DM AND EXERCISE- A PANEL DISCUSSION

Katy Eichinger, PT, PhD, DPT, NCS

Staying Strong

- Musculoskeletal involvement of DM results in progressive decline in strength

- Inactivity and aging also result in loss of muscle strength

- Physical activity and exercise are essential in minimizing strength loss secondary to disuse and inactivity.

Physical Activity Guidelines (2008)

- Aerobic training at a moderate intensity for 2 hours and 30 minutes (5 days of 30 minutes)
- Resistance exercise involving all major muscle groups on 2 or more days per week
- Moderate intensity: able to talk, but not able to sing
- Examples: brisk walking, water aerobics, bicycling, ballroom dancing, gardening

2008 Physical Activity Guidelines for Americans

Be Active, Healthy, and Happy!

www.health.gov/paguidelines
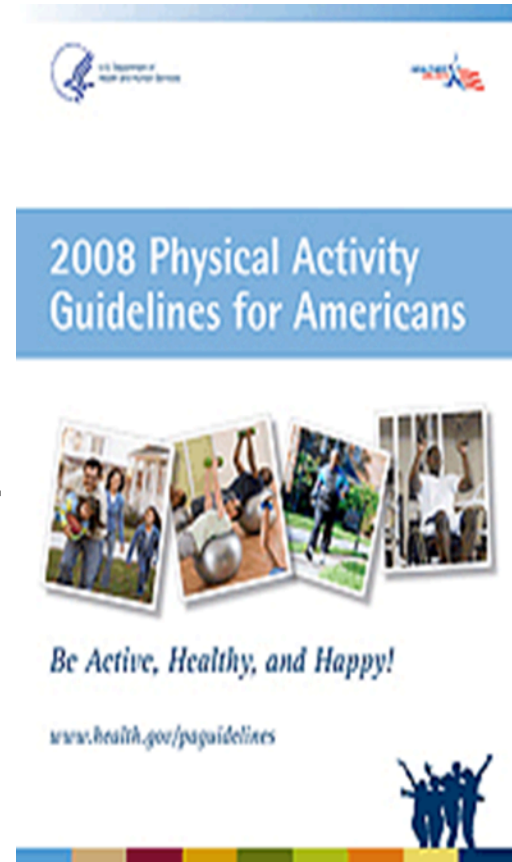
# Physical Activity Guidelines for Adults with Disabilities (2008)

- Follow the adult guidelines. If this is not possible, these persons should be as physically active as their abilities allow. They should AVOID INACTIVITY.

Evidence for Exercise

- "Moderate intensity strength training appears not to do harm" (Cochrane Review, 2010)

- "There is level II evidence (likely to be effective) for strengthening exercises in combination with aerobic exercises for patients with muscle disorders." (Cup et al., 2007)

- "Aerobic training is safe and can improve fitness effectively in patients with myotonic dystrophy." (Orngreen et al., 2005)
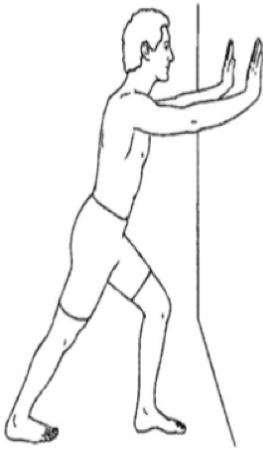
Physical Activity and Exercise

- "Physical activity in daily life can be categorized into occupational, sports, conditioning, household, or other activities. Exercise is a subset of physical activity that is planned, structured, and repetitive and has as a final or an intermediate objective the improvement or maintenance of physical fitness." (Caspersen, 1985)
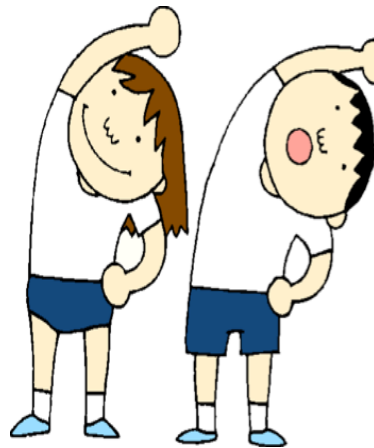
Types of Exercise

