characteristics of Referred Non-Cancer Patients (n=300)



Patients with hernia: 39%



Respiratory disease: 36%



Age: 60 ± 13 years



6MWT < 400 m: 38%



ASA III and IV: 51%



Poor daily living activity: 62%



High comorbidity: 57%



Severe/moderate malnutrition risk: 69%

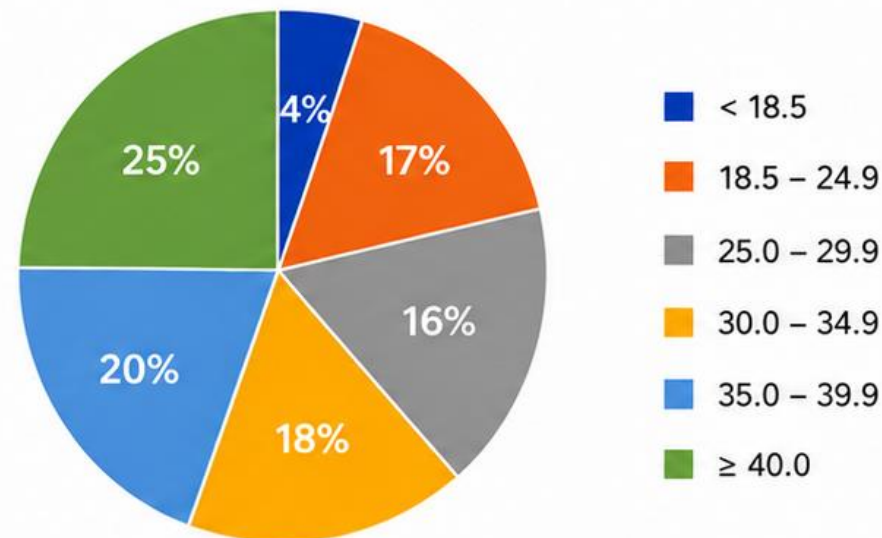


DM: 27%



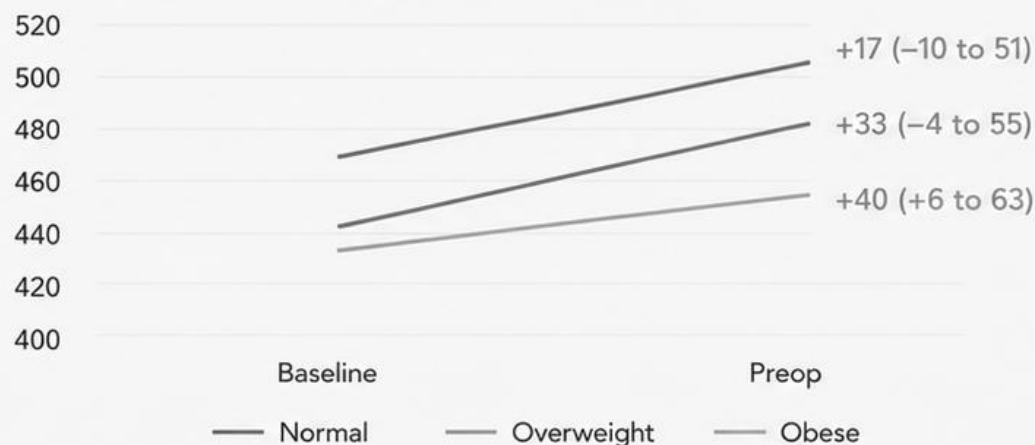
Prehabilitation duration:
Median 106 days (IQR 53–265)

BMI Distribution (n=300)



Improvement After Prehabilitation (Median Change with IQR)

Improvement in 6MWD, m



Outcomes (n=151)



LOS, Median (IQR)

5 (1–8) days



Medical complications

21%



CCI ≥ 20

33%



ICU admission

5%

Non-Cancer Patients in Prehabilitation Program



Characteristics of Referred Non-Cancer Patients (n=300)



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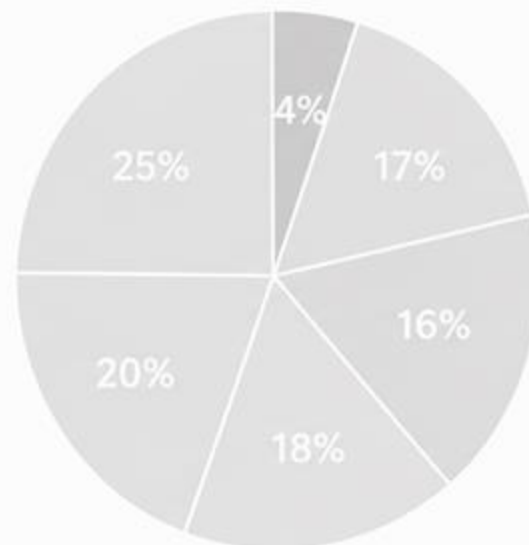


