How to get your patients to exercise

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Research Fellow
Department of Primary Care Health Sciences and
Centre for Evidence Based Medicine
University of Oxford
From this.....
To this.....
Objectives

• Why is exercise on the primary care agenda?

• Discuss (some of) the evidence for physical activity (PA)/exercise for prevention and treatment of disease

• Current model for increasing PA/exercise in primary care and the evidence underpinning this

• What else could we do? Is it evidenced based? Does it matter?
Definitions

- **Physical activity (PA)**
  ‘..bodily movement that is produced by the contraction of skeletal muscle and that substantially increases energy expenditure.’

- **Exercise**
  ‘..a type of physical activity, defined as a planned, structured, and repetitive bodily movement done to improve or maintain one or more components of physical fitness

- **Metabolic equivalent (MET)**
  ‘..physiological measure expressing the energy cost of physical activities’ = ratio of metabolic rate during activity to resting metabolic rate (1kcal/kg/hour OR 3.5 ml O₂/kg/min)
  1 MET = what you are doing now
  2.3 MET = what I am doing now
Why PA in primary care?

Spreading the word

Across the UK, almost 900,000 GP consultations occur daily, meaning primary care has by far the greatest exposure to the population as a whole within the NHS system. The average patient will visit their GP about four times per year, with 78% of people consulting their GP at least once a year. One in four people stated that they would become more active if they were advised to do so by a doctor or a nurse.

Primary care is therefore ideally positioned to be the interface with the population, in screening patients regarding their physical activity status, promoting the health benefits of physical activity, and using exercise to deliver therapeutic benefits. Increasingly, the responsibility for chronic disease management rests in general practice, which means that the clinicians most frequently dealing with the complex medical issues which may benefit from exercise operate in primary care.
What do NICE say?

Current practice

The NICE costing report for public health guidance 2 (NICE 2006) estimated that brief interventions for physical activity were instigated on an opportunistic basis in 25% of the total appropriate instances, i.e. to inactive adults presenting to general practice. No information was identified to assess baseline practice of brief interventions for physical activity in the context of disease management.

Brief interventions in primary care, exercise referral schemes, pedometers and community-based exercise programmes for walking and cycling

Lord Darzi’s Next Stage Review highlighted that the growth in the prevalence of conditions such as type 2 diabetes, depression and COPD can be attributed not only to unhealthy choices, but also to missed prevention opportunities. This underlines the importance of the NHS and its partners responding to shifting epidemiology by providing personalised care for long-term conditions.

The health service is not always good enough at helping people make the right choices – 54 per cent of patients said that their GP had not provided advice on diet and exercise.
What do your peers think?

1. Promoting PA in primary care is important
   • 92% of GPs and 99% of nurses “agreed” or “strongly agreed”

2. Promoting PA with patients is part of the HCPs role
   • 1997-2007: 93%-99% GPs “agreed”
   • 59% of GPs and 64% of nurses felt nurses were most appropriate to carry out health promotion (incl. PA)

3. How confident are you in your ability to provide PA counselling?
   • 48%-92% of HCPs felt ‘confident’ or ‘very confident’
   • However, less confident about specific PA

4. How successful are you in changing your patients health-related behaviour?
   • NO physicians perceived success as “very successful”
   • Only 32% rated “successful”
TIME TO MOVE......
HOW FIT ARE YOU?
HOW FIT ARE YOU?

<table>
<thead>
<tr>
<th>Inches</th>
<th>Waist (inches)</th>
<th>Waist (centimetres)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>61</td>
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<td>109</td>
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<td>47</td>
<td>119</td>
</tr>
</tbody>
</table>
Why should I prescribe PA?

The doctor said he needed more activity. So I hide his T.V. remote three times a week.
Why physical activity (PA)?

“..in order to remain healthy, the entire day should be devoted exclusively to ways and means of increasing one's strength and staying healthy, and the best way to do so is through physical exercise.”
Hippocrates (460-377 BC)

“..medicine is the sister art to physical exercise.“
Plato (427-347 BC)
First ‘real’ evidence

CORONARY HEART-DISEASE AND PHYSICAL ACTIVITY OF WORK

J. N. Morris    J. A. Heady
M.A. Glasg., M.R.C.P., D.P.H.    M.A. Oxfd
OF THE SOCIAL MEDICINE RESEARCH UNIT, MEDICAL RESEARCH COUNCIL

P. A. B. Raffel
M.D. Lond., D.P.H., D.I.H.
OF THE MEDICAL DEPARTMENT, LONDON TRANSPORT EXECUT

C. G. Roberts    J. W. Parks
B.A., M.D. Camb.    M.B.E., M.D. Camb., D.C
OF THE TREASURY MEDICAL SERVICE

(Concluded from p. 1057)

II. STATEMENT AND TESTING OF PROVISIONAL HYPOTHESIS

Executive officers and clerks were observed during 1949–50. Bus conductors (on double-decker vehicles) were found to have less coronary heart-disease than bus drivers, and postmen less than telephonists, executive officers, and clerks. Moreover, what disease the conductors and postmen had was less severe.

On the basis of these observations, the hypothesis was advanced that

Men in physically active jobs have a lower incidence of coronary heart-disease in middle age than have men in physically inactive jobs. More important, the
PA – current evidence

If everyone in England was active enough it could prevent:

**36,815**
people dying prematurely

**12,061**
people going to hospital for emergency coronary heart disease treatment

**6,735**
cases of breast cancer

**4,719**
cases of colorectal cancer

**294,730**
cases of diabetes.

And the benefits don’t end there. Being active:

- helps you stay a healthy weight
- increases ‘good’ cholesterol
- reduces blood pressure
- builds healthy muscles and bones
- improves balance
- reduces the risk of falls.

If everyone in England got the message about being active it could prevent:

- 36,815 people dying prematurely
- 12,061 people going to hospital for emergency coronary heart disease treatment
- 6,735 cases of breast cancer
- 4,719 cases of colorectal cancer
- 294,730 cases of diabetes.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Risk reduction</th>
<th>Strength of evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death</td>
<td>20-35%</td>
<td>Strong</td>
</tr>
<tr>
<td>Coronary heart disease (CHD) and stroke</td>
<td>20-35%</td>
<td>Strong</td>
</tr>
<tr>
<td>Type 2 diabetes</td>
<td>35-50%</td>
<td>Strong</td>
</tr>
<tr>
<td>Colon cancer</td>
<td>30-50%</td>
<td>Strong</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>20%</td>
<td>Strong</td>
</tr>
<tr>
<td>Hip fracture</td>
<td>36-68%</td>
<td>Moderate</td>
</tr>
<tr>
<td>Depression</td>
<td>20-30%</td>
<td>Strong</td>
</tr>
<tr>
<td>Alzheimer’s disease</td>
<td>40-45%</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

Tens of thousands of lives could be saved each year in the UK if people got off the sofa and stretched their legs more, say charities.

