



MYOTONIC
DYSTROPHY
FOUNDATION

Care and a Cure



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STAYING STRONG: DM AND EXERCISE

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Goals of Management

- Promote optimal health and wellness
- Prevent or delay secondary complications
- Maximize functional abilities
- Improve/increase participation
- Improve/maintain QOL

Health and Wellness

Health is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity. ~World Health Organization, 1948

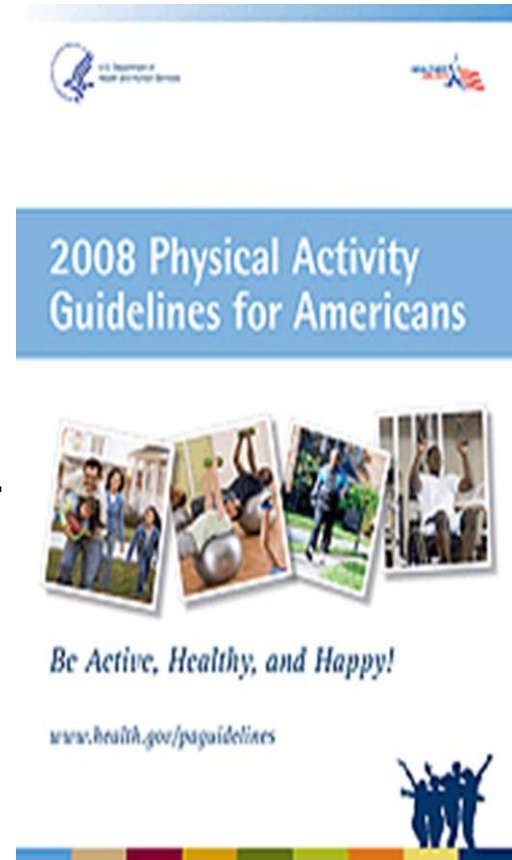
Wellness is an active process through which people become aware of and make choices toward a more successful existence. ~ National Wellness Institute

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



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

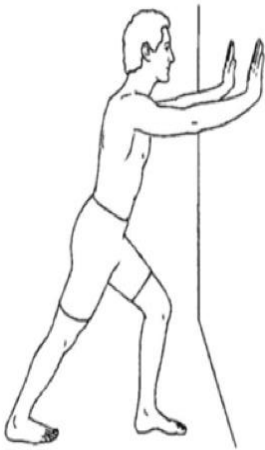
- “Moderate intensity strength training appears not to do harm” (Cochrane Review, 2010)
- “There is level II evidence (likely to be effective) for strengthening exercises in combination with aerobic exercises for patients with muscle disorders.” (Cup et al., 2007)
- “Aerobic training is safe and can 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)



Range of Motion

- Active, Active/Assisted, Passive
- Gravity minimized
- Addresses muscle imbalances
- May decrease pain



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Aerobic

- Cycling
- Walking
- Aquatic exercise
- Dancing
- Gardening/yardwork

- Moderate intensity: Activity that raises heart rate and respiratory rate, but you are still able to talk.



Resistive

- Body weight
 - Free weights
 - Machines
 - Resistive bands
 - Soup cans
 - Aquatic exercise
-
- Moderate intensity-
able to complete 12-15 repetitions



sportsinjuryclinic.net



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	<ul style="list-style-type: none">✓ 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	<ul style="list-style-type: none">✓ 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)

Physical Therapy Intervention

- Individualized care
- Establish patient centered goals following evaluation
- Type, frequency, intensity, duration
- Exercise Recommendations
- Bracing/Orthotics
- Assistive devices

Bracing



<http://www.allardusa.com/>



medtechbusiness.com



<http://www.cascadeorthotics.com>

Assistive Devices



Wheelchairs



Questions?
