Exercise – A Key Component to Care

Suzie Maxwell PT, DPT, CLT
Benefits of Exercise

- **Improves:**
  - VO$_2$\textsubscript{max}/physical capacity $^{2,5,9,11}$
  - Strength$^{2,5,11,14}$
  - Range of motion$^2$
  - Bone regeneration$^{2,14}$
  - Mental well being/quality of life $^{11,12}$
  - Sleep$^5$

- **Reduces:**
  - Fatigue $^{5,11}$
  - Muscle contractures $^2$
  - Body weight/fat $^{2,11,14}$
  - Inflammation $^2$
  - Memory/Chemo brain $^2$
  - Mortality $^{2,5,9,11,13}$
Big picture?

- Exercise can reduce the incidence of more than 25 chronic conditions\textsuperscript{13}, by 25-50\% or more\textsuperscript{12}

- It can be as or more effective than medication\textsuperscript{12}

- Exercise can reduce the risk of premature death\textsuperscript{4,13}
  - Physical inactivity is rated by the World Health Organization (WHO) as the 4\textsuperscript{th} leading risk factor for morbidity and mortality worldwide\textsuperscript{12}

- In 2014, approximately 42.0\% of all cancers in adults over 30 years were attributable to potentially modifiable risk factors\textsuperscript{6}
  - Top 5 Worst modifiable risk factors:
    - 1) Cigarette smoking
    - 2) Excess body weight
    - 3) Alcohol intake
    - 4) UV radiation
    - 5) Physical inactivity

- UP to 50\% of all cancer is preventable\textsuperscript{11}

- Less than 10\% of all breast cancer cases is caused by a genetic predisposition\textsuperscript{3}
● Reduces risk of cardiovascular disease and diabetes\textsuperscript{10,11}

● Overweight females with cancer increase their risk of death by 30-40\% and are more likely to have increased risk of diabetes and cardiovascular disease\textsuperscript{2}

● Exercise helps improve prognosis by 18-67\% for all cancers\textsuperscript{2}

● Greater than 60\% of the US population is \textit{not} regularly physically active\textsuperscript{11}
  ● Including \textasciitilde25\% who are almost sedentary
Exercise

WHO activity requirements for 18-64 year old adults:

- Throughout week perform at least
  - 150 minutes of moderate-intensity or
  - 75 minutes of vigorous-intensity
- Perform aerobic exercise in 10 min bouts
- For additional benefits, increase moderate-intensity to 300 minutes per week, or 150 minutes of vigorous-intensity (double)
- 2 or more days per week strength train major muscle groups
Examples of intensity

**Moderate**
- Able to maintain a conversation
- Brisk walk
- Water aerobics
- Golf
- Dancing
- Strength exercises
- Mowing the lawn

**Vigorous**
- Feeling out of breath/difficulty talking, sweating
- Jumping rope
- Tennis, soccer, basketball
- Jogging/running
- Shoveling/heavy gardening

Adults over 65:
- balance exercises 3 or more days per week
- when medically limited: “be as physically active as their abilities and conditions allow”

Children 5-17:
- ≥1 hour moderate-to vigorous intensity daily
- Majority aerobic
- Incorporate Vigorous-intensity that strengthens muscle/bone, ≥3 times per week
- Limit screen time
Those with cancer:

- The American College of Sports Medicine recommends: 9
  - Take part in regular physical activity
  - Avoid inactivity and return to normal daily activities as soon as possible after diagnosis
  - Aim for at least 150 minutes per week of moderate intensity or 75 min of vigorous intensity
  - Include strength training 2-3 days per week
  - Stretch on days other exercises are performed

Bad news!

- Only 30-47% of cancer survivors know and follow the ACSM guidelines of 150 minutes/week 3

- Canadian study found 4 out of 5 adults do not meeting guidelines 12
Something is better than nothing!

- Recent literature review by Warburton et al demonstrated sufficient research that there was no minimal threshold for activity.
- Greatest gains occurred in individuals going from no or minimal activity to a small amount.\textsuperscript{12,13}

- According to the US DHHS, those unable to meet guidelines “should be as physically active as their abilities and conditions allow”.\textsuperscript{2,10}

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How can you help?

Did you know?

Areas in which CHWs can be impactful
Barriers to Exercise

- Fatigue/motivation
- Time
- Cost
- Resources (equipment or location availability)
- Don’t know where to start/how
- Safety
- Etc.

Solutions to Barriers

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Solution</th>
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</thead>
<tbody>
<tr>
<td>Fatigue/motivation</td>
<td>Buddy system/reward</td>
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<tr>
<td></td>
<td>Sign up for event</td>
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<td></td>
<td>Try just 5 minutes</td>
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<tr>
<td></td>
<td>Make/post goals</td>
</tr>
<tr>
<td>Time</td>
<td>Put it into calendar/phone</td>
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<td></td>
<td>Start small</td>
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<td></td>
<td>Make convenient</td>
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Exercise with kids!

- Play!
  - Play tag, park play, obstacle course, Simon says/follow the leader, basketball/shoot hoops, yoga with kids, Wii fit, exercise before video game/TV allowance

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<tr>
<td>Cost</td>
<td>Walk or look for online videos</td>
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<tr>
<td>Resources</td>
<td>Look into community resources (mall, schools, rec dept, etc)</td>
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</table>
Affordable activities

- Walk!
  - Track steps on watch, phone, or pedometer
  - Walk in neighborhood, school, grocery store, mall, house, across parking lot
- On-line videos / TV programs / Apps
- Equipment
  - Play it again sports, Goodwill, Water bottle/milk jug, boots/tuna cans, bands, body weight
  - Play ground equipment, park equipment/bench, home furniture

Solutions to Barriers

**Barrier**
- Don’t know where to start/how

**Solution**
- Look into community resources (mall, schools, rec dept, hospitals, etc)
- Sign up for a class/ask a friend, technology, referral for therapy
- Safety
  - Outside when light/stay indoors
  - Be aware of surroundings (off technology)
  - Buddy system
Make A Plan

Guidelines:
- Moderate exercise safe for healthy individuals
- If inactive/chronic disease
  - medical clearance recommended
  - start slow
- Pedometer target:
  - 7,100-11,000
  - <5,000-poor health
“A journey of a thousand miles begins with a single step”
— Confucius

Thank You
Bibliography:

1) Center for Disease Control and Prevention: https://www.cdc.gov/cancer/survivorship/basic_info/survivors/index.htm