The Sedentary Athlete

Introducing Exercise for the first time… again

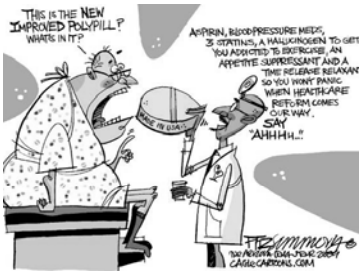
Build on successes.

Everyone has to start somewhere

"What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?"

Put it in perspective

Hit it home



Write it down

Written directions are more readily followed.
Exercise is a prescription!
www.exerciseismedicine.org

Begin at the beginning

- Find out likes
- Find out when
- Find out with who
- Find out how often

When to do a stress test

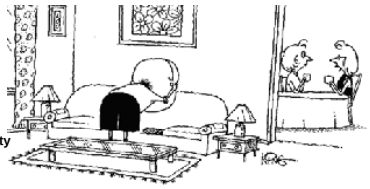
- Have diabetes more than 10 years
- 35 y/o and DM with or without CVD risk factors
- Older than 30 y/o with BP > 140/90, smoker, dyslipidemia, and family hx of premature CAD
- Any of the "opathies" or metabolic syndrome
- Diabetic Autonomic Neuropathy

Activity Vs Exercise

Not the same

May avoid stigma but Be sure you know the differenc

Aerobic by definition is sustained rhythmic activity longer than 2 minutes



The doctor said he needed more activity. So I hide his T.V. remote three times a week.

Why Exercise?

- Increases strength to improve function and quality of life
- Decreases risks of major illnesses
- Improves anxiety levels and overall self image
- Most effective than any other option in the marketplace

DPP

- 150 Min of ex/week
- 30 min 5x/day

Activity

- Choose and activity of the person's choice and liking
- http://www.cdc.gov/physicalactivity
- http://prevention.sph.sc.edu/tools/docs/documents_compendium.pdf
- http://riskfactor.cancer.gov/tools/atus-met/met.php
- http://www.cdc.gov/physicalactivity/downloads/PA_Intensity_table_2_1.pdf

MET

- http://www.brianmac.co.uk/mets.htm
- Calculate METs into calories

Pick a position

- Standing
- Seated

Resistance

- Weights

- Exercise bands

- Gravity (Own Body weight)

Base of Support

- Wide
- Narrow
- Feet turned out

- Feet turned in
- Feet offset

Direction of Movement

- Forward
- Backward
- Laterally
- Rotation
- Upward
- Downward

Speed

- Fast
- Slow
- Somewhere in between

Range of Motion

- Stay within painfree ROM

Cardiac Concerns

- Thorough history
- Do stress test if necessary
- Blood pressure
- Medication
  - Beta blockers
- Nueropathy

Before you get started

- Submaximal Exercise test
  - 6 min walk test
- End Point
  - 70%-85% of age predicted HRmax
  - RPE of 4-5
  - Carry a conversation without gasping for air.

6 Minute Walk Test

- Easy to administer
- High degree of validity and reliability
- Measures functional capacity
- Person can stop whenever they want and continue within the 6 minutes or stop altogether.
- If stop early note time that stopped
- http://www.thoracic.org/statements/resources/pfet/sixminute.pdf

Prediction equations

- > 68 y/o
  - Women: 6MWD = 493 + (2.2 x height) – (0.93 x weight) – (5.3 x age)
  - Men: add 17 to above equation
  - Use metric, meters and kilograms
- 50 – 85 y/o
  - 6 MWD = 218 + (5.14 x height – 5.32 x age) – (1.8 x weight + 51.31 x sex)
    - Male = 1; female = 0

Prediction Equation – All ages

- 6MWD = 868.8 – (age x 2.99) – (Gender x 74.7)
- Female = 1, Male = 0

Conversions

- Feet to meters
  - Meters = feet x 0.3048
  - Feet = Meter x 3.2808
  - 5289 feet = 1 mile
- Pounds to Kilogram
  - Kilograms = pounds x 0.4536

Intensity

- MOST CRITICAL FACTOR
  - 70-90% HRmax or 55-75% VO2 max
  - Training sensitive zone

Determine Heart Rate

- Linear relationship between HR and VO2max
- Karvonen Method
  - [(220-age) – HR rest] x 0.6, 0.7, 0.8 then add HR rest
  - Tanaka – for older adults >65
    - [202 – (0.7 x age) – HR rest] x % HR max then add rest HR

HR and VO2 max correlations

- 70% HRmax ~ 58-60 % VO2max
- 80% HRmax ~ 70% VO2max
- 90% HRmax ~ 85% VO2max

HR Considerations

- Beta Blockers
- Autonomic neuropathy
  - Look for the sensory/motor, if present assume autonomic
  - Use RPE scale

Exercise and Insulin Resistance

- Exercise recommendations
  - 5 days/week
  - Try for same time every day
  - Duration: optimal 40-60 minutes

Use it or lose it!

Potential Adverse Effects

- Hypoglycemia in patients using insulin
- Complications for proliferative retinopathy – stay away from isometrics and valsalva
- Musculoskeletal or soft tissue injuries
- Foot injuries

General precautions

- Monitor blood glucose levels
  - Before exercise begins
  - Exercise only if between100mg/dl & 250-300mg/dl
  - If at high end measure after 15 min ex.
  - If BG < 70mg/dl – carbo snack and remeasure in 15 min

General Precautions

- Avoid use of muscles around injection site
- Avoid exercise during peak insulin activity
- Light meal or carbohydrate snack before exercise

General Precautions

- Inform others about signs and symptoms of hypoglycemia and what to do.
- Be alert several hours after exercise
  - Depleted muscle and hepatic glycogen stores are being replenished
  - May deplete blood glucose and cause symptoms
  - 6-15 hours after exercise

Musculoskeletal implications

- Feet
  - Good shoes
  - Check feet after exercise
  - Don't overload
  - Neuropathy and balance, safety

Be a coach

- Inspire
- Encourage
- Give guidelines
  - "be careful" is not a guideline

Conclusion

- Exercise is a prescription and should be handled with care
- When in doubt, refer out
- The Physical Therapist is the most qualified professional to prescribe exercise across the continuum of care.

Questions??