69 CONGRESO NACIONAL
SOCIEDAD ESPAÑOLA DE FARMACIA HOSPITALARIA

A CORUÑA
17-19 OCT 24

ABRAZANDO LA EXCELENCIA · CUIDANDO EN TODAS LAS DIRECCIONES ·
FARMACIA
360°

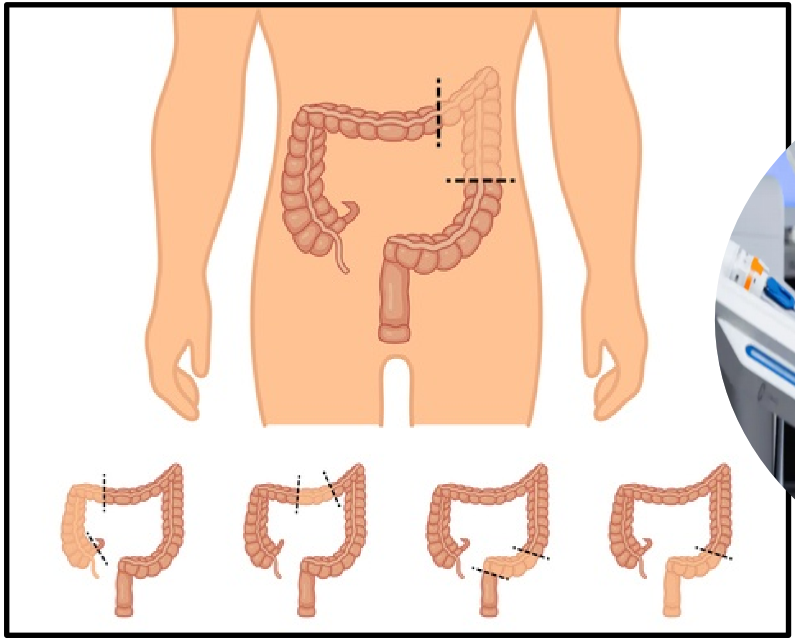
Prehabilitación ¿Qué puede aportar el farmacéutico?

Experiencia en la implantación de la vía RICA

Francisco López Rodríguez –Arias
Cirugía General y Ap. Digestivo
Hospital General de Elche

sefh
Sociedad Española de Farmacia Hospitalaria

Cirugía colorrectal

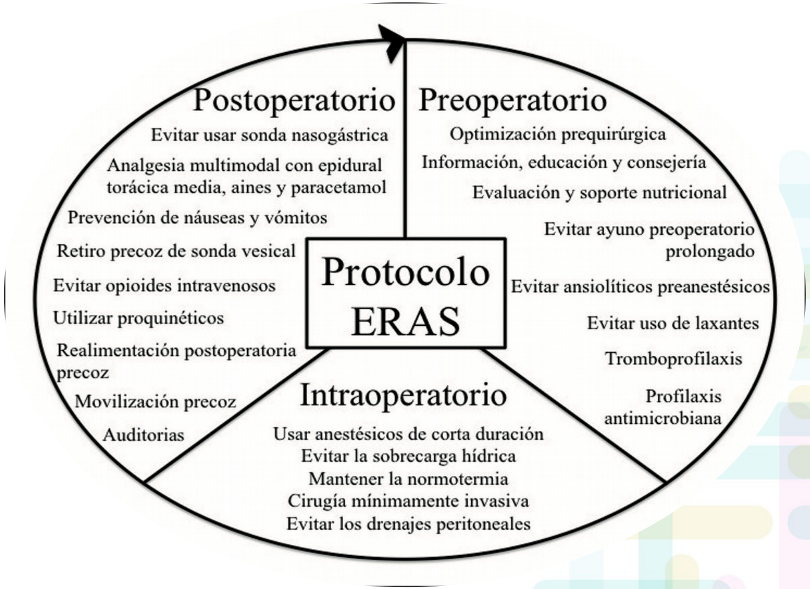


¿Que le supone al paciente?

Atenuar impacto con ERAS

RICA

VÍA CLÍNICA
DE RECUPERACIÓN INTENSIFICADA
EN CIRUGÍA DEL ADULTO

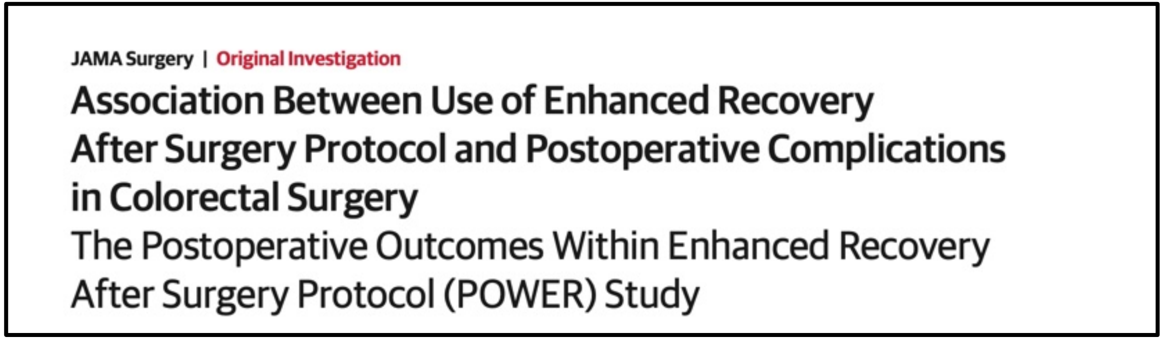


Protocolo ERAS

Preoperatorio
- Optimización prequirúrgica
- Información, educación y consejería
- Evaluación y soporte nutricional
- Evitar ayuno preoperatorio prolongado
- Evitar ansiolíticos preanestésicos
- Evitar uso de laxantes
- Tromboprofilaxis
- Profilaxis antimicrobiana

Intraoperatorio
- Usar anestésicos de corta duración
- Evitar la sobrecarga hídrica
- Mantener la normotermia
- Cirugía mínimamente invasiva
- Evitar los drenajes peritoneales

Postoperatorio
- Evitar usar sonda nasogástrica
- Analgesia multimodal con epidural torácica media, aines y paracetamol
- Prevención de náuseas y vómitos
- Retiro precoz de sonda vesical
- Evitar opioides intravenosos
- Utilizar proquinéticos
- Realimentación postoperatoria precoz
- Movilización precoz
- Auditorias



JAMA Surgery | **Original Investigation**

Association Between Use of Enhanced Recovery After Surgery Protocol and Postoperative Complications in Colorectal Surgery

The Postoperative Outcomes Within Enhanced Recovery After Surgery Protocol (POWER) Study

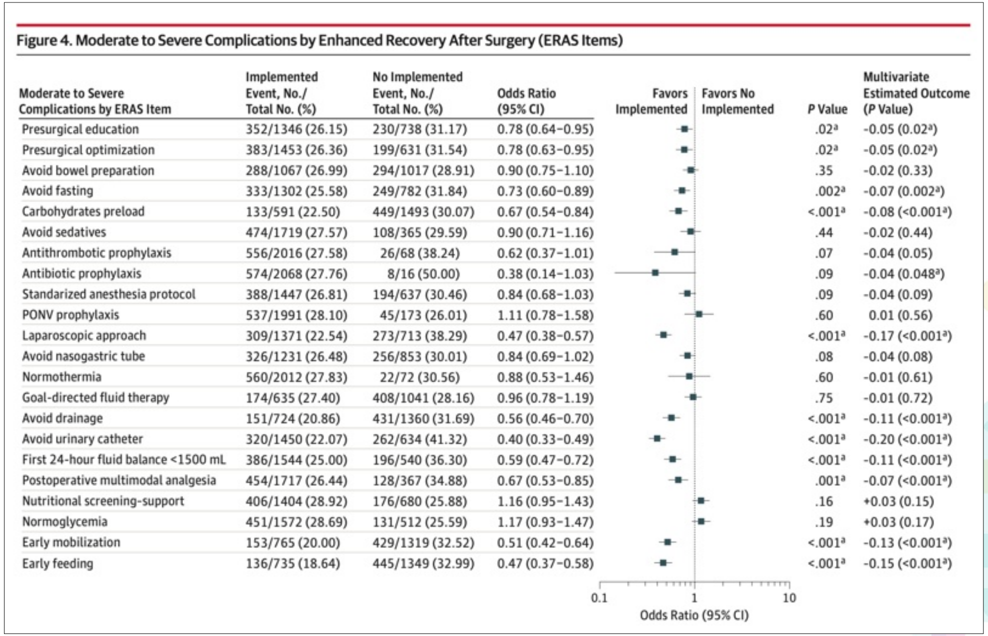
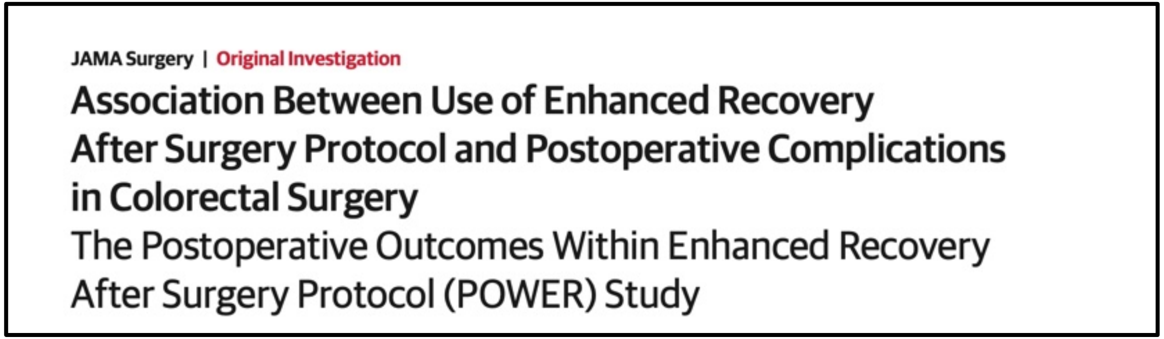