“If a medication existed which had a similar effect.”
Physical activity and all-cause mortality: what is the dose-response relation?

I-MIN LEE and PATRICK J. SKERRITT
Brigham and Women’s Hospital and Harvard Medical School, Harvard School of Public Health, Boston, MA

RESEARCH RECOMMENDATIONS

Although the most rigorous data for a cause-and-effect relation come from well-designed and conducted randomized clinical trials, it is simply not feasible to conduct such trials in the context of examining the dose-response relation between physical activity and all-cause mortality. Thus, answers concerning this relation must come from observational epidemiologic studies. These observational data will be strengthened by data from randomized clinical trials of physical activity and short-term health outcomes that in themselves predict mortality (e.g., blood pressure, lipid profile, glucose tolerance), as well as by data from laboratory studies on plausible biologic mechanisms linking physical activity with decreased mortality rates.

With regard to observational epidemiologic studies that directly assess the dose-response relation between physical activity and all-cause mortality, it is critical to include a variety of measures of physical activity in these studies. This includes the use of valid and reliable self-reports of physical activity, as well as the use of objective measures such as accelerometry and pedometers. These methods allow for accurate quantification of physical activity and can be used to distinguish low-intensity physical activity from more intense activity. Additionally, the inclusion of covariates such as age, sex, and other health-related factors can help to control for potential confounding and enhance the validity of the findings.

Physical activity, as defined by these measures, is a significant predictor of all-cause mortality. The dose-response relationship is observed across a range of physical activity levels, with a threshold effect at approximately 600 medium-intensity metabolic equivalents (METs)-hours per week, above which the risk of death decreases with increasing levels of physical activity.

Medicine & Science in Sports & Exercise®  S469
Cardiovascular Effects of Intensive Lifestyle Intervention in Type 2 Diabetes

The Look AHEAD Research Group

- P - 5145 overweight or obese with T2DM
- I - Lifestyle intervention (weekly group and individual counseling for 1st 6 months decreasing to 1 a month after year 4 and pedometer, calorie goals and 175 mins of MIA PA per week, 9.6 years (median) follow up
- C - Diabetes support and education (3 group sessions per year on diet, exercise and social support [years 1-4])
- O - Composite of death from CV, nonfatal MI, stroke or hospitalisation for angina
PA – emerging evidence

A. Weight

- Control
- Intervention

Main effect, -4 (95% CI, -5 to -3)
P < 0.001

B. Physical Fitness

- Control
- Intervention

Main effect, 0.6 (95% CI, 0.5 to 0.8)
P < 0.001

C. Waist Circumference

- Control
- Intervention

Main effect, -3.2 (95% CI, -3.9 to -2.4)
P < 0.001

D. Glycated Hemoglobin

- Control
- Intervention

Main effect, -0.22 (95% CI, -0.28 to -0.16)
P < 0.001
Death from CV causes, nonfatal MI, nonfatal stroke, or hospitalisation for angina
Exercise or exercise and diet for preventing type 2 diabetes mellitus (Review)

Orozco LJ, Buchleitner AM, Gimenez-Perez G, Roqué i Figuls M, Richter B, Mauricio D

Comparison: Exercise vs standard recommendations (overall analysis)
Outcome: Diabetes incidence - ITT (RR/HR)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>log [risk/hazard ratio] (SE)</th>
<th>risk/hazard ratio 95% CI</th>
<th>Weight</th>
<th>risk/hazard ratio 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Da Qing 1997</td>
<td>-0.6374644 (0.24246092)</td>
<td>IV, Random, 95% CI</td>
<td>73.3 %</td>
<td>0.53 [0.33, 0.85]</td>
</tr>
<tr>
<td>Wing 1998</td>
<td>0.36464311 (0.72574219)</td>
<td>IV, Random, 95% CI</td>
<td>26.7 %</td>
<td>1.44 [0.35, 5.97]</td>
</tr>
</tbody>
</table>

Total (95% CI)
Heterogeneity: Tau² = 0.21; Chi² = 1.72, df = 1 (P = 0.19); I² = 42%
Test for overall effect: Z = 0.83 (P = 0.40)
# Exercise-based cardiac rehabilitation for coronary heart disease (Review)

Heran BS, Chen JMH, Ebrahim S, Moxham T, Oldridge N, Rees K, Thompson DR, Taylor RS

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Treatment n/N</th>
<th>Control n/N</th>
<th>Peto Odds Ratio Peto, Fixed, 55% CI</th>
<th>Weight</th>
<th>Peto Odds Ratio Peto, Fixed, 95% CI</th>
</tr>
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<tbody>
<tr>
<td>Anderson 81</td>
<td>3/46</td>
<td>6/42</td>
<td>[lower CI, upper CI]</td>
<td>6.1%</td>
<td>[lower CI, upper CI]</td>
</tr>
<tr>
<td>Bethell 90</td>
<td>9/113</td>
<td>14/116</td>
<td>[lower CI, upper CI]</td>
<td>15.6%</td>
<td>[lower CI, upper CI]</td>
</tr>
<tr>
<td>Carson 82</td>
<td>11/151</td>
<td>10/152</td>
<td>[lower CI, upper CI]</td>
<td>14.7%</td>
<td>[lower CI, upper CI]</td>
</tr>
<tr>
<td>Erdman 86</td>
<td>2/40</td>
<td>1/40</td>
<td>[lower CI, upper CI]</td>
<td>2.2%</td>
<td>[lower CI, upper CI]</td>
</tr>
<tr>
<td>Holmback 94</td>
<td>2/34</td>
<td>0/35</td>
<td>[lower CI, upper CI]</td>
<td>1.5%</td>
<td>[lower CI, upper CI]</td>
</tr>
<tr>
<td>Kentala 72</td>
<td>5/152</td>
<td>4/146</td>
<td>[lower CI, upper CI]</td>
<td>6.6%</td>
<td>[lower CI, upper CI]</td>
</tr>
<tr>
<td>NEHDP</td>
<td>15/323</td>
<td>11/328</td>
<td>[lower CI, upper CI]</td>
<td>18.8%</td>
<td>[lower CI, upper CI]</td>
</tr>
<tr>
<td>Stern 83</td>
<td>1/42</td>
<td>1/29</td>
<td>[lower CI, upper CI]</td>
<td>1.4%</td>
<td>[lower CI, upper CI]</td>
</tr>
<tr>
<td>Wilhelmson 75</td>
<td>25/158</td>
<td>28/157</td>
<td>[lower CI, upper CI]</td>
<td>33.2%</td>
<td>[lower CI, upper CI]</td>
</tr>
</tbody>
</table>

