TUMORE COLORETTALE: ATTIVITA' FISICA E RIABILITAZIONE

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La riabilitazione oncologica

«La riabilitazione oncologica è un processo terapeutico con lo scopo di ottimizzare la qualità della vita del paziente, aiutando lui e la sua famiglia ad adattarsi a standard di vita quanto più simili a quelli precedenti la malattia, con l'obiettivo di limitare al minimo la disabilità fisica, il deficit funzionale, cognitivo e psicologico, che spesso si manifesta a seguito del tumore o delle terapie ad esso correlate»

(Kaplan RJ. 2005 Cancer and rehabilitation)

La riabilitazione oncologica

Limitare il deficit fisico, cognitivo e psicologico e potenziando le capacità funzionali residue

Pazienti oncologici….quale futuro?

questione inevitabile e prioritaria, che coinvolge

- ✓ la comunità sanitaria e scientifica
- ✓ l'ambito sociofamiliare ed occupazionale

La qualità della vita delle persone e delle loro famiglie deve ritenersi un bene sociale, da quantificare come tale.

La riabilitazione va intesa quindi come **investimento** per la società, piuttosto che come costo sociale, in quanto salvaguarda un patrimonio di esperienze umane, professionali, culturali e di potenzialità lavorativa che altrimenti andrebbe definitivamente perduto .

La riabilitazione oncologica

Cochrane Library

Cochrane Database of Systematic Reviews

Multidimensional rehabilitation programmes for adult cancer survivors (Review)

Scott DA, Mills M, Black A, Cantwell M, Campbell A, Cardwell CR, Porter S, Donnelly M

Considerazioni epidemiologiche

Terapie oncologiche efficaci e programmi di screening oncologici hanno portato a:

- Riduzione progressiva di mortalià
- Aumento di persone guarite o con malattia in fase di cronicizzazione (“lungosopravviventi”)

Classificazione delle disabilità

Disabilità associate alle neoplasie

- Comuni a tutti i tumori
- Organo-specifiche (*Schieroni ai al 2005*)

Cause

✓ tumore

✓ terapie antitumorali

Long term disabilities

Oncology Research and Treatment

Review Article

Oncol Res Treat 2017;40:772–777
DOI: 10.1159/000481709

Oncological Rehabilitation

Oliver Rick[a] Timm Dauelsberg[b] Eva-Maria Kalusche-Bontemps[c]

Le **terapie**, a volte più della malattia stessa , sono fonte di disabilità e una vera presa in carico globale del paziente non può prescindere dal prendersene cura

Table 2. Long-term disabilities of cancer therapy [9]

Psychological consequences
Anxiety and depression
Sleep disorder
Increased self-monitoring
Loss of self-esteem
Fear of relapse
Fatigue
Cognitive functional limitations
Social consequences
Social isolation and loneliness
Occupational/financial disadvantages
Unemployment
(Functional) limitations due to disease/therapy
Movement disorders of the joints after surgery or radiotherapy
Paresthesia
Cognitive functional limitations
Sexual dysfunctions
Lymphedemas
Respiratory dysfunctions
Reduction of physical fitness
Nutrition disorders
Incontinence/stoma dysfunctions
Speech disorders
Secondary diseases
Osteoporosis
Metabolic syndrome
Diabetes mellitus
Cardiovascular diseases (coronary heart disease, cardiomyopathy)
Secondary tumors

La presa in carico riabilitativa della persona affetta da tumore

APPROCCIO MULTIDISCIPLINARE

- FISIOTERAPIA
- ERGOTERAPIA
- PSICOTERAPIA
- CONSULENZA SOCIALE
- CORRETTI STILI DI VITA
  - ✓ DIETA
  - ✓ **ATTIVITA' FISICA**
- CURE PALLIATIVE
- TERAPIE COMPLEMENTARI

Fasi d'intervento riabilitativo

La malattia oncologica è per natura complessa, dinamica, mutevole

➔ Gli obiettivi riabilitativi possono cambiare nel tempo

Filosofia delle cure centrate sul paziente

Concetto di **cure simultanee**: ottica di condivisione delle competenze e delle conoscenze

Fasi d'intervento riabilitativo

Secondo il modello *Simultaneous Care*

"la Riabilitazione in oncologia ha un ruolo dalla diagnosi a tutto il tempo della vita"

Figura 1. Modello *simultaneous care* di presa in carico del malato oncologico.

