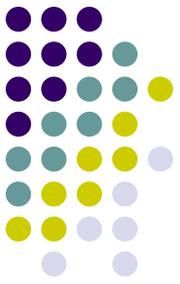


# Fall in Love with Exercise

## ...Exercise is Medicine

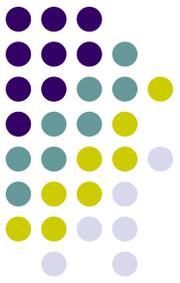


Maria Magnuson MS, ARNP  
Lower Columbia Women's Clinic

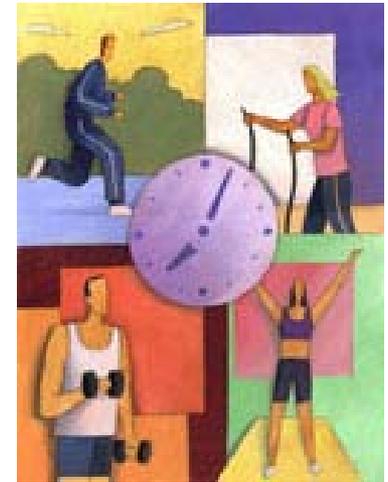
Brian Mahon, PA  
Kaiser Permanente

Deanne Ochitwa  
American Council on Exercise  
Certified Personal Trainer

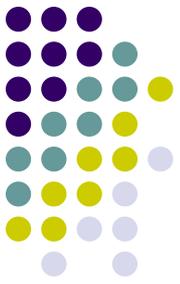
# Learning Objectives



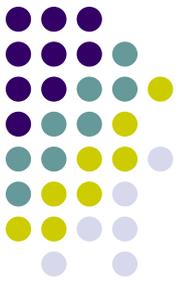
- Describe health benefits of exercise
- State current physical activity recommendations
- Motivational Strategies



# Everyone needs a cheerleader



# Cheapest Medicine



- **Living a fit lifestyle is an attainable goal for everyone regardless of body type, new focus is on fitness not fat**
- **Fitness cannot be measured by size. Better measures are strength, endurance and flexibility**
- **Fit people at any weight live longer than unfit**
- **Rest is critical to accomplishing fitness goals**
- **Short activities such as three 10 minute activities are effective**
- **Cheapest Medicine we have is exercise**

# Exercise can lower risk

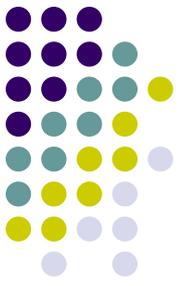


- Heart Disease
- Stroke
- High Blood Pressure
- Hyperlipidemia
- Cancer of colon and breast
- Diabetes and Metabolic syndrome
- Obesity
- Depression

# Exercise may also improve



- Sleep
- Sex Life
- Mood and mental functioning
- Immune Function
- Functional Health and Independence
- Bone Density
- Hot flashes
- Empowerment and self esteem

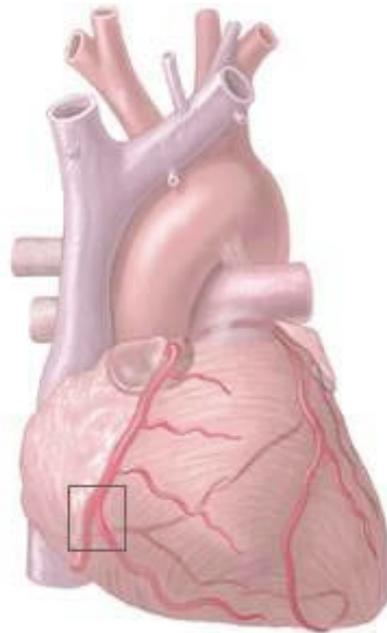


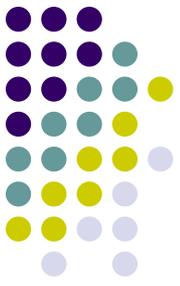
# Heart Disease

- #1 cause Mortality for women and men.  
10 yrs post menopause men=women in risk.



Blockage in right coronary artery

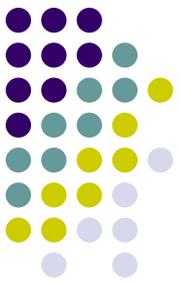




# Heart Disease Risk factors

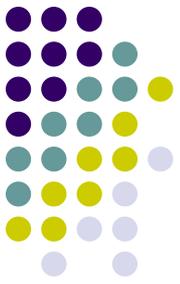
- Age men >45, women >55
- Family history of heart attack or sudden death
- Smoking
- High Blood Pressure
- High Cholesterol and elevated C-reactive protein
- Diabetes
- **Inactivity**