Figure 4. Moderate to Severe Complications by Enhanced Recovery After Surgery (ERAS Items)

Moderate to Severe Complications by ERAS Item	Implemented Event, No./Total No. (%)	No Implemented Event, No./Total No. (%)	Odds Ratio (95% CI)	*P* Value	Multivariate Estimated Outcome (*P* Value)
Presurgical education	352/1346 (26.15)	230/738 (31.17)	0.78 (0.64-0.95)	.02[a]	-0.05 (0.02[a])
Presurgical optimization	383/1453 (26.36)	199/631 (31.54)	0.78 (0.63-0.95)	.02[a]	-0.05 (0.02[a])
Avoid bowel preparation	288/1067 (26.99)	294/1017 (28.91)	0.90 (0.75-1.10)	.35	-0.02 (0.33)
Avoid fasting	333/1302 (25.58)	249/782 (31.84)	0.73 (0.60-0.89)	.002[a]	-0.07 (0.002[a])
Carbohydrates preload	133/591 (22.50)	449/1493 (30.07)	0.67 (0.54-0.84)	<.001[a]	-0.08 (<0.001[a])
Avoid sedatives	474/1719 (27.57)	108/365 (29.59)	0.90 (0.71-1.16)	.44	-0.02 (0.44)
Antithrombotic prophylaxis	556/2016 (27.58)	26/68 (38.24)	0.62 (0.37-1.01)	.07	-0.04 (0.05)
Antibiotic prophylaxis	574/2068 (27.76)	8/16 (50.00)	0.38 (0.14-1.03)	.09	-0.04 (0.048[a])
Standarized anesthesia protocol	388/1447 (26.81)	194/637 (30.46)	0.84 (0.68-1.03)	.09	-0.04 (0.09)
PONV prophylaxis	537/1991 (28.10)	45/173 (26.01)	1.11 (0.78-1.58)	.60	0.01 (0.56)
Laparoscopic approach	309/1371 (22.54)	273/713 (38.29)	0.47 (0.38-0.57)	<.001[a]	-0.17 (<0.001[a])
Avoid nasogastric tube	326/1231 (26.48)	256/853 (30.01)	0.84 (0.69-1.02)	.08	-0.04 (0.08)
Normothermia	560/2012 (27.83)	22/72 (30.56)	0.88 (0.53-1.46)	.60	-0.01 (0.61)
Goal-directed fluid therapy	174/635 (27.40)	408/1041 (28.16)	0.96 (0.78-1.19)	.75	-0.01 (0.72)
Avoid drainage	151/724 (20.86)	431/1360 (31.69)	0.56 (0.46-0.70)	<.001[a]	-0.11 (<0.001[a])
Avoid urinary catheter	320/1450 (22.07)	262/634 (41.32)	0.40 (0.33-0.49)	<.001[a]	-0.20 (<0.001[a])
First 24-hour fluid balance <1500 mL	386/1544 (25.00)	196/540 (36.30)	0.59 (0.47-0.72)	<.001[a]	-0.11 (<0.001[a])
Postoperative multimodal analgesia	454/1717 (26.44)	128/367 (34.88)	0.67 (0.53-0.85)	.001[a]	-0.07 (<0.001[a])
Nutritional screening-support	406/1404 (28.92)	176/680 (25.88)	1.16 (0.95-1.43)	.16	+0.03 (0.15)
Normoglycemia	451/1572 (28.69)	131/512 (25.59)	1.17 (0.93-1.47)	.19	+0.03 (0.17)
Early mobilization	153/765 (20.00)	429/1319 (32.52)	0.51 (0.42-0.64)	<.001[a]	-0.13 (<0.001[a])
Early feeding	136/735 (18.64)	445/1349 (32.99)	0.47 (0.37-0.58)	<.001[a]	-0.15 (<0.001[a])



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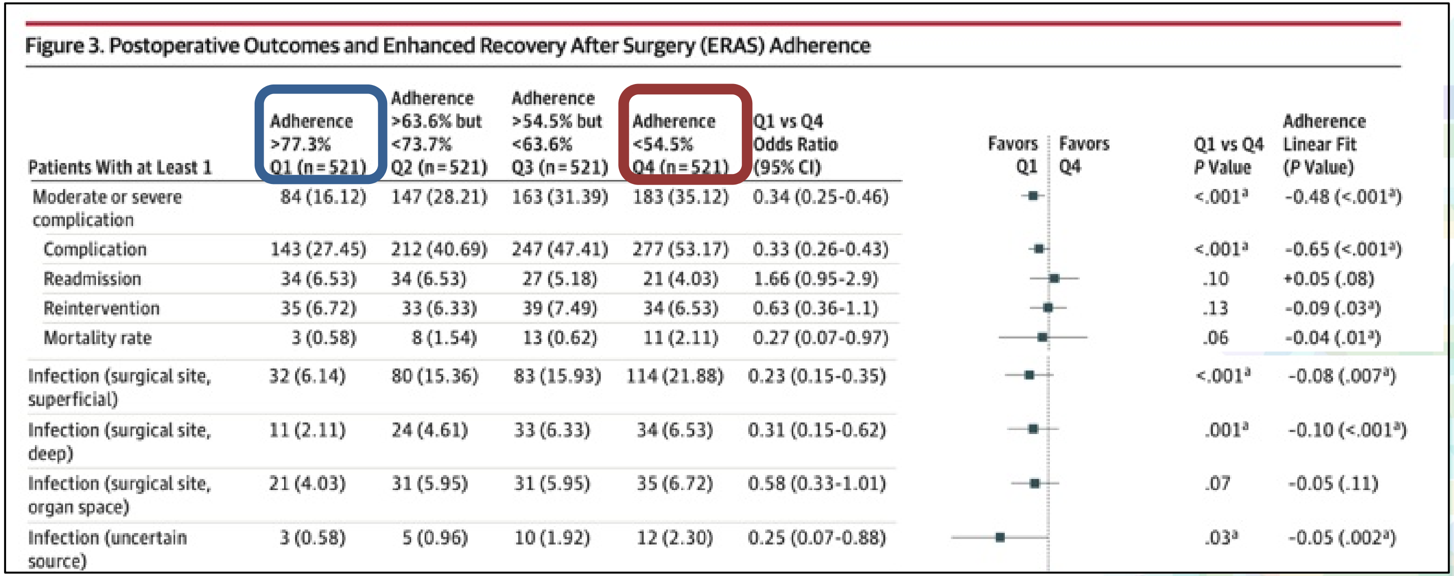
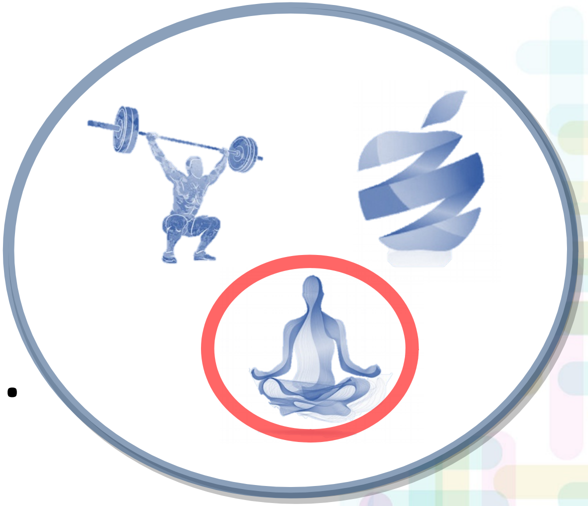