Diagnosi	Potenzialmente guaribile	Non guaribile	Terminale
Terapie antitumorali			
Cure di supporto e palliative			
Riabilitazione			

Fasi d'intervento riabilitativo

Tabella I. — Linee guida sulla Riabilitazione nei pazienti oncologici.

Fase del tumore	Bisogni del paziente	Sintomi	Impatto dei sintomi sulle capacità
I. Pretrattamento e valutazione	– Informazioni sulle opzioni di trattamento e sulla prognosi	– Dolore – Ansia – Depressione	– Routine quotidiana Sonnolenza/ Fatigue
II. Trattamento	– Informazioni – Supporto – Interventi riabilitativi – Aiuto nelle attività quotidiane Attività lavorative, domestiche, ecc.	– Dolore – Ansia – Perdità di mobilità – Ferite chirurgiche/cura della cute Turbe della parola e della deglutizione	– Routine quotidiana Sonnolenza/ ridotta resistenza Cosmesi – Cura di sè – Comunicazione
Post-trattamentdesiti	– Supporto – Interventi di riabilitazione	– Dolore/debolezza Ansia/depressione Perdità di mobilità Edema – Fatigue/Ridotta resistenza	– Sonnolenza/Fatigue – Attività della vita quotidiana – Attività lavorative e del tempo – libero Cosmesi
Ripresa di malattia	– Interventi educativi – Supporto – Interventi di riabilitazione	– Dolore/debolezza – Ansia/depressione – Fatigue/ridotta resistenza Edema – Fragilità ossea – Anoressia	– Sonnolenza/Fatigue – Disabilità – Interruzione delle attività – quotidiane, occupazionali, – lavorative e del tempo libero Attività lavorative e del tempo – libero Cosmesi
Fase terminale	– Interventi educativi – Terapia di supporto – Riabilitazione palliativo	– Dolore – Fatigue – Anoressia	– Non autosufficienza Immobilità

Classificazione dell'American Cancer Society, 2001[7] con traduzione liberamente modificata dagli autori.

Lo studio CAN-HOPE

Ann Behav Med. 2005 Apr;29(2):147-53.

A longitudinal study of exercise barriers in colorectal cancer survivors participating in a randomized controlled trial.

Courneya KS[1], Friedenreich CM, Quinney HA, Fields AL, Jones LW, Vallance JK, Fairey AS.

- Faculty of Physical Education, University of Alberta, Edmonton, Canada. kerry.courneya@ualberta.ca

Lo studio CAN-HOPE è stato il primo a valutare gli effetti dell'attività fisica sui pz trattati per neoplasia colon-rettale.

I risultati evidenziano un aumento della condizione di benessere nel gruppo sperimentale, associato a miglioramenti nella funzionalità psico-sociale e nella QOL.

Support Care Cancer (2018) 26:393–403
https://doi.org/10.1007/s00520-017-3920-4

REVIEW ARTICLE

The effect of physical activity on fatigue among survivors of colorectal cancer: a systematic review and meta-analysis

D. Brandenbarg[1] · J. H. W. M. Korsten[1] · M. Y. Berger[1] · A. J. Berendsen[1]

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Abstract

Purpose Favorable health outcomes among cancer survivors are increasingly being attributed to lifestyle factors like physical activity, which is now promoted in clinical guidelines. However, the available evidence indicates that physical activity may also reduce fatigue in this patient group. In this systematic review, we aimed to examine whether physical activity could reduce fatigue among survivors of colorectal cancer.

Methods The databases of Medline, CINAHL, and PsycINFO were systematically searched, using combinations of MeSH and free-text terms for colorectal cancer, physical activity, and

Conclusions Based on the data reviewed, we cannot draw definitive conclusions about the effects of physical activity on fatigue. None of the included studies were performed among fatigued survivors of colorectal cancer. More research is needed in this population, ensuring that the trials are appropriately powered to find differences in fatigue.

