



Exercise & Heart Health

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Controllable risk factors of Coronary Artery Disease

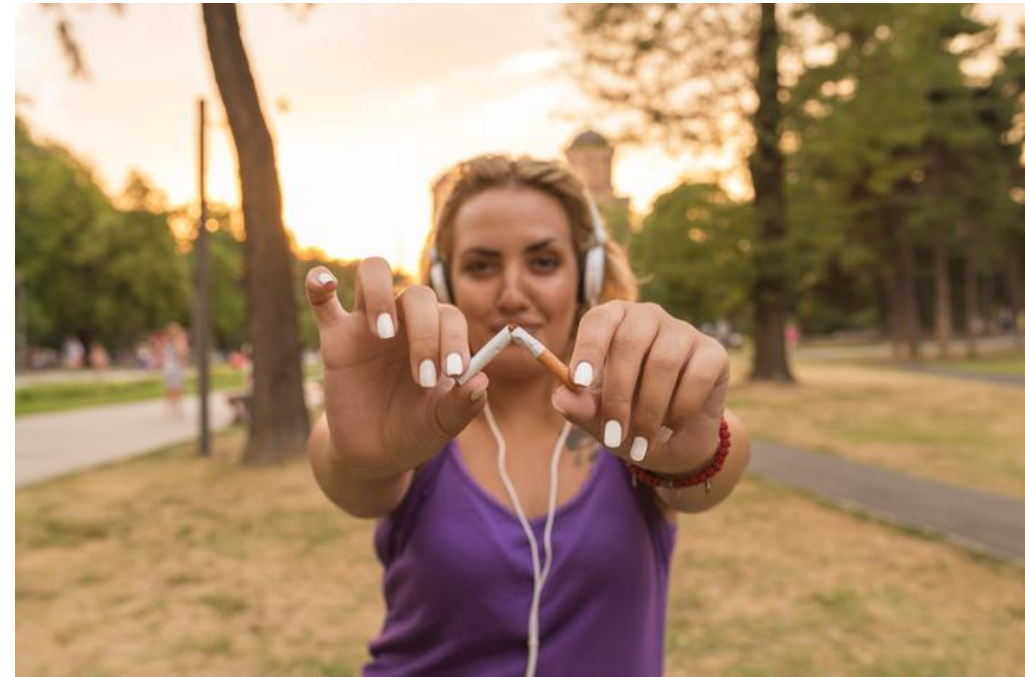
- Smoking
- High blood cholesterol
- High blood pressure
- Diabetes
- Stress
- Sedentary lifestyle

But we can't change our family tree!



Smoking

- Increases vasoconstriction
- Decreases available oxygen to tissues
- Increases plaque build-up in arteries



High blood pressure

- Blood Pressure: The amount of force pressed against the artery walls
 - Measured in mmHg
 - Acceptable 130/80, Ideally 120/80
 - Above 140/85 = Hypertension
 - Get it checked!



Blood lipid (cholesterol) panel

- HDL (“happy” or “high”) = carry cholesterol from other parts of body to liver for elimination
- HDL: men ≥ 40 mg/dl; women ≥ 50 mg/dl
- LDL \uparrow (“lousy” or “low”) = carriers of cholesterol to the arteries and can contribute to build up; LDL can the risk of heart disease
- LDL: < 70 mg/dl



Diabetes — type I & type II

- Poorly controlled blood sugar increases atherosclerosis (plaque formation in the arteries)
- Blood sugar goals
 - Pre-meal 80-130 mg/dl
 - Bedtime 100-140 mg/dl
- Snack before exercise if blood sugar is low!
- HbA1c goal < 7% - check it regularly
- Please refer to info in cardiac rehab booklet



Stress management

- Recognize your own stressors (positive & negative)
- Identify your priorities
- Set aside time for relaxation



The human body has over 600 skeletal muscles

We're designed to **move!!!**

"I don't have the time."

"I have a bad back."

"I don't have the money."

"I'm really active at work/home."



Imagine if you lived 150 years ago

- Chop wood for cooking & heating
- Fetch water for cooking, cleaning
- Hunt for food
- Plant, tend, harvest crops
- Walk to town, walk to work
- Use your body from sun up to sun down
- Our bodies adapted to meet these demands!



Choose to move

- Modern conveniences have made our lives sedentary (electric bikes, hover boards, remote controls, online activities)
- Human physiology has not changed with modern technology



Cardiovascular fitness

- Makes your heart stronger
- Builds endurance
- Builds strength
- Improves flexibility
- Improves circulation
- Burns calories



Warm-up

- Prepares the body for more intense exercise
- Increases blood flow to working muscles which results in:
 - ↓ muscle stiffness
 - ↓ risk of injury
 - ↑ performance



How much exercise?

- **Frequency**
 - 4-6x weekly
- **Intensity**
 - RPE 11-14 (fairly light-somewhat hard)
 - Your own target heart rate
 - Either R+30, R+50 OR acquired through stress testing
- **Duration**
 - 20-60 min



What's the best exercise?

