Writing an Effective Exercise Prescription

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We’ll cover…

1. Benefits of Physical Activity
2. Exercise Clearance
3. Stages of Change
4. Exercise Recommendations
5. Overcoming Challenges
6. FITT Prescription
7. Three Types of Fitness
Physical Activity in New Zealand

The 2006/07 New Zealand Health Survey found:

- 52.1% of all adults are physically active for at least 30 minutes on five or more days per week
- 9.9% adults are physically active for less than 30 minutes per week

The 2006/07 New Zealand Health Survey found:

- 47% of children aged 5-14 years usually use active transport (e.g. walking, cycling) to get to and from school
- 64.1% of children aged 5-14 years usually watched two or more hours of television a day

Benefits of Physical Activity
Exercise and Health

Prevents and treats…

- Cardiovascular disease
- Type II Diabetes
- Hypertension
- Stroke
- Hyperlipidemia
- Osteoarthritis
- Osteoporosis
- Cancer


Benefits of Physical Activity

- Increased energy
- Decreased stress
- Improved well-being
- Improved body image and self-esteem
- Better posture and balance
- Reconnection with the physical body
- Increased strength, stamina, and flexibility


Exercise and Weight Management

- Moderate intensity PA of 150 to 250 min/week prevents weight gain
- 250 to 300 min/week leads to greater weight loss and enhanced prevention of weight regain
- Exercise alone is not as effective for weight loss as exercise plus a reduction in caloric intake


Exercise improves health and decreases morbidity even without weight loss

- Diabetes
- Cardiovascular Disease

Focus on health benefits not weight loss


Exercise Clearance

Exercise clearance may be needed if:

- H/O heart condition
- Chest pain with or without activity
- Dizziness or LOC
- On medications for HTN, CAD, or other risk factors
- Orthopedic problem

Exercise Clearance

PAR-Q
Physical Activity Readiness

Canadian Society of Exercise Physiology

Stages of Change
Readiness to Change

- Importance
  - Why should I change?

- Confidence
  - How will I change?
<table>
<thead>
<tr>
<th>Stage of change</th>
<th>Attitude</th>
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<tbody>
<tr>
<td>Precontemplation</td>
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<td>Preparation</td>
<td>“Soon”</td>
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<td>Action</td>
<td>“Now”</td>
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<tr>
<td>Maintenance</td>
<td>“Forever”</td>
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Exercise Recommendations
Decrease Inactivity

- Reduce time spent in sedentary activities
  - Television
  - Computers
- Some PA is better than none
Increase Lifestyle Activity

Increase time spent on activities that provide exercise, enjoyment, and connection with others
Exercise Recommendations

Adults

- 30 minutes 5 days a week
  - 150 min. of mod-intensity or
    75 min. of vigorous-intensity
    aerobic physical activity weekly
- Strength training 2x/week

Children

- 60 minutes per day of aerobic
  and strengthening activity

Exercise must be comfortable, fun, convenient, and rewarding to be sustainable.

Exercise is not punishment for eating!
Overcoming Challenges
Overcoming Challenges

- Negative associations and attitudes
- Time
- Energy
- Discomfort
- Embarrassment
- Unrealistic expectations
- Lack of knowledge

FITT Prescription
FITT Prescription

- **Frequency:** How often?
- **Intensity:** How much effort?
- **Time:** How long?
- **Type:** What type of activity?
FITT: Frequency

- Start low and go slow - but steadily increase
- Encourage activity “most days of the week”

FITT: Intensity

- Choose activities that are comfortable
- Physical activity doesn’t have to be hard or hurt to be beneficial

FITT: Intensity

- **Light intensity**: common daily activities that require little effort but contribute to total daily energy expenditure.
- **Moderate intensity**: causes a slight, but noticeable, increase in breathing and heart rate but you can still carry on a conversation.
- **Vigorous intensity**: will cause a significant increase in heart and breathing rate and you will be unable to hold a conversation.