# Exercise combats Heart Disease



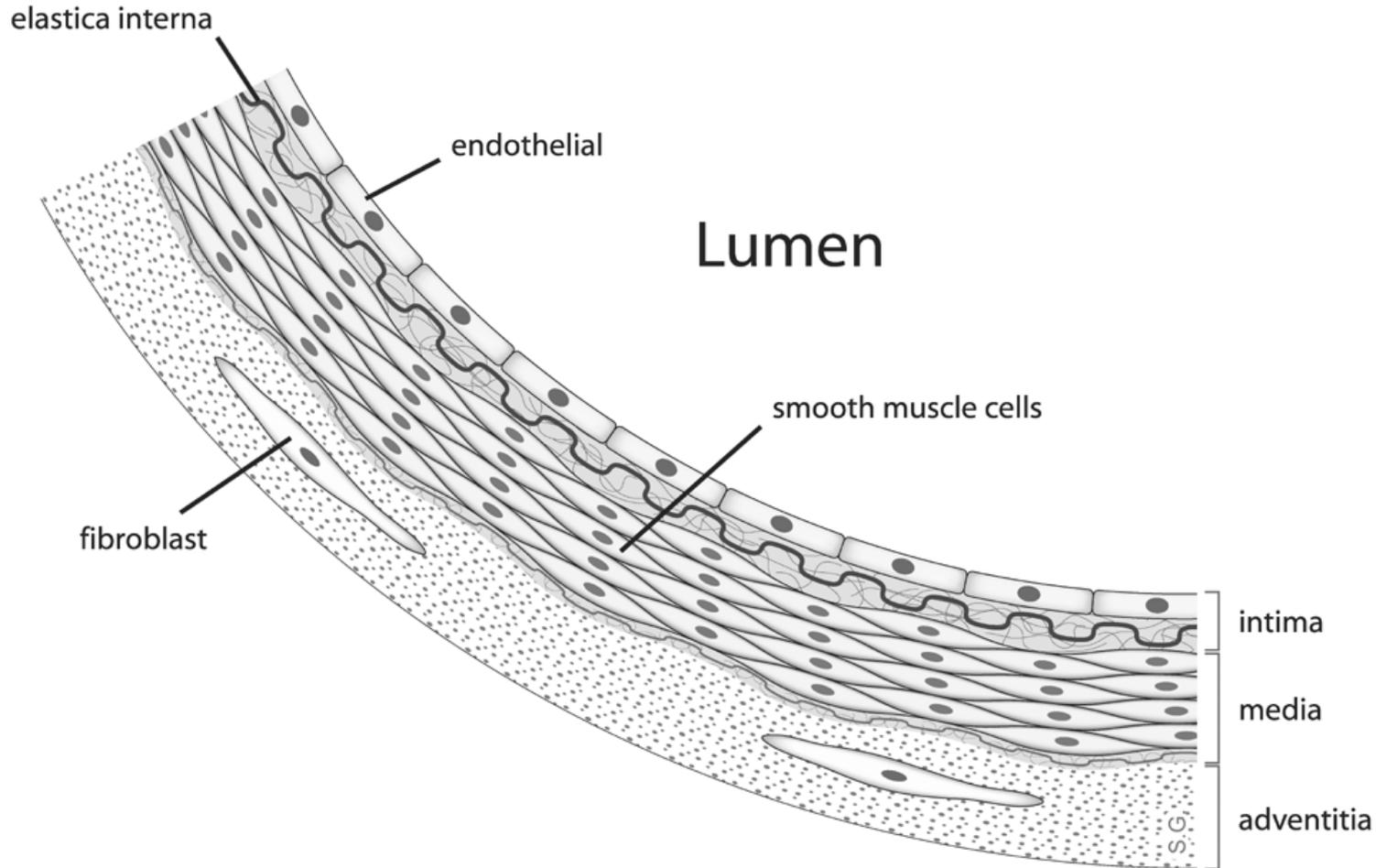
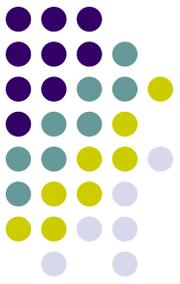
- Regular exercise can prevent and manage high blood pressure. Cholesterol will benefit by boosting HDL good cholesterol and decreasing LDL bad cholesterol to lower build up of plaque. Exercise improves circulation and strengthens heart muscle. Improves endothelial function.

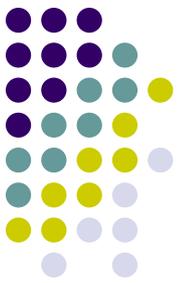
# Risk Factor Modification



- Exercise decreases LDL 5%-15% (1000-2000 kcal/wk) compared to statins 15-65%
- Exercise decreases BP 3-5 mmHg
- 30% decreased cardiac risk

# Exercise has direct effect on vascular wall





# Endothelial Function

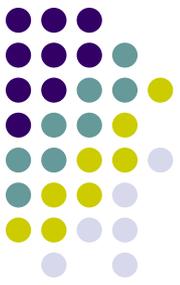
- **Thin layer of cells that line the blood vessels.**
- **Nitric oxide is atherosclerosis buster**
- **Endothelial function greatly improved by exercise by increasing the nitric oxide creating a “vascular conditioning effect”**
- **J Appl Physiology 2008**

# High sensitivity CRP



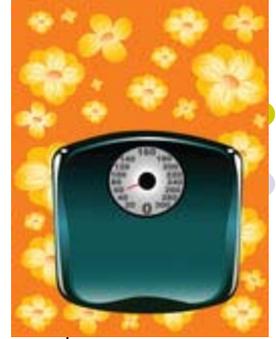
- CRP inflammation marker (elevates with heart disease) may add fuel to the fire of atherosclerosis. Although it is made in the liver, CRP does find its way from the blood into atherosclerotic plaques.
- People who exercise have lower CRP levels than couch potatoes

# Exercise decreases risk Colon and Breast Cancer



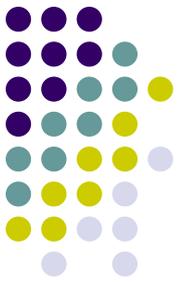
- Age 60 Risk of breast cancer 4/100. For women who exercise the risk would decrease by 1 woman to 3/100.
- Most active people are 24% less likely to develop colon cancer than the less active people.