**Total**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1059</th>
<th>Control</th>
<th>1045</th>
</tr>
</thead>
</table>

**Heterogeneity:** Chi² = 6.01, df = 8 (P = 0.65); I² = 0.0%

Test for overall effect: Z = 0.22 (P = 0.83)

**Total events:** 73 (Treatment), 75 (Control)
PA – evidence that is needed

Exercise for life
Physical activity in health and disease

Recommendations of the Sport and Exercise Medicine Committee Working Party of the Royal College of Physicians

- to examine the feasibility of producing a practical guide to exercise prescription for medical generalists and professionals allied to medicine, specifically relating to disease states; for example, the development of a ‘BNF’ for exercise – a text- or internet-based service giving clinicians clear evidence-based guidance and the capacity for risk stratification
PA - Evidence that is needed

- Cochrane reviews
- WHO 2008-2013 non-communicable disease action plan:
  - 13 major chronic diseases/conditions
- Treatment relevant outcomes (e.g. mortality/morbidity, management of condition/disease, HRQoL, functional capacity)
- Subgroup analyses
  - Setting (primary/secondary care, community, other)
  - Type of PA intervention (structured/unstructured; aerobic/resistance; intensity, frequency, duration)
Included reviews: title and abstract (n=82)

- Stroke
- Cancer
- COPD
- Osteoarthritis
- Coronary heart disease
- Diabetes
- Rheumatoid arthritis
- Obesity
- Asthma
- Ischaemic heart disease
- Chronic kidney disease
- Dementia
- Depression
- Weight reduction
- Chronic conditions
- Chronic mental illness
- Heart failure
- Hypertension
- Peripheral artery disease
TIME TO MOVE......
What is the current model in Primary care?

“It’s not a rash, it’s moss. You need to start being more active than a tree.”
1. UK PA Guidelines

- Who’s knows the recommendations?
  - YES =
  - NO =

**QUIZ**

1. Rank the following risk factors for global mortality (most common-least common)
   - Diabetes
   - Physical Inactivity
   - Tobacco
   - High BP
   - Obesity
Quiz...

2. Which of the following fulfils the current UK guidelines for adults (19-64)
   • 20min of moderate intensive activity (MIA) on at least 5 days a week
   • 60min of MIA twice a week
   • 30min of MIA on at least 5 days a week
   • 60min vigorous activity (VA) once a week
   • 30min VA twice a week

3. What is current UK-recommended maximum units of alcohol each week for adults?
How do you compare?

Major limitations in knowledge of physical activity guidelines among UK medical students revealed: implications for the undergraduate medical curriculum

Michael Dunlop, Andrew Duncan Murray

- 177 final year medical students in 2 Scottish medical schools

1. Rank the following risk factors for global mortality (most common-least common)

- Diabetes (6%) 3
- Physical Inactivity (6%) 3
- Tobacco (9%) 2
- High BP (13%) 1
- Obesity (5%) 4
Results 2

2. Which of the following fulfils the current UK guidelines for adults (19-64)
   • 20min of moderate intensity activity (MIA) on at least 5 days a week
   • 60min of MIA twice a week
   • 30min of MIA on at least 5 days a week
   • 60min vigorous activity (VA) once a week
   • 30min VA twice a week

3. What is current UK-recommended maximum units of alcohol each week for adults?
   • Men = 21 units
   • Women = 14 units
Each of us should aim to participate in an appropriate level of physical activity for our age. Each of the three core chapters provides an introduction, sets out the guidelines for that age group, summarises the evidence and discusses what the guidelines mean for people. We hope that this report will be read by policy makers, healthcare professionals and others working in health improvement. The guidelines are designed to help professionals to provide people with information on the type and amount of physical activity that they should undertake to benefit their health, in particular to prevent disease. The age groups covered in this report are:

- early years (under 5s)
- children and young people (5–18 years)
- adults (19–64 years)
- older adults (65+ years).

**EXPERTS**

**ADULTS (19–64 years)**

1. Adults should aim to be active daily. Over a week, activity should add up to at least 150 minutes (2½ hours) of moderate intensity activity in bouts of 10 minutes or more – one way to approach this is to do 30 minutes on at least 5 days a week.

2. Alternatively, comparable benefits can be achieved through 75 minutes of vigorous intensity activity spread across the week or a combination of moderate and vigorous intensity activity.

3. Adults should also undertake physical activity to improve muscle strength on at least two days a week.

4. All adults should minimise the amount of time spent being sedentary (sitting) for extended periods.

**OLDER ADULTS (65+ years)**

1. Older adults who participate in any amount of physical activity gain some health benefits, including maintenance of good physical and cognitive function. Some physical activity is better than none, and more physical activity provides greater health benefits.

2. Older adults should aim to be active daily. Over a week, activity should add up to at least 150 minutes (2½ hours) of moderate intensity activity in bouts of 10 minutes or more – one way to approach this is to do 30 minutes on at least 5 days a week.

3. For those who are already regularly active at moderate intensity, comparable benefits can be achieved through 75 minutes of vigorous intensity activity spread across the week or a combination of moderate and vigorous activity.

4. Older adults should also undertake physical activity to improve muscle strength on at least two days a week.

5. Older adults at risk of falls should incorporate physical activity to improve balance and co-ordination on at least two days a week.

6. Older adults should minimise the amount of time spent being sedentary (sitting) for extended periods.

- 150 mins moderate intensity activity (MIA), bouts of 10 mins or more e.g. 30 mins 5x week, or,
- 75 mins vigorous activity (VA) spread across week
- Muscle strength activity ≥ 2 days/week
- MIA?
- VA?

As for adults plus:

- At risk of falls = PA to improve balance and co-ordination ≥ 2 days/week
Brief advice - or is it?

Physical activity: brief advice for adults in primary care

1 Recommendations

Background

Recommendation 1 Identifying adults who are inactive
Recommendation 2 Delivering and following up on brief advice
Recommendation 3 Incorporating brief advice in commissioning
Recommendation 4 Systems to support brief advice
Recommendation 5 Providing information and training
“The term 'brief advice' is used in this guidance to mean verbal advice, discussion, negotiation or encouragement, with or without written or other support or follow-up.”