Keywords Colorectal neoplasms · Fatigue · Exercise · Survivors · Physical activity

The effect of physical activity on fatigue among survivors of colorectal cancer: a systematic review and meta-analysis

D. Brandenbarg[1] · J. H. W. M. Korsten[1] · M. Y. Berger[1] · A. J. Berendsen[1]

Table 3 Baseline

Study		Baseline characteristics					Fatigue outcome (FACT-F score), mean (SD)			
		Intervention		Control			Intervention		Control	
Bourke et al.	Age, mean (SD)	67.9	(5.7)	70.3	(8.7)	Baseline	43	(7)	42	(9)
	% female	44.4		22.2		12 weeks	48	(4)	43	(6)
	Time since treatment (months)	16.4		16.7						
Courneya et al.	Age, mean (SD)	59.92	(10.73)	61.13	(9.93)	Baseline	38.9[a]	(10.1)	40.1[a]	(10.8)
	% female	45.2		35.5		16 weeks	39.3[a]	(10.9)	39.9[a]	(10.8)
	Time since treatment (days)	74.65	(34.02)	71.65	(18.08)					
	Moderate exercise (min/week)[c]	68.87	(97.57)	77.98	(137.01)					
Cramer et al.	Age, mean (SD)	68.70	(9.13)	67.81	(10.37)	Baseline	42.70	(9.19)	40.13	(7.72)
	% female	37.0		40.7		10 weeks	43.02	(6.52)	40.45	(8.04)
	Tim					22 weeks	43.12	(7.28)	40.10	(9.46)
Hawkes et al.	Age					Baseline	38.5	(10.7)	39.7	(9.9)
	% fe					6 month				)
	Tim					12 mont				)
	MV									
Pinto et al.	Age					Baseline				.6)
	% fe					3 month				)
	Tim					6 month				)
	PA r					12 mont				)

[a] Recalculated
[b] Adjusted group means
[c] Total recalled exercise m
[d] Moderate-to-vigorous ex
[e] Weekly minutes of recall

Physical activity interventions

Interventions in the included RCTs (Table 2) ranged from 10 weeks to 36 months, with a median duration of 13 weeks. Three interventions were home-based, requiring participants to exercise themselves, and focused on either moderate cardiovascular activity for up to 30 min 3–5 times per week [25, 28] or encouraging participants to increase their annual number of steps walked to 10,000 [27]. To enhance adherence, the home-based programs used monitoring or counseling telephone calls. The other two interventions consisted of supervised exercise sessions combined with advice for participants to exercise in their own time [26, 30]. One intervention involved a combination of cardiovascular exercise and resistance training [26], whereas the other consisted of traditional hatha yoga [30]. In most of the studies, controls received care as usual, but, in one case, this was supplemented by weekly

I gruppi di pazienti che hanno sperimentato attività fisica presentano livelli di fatigue inferiori

All'aumento dell'intensità dell'attività fisica corrisponde una maggiore riduzione della fatigue

Nutrition and Physical Activity During and After Cancer Treatment: An American Cancer Society Guide for Informed Choices

Colleen Doyle, MS, RD; Lawrence H. Kushi, ScD; Tim Byers, MD, MPH; Kerry S. Courneya, PhD; Wendy Demark-Wahnefried, PhD, RD, LDN; Barbara Grant, MS, RD; Anne McTiernan, MD, PhD; Cheryl L. Rock, PhD, RD; Cyndi Thompson, PhD; Ted Gansler, MD, MBA; Kimberly S. Andrews; for The 2006 Nutrition, Physical Activity and Cancer Survivorship Advisory Committee

ABSTRACT Cancer survivors are often highly motivated to seek information about food choices, physical activity, and dietary supplement use to improve their treatment outcomes, quality of life, and survival. To address these concerns, the American Cancer Society (ACS)

Riduzione delle complicante/tossicità correlate alla chemioterapia e alla radioterapia:

- ✓ riduzione dei disturbi gastro-intestinali
- ✓ riduzione della nausea
- ✓ riduzione dell’astenia
- ✓ riduzione delle miopatie e delle neuropatie

J Clin 2006;56:323–353.) *© American Cancer Society, Inc., 2006.*

STUDY PROTOCOL Open Access

Exercise during and after neoadjuvant rectal cancer treatment (the EXERT trial): study protocol for a randomized controlled trial

