

Muscular Dystrophy (MD)



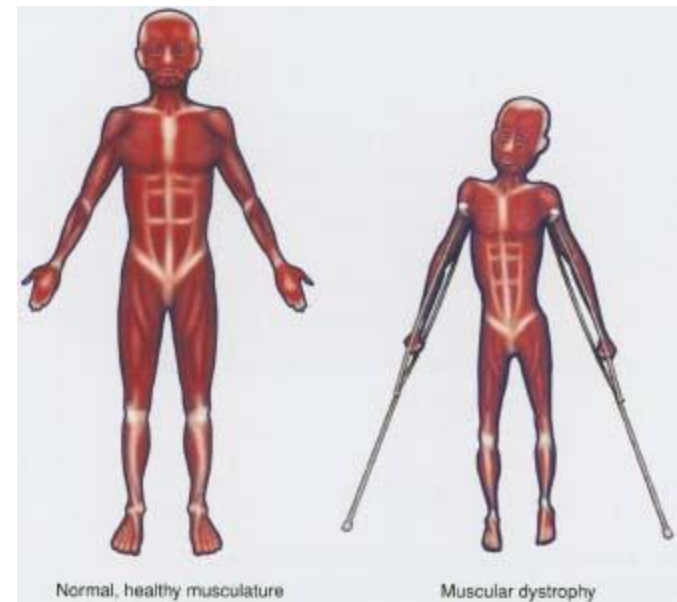
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What is Muscular Dystrophy (MD)?

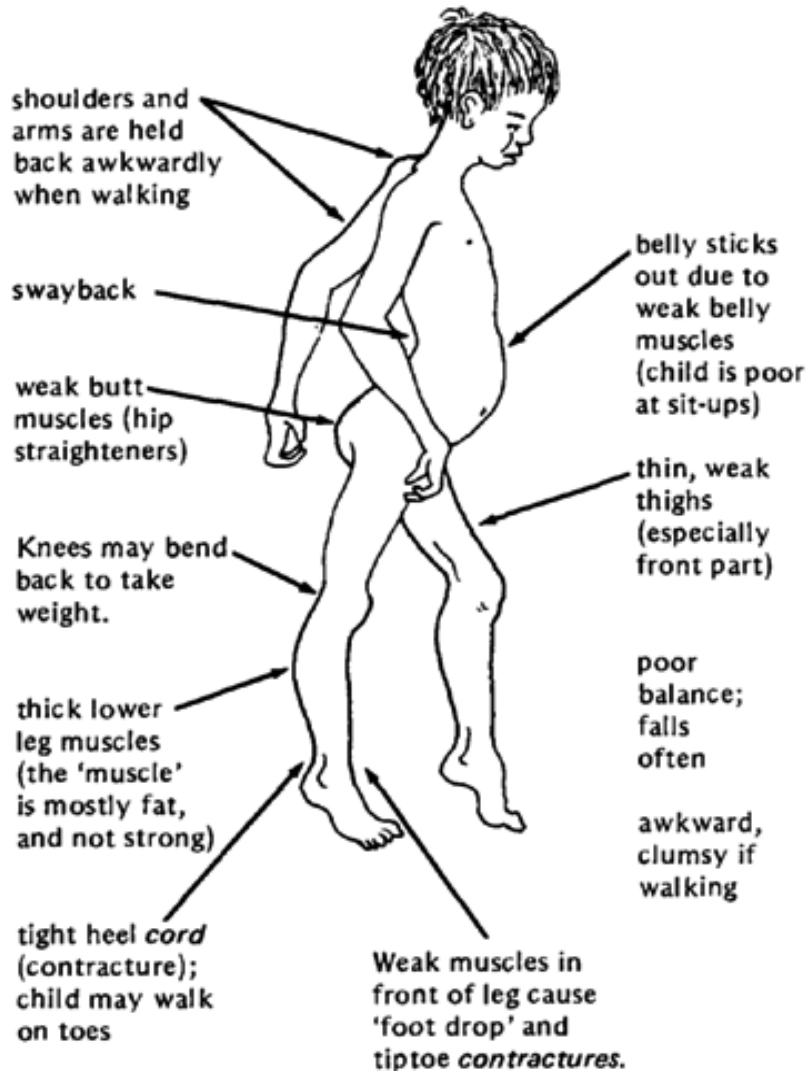
- Muscular dystrophy (MD) is a genetic disorder that gradually weakens the body's muscles.