- Uses large muscle groups
- Weight bearing if possible
- Can be performed for at least 20 min continuously
- Doesn't cause pain
- Is enjoyable



The best exercise is the one that you will really **DO!**

- Walking
- Cycling
- Rowing
- X-country skiing
- Swimming
- Elliptical



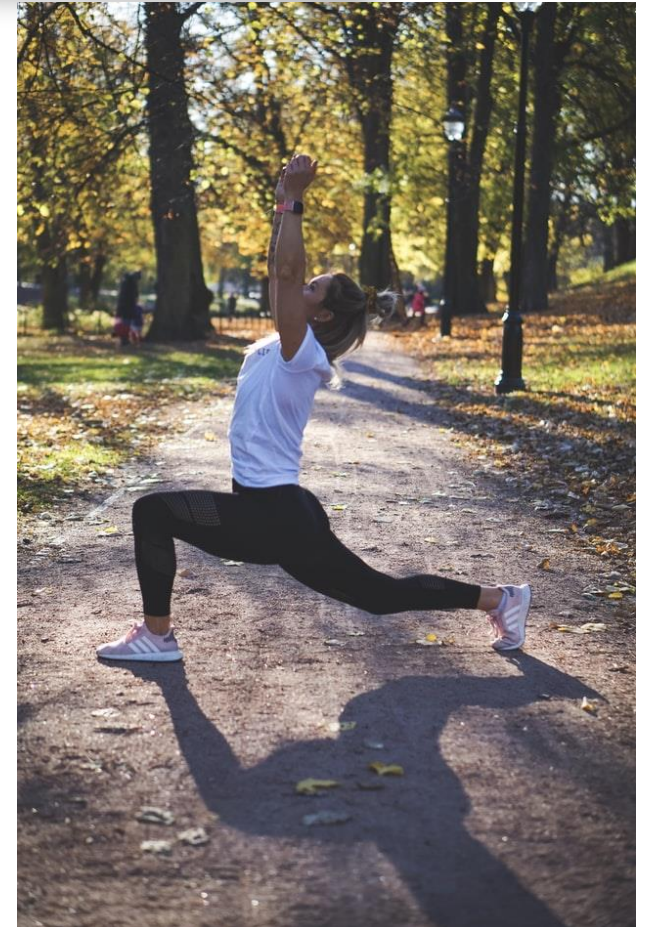
Cool down

- Slow down your exercise, but keep moving
- Should include slow, deliberate stretches
- Allows for a gradual recovery of heart rate & blood pressure
- Reduces the likelihood of dizziness or cardiovascular complications



Getting started

- Physician approval
- Schedule exercise as part of your day
- Comfortable footwear & clothing
- Set realistic goals
- Start slowly, progress gradually
- Make it fun
- Stay committed!
- Challenge yourself (wear a Fitbit)
- Consider a long term exercise routine



Warm weather guidelines

Drink Water

- Before
- During
- After exercise



Warm environment

- Attain target heart rate sooner
- Blood pressure decreases
- Fatigue more easily
- Sweat more readily
- Need more water



Adjust your exercise

- Cooler part of the day
- Exercise indoors (the gym, your house, the mall)
- Take it easy on hot/humid day
- Drink lots of water

What about saunas & hot tubs???



Cold weather

- Dress in layers
- Scarf or ski mask over mouth & nose
- Body takes longer to warm up
- May be harder to attain target heart rate
- Blood pressure increases



What about snow shoveling?

- Snow shoveling is **NOT** aerobic
- It is isometric exercise with heavy resistance
- Places added strain on the heart
- Combination of cold temp & heavy physical exercise could precipitate **Angina**
- 7-10 metabolic equivalent of task (MET) level



What's a MET level?

Met Level	Physical Conditioning	Employment Tasks
< 3	Walking 2 mph	Desk Work
3-5	Walking 3 mph	Stocking Shelves
5-7	Walking 4 mph	Shoveling Dirt
7-9	Jogging 5 mph	Digging Ditches

Remember...

- Medications such as Coumadin, Aspirin, Plavix and Beta Blockers can make you less tolerant of the cold.....bundle up!



Listen to your body

- Exercise within your target heart rate (THR)
- Slow down if you are above your THR or becoming short of breath
- Stop exercise if you feel dizzy, lightheaded or nauseous
- Speed up if it's not enough
- Avoid extremes in temperatures

Who needs strength training?

Anyone
& everyone
who wants to
be stronger!!



Who needs strength training?

You **don't** have to be a world class athlete to benefit strength training.



Why do I need strength training?

I need to be strong to.....

- Carry my groceries
- Improve my golf game
- Return to work
- Hold my grandchildren
- Push the lawn mower
- Maintain my independence



Strength training guidelines

- Should do 5-10 exercises using different muscle groups (total body)
- 10-15 repetitions for 1-3 sets, 2-3x weekly
- Be sure you are breathing as you lift/exert yourself
- Lift weights in a slow, deliberate manner
- Progress gradually



Types of Strength Training

- Body weight exercises
- Dumbbells
- Barbells
- Circuit training



How do I know if I've done too much?

- Increased muscle soreness
 - Okay for up to 1-5 days (DOMS)
 - Anything longer could indicate an injury to the muscle
- Muscle swelling
- Increased fatigue
- Decreased exercise performance
- Exercise should NOT cause pain!



Benefits of exercise

- **Lipid management**
 - Increased HDL
 - Decreased triglycerides
- **Blood pressure control**
 - Reduced resting systolic & diastolic pressures
- **Blood sugar control**
 - Reduced insulin needs
 - Improved glucose tolerance



Additional benefits of exercise

- **Stress Management**
 - Decreased anxiety & depression
 - Enhanced feelings of well-being
 - Enhanced performance during work, recreational & daily living activities
- **Body Composition**
 - Reduced total body fat
 - Increased lean muscle mass



Additional benefits of exercise

- Increased threshold for onset of symptoms
 - Shortness of breath
 - Muscle fatigue
 - Angina
 - Claudication
- Improvement in cardiovascular fitness
- The ability to do more with less strain!!



Summary of heart healthy exercise

- **How Much?**
 - Enough to increase your breathing without making you out of breath
- **How Often?**
 - Most days of the week
- **How long?**
 - Build up to one hour
- **What kind?**
 - Use large muscles
 - Use as many muscle groups as you can



The choice is yours!





health, healing & hope





CMC

CATHOLIC MEDICAL CENTER

**New England Heart
& Vascular Institute**

Where
heart
meets
health.