Andria R. Morielli[1], Nawaid Usmani[2], Normand G. Boulé[1], Diane Severin[2], Keith Tankel[2], Tirath Nijjar[2], Kurian Joseph[2], Alysa Fairchild[2] and Kerry S. Courneya[1*]

Abstract

Background: Standard treatment for locally advanced rectal cancer includes 5–6 weeks of neoadjuvant chemoradiotherapy (NACRT) followed by total mesorectal excision 6–8 weeks later. NACRT improves local disease control and surgical outcomes but also causes side effects including fatigue, diarrhea, hand-foot syndrome, and physical deconditioning that may impede quality of life (QoL), treatment completion, treatment response, and long-term prognosis. Interventions to improve treatment outcomes and manage side effects that are safe, tolerable and low-cost are highly desirable. Exercise has been shown to improve some of these outcomes in other cancer patient groups but no study to date has examined the potential benefits (and harms) of exercise training during and after NACRT for rectal cancer.

Methods/design: The Exercise During and After Neoadjuvant Rectal Cancer Treatment (EXERT) trial is a single-center, prospective, two-armed, phase II randomized controlled trial designed to test the preliminary efficacy of exercise training in this clinical setting and to further evaluate its feasibility and safety. Participants will be 60 rectal cancer patients scheduled to receive long-course NACRT followed by total mesorectal excision. Participants

Riduzione delle complicanze a livello loco-regionale della radioterapia

in the usual care group will be asked not to increase their exercise from baseline. Assessments will be completed pre NACRT, post NACRT, and pre-surgery. The primary endpoint will be cardiorespiratory fitness (VO2 peak) at the post

Miglioramento dell'efficacia del trattamento

asse

Can

endpoints will include treatment toxicities, treatment completion, treatment response, and surgical complications.

Discussion: If the preliminary findings of EXERT are positive, additional research will be warranted to confirm whether exercise is an innovative treatment to maintain QoL, manage side effects, and/or improve treatment

STUDY PROTOCOL Open Access

Multimodal prehabilitation in colorectal cancer patients to improve functional capacity and reduce postoperative complications: the first international randomized controlled trial for multimodal prehabilitation

Stefanus van Rooijen[1], Francesco Carli[2], Susanne Dalton[3], Gwendolyn Thomas[1], Rasmus Bojesen[4], Morgan Le Guen[5], Nicolas Barizien[6], Rashmi Awasthi[2], Enrico Minnella[2], Sandra Beijer[7], Graciela Martinez-Palli[8], Rianne van Lieshout[9], Ismayil Gögenur[4], Carlo Feo[10], Christoffer Johansen[3,11], Celena Scheede-Bergdahl[6,12], Rudi Roumen[1], Goof Schep[13] and Gerrit Slooter[1,14*]

Abstract

Background: Colorectal cancer (CRC) is the second most prevalent type of cancer in the world. Surgery is the only curative option. However, postoperative complications occur in up to 50% of patients and are associated with

Un allenamento specifico prima del trattamento riduce le complicanze della chirurgia, la degenza in ospedale e migliora la ripresa post terapia.

patients' functional capacity and postoperative complications.

Methods/design: This international multicenter, prospective, randomized controlled trial will include 714 patients undergoing colorectal surgery for cancer. Patients will be allocated to the intervention group, which will receive 4 weeks of prehabilitation (group 1, prehab), or the control group, which will receive no prehabilitation (group 2, no prehab). Both groups will receive perioperative care in accordance with the enhanced recovery after surgery (ERAS) guidelines. The primary outcomes for measurement will be functional capacity (as assessed using the six-minute walk test (6MWT)) and postoperative status determined with the Comprehensive Complication Index (CCI). Secondary outcomes will include HRQoL, length of hospital stay (LOS) and a cost-effectiveness analysis.

(Continued on next page)

ATTIVITA' FISICA E PROGNOSI

VOLUME 24 · NUMBER 22 · AUGUST 1 2006

JOURNAL OF CLINICAL ONCOLOGY

ORIGINAL REPORT

Physical Activity and Survival After Colorectal Cancer Diagnosis

Jeffrey A. Meyerhardt, Edward L. Giovannucci, Michelle D. Holmes, Andrew T. Chan, Jennifer A. Chan, Graham A. Colditz, and Charles S. Fuchs

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Authors' disclosures of potential conflicts of interest and author contributions are found at the end of this article.