It's caused by incorrect or missing genetic information that prevents the body from making the proteins needed to build and maintain healthy muscles.

- It is estimated that 200,000 + people in the united states have MD
- It is estimated that more than half of the known cases, the age of onset falls within the range of 3-13 years of age.



Duchenne



- Symptoms :Waddling gait, toe walking, lordosis, frequent falls, difficulty getting up after falling, difficulty climbing stairs

As the disease progresses...

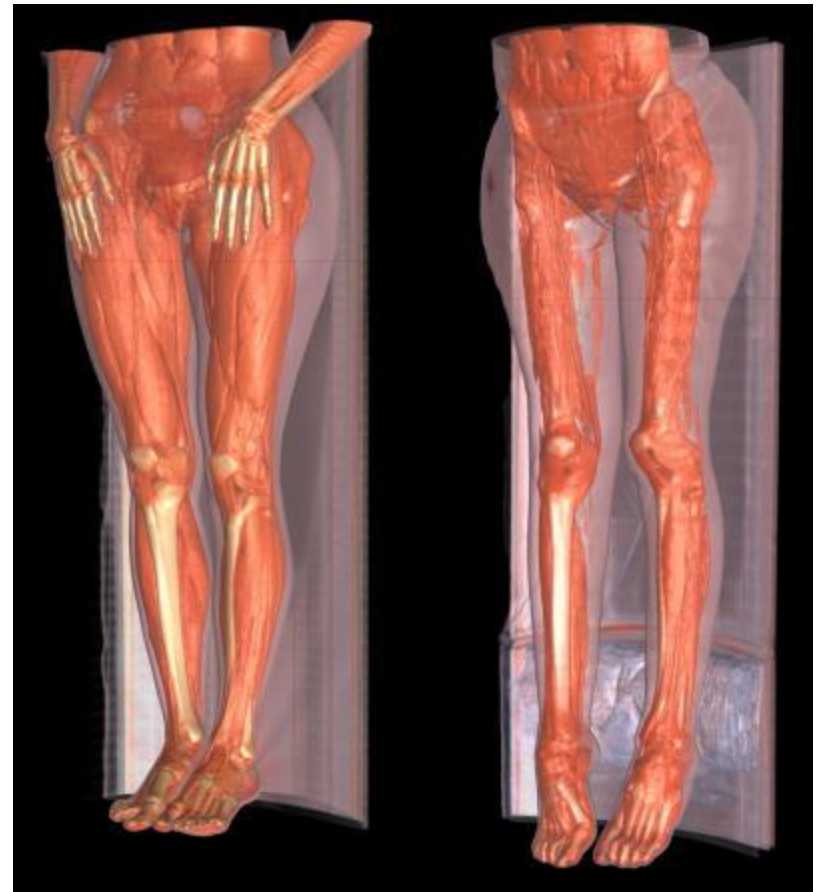
Imbalance of muscle strength
Deformities in major joints
(Hip/Knees)

Spine, pelvis, shoulder girdle
become atrophied

Contractures and heart
complications may occur

Becker

- **Less severe**
- Progression is **slower**
- As a result, few individuals are required to use wheelchairs until they approach their 20's and most survive into their thirties or forties.