# Exercise and Benefits of Moderate Weight Loss 5-10%



- Improves glucose control
- Lowers BP and lipids
- Can decrease cancer risk
- Can decrease medication use.
- Exercise is the best predictor of preventing recurrent weight gain.

# Longevity and Obesity BMI>30



Obese nonsmoking women lost 7.1 years life

Obese nonsmoking men lost 5.82 years life

Obese smoking women lost 13.3 years life

Obese smoking men lost 13.7 years life

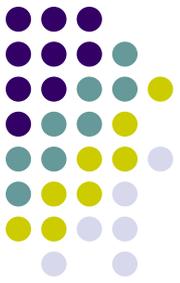
Ann Int Med 2003

# Osteoporosis



**Eat high-calcium foods, exercise regularly  
and do not smoke at young age to prevent ...**

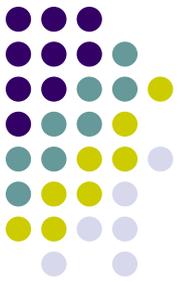
**<http://nutriweb.org.my>**



# Osteoporosis risk factors

- **Sedentary life style**
- **More common in women**
- **Age**
- **Family history**
- **Thin body frame**
- **Smoking**
- **Menopause or premature ovarian failure**
- **Eating disorders and low calcium intake**
- **Steroids**
- **Hypothyroidism**
- **Alcoholism**

# Exercise Prevents Osteoporosis



**Bone is sensitive to exercise and mechanical loading**

**Strength training and weight bearing exercise decrease rate of bone loss**

**Exercise has to be standing using free weights, not seated in machines, not swimming**

**Need variety movement patterns**

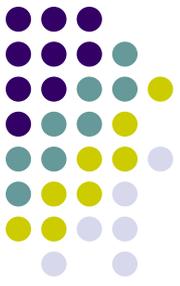
**Bone Mineral Density (BMD) changes have been used to evaluate exercise for bone health with increase of BMD 1-3%**

# Exercise Improves Mood



- Exercise stimulates various brain chemicals including endorphins, which leave you feeling happier and more relaxed than you were before you worked out. You'll look better and feel better when you exercise regularly, which can boost your confidence and improve your self-esteem. Exercise reduces stress and feelings of depression and anxiety. Yoga participants also feel more centered and calm.





# Sexual Function

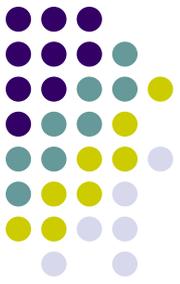
- Regular exercise can leave you feeling energized which may have a positive effect on your sex life.
- Exercise improves circulation which can lead to more satisfying sex and men who exercise regularly are less likely to have erectile dysfunction.

# Exercise promotes better sleep



- Exercise can help you fall asleep faster and deepen your sleep
- Try afternoon workouts, the dip in body temperature 6 hours after may help you sleep. Avoid exercising too close to bedtime

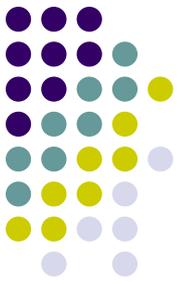
# Exercise May Delay Dementia



- **Dr. Wayne McCormick in a University of Washington study stated, “Older people who exercise 3 or more times weekly are less likely to develop Alzheimer’s and other types of dementia.” Researchers found that healthy people that exercised regularly had 30-40% lower risk for dementia. Exercise is theorized to decrease amyloid plaque.**



# Myths



- Exercising makes you tired and is painful
- Exercising takes too much time
- If you are active at work that is enough
- The older you are, the less exercise you need
- You have to be athletic to exercise
- How thin you are determines how fit you are
- Lifting Weight will bulk me up

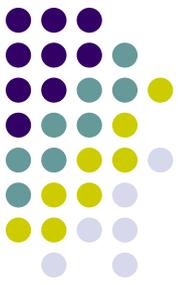
# Motivation



- We cannot convince or persuade someone to exercise, but hopefully we can help **motivate** you. **You have to be ready to change.** The best thing we can do is help people work through it, give a little push, roll with resistance and offer support. What will motivate men may be different than women.



