Turning Your Life Around: The Role of Physical Activity

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Trauma Orthopaedics
Obesity
Trouser dynasty
Cycling
Keeping Active
My Natural Health Service
Why?
40-year-old triathlete

74-year-old sedentary man

70-year-old triathlete
Physical inactivity a ‘pandemic’

“...physical activity is not about sport and it is about more than just exercise.... It is not about running on a treadmill, whilst staring at a mirror and listening to your iPod. It is about using the body that we have in the way it was designed, which is to walk often, run sometimes, and move in ways where we physically exert ourselves regularly whether that is at work, at home, in transport to and from places, or during leisure time in our daily lives.” (p. 1) Das and Horton, Lancet 2012
## Risk reduction associated with physical activity

<table>
<thead>
<tr>
<th>Chronic condition</th>
<th>Risk reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>All cause mortality</td>
<td>30% risk reduction</td>
</tr>
<tr>
<td>CVD, stroke</td>
<td>20-35% reduction</td>
</tr>
<tr>
<td>Diabetes</td>
<td>30-40% reduction</td>
</tr>
<tr>
<td>Hip fractures</td>
<td>36-68% reduction</td>
</tr>
<tr>
<td>Colon cancer</td>
<td>30% reduction</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>20% reduction</td>
</tr>
<tr>
<td>Loss of function</td>
<td>30% reduction</td>
</tr>
<tr>
<td>Depression/dementia</td>
<td>20-30% reduction</td>
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</table>
Composite of 20 student brains taking the same test

After sitting quietly  After 20 minute walk

Research/Scan compliments of Dr. Chuck Hillman University of Illinois
### Key Areas of Research

<table>
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<tr>
<th>Area</th>
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<tbody>
<tr>
<td>The promotion of walking</td>
</tr>
<tr>
<td>Reducing sedentary time</td>
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<tr>
<td>Physical activity in children and adolescent girls</td>
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<tr>
<td>Physical activity for people with medical conditions</td>
</tr>
<tr>
<td>The role of the environment in physical activity promotion</td>
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</table>

PAHRC@ed.ac.uk
Advocacy
Curriculum Development - BSc
Infograms
Social Media
MOOC
Cycling
7,500 preschool kids cycling in Glasgow

National roll out
Age- and sex-related differences in the contributions of the domains of PA to total MVPA amongst adults in Scotland who met the aerobic PA guidelines in 2013

Source: Strain et al.
The cost of physical inactivity in Scotland

• Approximately 2,500 Scots die prematurely each year as a result of poor levels of activity.

• The costs to the NHS in Scotland is estimated to be:-
  • Total £660 million per year

• The overall annual cost of physical inactivity to the wider UK economy is estimated to be in the region of £8 billion.
Physical inactivity is the 4th leading risk factor for global mortality.

Smokadiabetes

Lee et al., Lancet, July 2012
Policy

Vision: A More Active Scotland

Physical activity is about getting people moving. Daily walking, playing in a park, going to a gym, training with a team or aspiring to win a gold medal - it really doesn’t matter how people get active, it just matters that we do.

Being physically active contributes to our personal, community and national wellbeing. Our vision is of a Scotland where more people are more active, more often.
Physical Activity Pathway

Current physical activity recommendations

- 30 minutes of moderate physical activity on at least five days a week for adults
- 60 minutes of moderate physical activity each day of the week for children (aged 5 to 18)
- Something is better than nothing

1. In the past week, on how many days have you been physically active for a total of 30 minutes or more?
   - Physical activity may include: walking or cycling for recreation or to get to and from places; gardening; and exercise or sport which lasts for at least 10 minutes.
   - 0 1 2 3 4 5 6 7

2. If four days or less, have you been physically active for at least two and a half hours (156 minutes) over the course of the past week?
   - Yes
   - No

3. Are you interested in being more physically active?
   - Yes
   - No

Exit strategy for those meeting guidelines
- Highlight national recommendations.
- Provide positive reinforcement.

Brief advice
- Benefits • Barriers • Solutions

Brief intervention
- Benefits • Barriers • Solutions
We encourage and enable the active to stay active throughout life. We develop physical confidence and competence from the earliest age.