Figure 3. Postoperative Outcomes and Enhanced Recovery After Surgery (ERAS) Adherence

Patients With at Least 1	Adherence >77.3% Q1 (n=521)	Adherence >63.6% but <73.7% Q2 (n=521)	Adherence >54.5% but <63.6% Q3 (n=521)	Adherence <54.5% Q4 (n=521)	Q1 vs Q4 Odds Ratio (95% CI)	Favors Q1 | Favors Q4	Q1 vs Q4 *P* Value	Adherence Linear Fit (*P* Value)
Moderate or severe complication	84 (16.12)	147 (28.21)	163 (31.39)	183 (35.12)	0.34 (0.25-0.46)		<.001[a]	-0.48 (<.001[a])
Complication	143 (27.45)	212 (40.69)	247 (47.41)	277 (53.17)	0.33 (0.26-0.43)		<.001[a]	-0.65 (<.001[a])
Readmission	34 (6.53)	34 (6.53)	27 (5.18)	21 (4.03)	1.66 (0.95-2.9)		.10	+0.05 (.08)
Reintervention	35 (6.72)	33 (6.33)	39 (7.49)	34 (6.53)	0.63 (0.36-1.1)		.13	-0.09 (.03[a])
Mortality rate	3 (0.58)	8 (1.54)	13 (0.62)	11 (2.11)	0.27 (0.07-0.97)		.06	-0.04 (.01[a])
Infection (surgical site, superficial)	32 (6.14)	80 (15.36)	83 (15.93)	114 (21.88)	0.23 (0.15-0.35)		<.001[a]	-0.08 (.007[a])
Infection (surgical site, deep)	11 (2.11)	24 (4.61)	33 (6.33)	34 (6.53)	0.31 (0.15-0.62)		.001[a]	-0.10 (<.001[a])
Infection (surgical site, organ space)	21 (4.03)	31 (5.95)	31 (5.95)	35 (6.72)	0.58 (0.33-1.01)		.07	-0.05 (.11)
Infection (uncertain source)	3 (0.58)	5 (0.96)	10 (1.92)	12 (2.30)	0.25 (0.07-0.88)		.03[a]	-0.05 (.002[a])

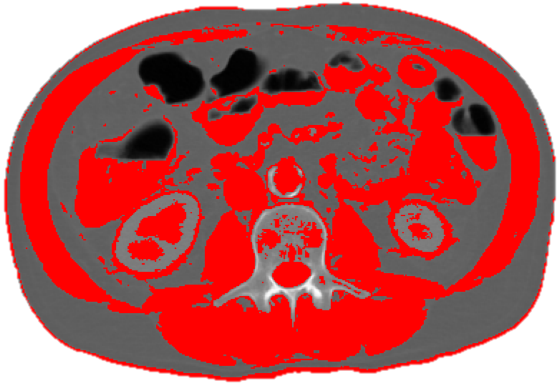
¿QUÉ ES PREHABILITACIÓN?

un elemento más de ERAS...

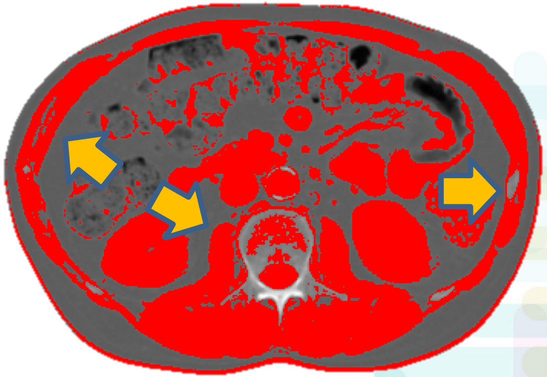


¿QUÉ BENEFICIOS TIENE?

Atenúa la pérdida de masa muscular

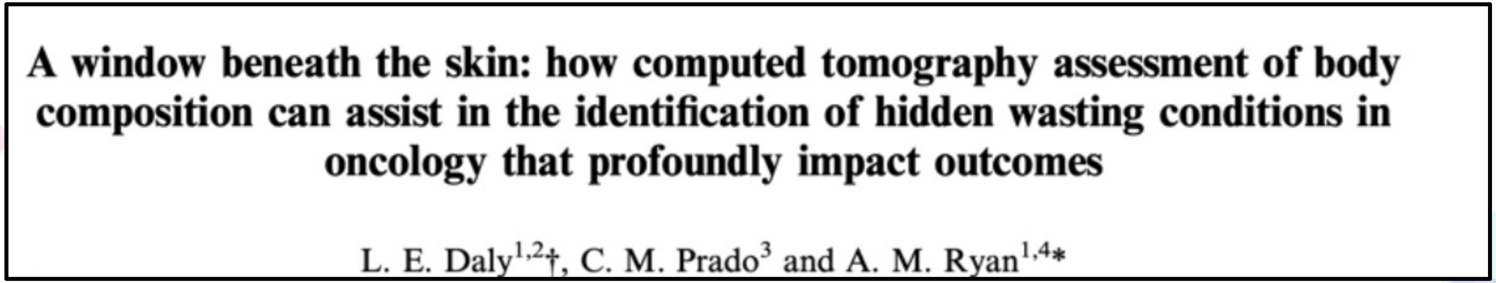


PreQx



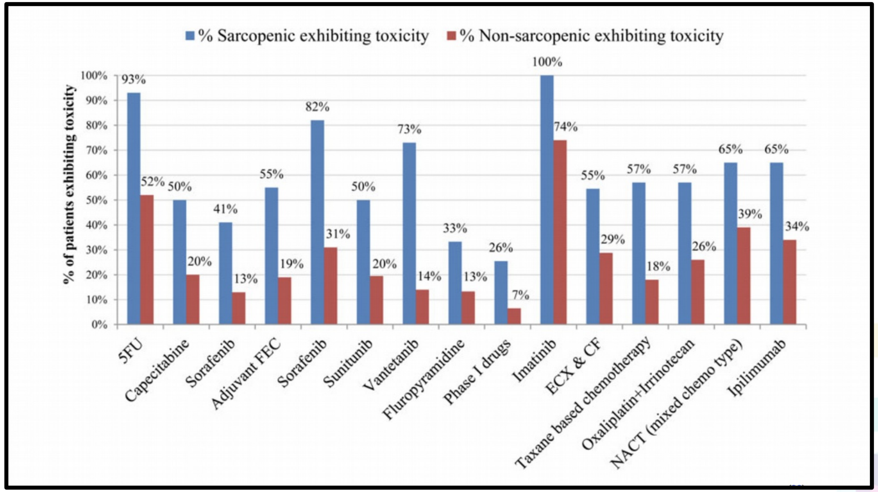
PostQx

Toxicidad a Quimioterapia

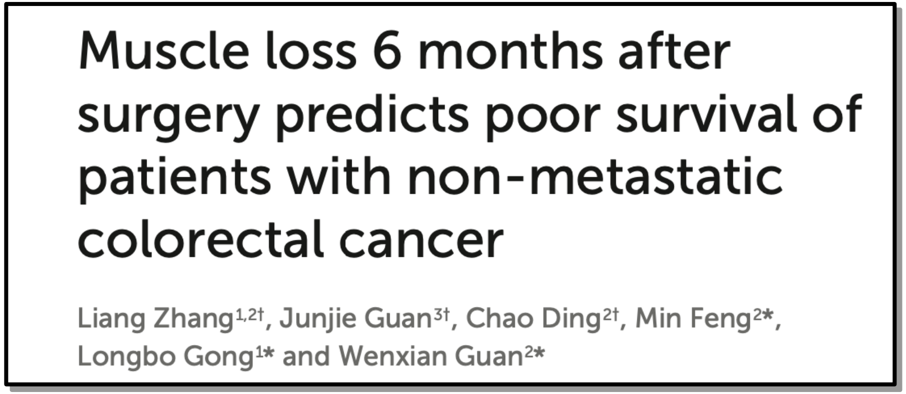


A window beneath the skin: how computed tomography assessment of body composition can assist in the identification of hidden wasting conditions in oncology that profoundly impact outcomes