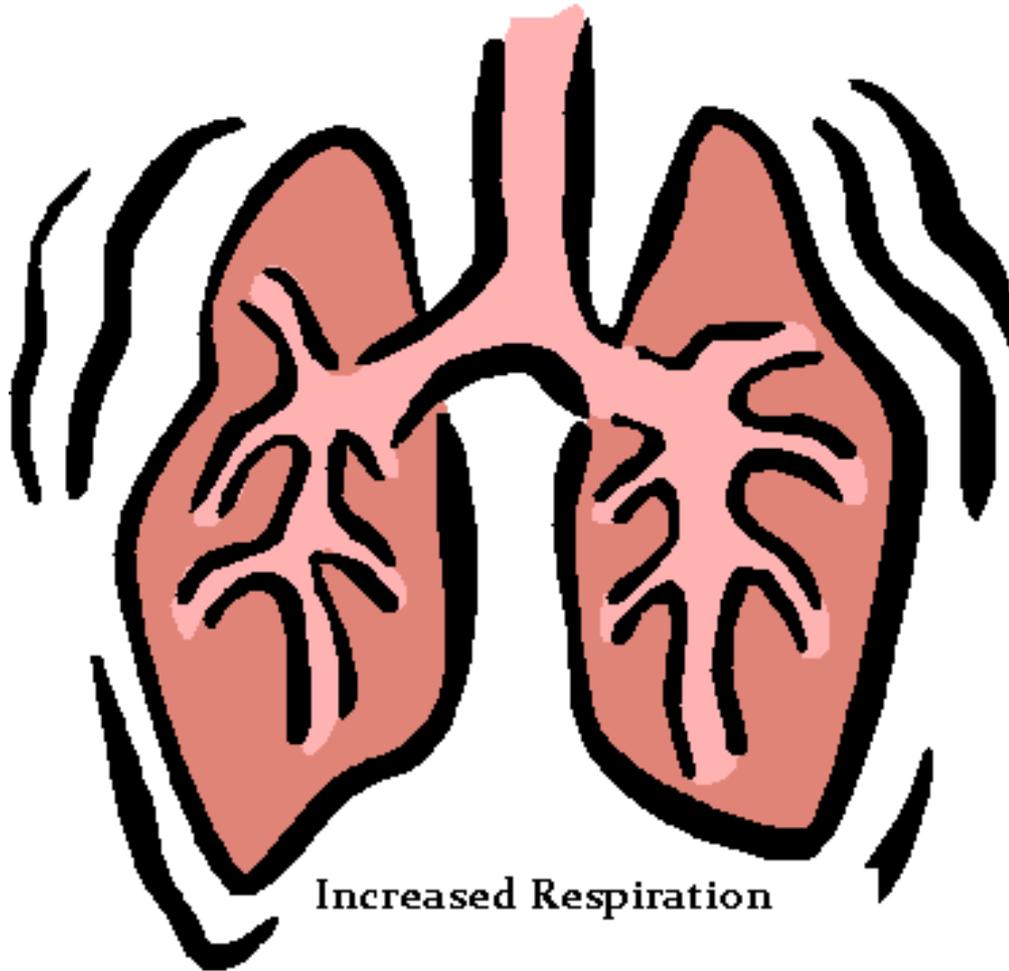
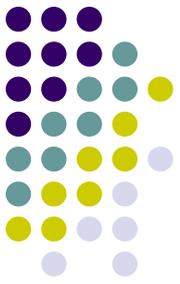
**“Ask not what your body can do for you, but what you can do for your body” JFK 1961**



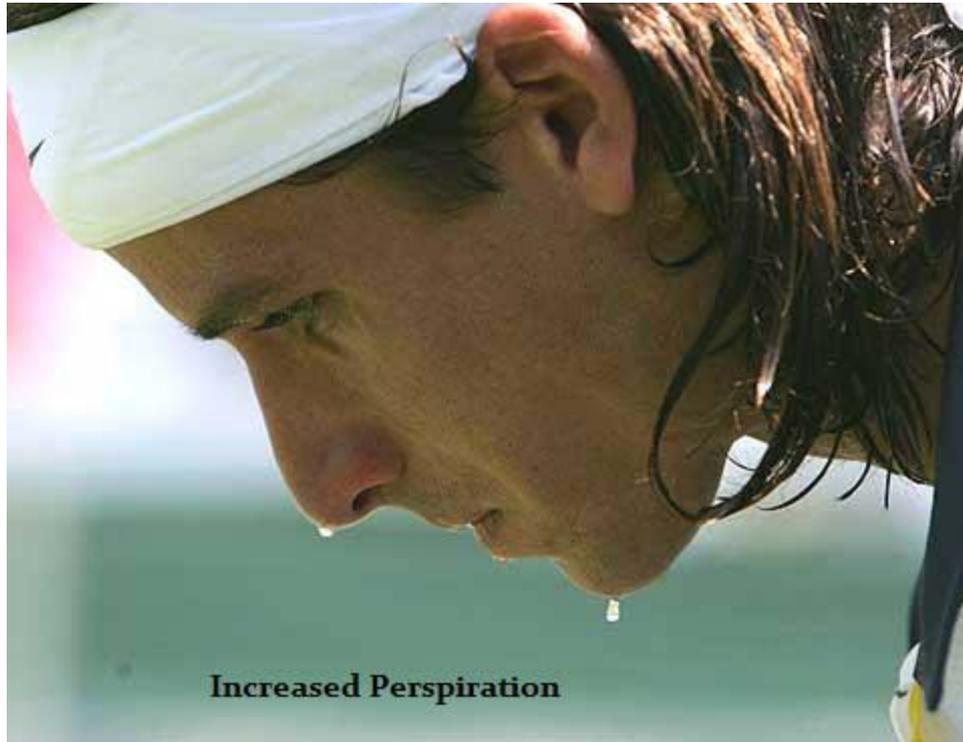
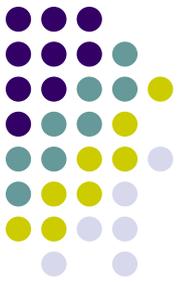