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A B S T R A C T

Purpose
Physically active individuals have a lower risk of developing colorectal cancer but the influence of exercise on cancer survival is unknown.

Patients and Methods
By a prospective, observational study of 573 women with stage I to III colorectal cancer, we studied colorectal cancer–specific and overall mortality according to predefined physical activity categories before and after diagnosis and by change in activity after diagnosis. To minimize bias by occult recurrences, we excluded women who died within 6 months of their postdiagnosis physical activity assessment.

Results
Increasing levels of exercise after diagnosis of nonmetastatic colorectal cancer reduced cancer-specific mortality (*P* for trend = .008) and overall mortality (*P* for trend = .003). Compared with women who engaged in less than 3 metabolic equivalent task [MET] -hours per week of physical activity, those engaging in at least 18 MET-hours per week had an adjusted hazard ratio for colorectal cancer–specific mortality of 0.39 (95% CI, 0.18 to 0.82) and an adjusted hazard ratio for overall mortality of 0.43 (95% CI, 0.25 to 0.74). These results remained unchanged even after excluding women who died within 12 and 24 months of activity assessment. Prediagnosis physical activity was not predictive of mortality. Women who increased their activity (when comparing prediagnosis to postdiagnosis values) had a hazard ratio of 0.48 (95% CI, 0.24 to 0.97) for colorectal cancer deaths and a hazard ratio of 0.51 (95% CI, 0.30 to 0.85) for any-cause death, compared with those with no change in activity.

Conclusion

ATTIVITA' FISICA E PROGNOSI

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ORIGINAL REPORT

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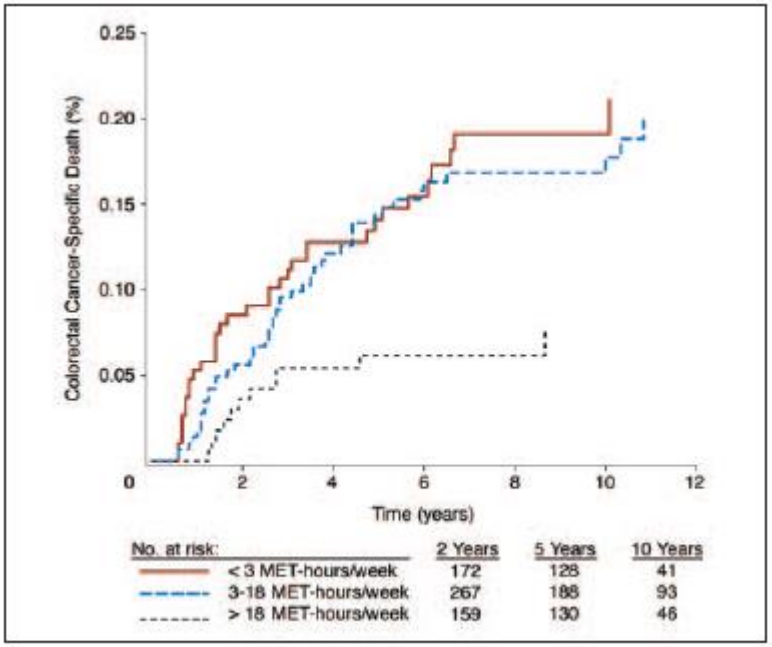

Fig 1. Cumulative incidence curve of colorectal cancer–specific deaths by level of postdiagnosis physical activity. MET, metabolic equivalent task.

