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Content

- Physical activity
- Prehabilitation
- Prehabilitation and exercise therapy

Do you ask about physical activity?

Because you should do

Every consultation, also the preoperative consultation

Physician Counseling About Exercise

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Context The increase in sedentary lifestyle may contribute to the rise in obesity nationally. Although guidelines suggest that physicians counsel all patients about exercise, physicians counsel only a minority of their patients. Whether patient factors influence physician counseling is not well established.

Objectives To examine and to identify factors associated with exercise counseling by US physicians.

Design and Setting National population-based supplemental (Year 2000) survey to the 1995 National Health Interview Survey.

Participants Of the 17 317 respondents to the Year 2000 supplemental survey, 9711 adults had seen a physician in the previous year, and 9299 responded when asked about physician counseling on exercise.

Main Outcome Measure Physician counseling to begin or to continue to exercise.

Results Of 9299 respondents, 34% reported being counseled about exercise at their last visit. After adjustment for other sociodemographic and clinical factors, women were slightly more likely to be counseled, with an adjusted odds ratio (AOR) of 1.15 (95% confidence interval [CI], 1.02-1.29). Physicians counseled older patients (>30 years) more often than younger patients; those aged 40 to 49 years were counseled most often (AOR, 1.71 [95% CI, 1.34-2.20]). Patients with incomes above \$50 000, those with higher levels of physical activity, college graduates, and patients who were overweight to obese (body mass index: 25 to ≥ 30 kg/m²) were more likely to be counseled, as were patients with cardiac disease (AOR, 1.81 [95% CI, 1.52-2.14]) and diabetes (AOR, 1.87 [95% CI, 1.46-2.38]). Counseling did not vary by physician specialty or patient race.

Conclusion The rate of physician counseling about exercise is low nationally. Physicians appear to counsel as secondary prevention and are less likely to counsel patients at risk for obesity. The failure to counsel younger, disease-free adults and those from lower socioeconomic groups may represent important missed opportunities for primary prevention.

JAMA. 1999;282:1583-1588

www.jama.com

Physical activity guidelines

Physical activity guidelines

Children 5-18



60 mins of physical activity every day

Adults 19-64



150 mins of moderate aerobic activity per week

Adults 65 +



150 mins of moderate aerobic exercise p/w and strength exercises two days a week

Source: Public Health England

A Controlled Trial of Physician Counseling to Promote the Adoption of Physical Activity¹

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Control and intervention physicians(17 offices)

255 “healthy”, sedentary adults

Intervention

- Intervention physicians : **3 to 5 min of structured physical activity counseling during a well visit or follow-up for a chronic condition.**
- A health educator made a phone call to patients 2 weeks

Self-reported physical activity and stage of change (i.e., behavioral readiness to adopt or maintain activity) : 0, 4, 6 weeks .

Objective activity monitoring (accelerometer) on a subsample.

Intervention patients reported increased walking more than control patients (+37 min/week vs. +7 min/week). There was a significant intervention effect on the activity monitor. Intervention participants also demonstrated a greater increase in readiness to adopt activity than control subjects.

Promoting physical activity to patients

Physical activity (WHO definition)