# INSPIRATION

# Respiration

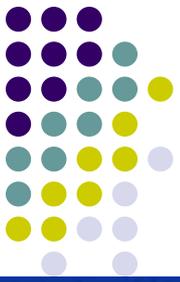


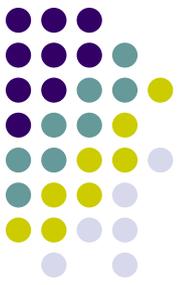
# Perspiration



**Increased Perspiration**

# Everest, McKinley, Matterhorn

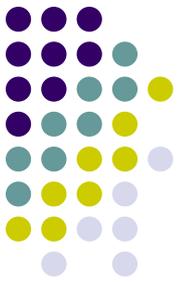




# First Things First

- This is the part where we tell you to check with your medical provider before you start any new workout program and you say “Yeah right, blah, blah, blah...I will go when I lose weight, run a marathon and win the Miss/ Mr Universe contest”.
- We do want you to get some basic information from your provider such as BP, lipid panel, glucose, blood count, weight. This will help you evaluate progress.

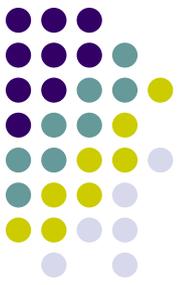
# Check with your medical provider if...



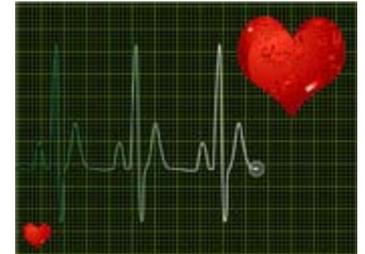
- Heart Attack or heart condition
- On medication for high blood pressure
- Lung Disease or Asthma
- Diabetes
- Chest pain
- Arthritis or osteoporosis or recent hip surgery
- Dizziness, loss of balance
- Pregnancy

# Exercise Clearance Guidelines

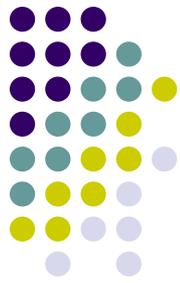
## If two or more apply



- **Medical clearance advised male > 45  
woman > 55**
  - **High Blood Pressure or High Cholesterol**
  - **Smoke**
  - **FMH heart disease <55**
  - **Obesity BMI of 30**
  - **Sedentary people can begin light to moderate exercise without medical screening if not in above categories.**
- American College of Sports Medicine**