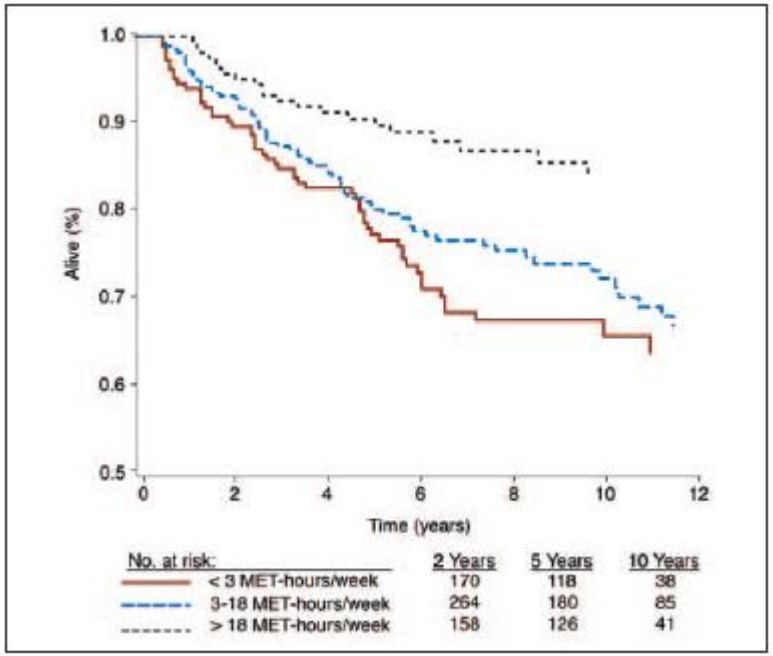

Fig 2. Kaplan and Meier curve of overall survival by level of postdiagnosis physical activity. MET, metabolic equivalent task.

Curr Colorectal Cancer Rep (2017) 13:370–401
DOI 10.1007/s11888-017-0386-1

Lifestyle after Colorectal Cancer Diagnosis in Relation to Survival and Recurrence: A Review of the Literature

Moniek van Zutphen[1] · Ellen Kampman[1] · Edward L. Giovannucci[2] · Fränzel J. B. van Duijnhoven[1]

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Abstract
Purpose of Review This review summarizes the evidence regarding diet, physical activity, smoking, and body composition after colorectal cancer (CRC) diagnosis in relation to all-cause and CRC-specific mortality and disease recurrence and gives suggestions for future research directions.
Recent Findings Overall, this review suggests that some, albeit not all, of the well-known modifiable risk factors for cancer incidence might also be associated with CRC survival. CRC prognosis appears to be worse with increased physical inactivity, smoking, or being underweight after CRC diagnosis. Emerging evidence suggests that diets associated with a positive energy balance, e.g., high consumption of sugar-sweetened beverages, may negatively impact survival in CRC survivors. In contrast, there is currently little evidence to support the recommendation to limit red and processed meat or alcohol intake after CRC diagnosis. Whether being overweight and obese after CRC diagnosis improves or worsens CRC prognosis remains controversial and may depend on the measure used to assess body fatness.
Summary Further research on post-diagnosis lifestyle patterns is needed to understand the multifactorial influence on CRC prognosis. Disease recurrence and the development of comorbidities should be included as key outcomes in future studies and lifestyle should preferably be repeatedly measured.

Keywords Colorectal cancer · Survival · Lifestyle · Diet · Alcohol · Physical activity · Sedentary behavior · Smoking · Body composition · Body mass index