FITT: Intensity

The “talk test” for determining exertion:

- You should be able to comfortably hold a conversation
- Intensity is too low if you can sing
- Intensity is too high if gasping for air and can barely utter a word
**FITT: Intensity**

### Target Heart Rate Zone

Estimated Maximal Heart Rate (MHR)

\[ = 220 - \text{Your Age} \]

Low end of THR zone = 65% of MHR = 0.65 \times MHR

High end of THR zone = 90% of MHR = 0.90 \times MHR

FITT: Intensity

Borg Scale of Perceived Exertion

The Perceived Exertion Scale

<table>
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<th>Minimal</th>
<th>Light</th>
<th>Moderate</th>
<th>Vigorous</th>
<th>Maximal</th>
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<td>8</td>
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<td>10</td>
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</table>

FITT: Time

Multiple short bouts of exercise are just as beneficial as one long session


Three Types of Fitness
**FITT: Type**

- Cardiorespiratory
- Flexibility
- Strength
Cardiorespiratory Fitness
Benefits of Cardiorespiratory Activity

- Conditions cardiopulmonary system
- Lowers blood pressure and pulse
- Raises HDL
- Decreases CAD, stroke, atherosclerosis
- Increases stamina and energy
- Decreases body fat
- Improves sleep
FITT: Cardiorespiratory Fitness

- **Frequency**: 3-5 times per week
- **Intensity**:  
  - 5 minute warm up  
  - Then exercise at 65 – 90% of Maximal Heart Rate  
  - 5 minute cool down  
  - Stretching, esp. legs, back
- **Time**: 10 to 60 minutes per session
- **Type**: Walking, cycling, dancing, water aerobics, low-impact aerobics, hiking, jogging, skating, stairs, swimming, tennis, rowing, cross-country skiing
Walking is an Ideal Activity

- Ideal exercise for almost everyone
- Safe
- Anywhere, anytime
- Minimal equipment (good shoes)
## Getting Started

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<th>WARM-UP</th>
<th>BRISK WALK</th>
<th>COOL DOWN</th>
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Pedometers

- Great motivational tool
- Worn on the waistband
- Records steps
  - Measure baseline
  - Set small goals
  - Don’t talk about 10,000 steps until ready
- Not all activity can be measured in steps – but still counts
Strength Training
Benefits of Strength Training

- Improves function in daily life
- Boosts metabolism
- Creates a leaner, firmer appearance
- Decreases low back pain
- Prevents and treats osteoporosis
- Improves blood sugar metabolism
- Lowers blood pressure and cholesterol
- Appreciation for the body’s capacity to become stronger

One Push Up Principle
FITT: Strength

- **Frequency:** 2-3 times per week
- **Intensity:** 2-3 sets of 8-20 reps
- **Time:** 20-30 minutes per session
- **Type:** Resistance against gravity or rubber band or tubing, core strengthening activities, weight training with free weights or machines
FITT: Type of Strength Activities

- Lifting body weight: sit-ups or push-ups
- Pushing against an immobile object
- Moving against the resistance of rubber tubing or a band
- Lifting weights
- Using resistance-type exercise machines
- Doing strength exercises using a stability ball (provides support and builds core strength)
Flexibility
Benefits of Flexibility

- Decreases tension and stiffness
- Increases range of motion
- Promotes blood flow and nutrients to tissues
- Improves function in daily life
- Reduces risk of injury
- Lessens soreness after exercise
- Improves posture and balance
- Decreases back pain
- Feels good!
FITT: Flexibility

- **Frequency:** 2-3 times per week, after exercise
- **Intensity:** Gentle, comfortable, relaxing
- **Time:** 15 seconds to 20 minutes; hold each stretch
- **Type:** Post workout stretches, class, yoga
Stretch Yourself

- Warm-up before stretching; don’t stretch cold muscles unless you are doing minor wake-up type stretches
- Hold the stretch; don’t bounce
- Listen to your body
- Take deep breaths; relax further during the exhale
Yoga

- Yoga is for all ages and fitness levels
- Many stretches are really yoga postures
- Improves flexibility, strength, balance and focus
- Requires simple tools:
  - Non-slip mat
  - Yoga strap
  - Yoga block
Resources

GRx - Green Prescription

Resources

www.ExerciseisMedicine.org