any body movement performed by skeletal muscles that expends energy

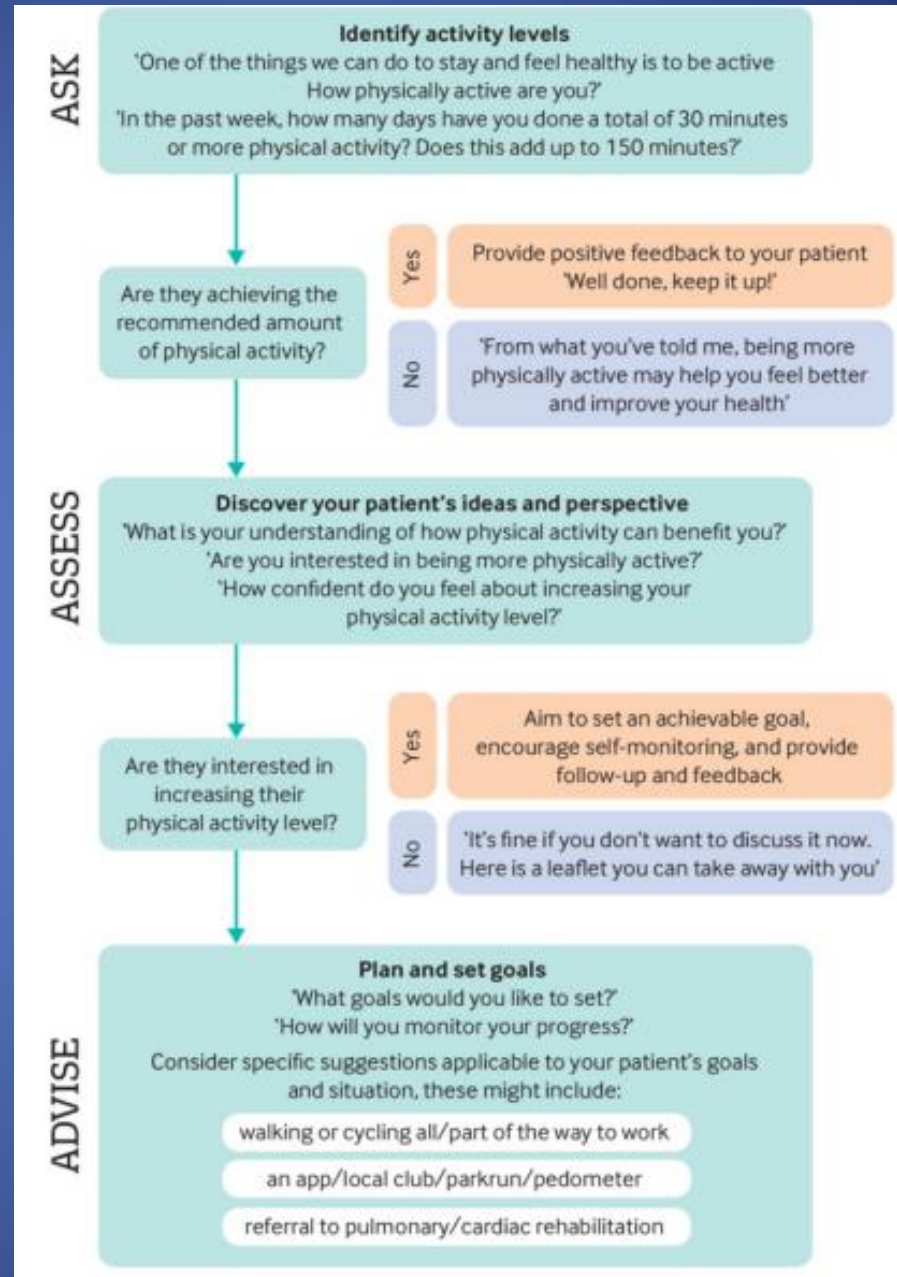
Exercise

Physical activity with the primary purpose of improving or maintaining physical fitness or performance.

Ask

Assess

Advise



Haseler et al, BMJ sept 2019
 NHS Health Scotland's Physical activity screening and brief intervention script and NICE guidance: Physical activity; brief advice for adults in primary care (PH44)13 15

Prehabilitation is an intervention that capitalizes on the waiting period before surgery with preoperative strategies designed to optimize the patient's physical condition to promote an earlier postoperative recovery.

absence of a well-defined and
standardized **definition**

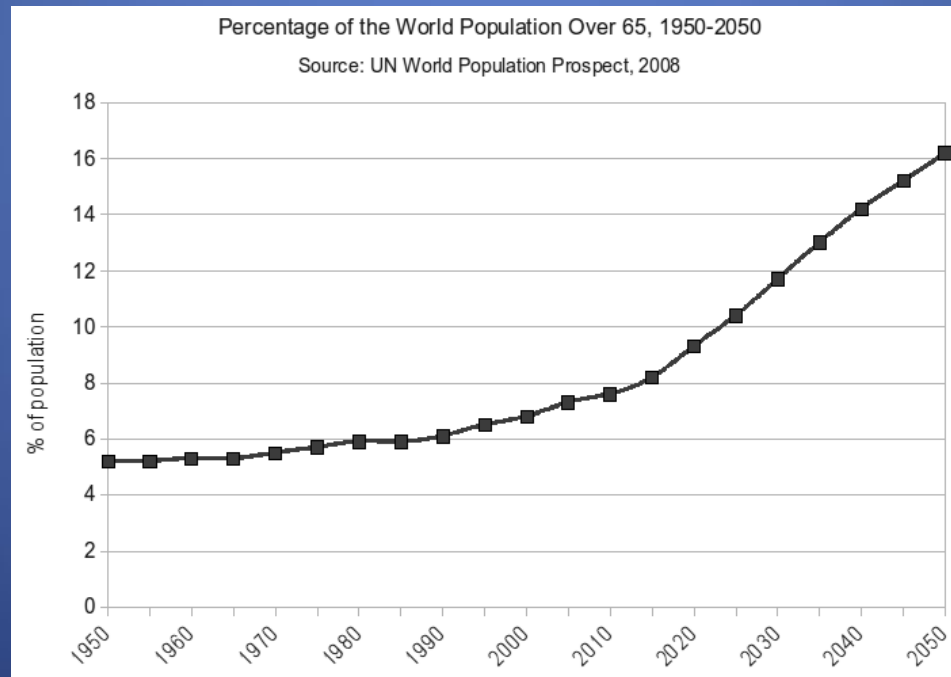
Carli F, Gillis C, Scheede-Bergdahl C. Promoting a culture of prehabilitation for the surgical cancer patient. Acta Oncol 2017;56:128–133.