Introduction

Diet, physical activity, smoking, alcohol, and body weight are

Curr Colorectal Cancer Rep (2017) 13:370–401
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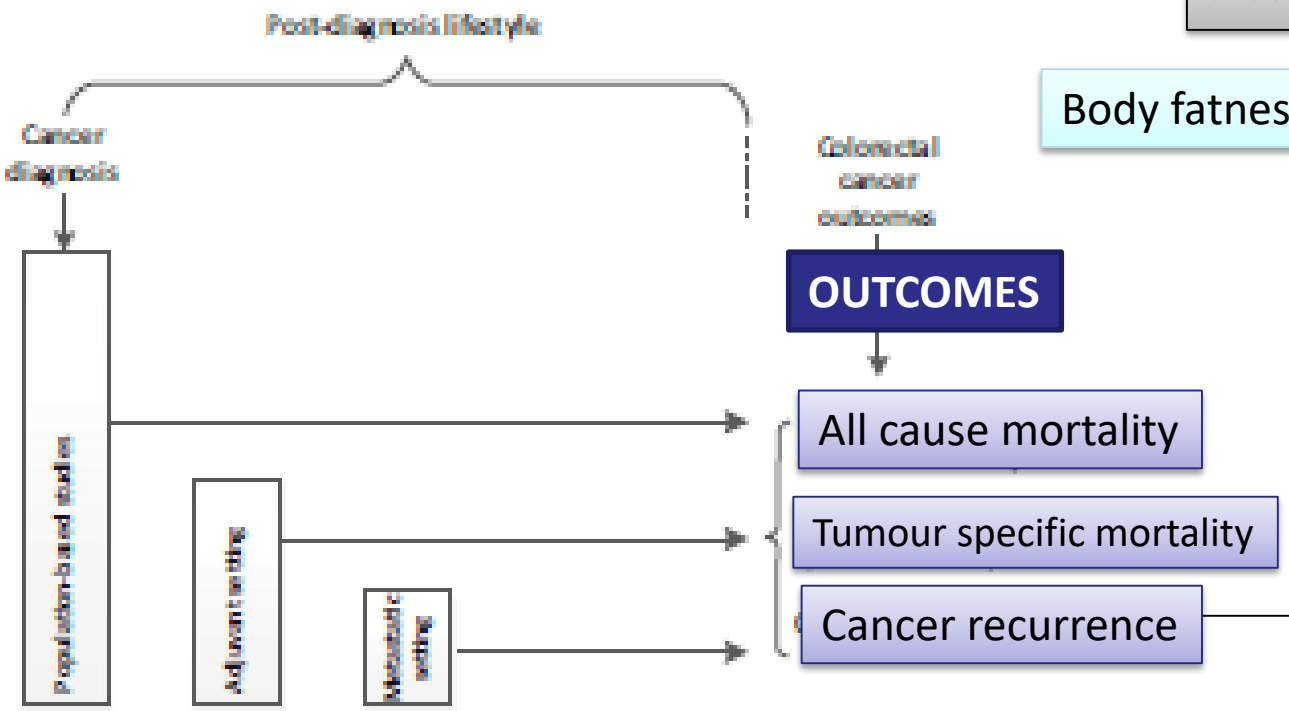
NUTRITION AND NUTRITIONAL INTERVENTIONS IN COLORECTAL CANCER (K WU, SECTION EDITOR)

Lifestyle after Colorectal Cancer Diagnosis in Relation to Survival and Recurrence: A Review of the Literature

Moniek van Zutphen[1] · Ellen Kampman[1] · Edward L. Giovannucci[2] · Fränzel J. B. van Duijnhoven[1]



Physical activity

Body fatness and body composition

Body mass index

Visceral adipose tissue

Skeletal Muscle mass

ATTIVITA' FISICA: il razionale

- Impatto sul sistema cardio-vascolare: riduzione della frequenza cardiaca a riposo, aumento della gittata cardiaca
- Miglioramento della ventilazione
- Aumento della forza muscolare, aumento della vasodilatazione e miglioramento della perfusione
- Modifiche del sistema metabolico
- Riduzione del dolore: un'influenza diretta sul sistema nervoso periferico attraverso il sistema muscolo-scheletrico
- Riduzione della «cancer related fatigue»
- Riduzione ansia, depressione, miglioramento dei disturbi dell'umore
- Migliorare i fattori psicosociali durante e dopo i trattamenti
- Migliora qoL e favorisce il reinserimento sociale

Basi patogenetiche della relazione tra attività fisica e sopravvivenza

L'attività fisica interviene nei processi biologici e nella fisiopatologia della malattia oncologica

Riduce i processi infiammatori sistemici: riduzione dello stato infiammatorio cronico dovuto all'elevato livello di citochine infiammatorie

l'impatto sul sistema immunitario

l'impatto sul sistema metabolico

Basi patogenetiche della relazione tra attività fisica e sopravvivenza

↓

l'impatto sul sistema immunitario

Biochemical Society Transactions (2017) **45** 905–911
DOI: 10.1042/BST20160466

PORTLAND PRESS

Review Article

Exercise protects from cancer through regulation of immune function and inflammation

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Correspondence: Pernille Hojman (phojman@inflammation-metabolism.dk)

Basi patogenetiche della relazione tra attività fisica e sopravvivenza

Mobilizza e attiva le cellule immunitarie citotossiche

Ha un effetto di modulazione sui segnali immunitari

Ha un effetto anti-infiammatorio attraverso un'azione inibitoria sui fattori di crescita