“It can vary from basic advice to a more extended, individually focused discussion.”

“The availability of local opportunities to be active will influence whether brief advice has an impact on people's physical activity levels.”
Brief advice - or is it?

Identify adults who are inactive
- Use validated tool e.g. GPPAQ
- Arrange time to discuss PA
- Can refer to other member of primary care team
- Ensure person leaves initial consultation aware of the health benefits of PA
- Record outcomes of PA assessment

Delivering and following up on brief advice
- Advise to do more physical activity, aiming to achieve UK PA guidelines
- Tailor advice to person’s motivations and goals (refer to NICE Behaviour change guidance), current level of activity, circumstances/preferences/barriers and health status.
- Provide information on local opportunities
- Consider giving written outline of the advice and goals
- Record outcomes of discussion
- Follow up at another appointment or when there is opportunity
Effectiveness of physical activity promotion based in primary care: systematic review and meta-analysis of randomised controlled trials

Gillian Orrow academic clinical fellow in general practice, Ann-Louise Kinmonth foundation professor of general practice, Simon Sanderson senior clinical research associate, Stephen Sutton professor of behavioural science
### Brief advice - evidence

- **NNT = 12;** for 1 additional person meeting recommended PA at 12 months
- **This compares to NNT of 50 to 120 for smoking cessation advice**

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![Table and graph showing the odds ratio and weight for various studies.]
**Brief advice - evidence**

**HOWEVER……**

- Most interventions included written materials and two or more sessions of advice or counselling on physical activity, delivered face to face.

- Advice or counselling was delivered by a combination of two professionals from different disciplines in most studies.

- Only one study reported an objective measure of physical activity in all participants. The mean intervention effect for this measure….was not significant at 12 month follow-up (−0.04 (95% confidence interval −0.16 to 0.08)).
Brief advice - evidence

Physical Activity Promotion in the Health Care System

Ilkka M. Vuori, MD, PhD; Carl J. Lavie, MD; and Steven N. Blair, PED

Abstract
Brief advice - evidence

- Encouraging patients to be more active = as simple as basic message from guidelines: “more is better than none”
- Walking the most common and feasible PA for most
- **Improving effectiveness of PA/ET advice:**
  - Advising persons with increased risk of chronic disease
  - Individual assessments of needs, motivation, current habits, barriers etc.,
  - Simple, clear, realistic message
  - Valid behaviour change methods e.g. self-regulatory (goal setting, self-monitoring)
  - Follow up
  - Face-to-face delivery
- Wide and sustainable applications in HCS = organisations and leaders need to change perceptions of PA/ET from “leisure time pursuits” to an “evidence-based medical measure comparable with pharmaceutical agents...”
The General Practice Physical Activity Questionnaire (GPPAQ)

A screening tool to assess adult physical activity levels, within primary care

Updated May 2009

• 10 item questionnaire commissioned by DOH and LSH&TM 2002

• Assess PA level of adults aged 16-74

• 4-level physical activity index (PAI)

• Inform HCP when a brief intervention for PA needed = PAI < 3 (active)

• Available online at www.patient.co.uk
GPPAQ

General Practice Physical Activity Questionnaire

Date…………………………..
Name………………………….

1. Please tell us the type and amount of physical activity involved in your work.

<table>
<thead>
<tr>
<th></th>
<th>Please mark one box only</th>
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<tbody>
<tr>
<td>a</td>
<td>I am not in employment (e.g. retired, retired for health reasons, unemployed, full-time carer etc.)</td>
</tr>
<tr>
<td>b</td>
<td>I spend most of my time at work sitting (such as in an office)</td>
</tr>
<tr>
<td>c</td>
<td>I spend most of my time at work standing or walking. However, my work does not require much intense physical effort (e.g. shop assistant, hairdresser, security guard, childminder, etc.)</td>
</tr>
<tr>
<td>d</td>
<td>My work involves definite physical effort including handling of heavy objects and use of tools (e.g. plumber, electrician, carpenter, cleaner, hospital nurse, gardener, postal delivery workers etc.)</td>
</tr>
<tr>
<td>e</td>
<td>My work involves vigorous physical activity, including handling of very heavy objects (e.g. scaffoldor, construction worker, refuse collector, etc.)</td>
</tr>
</tbody>
</table>

2. During the last week, how many hours did you spend on each of the following activities? Please answer whether you are in employment or not

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Some but less than 1 hour</th>
<th>1 hour but less than 3 hours</th>
<th>3 hours or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>b</td>
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3. How would you describe your usual walking pace? Please mark one box only.

<table>
<thead>
<tr>
<th></th>
<th>Slow pace (i.e. less than 3 mph)</th>
<th>Steady average pace</th>
<th>Fast pace (i.e. over 4 mph)</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Not used in PAI

Used when PAI = ‘less than active’ but walk ≥ 3 hours
General Practice Physical Activity Questionnaire

Date: ______________________
Name: ______________________

1. Please tell us the type and amount of physical activity involved in your work.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Please mark one box only</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>I am not in employment (e.g. retired, retired for health reasons, unemployed, full time carer etc.)</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>I spend most of my time at work sitting (such as in an office)</td>
<td>X</td>
</tr>
<tr>
<td>c</td>
<td>I spend most of my time at work standing or walking. However, my work does not require much intense physical effort (e.g. shop assistant, hairdresser, security guard, childminder, etc.)</td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>My work involves definite physical effort including handling of heavy objects and use of tools (e.g. plumber, electrician, carpenter, cleaner, hospital nurse, gardener, postal delivery workers etc.)</td>
<td>X</td>
</tr>
<tr>
<td>e</td>
<td>My work involves vigorous physical activity, including handling of very heavy objects (e.g. scaffoldor, construction worker, refuse collector, etc.)</td>
<td></td>
</tr>
</tbody>
</table>

2. During the last week, how many hours did you spend on each of the following activities? Please answer whether you are in employment or not. Please mark one box only on each row.

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Some but less than 1 hour</th>
<th>1 hour but less than 3 hours</th>
<th>3 hours or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Physical exercise such as swimming, jogging, aerobics, football, tennis, gym workout etc.</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>Cycling, including cycling to work and during leisure time</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>Walking, including walking to work, shopping, for pleasure etc.</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>Housework/Childcare</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>e</td>
<td>Gardening/DIY</td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

3. How would you describe your usual walking pace? Please mark one box only.

<table>
<thead>
<tr>
<th></th>
<th>Slow pace (i.e. less than 3 mph)</th>
<th>Steady average pace</th>
<th>Fast pace (i.e. over 4 mph)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
GPPAQ – what do you do next?