L. E. Daly[1,2]†, C. M. Prado[3] and A. M. Ryan[1,4]*



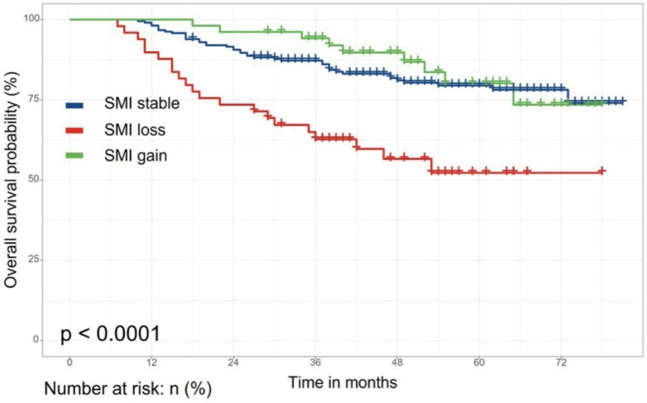
Cuestión de supervivencia

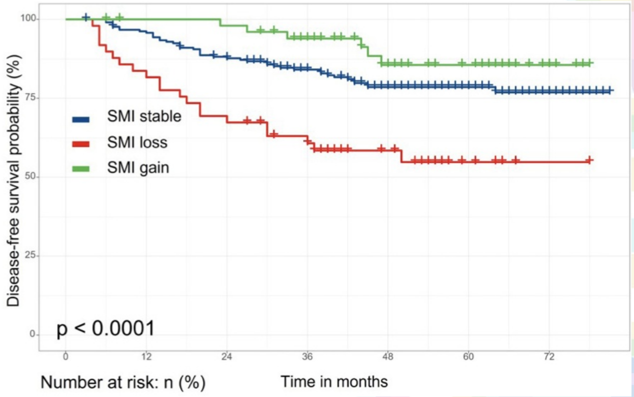


Muscle loss 6 months after surgery predicts poor survival of patients with non-metastatic colorectal cancer

Liang Zhang[1,2†], Junjie Guan[3†], Chao Ding[2†], Min Feng[2*], Longbo Gong[1*] and Wenxian Guan[2*]

10% pérdida masa muscular





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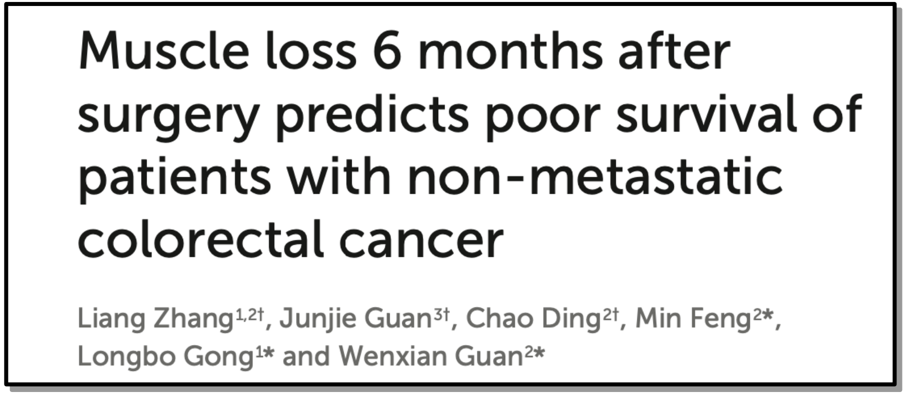
Cuestión de supervivencia



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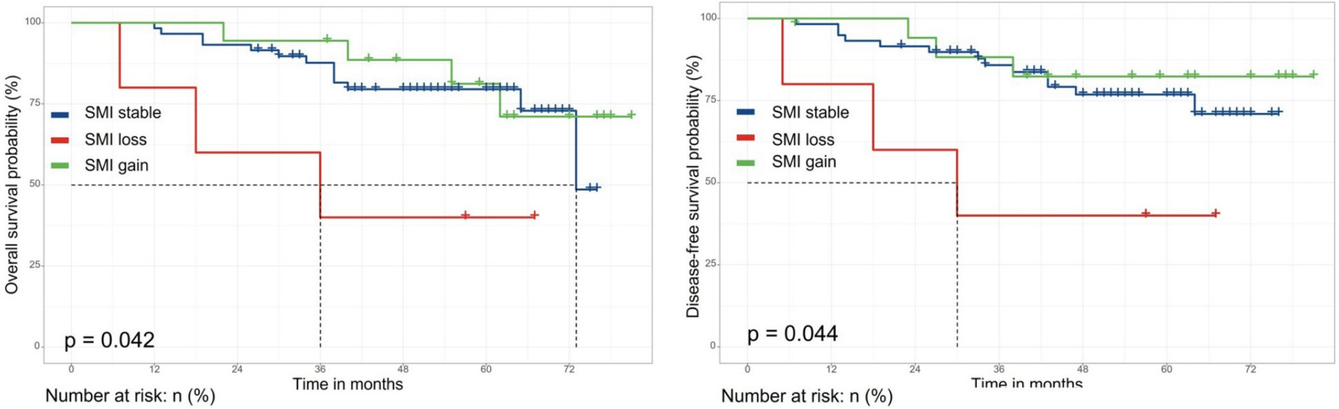

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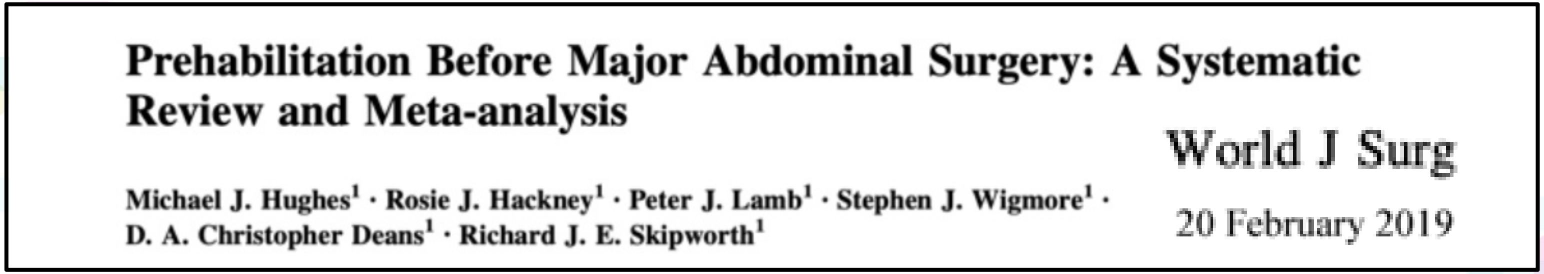
Mejora los resultados postoperatorios



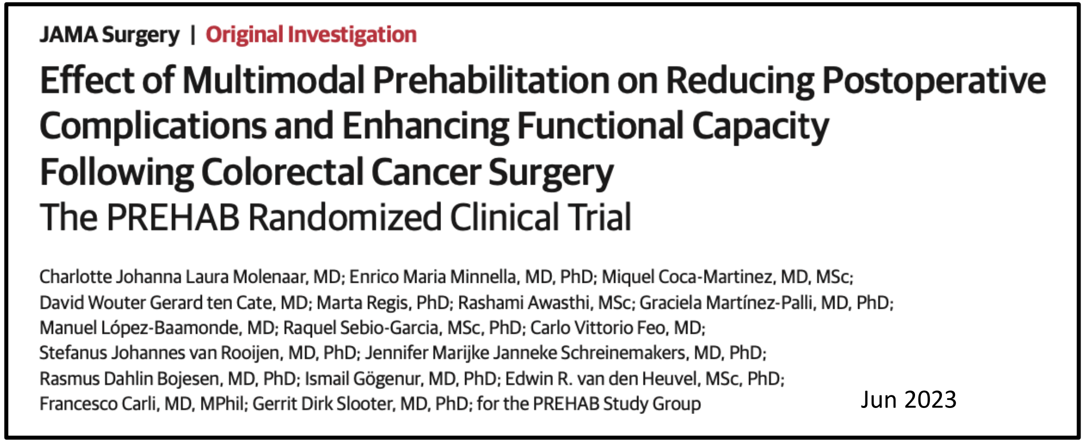
Prehabilitation Before Major Abdominal Surgery: A Systematic Review and Meta-analysis