# Prevent Injuries

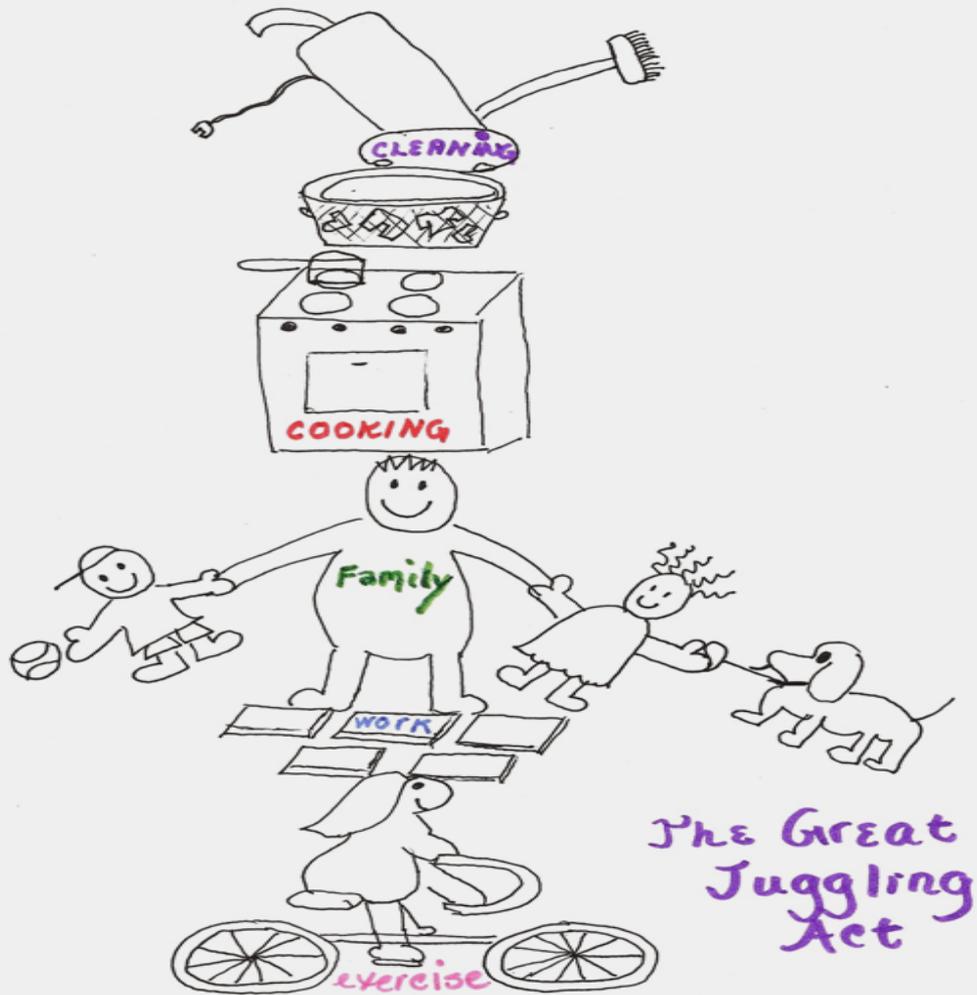


- Start program with short 5-10 min. sessions and build up
- Use safety equipment such as a bike helmet for bike riding, reflector or light for outdoor activities, **supportive shoes**
- Start with **stretching**, a warm up and cool down until your heart rate returns to normal, **stay connected to your heart.**
- Use sunscreens
- Drink plenty of fluids

# Getting Off the Couch



- **Quiet the voices of self doubt .  
Developing a better relationship with yourself is essential to healthfully reaching your fitness goals. Build a new attitude and a new you.**
- **A stumbling block can be putting everyone else's needs and work above your own. Taking care of yourself prepares you to take care of others.**

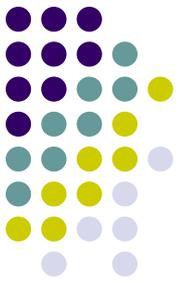


# How much time do you really have??



- Hours sleep/night /week
- Time for meals/day/week
- Work hours include commute/day/week
- Carpooling, school, kids/day/week
- Daily care include exercise/day/week
- Household
- Meeting hours/week
- Appointments/week
- Total hours per week
- Total hours in a week=168
- Subtract grand weekly total from 168 = free hours in a week

# Men and Women are different



- Men are less likely to ask for help and directions because it may make them feel inferior. Men may have tendency to over train. Men like less information.
- Women usually enjoy more direction and support. Women may have tendency to not push themselves. Women like more information.





# Tricks of the Trade

- **Finding the Fun! Think back to the playfulness when you were a kid. Fun is the key to reconnecting with your physical self. Vary activities to prevent boredom. Try dancing**
- **Plan ahead and pack a bag for exercise. In the bag put shoes, socks, workout clothes (wick), jacket, water bottle, heart rate monitor, and iPod (if you need music to motivate) Keep bag in car**
- **Set realistic specific goals**
- **Sign a contract, do an exercise log, make appt**
- **Buddy system make it social**
- **Reward system**
- **Plan on how to overcome barriers and challenges (cold weather etc)**



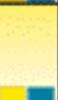
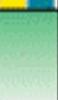
# Tools of the Trade





## THE ZONES CHART



ZONE	MAXIMUM HEART RATE	FUEL BURNED* (per min)	CALORIES BURNED (Cal/min) <sup>†</sup> (Cal/30min)	WORKOUT TYPE	BENEFITS	MET POINTS <sup>‡</sup>	WELLNESS ZONES	INTENSITY MEASUREMENTS				
								LACTATE <sup>§</sup> CONCENTRATION	VO <sub>2</sub>	RATING OF PERCEIVED EXERTION	DESCRIPTION OF RPE	TALK
<b>5</b> REDLINE <small>RED ZONE</small>	100% ↑ 90%		~20 Cal/min ~ 600	Max effort, sprinting, high speed intervals	Improved lactate tolerance  <b>GET FASTEST</b>	x5	↑ PERFORMANCE ZONES ↓ ↑ FITNESS ZONES ↓ ↑ HEALTH ZONES ↓	>8mm	100% ↓ 86%	10 ↓ 7	maximal effort to very, very hard	Can't talk except for very short phrases
<b>4</b> THRESHOLD <small>ORANGE ZONE</small>	90% ↑ 80%		~15 Cal/min ~ 450	Time trials, intervals, tempo, hill work	Improved anaerobic capacity, lactate clearance  <b>GET FASTER</b>	x4		4-8mm	86% ↑ 73%	7 ↑ 5	very, very hard to hard	Can still talk, but not comfortably
<b>3</b> AEROBIC <small>YELLOW ZONE</small>	80% ↑ 70%		~10 Cal/min ~ 300	Endurance and steady-state	Improved aerobic capacity, optimal cardiovascular training  <b>GET FITTER</b>	x3		3-4mm	73% ↑ 60%	5 ↑ 4	hard to somewhat hard	Very aware of breathing, still comfortable to talk
<b>2</b> TEMPERATE <small>GREEN ZONE</small>	70% ↑ 60%		~7 Cal/min ~ 210	LDL (big slow muscle, recovery and regeneration)	Improved fat mobilization, basic cardio training  <b>STAY FIT</b>	x2		2-3mm	60% ↑ 48%	4 ↑ 2.5	somewhat hard to easy	Aware of breathing, very comfortable talking
<b>1</b> HEALTHY HEART <small>BLUE ZONE</small>	60% ↑ 50%		~ 4 Cal/min ~ 120	Warm-up and cool-down rehabilitation	Improved self-esteem, stress reduction, blood chemistry  <b>GET FIT</b>	x1		<2mm	48% ↑ 35%	2.5 ↑ 1	easy to very easy	Easy conversation, just like sitting and talking

 amount of fat burned

 amount of carbohydrates burned

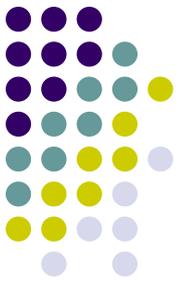
<sup>†</sup> In all zones, approximately 70% of the calories burned are protein which is negligible.