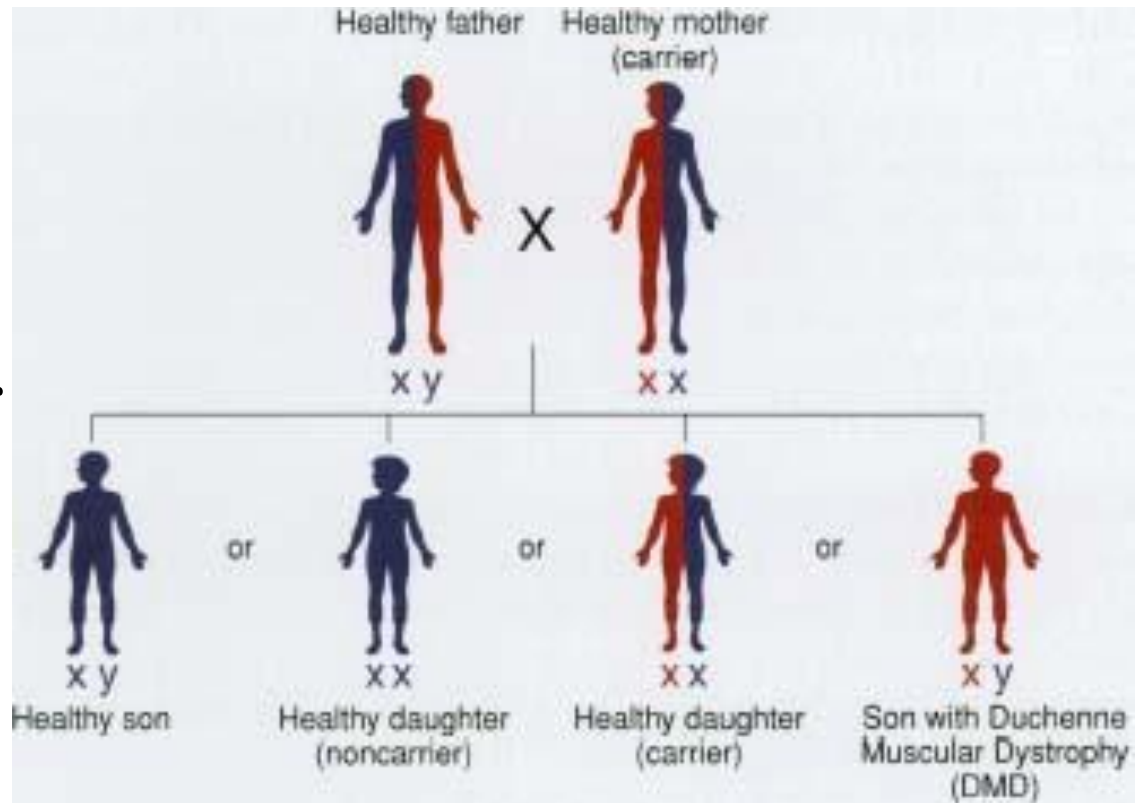
Facioscapular

- Weakness in facial muscles and shoulder girdle.
- The onset of symptoms or signs is usually recognized between **7-20**.
- **Both genders** are equally subjected to the condition.
- The progressive weakness and muscle deterioration often lead to **scoliosis** and **lordosis**.

What Causes MD?

- **Genetic**

Ex. Inheritance pattern of Duchenne muscular dystrophy (DMD). Sons have a 50-50 chance of inheriting the disorder from their mother if she carries the gene for it on one of her X chromosomes



Treatment?

- **No specific treatment**
- Physical Therapy
- Aquatic Therapy
- Respiratory Therapy
- Speech Therapy
- Dietician/ Nutritionist
- Orthopedic Appliances used for support or Assistive Technology
- Corrective Orthopedic Surgery



Drug Therapy

- Corticosteroids
- Anticovulsants
- Immunosuppressants
- Antibiotics

Developmental Consequences

- Cognitive
- Psychomotor
- Personal
- Social
- Children with MD have the **same desires and needs of other children their age and their mentality is not affected.** Although in many cases these children realize that their condition is getting worse, and it is challenging because they usually want to play as long as possible.



Implications for teaching

- Individually designed activity program
- Specific strength and stretching program outlined for each degenerative stage
 1. Exercises should include walking patterns, posture control, muscle coordination, and stretching of contractures
- Activities using specific body parts are necessary to delay onset of atrophy to muscles that are still functioning. This intern will help delay the stage of complete helplessness.
- It is best to select activities that use the remaining strengths so that **enjoyment and success can be achieved.**

Programming ideas for persons with MD

(Principles and Methods of Adapted Physical Education and Recreation, *Auxter*)

- Provide realistic short-term goals to the individuals and parents
- Use sub maximal resistance exercises while focusing on maintaining muscle endurance, power, and strength
- Reduce intensity of the activity if persons complains of exercise induced cramps or fatigue
- Include as many game-like, fun situations as possible
- Provide nutritional counseling with PT to help the individual becoming overweight

Modifications for PE

- Should try and focus on **leisure/recreation skills and activities**

(Fishing, swimming, table tennis, bocce, archery, bowling, rifle shooting, etc.)

- Include dystrophic student as much as possible
- Encouragement from peers is vital
- Include student as a supportive role in games they play together

INFO

- Local
- State
- Regional
- National -<http://www.mdausa.org/>



References

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- Daniels, Arthur Simpson., and Evelyn A. Davies. *Adapted Physical Education*. New York: Harper & Row, New York. 1975. 480-483.
- Eichstady, Carl B., Leonard H Kalakian. *Developmental/Adapted Physical Education, making ability count*. Minneapolis: Burgess Publishing, 1982.
- <http://www.mdausa.org/>

