Promotion

• Promotion of physical activity

Physical Activity

• Sedentary behavior
  • Exposure

• Cancer
  Cardiometabolic health and weight status

Brain health

Population

• Youth
• Aging
• Populations with chronic conditions

Prevention
All-cause mortality and disease-specific data points by hours per week of self-reported MVPA

- All-cause mortality
- Depression, dementia
- Breast cancer
- Colon cancer
- Diabetes
- CVD, CHD, stroke
- Hip fracture

Target Dose

Physical Activity Guidelines Advisory Committee 2018
Dose and dose-response curves

Risk of XS GWG

- all-cause mortality
- breast cancer
- depression, dementia
- diabetes
- colon cancer
- hip fracture
- CVD, CHD, stroke

Data from PAGAC Report 2008
Figure published in Ann Rev Public Health 2011;32:349-365
Percent of maximum potential reduction in hazard ratio by multiples of recommended PA

Mortality Risk

Curve adapted from Arem et al JAMA Internal Medicine 2015;175:959-67
Percent of maximum potential reduction in hazard ratio by multiples of recommended PA

Colon cancer incidence, adapted from Moore et al JAMA Internal Medicine 2016;176:816-25

Mortality risk, adapted from Arem et al JAMA Internal Medicine 2015;175:959-67
<table>
<thead>
<tr>
<th>Volume of Reported MVPA</th>
<th>All-Cause Mortality</th>
<th>Colon Cancer Incidence</th>
<th>Diabetes Incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>~0.5 X Rec</td>
<td>51%</td>
<td>60%</td>
<td>?</td>
</tr>
<tr>
<td>~1-2 X Rec</td>
<td>79%</td>
<td>75%</td>
<td>?</td>
</tr>
<tr>
<td>~2-3 X Rec</td>
<td>95%</td>
<td>85%</td>
<td>?</td>
</tr>
<tr>
<td>~4 X Rec</td>
<td>100%</td>
<td>90%</td>
<td>?</td>
</tr>
<tr>
<td>~7.5 X Rec</td>
<td>100%</td>
<td>100%</td>
<td>?</td>
</tr>
<tr>
<td>~10 X Rec</td>
<td>79%</td>
<td>100%</td>
<td>?</td>
</tr>
</tbody>
</table>

Rec = 150 min/day self-reported MVPA
Physical Inactivity and Health

- Prevention of Weight Gain
- Diabetes Mellitus
- Osteoporosis
- CHD
- Stroke
- Musculoskeletal Injury
- Functional Health Status

Risk of "Disease" vs. Activity.