Michael J. Hughes[1] · Rosie J. Hackney[1] · Peter J. Lamb[1] · Stephen J. Wigmore[1] · D. A. Christopher Deans[1] · Richard J. E. Skipworth[1]

World J Surg

20 February 2019

Prehabilitación → **OR 0.63 de Complicaciones postoperatorias**



JAMA Surgery | Original Investigation

Effect of Multimodal Prehabilitation on Reducing Postoperative Complications and Enhancing Functional Capacity Following Colorectal Cancer Surgery

The PREHAB Randomized Clinical Trial

Charlotte Johanna Laura Molenaar, MD; Enrico Maria Minnella, MD, PhD; Miquel Coca-Martinez, MD, MSc;
David Wouter Gerard ten Cate, MD; Marta Regis, PhD; Rashami Awasthi, MSc; Graciela Martínez-Palli, MD, PhD;
Manuel López-Baamonde, MD; Raquel Sebio-Garcia, MSc, PhD; Carlo Vittorio Feo, MD;
Stefanus Johannes van Rooijen, MD, PhD; Jennifer Marijke Janneke Schreinemakers, MD, PhD;
Rasmus Dahlin Bojesen, MD, PhD; Ismail Gögenur, MD, PhD; Edwin R. van den Heuvel, MSc, PhD;
Francesco Carli, MD, MPhil; Gerrit Dirk Slooter, MD, PhD; for the PREHAB Study Group

Jun 2023

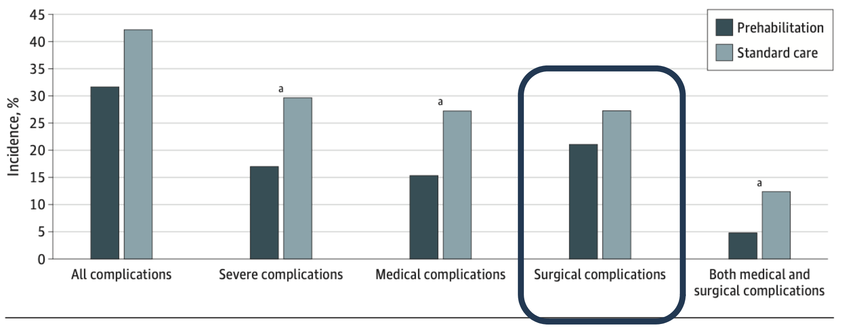


Figure 2. Complications Within 30 Days After Surgery

251 pacientes

Complicaciones severas

29,7% vs 17,1% (Grupo Pre)

OR=0,47

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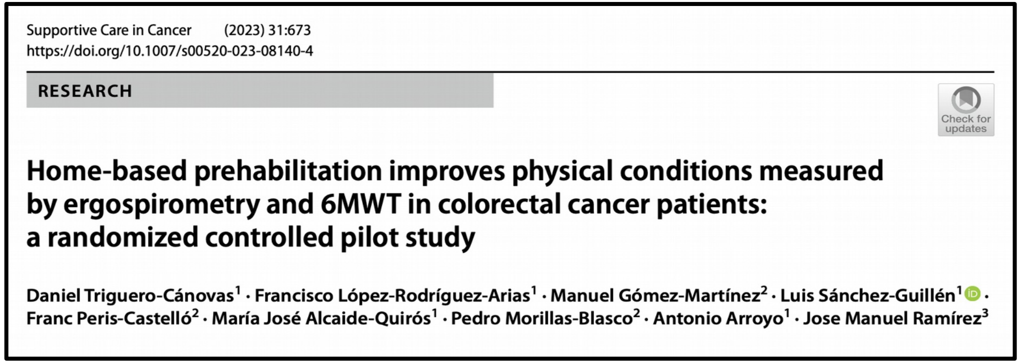
Atenúa pérdida de capacidad funcional



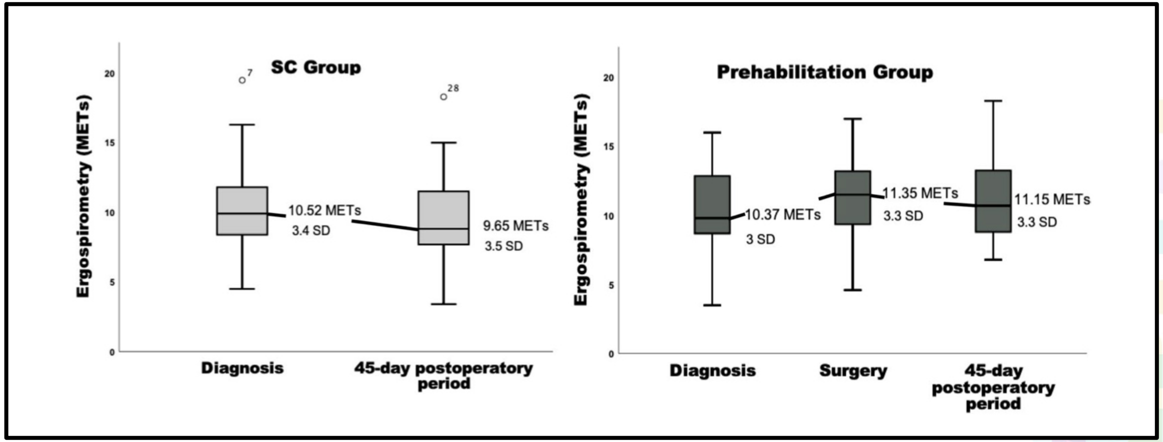
Supportive Care in Cancer (2023) 31:673
https://doi.org/10.1007/s00520-023-08140-4

RESEARCH

Check for updates

Home-based prehabilitation improves physical conditions measured by ergospirometry and 6MWT in colorectal cancer patients: a randomized controlled pilot study

Daniel Triguero-Cánovas[1] · Francisco López-Rodríguez-Arias[1] · Manuel Gómez-Martínez[2] · Luis Sánchez-Guillén[1] · Franc Peris-Castelló[2] · María José Alcaide-Quirós[1] · Pedro Morillas-Blasco[2] · Antonio Arroyo[1] · Jose Manuel Ramírez[3]



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¿Cómo diseñamos un programa de Prehabilitaci

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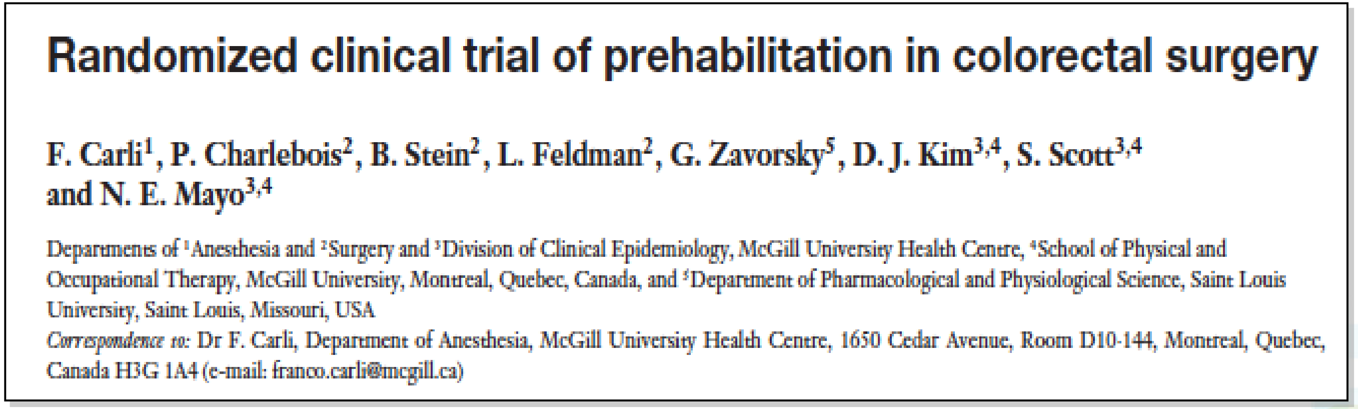
1. Controlar la adherencia



Randomized clinical trial of prehabilitation in colorectal surgery

F. Carli[1], P. Charlebois[2], B. Stein[2], L. Feldman[2], G. Zavorsky[5], D. J. Kim[3,4], S. Scott[3,4] and N. E. Mayo[3,4]

Departments of [1]Anesthesia and [2]Surgery and [3]Division of Clinical Epidemiology, McGill University Health Centre, [4]School of Physical and Occupational Therapy, McGill University, Montreal, Quebec, Canada, and [5]Department of Pharmacological and Physiological Science, Saint Louis University, Saint Louis, Missouri, USA

Correspondence to: Dr F. Carli, Department of Anesthesia, McGill University Health Centre, 1650 Cedar Avenue, Room D10-144, Montreal, Quebec, Canada H3G 1A4 (e-mail: franco.carli@mcgill.ca)

VS

Adaptar el programa...