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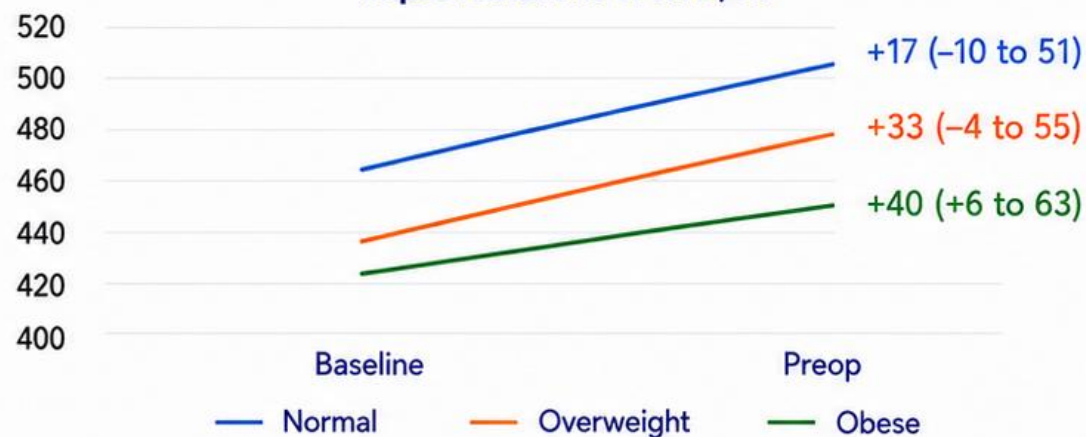


- < 18.5
- 18.5 – 24.9
- 25.0 – 29.9
- 30.0 – 34.9
- 35.0 – 39.9
- ≥ 40.0



Improvement After Prehabilitation (Median Change with IQR)

Improvement in 6MWD, m



Outcomes (n=151)



LOS, Median (IQR)

5 (1–8) days



Medical complications

21%



CCI ≥ 20

33%



ICU admission

5%

STUDY OVERVIEW



70 patients

Complex abdominal
wall surgery



Completed
prehabilitation
(n=40)



BMI >25
among completed
patients

MULTIMODAL PREHABILITATION PROGRAM



Exercise



Nutrition



Smoking
cessation



Psychological
support



OPTIMIZATION CRITERIA



- ✓ Weight loss $\geq 7\%$
- ✓ Smoking cessation
- ✓ HbA1c < 7%

Cattaneo et al. *Surg Endosc* 39, 3364–3372 (2025)

STUDY OVERVIEW



70 patients

Complex abdominal
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- ✓ Weight loss $\geq 7\%$
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Cattaneo et al. *Surg Endosc* 39, 3364–3372 (2025)

PREHABILITATION COMPLETED (n=40)

Fully optimized



11 patients

Underwent surgery



33 patients



VS.

DID NOT COMPLETE (n=30)

Fully optimized



0 patients

Underwent surgery



10 patients



OUTCOMES



Improved
functional
capacity (6MWT)



More likely to meet
surgical readiness
criteria



No difference in
postoperative
complications
or length of stay



Fewer hernia
recurrence at 2 years
in completed group

Preoperative Exercise Before Bariatric Surgery

What Does the Evidence Show?

Simancas-Racines et al. J Clin Med. 2025;14(17):6170

WHAT WAS STUDIED

- 15 studies
- 1,378 participants
- Systematic review + meta-analysis
- Adults undergoing bariatric surgery

WHAT IMPROVED

↑ **6-minute walk distance**

Significant improvement

↑ **VO₂ peak**

Significant improvement

WHAT REMAINS UNCERTAIN

↔ **Body weight**

No significant change

? **Postoperative complications**

Insufficient / inconsistent data

↓ **Length of stay**

Reduced in one small study

Certainty of evidence: VERY LOW TO LOW

Exercise improves preoperative fitness,
but evidence for postoperative benefit remains uncertain.

Preoperative Exercise Before Bariatric Surgery

What Does the Evidence Show?