- Stretching (range of motion)
- Strengthening (resistance training)
- Aerobic (cardiovascular training)

Known Benefits of Physical Activity/ Exercise

- Control your weight
- Reduce your risk of cardiovascular disease
- Reduce your risk for type 2 diabetes and metabolic syndrome
- Reduce your risk for some type of cancers
- Strengthen your bones and muscles
- Improve your mental health and mood
- Improve your ability to do daily activities and prevent falls, if you're an older adult
- Increase your chances of living longer

Habitual Exercise and DM

□ Retrospective study aimed to look at the differences in strength of individuals with DM1 who were habitually active or sedentary.

□ Individuals with mid-range CTG repeats (100-500) who were engaged in regular exercise programs, demonstrated stronger grip, elbow flexor, and knee extensor strength than sedentary counterparts.

□ Those who began an exercise program demonstrated a 24% gain in knee extensor strength.

Brady et al., 2014

Minimize Sedentary Lifestyle

- Evidence is mounting regarding the detrimental effects of sitting/being sedentary

- Individuals with DM were noted to sit 7.5 hours/day!

- Be as physically active as you are able

- Set a timer to get up and move around

Overcoming Barriers to Physical Activity

Motivation	✓Plan ahead. Make physical activity a regular part of your daily or weekly schedule and write it on your calendar. ✓Invite a friend to exercise with you on a regular basis and write it on both your calendars. ✓Join an exercise group or class
Fatigue/Lack of Energy	✓Schedule physical activity for times in the day or week when you feel energetic. ✓Convince yourself that if you give it a chance, physical activity will **increase** your energy level; then, try it

Promoting Physical Activity: A Guide for Community Action (USDHHS, 1999)

Exercise

Exercise
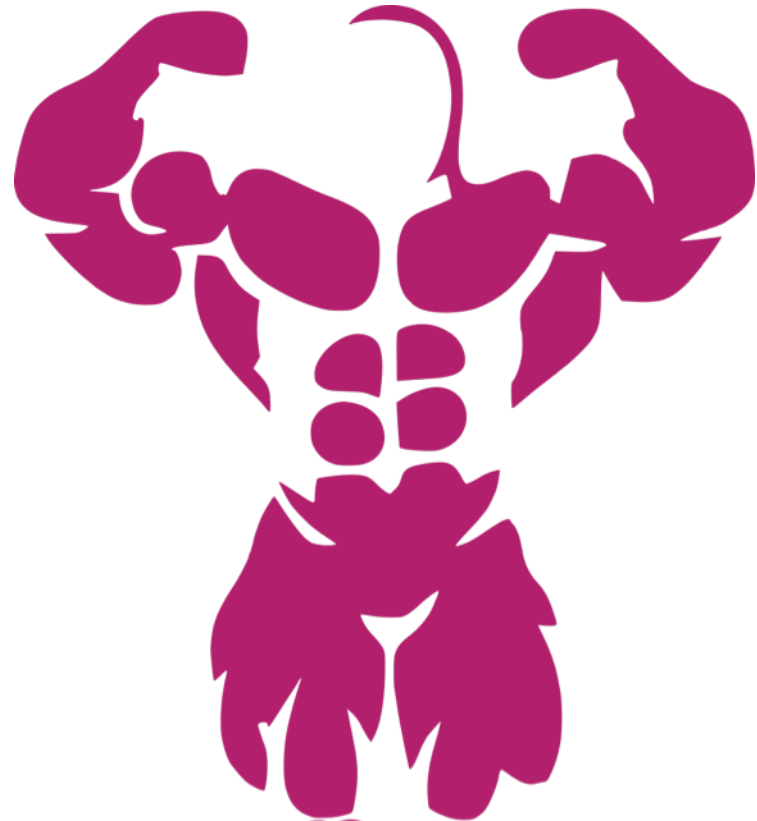
Physical Activity

Physical Therapy

My Story

The Guy You Love to Hate

Exercise:

- ▢ ABILITY
- ▢ DESIRE
- ▢ BENEFIT

LET'S GET STARTED!

Tools of the Trade:

Motivation