<sup>‡</sup> A measurement of training load.

<sup>§</sup> Lactate is the concentration of lactic acid in the blood.

<sup>§</sup> VO<sub>2</sub> is the amount or volume of oxygen used.

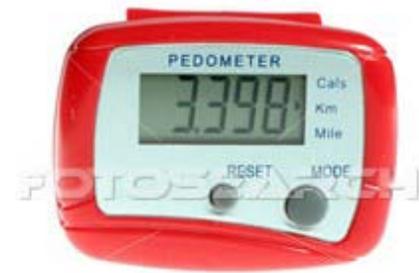
**HEART Zones**  
A Running & Exercise Company  
1614 Park Avenue, Suite 100, Scarborough, ON M1B 2Y1  
Tel: (416) 491-7662 Fax: (416) 491-7663  
www.heartzones.com info@heartzones.com



# Maximum Heart Rate

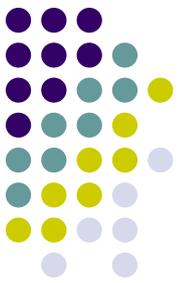
- **Critical piece since you design heart zone training around it.**
- **MHR=220-Age**

# Pedometer



k0117192 www.fotosearch.com

- Pedometers count steps. Step counting is a great way to keep active, aiming to increase your steps by 2000 per day towards a goal of 10,000 steps per day.
- The recommended number of steps is 6000 for health, 10,000 for weight loss when you count all steps during the day.



# Get Started FITT Principle

- **Frequency:** 3-5 days/wk
- **Intensity:** start at low to moderate intensity and gradually progress. Emphasis is on increasing duration rather than intensity. 60-75% MHR
- **Time:** 30-60 min, using a gradual progression. Multiple short bouts produce similar benefits.
- **Type:** Low impact activities that are convenient and accessible and enjoyable. (walking, aerobics, water exercise, weight and flexibility training (Yoga, Pilates))

**EACH WEEK, TRY TO INCREASE YOUR PHYSICAL ACTIVITY USING THIS GUIDE. HERE'S HOW TO START...**

**IF YOU ARE INACTIVE**

*(Rarely do activity)*

Increase daily activities at the base of the Activity Pyramid by

- taking the stairs instead of the elevator
- hiding the TV remote control
- making extra trips around the house or yard
- stretching while standing in line
- walking whenever you can

**IF YOU ARE SPORADIC**

*(Active some of the time, but not regularly)*

Become consistent with activity by increasing activity in the middle of the pyramid by

- finding activities you enjoy
- planning activities in your day
- setting realistic goals

**IF YOU ARE CONSISTENT**

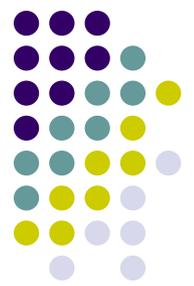
*(Active most of the time, or at least four days each week)*

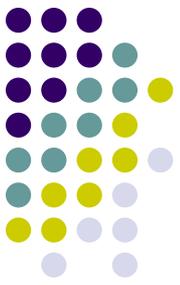
Choose activities from the whole pyramid by