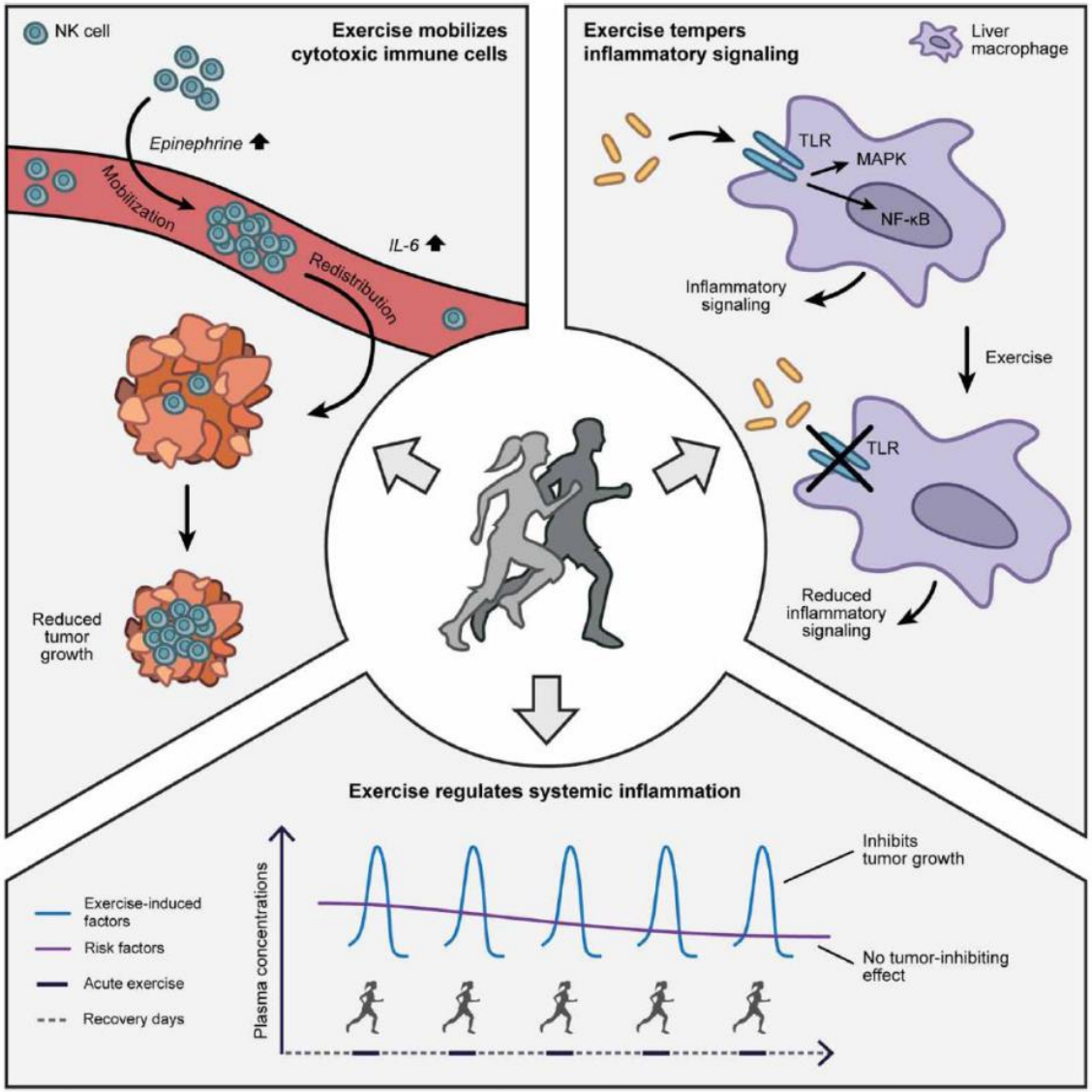

Figure 1. Schematic models of the effect of exercise on regulation of immune cell function, tempering inflammatory signaling, and regulation of systemic inflammation.

Basi patogenetiche della relazione tra attività fisica e sopravvivenza

↓

l'impatto sul sistema metabolico

- Riduzione dell'insulina e del c-peptide
- Miglioramento della tolleranza glicemica e riduzione dell'insulino-resistenza
- Riduzione dell'adiposità viscerale
- Riduzione dello stato infiammatorio cronico dovuto all'elevato livello di citochine infiammtorie
- Riduzione della biodisponibilità di ormoni sessuali
- Riduzione dei fattori di crescita

Grazie per l'attenzione