<table>
<thead>
<tr>
<th>Physical exercise and / or cycling (hr/wk)</th>
<th>Sedentary</th>
<th>Standing</th>
<th>Physical</th>
<th>Heavy Manual</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Inactive</td>
<td>Moderately Inactive</td>
<td>Moderately Active</td>
<td>Active</td>
</tr>
<tr>
<td>Some but &lt; 1</td>
<td>Moderately Inactive</td>
<td>Moderately Active</td>
<td>Active</td>
<td>Active</td>
</tr>
<tr>
<td>1-2.9</td>
<td>Moderately Active</td>
<td>Active</td>
<td>Active</td>
<td>Active</td>
</tr>
<tr>
<td>≥ 3</td>
<td>Active</td>
<td>Active</td>
<td>Active</td>
<td>Active</td>
</tr>
</tbody>
</table>

If < Active = give brief intervention supporting behaviour change to increase PA (follow NICE 2006 Guidance)

If Active = give verbal reinforcement reflecting current level of PA and encourage to either make small increases or continue with current level

If < Active but say they walk = further investigation is required into the frequency and intensity.
Providing non judgemental feedback

If inactive, perhaps say:
Looking at your results, you do no physical activity in your leisure time or at work at the moment.

Then say:
The recommended amount of physical activity to benefit your health and protect yourself from several diseases is 30 minutes of moderate intensity physical activity on 5 or more days of the week.

Then ask:
What do you make of that?

If moderately inactive, perhaps say:
Looking at your results, you do some physical activity, but less than 1 hour per week.

If moderately active, perhaps say:
Looking at your results, you do between 1 and 3 hours of physical activity per week.

If active, say:
Looking at your results, you are doing the current recommended amount of physical activity to benefit your health – which is 30 minutes of moderate intensity physical activity on 5 or more days of the week. That’s really good for your health, and I’d really encourage you to continue with that.

GPPAQ classification

Feedback from GPPAQ
ANNEX 2:

A. AN EXAMPLE OF A MOTIVATIONAL INTERVIEW WITHIN A PHYSICAL ACTIVITY BRIEF INTERVENTION

Practitioners can consider the following example of a brief verbal intervention for inactive patients based on the principles of Motivational Interviewing (MI).

Any intervention should be consistent with the agenda on patient led consultations and choice. One way to do this is to base behaviour-change negotiations on the principles of motivational interviewing (MI). Although developed in the field of addictions, brief versions of MI have been adapted and applied to a wide variety of behaviours and conditions such as smoking, diet, physical activity, medical adherence and diabetes, with evidence of effectiveness (Resnicow et al., 2002; Rollinick, 1999, Rubak, 2005).

Motivational Interviewing elicits change talk in the patient, empowering them to change their own behaviour. Below are example questions for an MI based dialogue.

Example Dialogue for Inactive Patients

Question set One:

“On a scale from 0 to 10, where 0 is not important at all, and 10 is extremely important, how important is getting more active for you?”
“Why did you pick this number?”
“Why did you not pick a lower number?”
“What would you need to do to get you to a higher number?”

Question set Two:

“Now think about why you want to do this. Think about how you’ll feel, what you’ll look like, what you’ll be able to do that you can’t do now. Also think about what might be stopping you from changing and what will happen if you don’t?”

Why you want to change

e.g. To be able to play with children / grandchildren; To help health
Exercise referral schemes?

"Visiting your health club's website is a start, but I'd prefer you actually go there and exercise."
Exercise referral schemes

Issue date: March 2006

Quick reference guide

*NHS*

National Institute for Health and Clinical Excellence

Four commonly used methods to increase physical activity:
brief interventions in primary care, exercise referral schemes, pedometers and community-based exercise programmes for walking and cycling
Exercise referral schemes

• “An exercise referral scheme directs someone to a service offering an assessment of need, development of a tailored physical activity programme, monitoring of progress and a follow-up”

• “The Fitness Industry Association estimates that there are around 600 schemes in England.”

• “….there was insufficient evidence to recommend the use of exercise referral schemes to promote physical activity, other than as part of research studies where their effectiveness can be evaluated.”
# Exercise referral schemes - evidence

**Effectiveness of physical activity promotion based in primary care: systematic review and meta-analysis of randomised controlled trials**

Gillian Orrow academic clinical fellow in general practice, Ann-Louise Kinmonth foundation professor of general practice, Simon Sanderson senior clinical research associate, Stephen Sutton professor of behavioural science

<table>
<thead>
<tr>
<th>Study</th>
<th>Intervention Mean (SD)</th>
<th>Total</th>
<th>Control Mean (SD)</th>
<th>Total</th>
<th>Standardised mean difference (95% CI), IV</th>
<th>Weight (%)</th>
<th>Standardised mean difference (95% CI), IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamb 2002</td>
<td>60 (133.33)</td>
<td>131</td>
<td>60 (133.33)</td>
<td>129</td>
<td></td>
<td>53.3</td>
<td>0.00 (-0.24 to 0.24)</td>
</tr>
<tr>
<td>Chambers 2000</td>
<td>5 (17.7)</td>
<td>78</td>
<td>-1 (9.2)</td>
<td>74</td>
<td></td>
<td>46.7</td>
<td>0.42 (0.10 to 0.74)</td>
</tr>
<tr>
<td>Total (95% CI)</td>
<td></td>
<td>209</td>
<td></td>
<td>203</td>
<td></td>
<td>100.0</td>
<td>0.20 (-0.21 to 0.61)</td>
</tr>
</tbody>
</table>

Test for heterogeneity: $t^2=0.07$, $\chi^2=4.17$, df=1, 
$P=0.04$, $I^2=76\%$

Test for overall effect: $z=0.94$, $P=0.35$

**Fig 7** Individual study and pooled effects of physical activity promotion on self reported physical activity at 12 months, exercise referral interventions only (continuous data). Random effects model used. SD=standard deviation; 95% CI=95% confidence intervals; IV=inverse variance