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### National Outcomes

<table>
<thead>
<tr>
<th>Business</th>
<th>Employment</th>
<th>Research and Innovation</th>
<th>Young People</th>
<th>Early Years</th>
<th>Healthier</th>
<th>Inequalities Tackled</th>
<th>Life Chances</th>
</tr>
</thead>
</table>

| Safe from Crime | Sustainable Places | Resilient Communities | Environment Valued | National Identity | Impact on Environment | Older People Supported | Public Services |

### Active Scotland Outcomes

- **We encourage and enable the inactive to be more active**
- **We encourage and enable the active to stay active throughout life**
- **We develop physical confidence and competence from the earliest age**

- **We improve our active infrastructure – people and places**
- **We support wellbeing and resilience in communities through physical activity and sport**
- **We improve opportunities to participate, progress and achieve in sport**

### Equality

Our commitment to equality underpins everything we do.
International Policy Context

- WHO Global Action Plan for Physical Activity 2018
- Based on Bangkok Declaration for Physical Activity and Sustainable Development
- 10% reduction sedentary behaviour by 2025

http://www.who.int/ncds/governance/physical_activity_plan/en/
Have you seen these guidelines before?
Physical activity for children and young people (5–18 Years)

- Builds confidence & social skills
- Develops coordination
- Improves concentration & learning
- Strengthens muscles & bones
- Improves health & fitness
- Maintains healthy weight
- Improves sleep
- Makes you feel good

Be physically active

Aim for at least 60 minutes every day

Spread activity throughout the day

All activities should make you breathe faster & feel warmer

Include muscle and bone strengthening activities

3 times per week

Sit less

Move more
Physical activity for early years (birth – 5 years)
Active children are healthy, happy, school ready and sleep better

- Builds relationships & social skills
- Maintains health & weight
- Improves sleep
- Develops muscles & bones
- Contributes to brain development & learning
- Encourages movement & co-ordination

Every movement counts

Aim for at least 3 Hours across everyday

Move more. Sit less. Play together

Physical activity for pregnant women

Home

Not active?
Start gradually

Already active?
Keep going

Throughout pregnancy
aim for at least
150 minutes
of moderate intensity activity
every week

Out and about

Do muscle strengthening activities twice a week

Leisure

Every activity counts, in bouts of at least 10 minutes

No evidence of harm
Listen to your body and adapt
Don't bump the bump

UK Chief Medical Officers Recommendations 2017: Physical Activity in Pregnancy.
brit/1ystartactiveinfs
A dose response
PHYSICAL
- Better health
- Improved quality of life
- Improved fitness
- Better posture
- Better balance
- Stronger heart
- Fight off illnesses better
- Weight control
- Stronger muscles
- Stronger bones

MENTAL
- Reduce depression
- Reduce anxiety
- Reduce and prevent stress
- Sleep better
- Increase cognitive functioning
- Increase mental alertness
- Feeling more energetic
- Relaxation

SOCIAL
- Social integration
- Meet new people
- Build social skills
- Strengthen relationships
- Enjoy others’ company
- Increase family time
- Build new friendships

EMOTIONAL
- Increase feelings of happiness
- Positive mood & affect
- Increase feeling of self-worth
- Better self-esteem
- Better self-confidence
- Increase feelings of success
- Lower sadness
- Lower tension
- Lower anger
Best Investments for Physical Activity

1. Communication and public education
   - Consistent public education, including use of mass and social media

2. Transport and the environment
   - Transport policies and systems that prioritise walking, cycling and public transport

3. Urban design and infrastructure
   - Provide safe and equitable access for recreation and physical activity across the life course

4. Healthcare and health education
   - Ensure assessment and advice about physical activity is a routine part of healthcare services

5. Education
   - Make regular physical activity in schools and places of learning normal

6. Community-wide programs
   - Work with communities to provide appropriate local solutions, aiming to mobilise large numbers of people

7. Sport and recreation
   - Sport systems and programs that promote "sport for all" and encourage participation across the life span

We need action to achieve the goal of 10% increase in participation by 2025

Work together to make it happen
National Strategic Group for Sport and Physical Activity

Local Delivery via Health and Social Care Partnerships with Integrated Joint Boards and Community Planning Partnerships.

Collaborative Forum of PAIP Delivery Theme Chairs:
Education – Health & Social Care - Workplace - Environment – Sport

Health and Social Care Physical Activity Delivery Group

Other Implementation Plan Themes
Workplace | Sport | Education | Environment

Creating an Active Health and Social Care Workplace
Physical Activity Pathway and Associated Interventions
Health and Social Care Education and Workforce Development
Activating the Health and Care Estate

Overarching Implementation Plan Themes
Communication | Improvement | Workforce Dev
Blue Print for NHS Scotland

By 2019 the National Physical Activity Pathway will be embedded into all appropriate clinical settings across the health care system...

Delivery tests:
• Clinical Champions
• Condition Specific
• Allied Health Professional Led
In summary...

- Decreasing sedentary behaviour is important
- Natural Health Service
- We all have a role to play...
- Do what works at scale
- Every contact counts
- Culture is changing
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