Motivació
n

Dificulta
d

Protocolo de Ejercicio físico domiciliario

< 200 m
< 4 METs

❯ **Ejercicio aeróbico**:
30 min/dia (2,5 Km)

200-350 m
4-7 METs

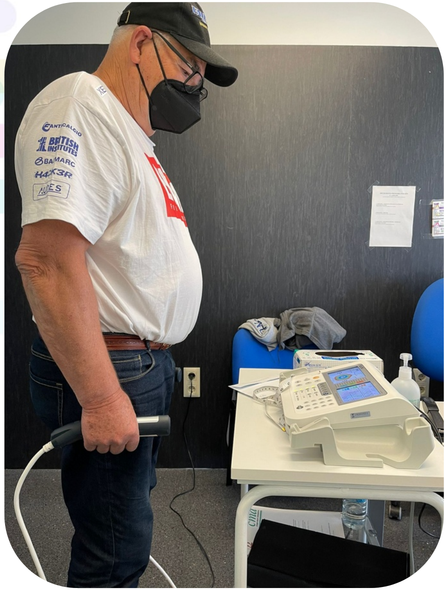
❯ **Ejercicio aeróbico**:
40 min/dia (3,5 Km)

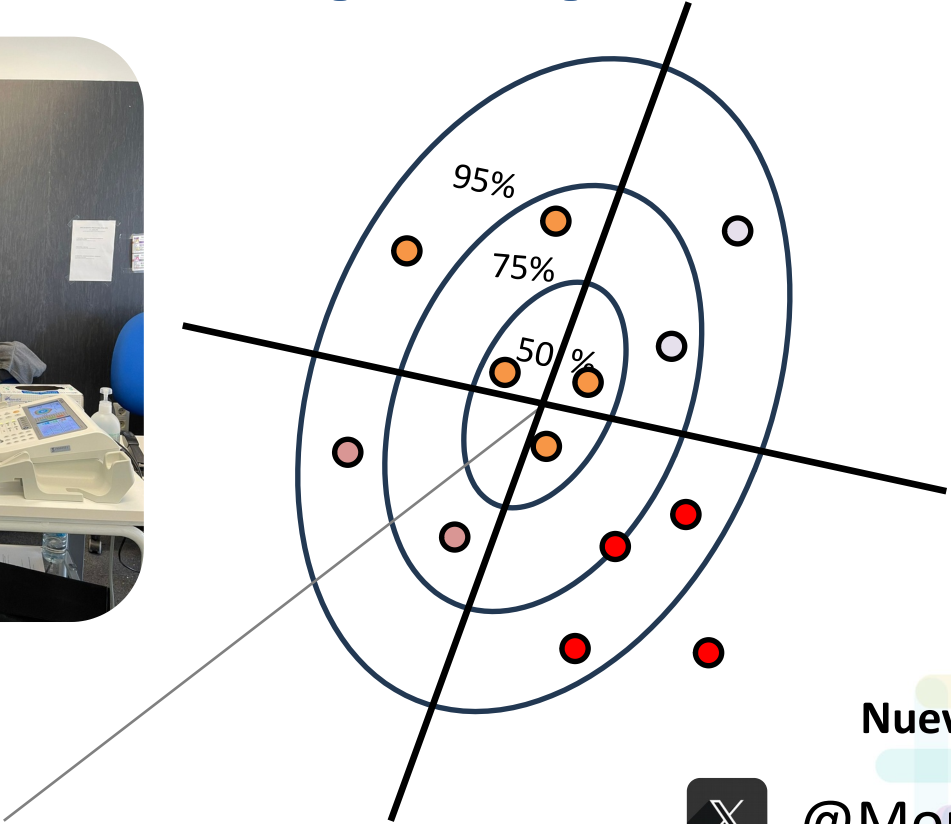
>350 m
>7 METs

❯ **Ejercicio aeróbico**:
50 min/dia (4,5 Km)

Ejercicios de resistencia: 3 sesiones/semana (20 minutos por sesión)
Ejercicios funcionales y de movilidad adaptados a la condición física del paciente. Incluye ejercicios de fisioterapia respiratoria.

2. Saber que queremos...



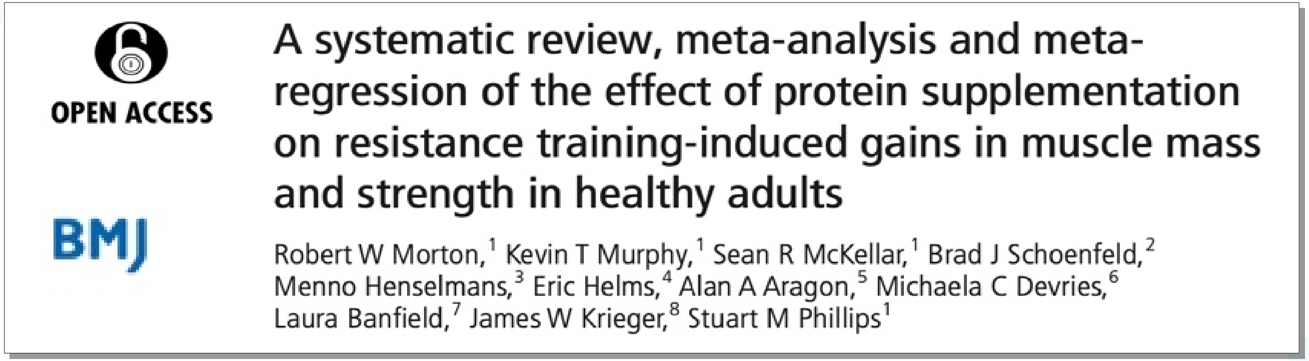


SMI (TAC)
Ángulo Fase
IMEa
Eco muscular
Dinamometría
T6M
Inflamación

Nuevo lenguaje!