BMJ 2012;344:e1389
## Exercise referral schemes

<table>
<thead>
<tr>
<th>Pathway</th>
<th>NICE guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Recommendations about local strategy, policy and commissioning" /></td>
<td><strong>Exercise referral, pedometers, walking and cycling schemes</strong></td>
</tr>
<tr>
<td><img src="image" alt="Exercise referral, pedometers, walking and cycling schemes" /></td>
<td><strong>Exercise referral schemes</strong></td>
</tr>
<tr>
<td><img src="image" alt="Providing individual support" /></td>
<td>Practitioners, policy makers and commissioners should only endorse exercise referral schemes to promote physical activity that are part of a properly designed and controlled research study to determine effectiveness. Measures should include intermediate outcomes such as knowledge, attitudes and skills, as well as measures of physical activity levels. Individuals should only be referred to schemes that are part of such a study.</td>
</tr>
<tr>
<td><img src="image" alt="Community-wide walking programmes" /></td>
<td><strong>Pedometers and walking and cycling schemes</strong></td>
</tr>
<tr>
<td><img src="image" alt="Walking and cycling" /></td>
<td>See <a href="image">providing individual support</a> and <a href="image">community-wide walking programmes</a> in the 'Walking and cycling' pathway.</td>
</tr>
</tbody>
</table>
1.3 Pedometers, walking and cycling schemes

Pedometers are a common aid to increasing physical activity through walking. Much of the research about pedometers has involved comparing the validity and reliability of different models. This guidance focuses on how effective they are at increasing people's physical activity levels.

PHIAC determined that there was insufficient evidence to recommend the use of pedometers.
Pedometers – emerging evidence

The effectiveness of pedometers to increase physical activity: a systematic review and meta-analysis.

Dan Mason (1), Laura Lamming, Ed Wilson, Vijay Singh GC, Sally Pears, Katie Morton, Maaike Bijker, Stephen Sutton, Wendy Hardeman.

(1) The Behavioural Science Group, Institute of Public Health, Cambridge, UK
### Pedometers – emerging evidence

#### Results – pooled steps per day (1000s), N=10

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Pedometer Mean</th>
<th>Pedometer SD</th>
<th>Control Mean</th>
<th>Control SD</th>
<th>Total</th>
<th>Weight</th>
<th>Mean Difference IV, Random, 95% CI</th>
<th>Mean Difference IV, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastep 2004</td>
<td>9.06</td>
<td>3.324</td>
<td>7.501</td>
<td>3.684</td>
<td>12</td>
<td>5.3%</td>
<td>1.56 [-1.50, 4.61]</td>
<td></td>
</tr>
<tr>
<td>Carr 2008</td>
<td>9.668</td>
<td>1.566</td>
<td>6.618</td>
<td>1.779</td>
<td>5</td>
<td>8.1%</td>
<td>3.05 [0.98, 5.12]</td>
<td></td>
</tr>
<tr>
<td>Gray 2009</td>
<td>10.182</td>
<td>4.081</td>
<td>6.709</td>
<td>2.918</td>
<td>24</td>
<td>8.3%</td>
<td>3.47 [1.47, 5.48]</td>
<td></td>
</tr>
<tr>
<td>Yates 2009</td>
<td>8.995</td>
<td>2.402</td>
<td>7.922</td>
<td>4.424</td>
<td>33</td>
<td>9.1%</td>
<td>1.07 [-0.73, 2.88]</td>
<td></td>
</tr>
<tr>
<td>Baker 2011</td>
<td>9.573</td>
<td>2.587</td>
<td>10.279</td>
<td>2.615</td>
<td>23</td>
<td>10.2%</td>
<td>-0.71 [-2.21, 0.80]</td>
<td></td>
</tr>
<tr>
<td>Hultquist 2007</td>
<td>8.481</td>
<td>2.187</td>
<td>9.073</td>
<td>2.513</td>
<td>23</td>
<td>10.6%</td>
<td>-0.58 [-2.00, 0.84]</td>
<td></td>
</tr>
<tr>
<td>Samuels 2011</td>
<td>8.877</td>
<td>2.384</td>
<td>7.921</td>
<td>1.808</td>
<td>14</td>
<td>10.6%</td>
<td>0.96 [-0.46, 2.37]</td>
<td></td>
</tr>
<tr>
<td>Strath 2011</td>
<td>5.754</td>
<td>1.756</td>
<td>5.176</td>
<td>0.694</td>
<td>16</td>
<td>11.3%</td>
<td>0.75 [-0.48, 1.99]</td>
<td></td>
</tr>
<tr>
<td>Vallance 2007</td>
<td>6.109</td>
<td>4.302</td>
<td>6.087</td>
<td>3.606</td>
<td>172</td>
<td>12.8%</td>
<td>0.04 [-0.81, 0.88]</td>
<td></td>
</tr>
<tr>
<td>Olness 2007</td>
<td>8.89</td>
<td>1.172</td>
<td>6.673</td>
<td>1.093</td>
<td>30</td>
<td>13.7%</td>
<td>2.22 [1.64, 2.80]</td>
<td></td>
</tr>
<tr>
<td>Total (95% CI)</td>
<td>352</td>
<td></td>
<td>349</td>
<td></td>
<td>100.0%</td>
<td>1.08</td>
<td>[0.19, 1.96]</td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: $\tau^2 = 1.41; \chi^2 = 40.02, df = 9 (P < 0.00001), P = 78\%$

Test for overall effect: $Z = 2.38$ (P = 0.02)

**Estimate 1080 steps per day advantage with pedometer**
TIME TO MOVE......
What is ‘fitness’?

- Physical fitness has been defined as a set of attributes or characteristics that people have or achieve that relates to the ability to perform physical activity.

President's Council on Fitness, Sports & Nutrition:

<table>
<thead>
<tr>
<th>Physiological</th>
<th>Health related</th>
<th>Skill related</th>
<th>Sports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metabolism</td>
<td>Body composition</td>
<td>Agility</td>
<td>Team sport</td>
</tr>
<tr>
<td>Morphological</td>
<td>Cardiovascular fitness</td>
<td>Balance</td>
<td>Individual sport</td>
</tr>
<tr>
<td>Bone integrity</td>
<td>Flexibility</td>
<td>Coordination</td>
<td>Lifetime</td>
</tr>
<tr>
<td>Other</td>
<td>Muscular endurance</td>
<td>Power</td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td>Muscle strength</td>
<td>Speed</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reaction time</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>
Measuring ‘fitness’ in primary care?