- changing your routine if you start to get bored
- exploring new activities

**ABOVE ALL...**

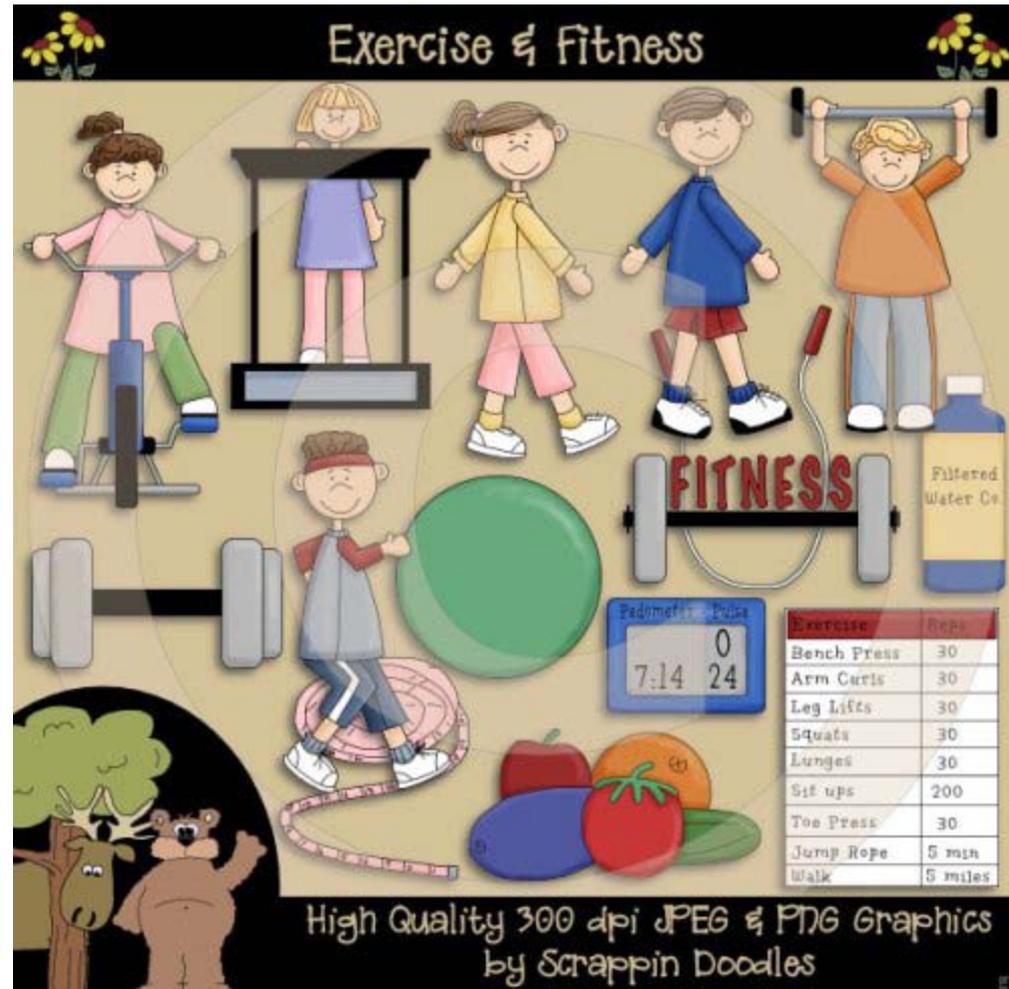
**HAVE FUN AND GOOD LUCK!**





# Functional Movements

- Squat
- Lunge
- Bend
- Push
- Pull
- Twist



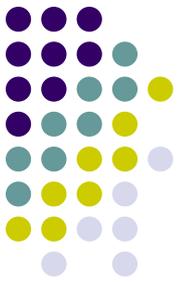
# Exercise doesn't have to be hard



- Community Classes
- Community Events-Fun walks, runs
- Outside sports
- Fitness Center
- DVD's
- Home Equipment-bands, balls, dumbbells
- Personal Trainers
- Hiking club, golf, tennis
- Stairs, park further away



# Rx for Health



30 min/day moderate intensity

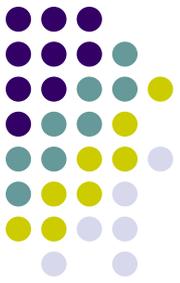
60 min/day moderate to vigorous for weight loss/maintenance

60-90 min/day to prevent weight regain

Strength Training 2-3X/week

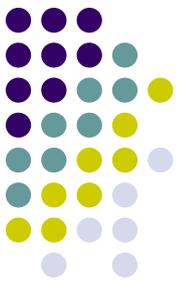
Stretching

# Utilize Relapse Management



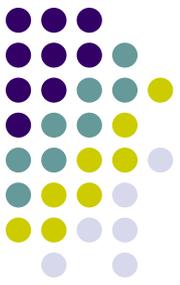
- Don't beat yourself up and throw the towel in especially with food
- If you miss a day move on
- Keep positive
- Set smaller goals
- Establish more support
- Reward yourself...buy a new work out outfit
- Recognize this is life time commitment





# Activity and Calories Burned

<b>Activity &amp; Calories Burnt</b>	<b>120 lbs</b>	<b>140 lbs</b>	<b>160 lbs</b>	<b>180 lbs</b>
<b>Aerobics (per minute)</b>	<b>7.4</b>	<b>8.6</b>	<b>9.8</b>	<b>11.1</b>
<b>Basketball (30 minutes)</b>	<b>225</b>	<b>264</b>	<b>300</b>	<b>339</b>
<b>Cycling (10 mph 30 minutes)</b>	<b>165</b>	<b>192</b>	<b>219</b>	<b>246</b>
<b>Golf (pull clubs 30 minutes)</b>	<b>138</b>	<b>162</b>	<b>186</b>	<b>210</b>
<b>Hiking (30 minutes)</b>	<b>135</b>	<b>156</b>	<b>180</b>	<b>201</b>
<b>Jogging (30 minutes)</b>	<b>279</b>	<b>324</b>	<b>372</b>	<b>417</b>
<b>Skating (ice and roller 30 minutes)</b>	<b>177</b>	<b>207</b>	<b>237</b>	<b>264</b>
<b>Skiing (snow and water 30 minutes)</b>	<b>171</b>	<b>198</b>	<b>228</b>	<b>255</b>
<b>Swimming (moderate pace 30 minutes)</b>	<b>239</b>	<b>270</b>	<b>309</b>	<b>348</b>
<b>Tennis (30 minutes)</b>	<b>180</b>	<b>207</b>	<b>237</b>	<b>267</b>
<b>Walking (30 minutes)</b>	<b>195</b>	<b>228</b>	<b>261</b>	<b>291</b>
<b>Weight Training (30 minutes)</b>	<b>198</b>	<b>228</b>	<b>261</b>	<b>294</b>



# Eat Right for Exercise

- Fresh foods: nuts, fresh fruit and vegetables, beans, tofu
- Complex carbohydrates: grains, breads, potatoes
- Modest protein: fish, poultry, lean meat
- Keep it colorful, unpackaged and unprocessed
- Avoid fast and junk food

# Thank you

- Exercise can be your drug of choice