@Morfofuncional

Proteínas y algo más…

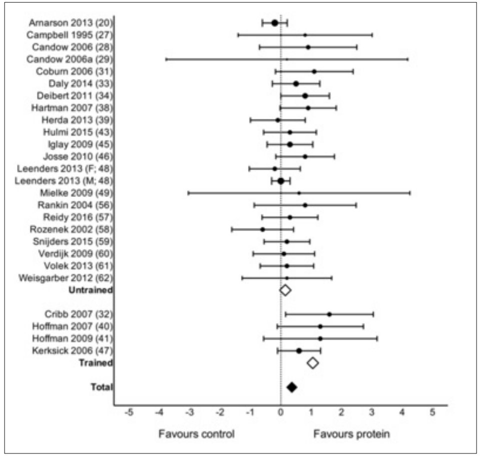


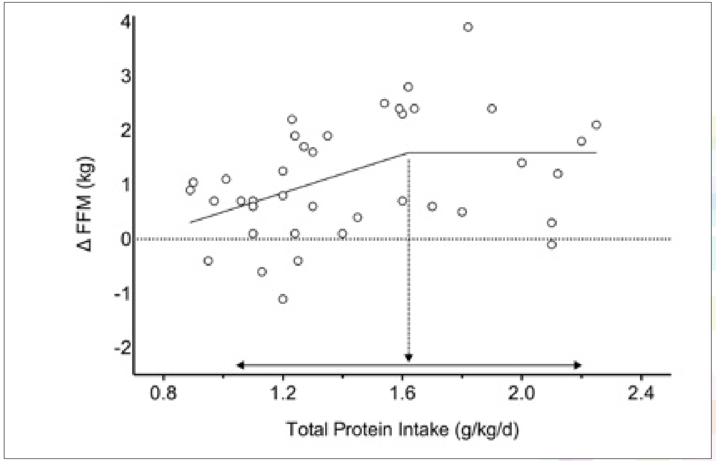
OPEN ACCESS

BMJ

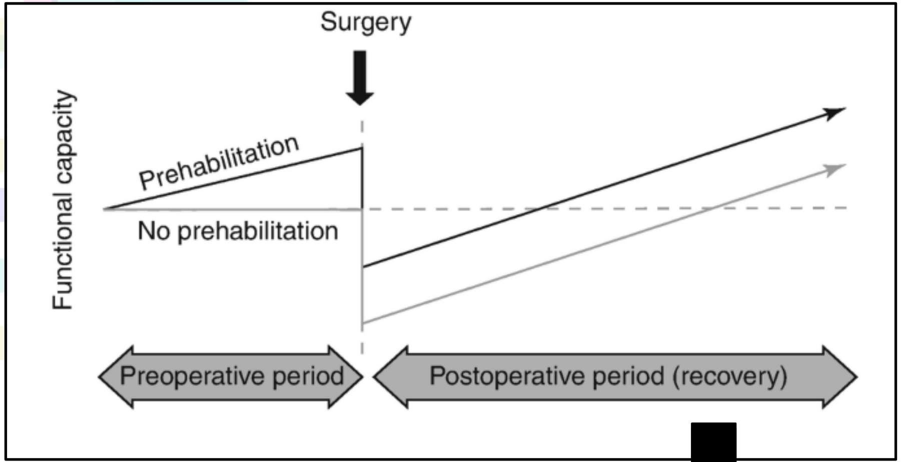
A systematic review, meta-analysis and meta-regression of the effect of protein supplementation on resistance training-induced gains in muscle mass and strength in healthy adults

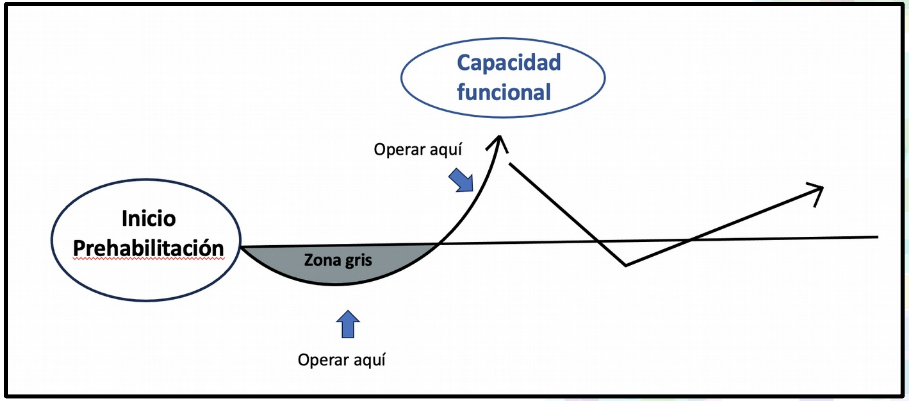
Robert W Morton,[1] Kevin T Murphy,[1] Sean R McKellar,[1] Brad J Schoenfeld,[2]
Menno Henselmans,[3] Eric Helms,[4] Alan A Aragon,[5] Michaela C Devries,[6]
Laura Banfield,[7] James W Krieger,[8] Stuart M Phillips[1]

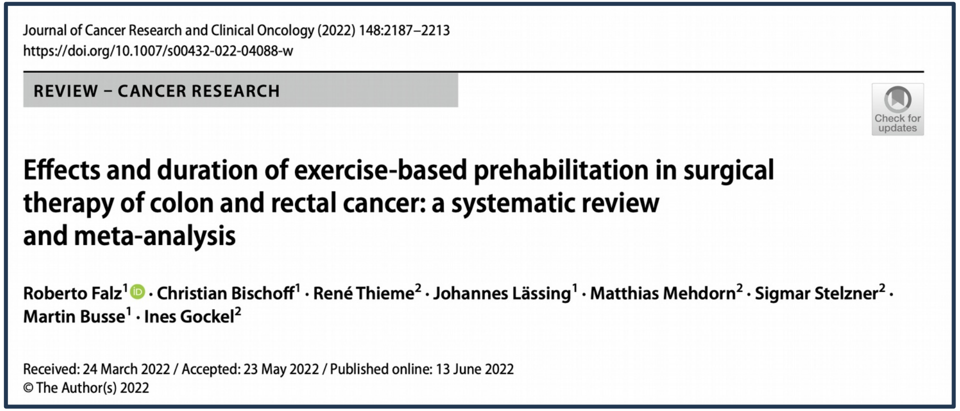




2. Control lista de espera


Surgery
Functional capacity
Prehabilitation
No prehabilitation
Preoperative period
Postoperative period (recovery)


Capacidad funcional
Operar aquí
Inicio Prehabilitación
Zona gris
Operar aquí



Journal of Cancer Research and Clinical Oncology (2022) 148:2187–2213
https://doi.org/10.1007/s00432-022-04088-w

REVIEW – CANCER RESEARCH

Check for updates

Effects and duration of exercise-based prehabilitation in surgical therapy of colon and rectal cancer: a systematic review and meta-analysis

Roberto Falz[1] · Christian Bischoff[1] · René Thieme[2] · Johannes Lässing[1] · Matthias Mehdorn[2] · Sigmar Stelzner[2] · Martin Busse[1] · Ines Gockel[2]

Received: 24 March 2022 / Accepted: 23 May 2022 / Published online: 13 June 2022
© The Author(s) 2022

<3 semanas

VS

≥3 semanas

T6M 13 m
OR 1.6 (0.76-2.67)

T6M 33 m
OR 0.66 (0.4 - 1.1)

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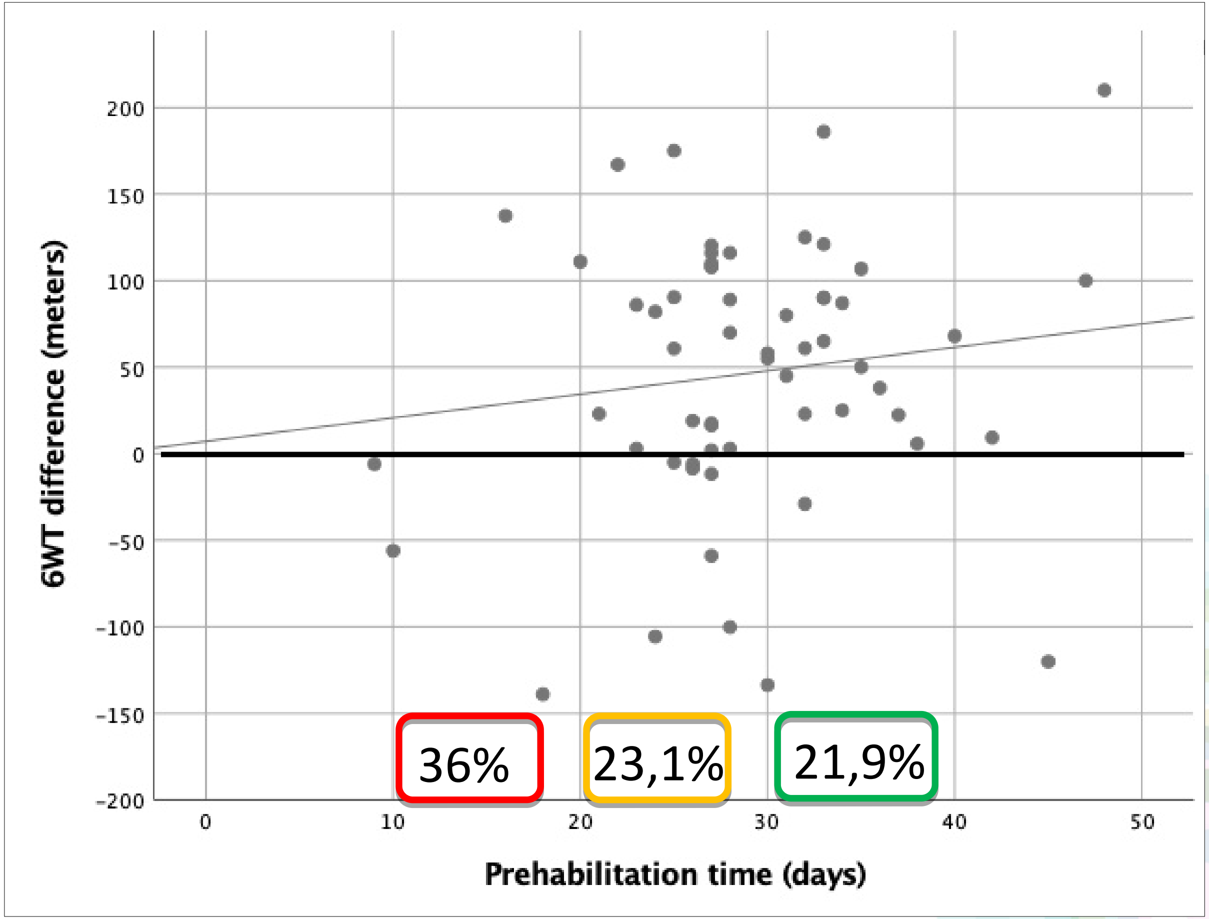