Prehabilitation – Why ?

- The **psychological state of mind** from the patient
- An operation acts as a **motivating goal** that may induce behavioral changes
- Patients can determine their own **destiny (control)**
- **Preoperative function is better** than postoperative function
- To **prevent** is better than to cure
- **Meaningful time use** till operation

Prehabilitation – Why ?

- (elective) surgery population 
- Life expectancy  ; patients with comorbidity 



Prehabilitation – why & who ?

3-4% mortality (elective surgery)

30% postoperative complications

Especially the elderly

Phan K et al. ANZ J Surg 2015
Booth CM et al. JAMA Oncol 2015
Dedinskà I et al. Ann Hepatol 2017
Denny et al. BP&RCA 2016

Prehabilitation – Who ?

The elderly : frailty - malnutrition – sarcopenia

Abdominal, cardiac, orthopedic surgery

Frailty

Dynamic process in which there's a reduction in the physical, psychological and/or social functions associated with aging

Dynamic nature implies potential for restorative or preventive measures

Prehabilitation – who ?

The Value of Preoperative Exercise and Education for Patients **Undergoing Total Hip and Knee Arthroplasty**: A Systematic Review and Meta-Analysis. Moyer et al. JBJS 2017

RESULTS:

35 studies

11 electronic databases (MEDLINE, AMED, CINAHL, Embase, Scopus, ProQuest, PEDro, SportDiscus, PsycINFO, and Cochrane) from their inception to May 2016

2956 patients

Small to moderate effect sizes

TKA : significant improvements in function, quadriceps strength, and length of stay.

THA: significant improvements in pain, function, and length of stay.

Inconsistent with regard to the types of outcome measures

Quality of the interventions varied

Prehabilitation – what ?

Multimodal approach

- Medical optimization
 - Physical exercise
 - Nutritional support
- Psychological support

Prehabilitation – what ?

- Medical optimization
 - Smoking cessation
 - Intake alcohol reduction
 - Weight
 - Anemia
 - Pharmacological therapy
 - Blood glucose
- Physical exercise
- Nutritional support
- Psychological support

Multimodal approach

Prehabilitation – what ?

Preoperative interventions

Interventions to improve the outcomes of frail people having surgery: A systematic review.

11 studies (1668 pts) that tested interventions in populations of frail patients having surgery (orth, general, cardiac, mixed)

- Exercise therapy
- Nutritional support
- Blood transfusion
- Multicomponent geriatric interventions:
 - Difficult implementation , poor compliance

Few interventions have been tested to improve the outcomes of frail surgical patients, and most available studies are at substantial risk of bias.

Prehabilitation – what ?

- Medical optimization
- Physical exercise

- Strength:

- Leg press, chest press, low row, lateral pull down, step up en buikspieroefeningen. 1RM
- 3x/w, begeleiding

- Aerobic training

- High intensity interval training
- 4' 90% VO2 peak & 3' 90% aerobe drempel

- Nutritional support
- Psychological support



Multimodal approach

Prehabilitation – what ?

Preoperative inspiratory muscle training

2015 Cochrane review

12 studies 695 pts (cardiac & abdominal surgery)

reduction of postoperative atelectasis, pneumonia, and duration of hospital stay in adults undergoing cardiac and major abdominal surgery.

Potential for overestimation of treatment effect due to lack of adequate blinding, small-study effects, and publication bias

Evidence for preoperative exercise therapy

- Methodological issues
- Bias
- Exercise therapy: content, duration, frequency, timing, compliance
- Interindividual response : responders and non-responders
- Setting of the programs: supervised, home-based,...

Practical guidelines

No screening tool , but take a look at your patient

Individualised program

- social network,
- fitness,
- physiotherapist (C-, F- en E-nomenclatuur),
- rehabilitation (K-nomenclatuur: ERAS Jessa, Abd heelkunde),
- ...



TAKE HOME MESSAGE

Ask

Asses

Advise

Every consultation