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WHAT IMPROVED

↑ **6-minute walk distance**

Significant improvement

↑ **Peak power**

Significant improvement

WHAT REMAINS UNCERTAIN

↔ **Body weight**

No significant change

↔ **Postoperative complications**

No significant difference

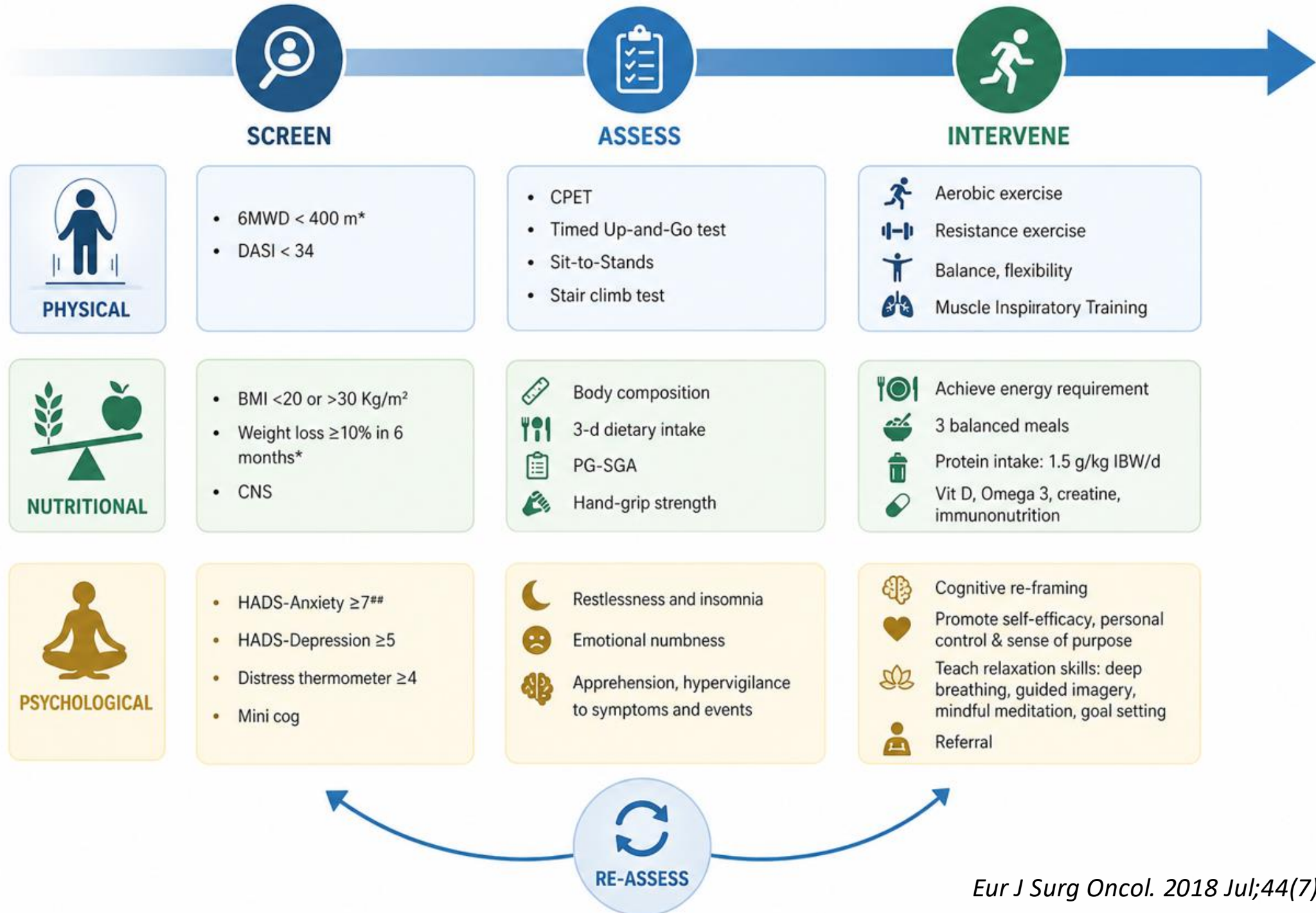
↓ **Length of stay**

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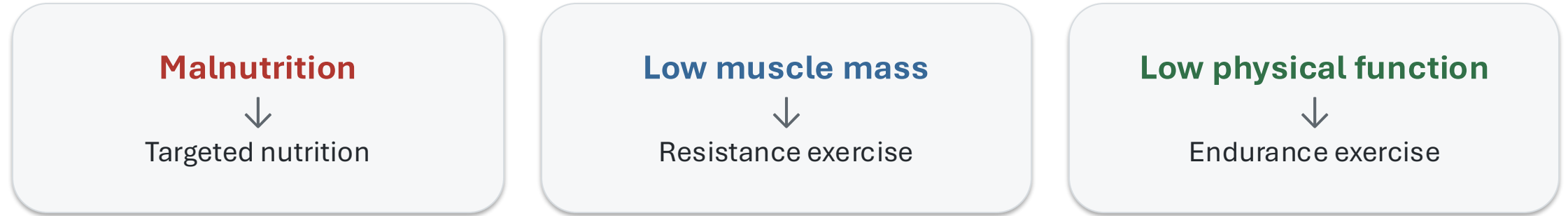
WE NEED MORE RESEARCH

Exercise improves preoperative fitness,
but evidence for postoperative benefit remains uncertain.



Prehabilitation Needs to Be Personalized

Different patients have different limitations.



One size does not fit all.



Precise prehabilitation

Match the intervention to the patient's risk profile, limitations, and capacities.

From Precise Prehabilitation to Digital Delivery

The next challenge is delivering and scaling individualized care in real-world settings

Virtual visits

Clinical follow-up
and support

Home-based care

Exercise + Zoom
nutrition classes

Remote monitoring

Track progress
and adapt care

Digitalization is the infrastructure

to deliver and adapt evidence-based prehabilitation more consistently.

Take-home messages

The right patient • The right target • The right preparation



Key references

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THANK YOU