28% sin Prehabilitación

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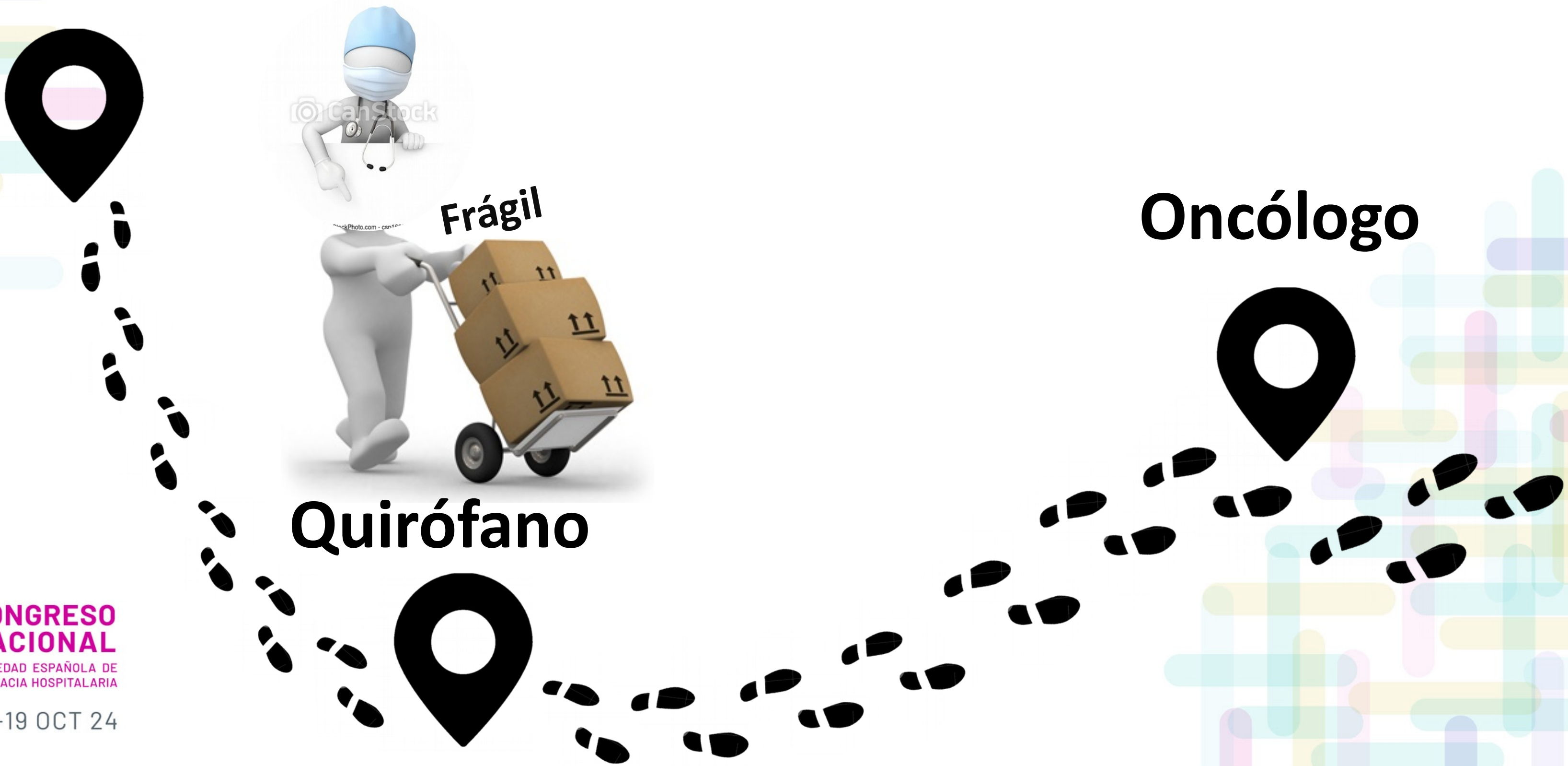
4. Continuidad...



Diagnóstico

Frágil

Quirófano

Oncólogo

Equipo Multidisciplinar

Cirujanos

Anestesistas

Fisioterapeutas

Nutricionistas

Psicólogos

Enfermería

A. Primaria

Prehabilitación

WELCOME TO THE TEAM

Farmacéuticos

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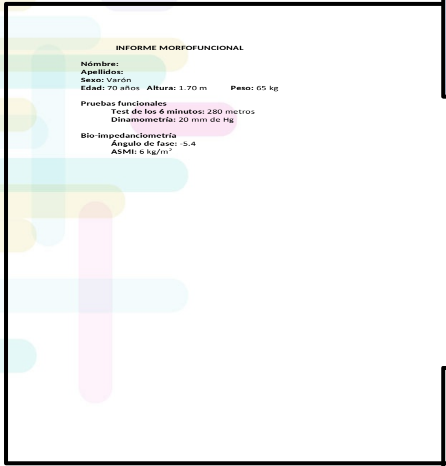
Sociedad Española
de Farmacia Hospitalaria

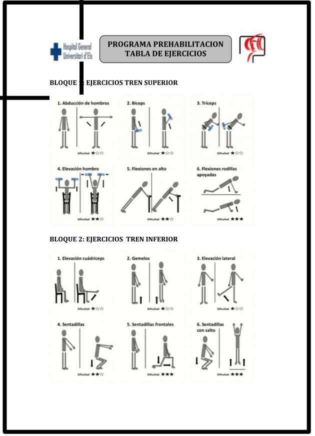
FECHA
SURGERY


INFORME MORFOFUNCIONAL

Nómbre:
Apellidos:
Sexo: Varón
Edad: 70 años **Altura:** 1.70 m **Peso:** 65 kg

Pruebas funcionales
Test de los 6 minutos: 280 metros
Dinamometría: 20 mm de Hg

Bio-impedanciometría
Ángulo de fase: -5.4
ASMI: 6 kg/m²


Hospital General Universitari d'Elx

PROGRAMA PREHABILITACION
TABLA DE EJERCICIOS

BLOQUE 1: EJERCICIOS TREN SUPERIOR

1. Abducción de hombros — Dificultad ★☆☆
2. Biceps — Dificultad ★☆☆
3. Tríceps — Dificultad ★☆☆
4. Elevación hombro — Dificultad ★★☆
5. Flexiones en alto — Dificultad ★★☆
6. Flexiones rodillas apoyadas — Dificultad ★★★

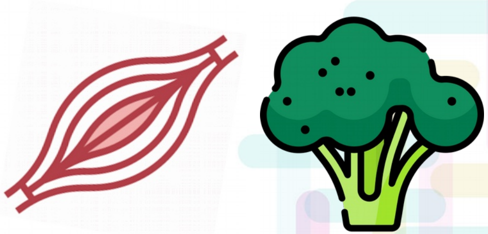
BLOQUE 2: EJERCICIOS TREN INFERIOR

1. Elevación cuádriceps — Dificultad ★☆☆
2. Gemelos — Dificultad ★☆☆
3. Elevación lateral — Dificultad ★☆☆
4. Sentadillas — Dificultad ★★☆
5. Sentadillas frontales — Dificultad ★★★
6. Sentadillas con salto — Dificultad ★★★

Información

Toma de decisiones

Farmacéuticos



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SOCIEDAD ESPAÑOLA DE FARMACIA HOSPITALARIA
A CORUÑA 17-19 OCT 24

ABRAZANDO LA EXCELENCIA · FARMACIA 360° · CUIDANDO EN TODAS LAS DIRECCIONES

A CORUÑA
17-19 OCT 24

Gracias por su atención

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