Updated Data Release of the 2001 National Family Physician Workforce Survey

The College of Family Physicians of Canada
The Janus Project: Family Physicians Meeting the Needs of Tomorrow’s Society

PHYSICAL ACTIVITY

42. Please indicate how frequently you perform each of the following as part of your regular practice:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Very Frequently</th>
<th>Frequently</th>
<th>Occasionally</th>
<th>Very Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask patients about their physical activity levels</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assess patient fitness as part of a physical exam or through a fitness test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refer patients to other professionals for fitness assessment or appraisal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide patients with verbal directions for a physical activity program</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide patients with written directions for a physical activity program</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Maximal oxygen uptake (VO2 max)

- The maximum capacity of an individual's body to transport and use oxygen during incremental exercise
- Reflects cardiorespiratory fitness of the individual
- VO2 max – plateau in O2 consumption for given increase in workrate/load (speed/wattage)
- VO2 peak – peak O2 consumption value obtained during incremental exercise
- Measured as millilitres per minute per kg body weight per min (ml/kg/min) or litres per minute (l/min)
Fitness age?

- Telling a smoker their lung age is a powerful motivator to quit smoking (Parkes et al BMJ 2008;15:336(7644))

- What about telling an inactive/chronic disease patient their fitness age to increase physical activity?
Fitness age?

http://www.ntnu.edu/cerg/vo2max

Estimating VO$_{2\text{peak}}$ from a Nonexercise Prediction Model: The HUNT Study, Norway

<table>
<thead>
<tr>
<th>Equation components</th>
<th>$R$</th>
<th>$R^2$</th>
<th>$R^2$ Change</th>
<th>Sig.</th>
<th>SEE</th>
<th>%SEE</th>
<th>Equation components</th>
<th>$R$</th>
<th>$R^2$</th>
<th>$R^2$ Change</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.57</td>
<td>0.32</td>
<td>-</td>
<td>0.05</td>
<td>6.79</td>
<td>15.3</td>
<td>Age</td>
<td>0.56</td>
<td>0.32</td>
<td>-</td>
<td>0.09</td>
</tr>
<tr>
<td>Age, PA index</td>
<td>0.67</td>
<td>0.45</td>
<td>0.14</td>
<td>&lt;0.001</td>
<td>6.79</td>
<td>15.3</td>
<td>Age, PA index</td>
<td>0.64</td>
<td>0.40</td>
<td>-</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Age, PA index, WC</td>
<td>0.77</td>
<td>0.59</td>
<td>0.14</td>
<td>&lt;0.001</td>
<td>5.85</td>
<td>13.2</td>
<td>Age, PA index, WC</td>
<td>0.73</td>
<td>0.54</td>
<td>-</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Age, PA index, RHR</td>
<td>0.78</td>
<td>0.61</td>
<td>0.02</td>
<td>&lt;0.001</td>
<td>5.85</td>
<td>13.2</td>
<td>Age, PA index, RHR</td>
<td>0.75</td>
<td>0.56</td>
<td>-</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

61% and 56% of variance in VO2max explained = fairly accurate(?)
Measuring ‘fitness’ in primary care?

### Maximal oxygen uptake norms for women (ml/kg/min)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>18-25 years old</th>
<th>26-35 years old</th>
<th>36-45 years old</th>
<th>46-55 years old</th>
<th>56-65 years old</th>
<th>65+ years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>excellent</td>
<td>&gt; 56</td>
<td>&gt; 52</td>
<td>&gt; 45</td>
<td>&gt; 40</td>
<td>&gt; 37</td>
<td>&gt; 32</td>
</tr>
<tr>
<td>good</td>
<td>47-56</td>
<td>45-52</td>
<td>38-45</td>
<td>34-40</td>
<td>32-37</td>
<td>28-32</td>
</tr>
<tr>
<td>above average</td>
<td>42-46</td>
<td>39-44</td>
<td>34-37</td>
<td>31-33</td>
<td>28-31</td>
<td>25-27</td>
</tr>
<tr>
<td>average</td>
<td>38-41</td>
<td>35-38</td>
<td>31-33</td>
<td>28-30</td>
<td>25-27</td>
<td>22-24</td>
</tr>
<tr>
<td>poor</td>
<td>28-32</td>
<td>26-30</td>
<td>22-26</td>
<td>20-24</td>
<td>18-21</td>
<td>17-18</td>
</tr>
<tr>
<td>very poor</td>
<td>&lt; 28</td>
<td>&lt; 26</td>
<td>&lt; 22</td>
<td>&lt; 20</td>
<td>&lt; 18</td>
<td>&lt; 17</td>
</tr>
</tbody>
</table>

### Maximal oxygen uptake norms for men (ml/kg/min)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>18-25 years old</th>
<th>26-35 years old</th>
<th>36-45 years old</th>
<th>46-55 years old</th>
<th>56-65 years old</th>
<th>65+ years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>excellent</td>
<td>&gt; 60</td>
<td>&gt; 56</td>
<td>&gt; 51</td>
<td>&gt; 45</td>
<td>&gt; 41</td>
<td>&gt; 37</td>
</tr>
<tr>
<td>good</td>
<td>52-60</td>
<td>49-56</td>
<td>43-51</td>
<td>39-45</td>
<td>36-41</td>
<td>33-37</td>
</tr>
<tr>
<td>above average</td>
<td>47-51</td>
<td>43-48</td>
<td>39-42</td>
<td>35-38</td>
<td>32-35</td>
<td>29-32</td>
</tr>
<tr>
<td>below average</td>
<td>37-41</td>
<td>35-39</td>
<td>31-34</td>
<td>29-31</td>
<td>26-29</td>
<td>22-25</td>
</tr>
<tr>
<td>poor</td>
<td>30-36</td>
<td>30-34</td>
<td>26-30</td>
<td>25-28</td>
<td>22-25</td>
<td>20-21</td>
</tr>
<tr>
<td>very poor</td>
<td>&lt; 30</td>
<td>&lt; 30</td>
<td>&lt; 26</td>
<td>&lt; 25</td>
<td>&lt; 22</td>
<td>&lt; 20</td>
</tr>
</tbody>
</table>

### VO2max (ml/kg/min) for Various Athletes

<table>
<thead>
<tr>
<th>VO2max (ml/kg/min)</th>
<th>Athlete</th>
<th>Gender</th>
<th>Sport/Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>96.0</td>
<td>Espen Harald Bjerke</td>
<td>Male</td>
<td>Cross Country Skiing</td>
</tr>
<tr>
<td>96.0</td>
<td>Bjorn Daehlie</td>
<td>Male</td>
<td>Cross Country Skiing</td>
</tr>
<tr>
<td>92.5</td>
<td>Greg LeMond</td>
<td>Male</td>
<td>Cycling</td>
</tr>
<tr>
<td>92.0</td>
<td>Matt Carpenter</td>
<td>Male</td>
<td>Marathon Runner</td>
</tr>
<tr>
<td>92.0</td>
<td>Tore Ruud Hofstad</td>
<td>Male</td>
<td>Cross Country Skiing</td>
</tr>
<tr>
<td>91.0</td>
<td>Harri Kirvesniem</td>
<td>Male</td>
<td>Cross Country Skiing</td>
</tr>
<tr>
<td>88.0</td>
<td>Miguel Indurain</td>
<td>Male</td>
<td>Cycling</td>
</tr>
<tr>
<td>87.4</td>
<td>Marius Bakken</td>
<td>Male</td>
<td>5K Runner</td>
</tr>
<tr>
<td>85.0</td>
<td>Dave Bedford</td>
<td>Male</td>
<td>10K Runner</td>
</tr>
<tr>
<td>85.0</td>
<td>John Ngugi</td>
<td>Male</td>
<td>Cross Country Runner</td>
</tr>
<tr>
<td>73.5</td>
<td>Greta Waltz</td>
<td>Female</td>
<td>Marathon Runner</td>
</tr>
<tr>
<td>71.2</td>
<td>Ingrid Kristiansen</td>
<td>Female</td>
<td>Marathon Runner</td>
</tr>
<tr>
<td>67.2</td>
<td>Rosa Mota</td>
<td>Female</td>
<td>Marathon Runner</td>
</tr>
</tbody>
</table>
PinA – What PC is up against?

The Telegraph

Exercise 'fails to lift clinical depression'
Exercise should not be "prescribed" to people with clinical depression, according to a study which found it did nothing to improve their moods.

Mail Online

Excess exercise 'hurts the heart' and cause dangerous long-term harm, say scientists

By JENNY HOPE
PUBLISHED: 05:59, 4 June 2012 | UPDATED: 05:59, 4 June 2012
PinA – What PC is up against?

determination and support. Health care professionals can provide advice, encouragement and materials but ultimately may have limited scope to influence poor dietary habits and inadequate exercise which result in part from the busy and stressful pace of life and in part from personal choice.
“So what now?”

For ME (Research):

1. Evidence:
   • Where does increased PA lead to better outcome under randomised trial settings (even if it leads to improved CV risk)?
   • What PA is best and for what conditions and settings?
   • How can we scale up PA interventions in primary care?

2. Practicality
   • Is primary care willing/able/best placed to do facilitate increased PA?
   • If so – training and education:
     • When?
     • What?
     • How?
     • Who?
“So what now?”

For YOU (Practitioners):

• Know the current guidelines
• Tell your patients about them – poster, written info
• The “6As”: assess, advise, agree, assist, arrange and assess again
• Apply evidence-based medicine approach
• Know your local resources
• Walking = it’s free and there are tips(?): http://www.getwalking.org, www.everybodywalk.org
• Write a prescription!
Doctors taught to prescribe exercise

Evonne Barry | Herald Sun | September 09, 2011 12:00AM

DOCTORS are being trained to prescribe exercise as they would drugs under an overhaul of medical degrees.

Melbourne University has made "exercise education" a key addition to its new curriculum for medical students, becoming one of the first institutions in the world to do so.

Students could be given pedometers next year to gauge their own activity levels under the push to emphasise exercise in patient care.

Scientific evidence about the benefits of keeping fit has already taken its place in classroom theory, as part of the new Doctor of Medicine degree introduced this year.
What is a PA/exercise prescription?

Moderately intense physical activity 30 minutes daily at least five times per week or vigorous activity 20 minutes - three times per week or combination resistance training twice per week.
What is a PA/exercise prescription?

Week 1: Push off in rocking chair for 5 minutes daily.
Week 2: Add arm raises during every TV commercial for 5 shows.

Comment: This will not print on prescription:

Week 3: Add 5 minutes of leg raises during every commercial for 5 shows.
Week 4: Add 5 minutes of slow walking outside house daily.
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- Write a prescription!
- Measure something? = New technologies?
New technology...

Fitness

Sort by: Relevance | Latest | Rating

Show: Any device | Any price

mobsea Max Calculator

Heart Rate Monitor

MOBILE ESSENTIALS - 15 November 2012
Health & Fitness

Heart Rate app measures your heart rate by analyising blood flow on the tip of your finger.

SMART MOVE - a smartphone-based intervention to promote physical activity in primary care: study protocol for a randomized controlled trial

Liam G Glynn1,2, Patrick S Hayes1, Monica Casey1, Fergus Glynn3, Alberto Alvarez-Iglesias3, John Newell3, Gearóid O'Laighin3, David Heaney4 and Andrew W Murphy1
“So what now?”

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• Write a prescription!
• Measure something! = new technologies?
• Practice what you preach!
Practice what you preach?
Practice what you preach?

1 MET (1 kcal/kg/hr)
70 kg
70 * 1 * 8 = 560 kcal/day
560 * 5 days = 2800 kcal/week
560 * 47 weeks = 131460 kcal/year

2.3 METs
70 kg
70 * 2.3 * 8 = 1288 kcal/day
1288 * 5 days = 6444 kcal/week
560 * 47 weeks = 302868 kcal/year
171408 additional kcal per year =

“You probably think I’ve got a nerve putting you on a physical activity regime”
Practice what you preach?

630

947

69 (yes 69 is correct!)
Practice what you preach?

The relationship between physicians’ and nurses’ personal physical activity habits and their health-promotion practice: A systematic review

Sun Fie\textsuperscript{a}, Ian J Norman\textsuperscript{b} and Alison E While\textsuperscript{b}
\textsuperscript{a}Second Military Medical University, School of Nursing, China
\textsuperscript{b}King's College London, Florence Nightingale School of Nursing & Midwifery, UK

Results: Thirteen studies met the inclusion criteria and were cross-sectional surveys employing a variety of self-report questionnaires. The majority of studies found that a higher personal physical activity level was associated with higher physical activity-promoting practices, and that health professionals with positive attitudes towards physical activity were more likely to promote physical activity to their clients.
“So what now?”

For YOU (Practitioners):

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- Apply evidence-based medicine approach
- Know your local resources
- Walking = it’s free and there are tips(?): http://www.getwalking.org, www.everybodywalk.org
- Write a prescription!
- Measure something! = new technologies?
- Practice what you preach!
- Lobby for ‘Exercise is Medicine’…or don’t!
Thank you for listening

I exercised once, but found I was allergic to it. My skin flushed and my heart raced. I got sweaty and short of breath. Very dangerous.

david.nunan@phc.ox.ac.uk