Muscular Dystrophies: Duchenne Vs Becker

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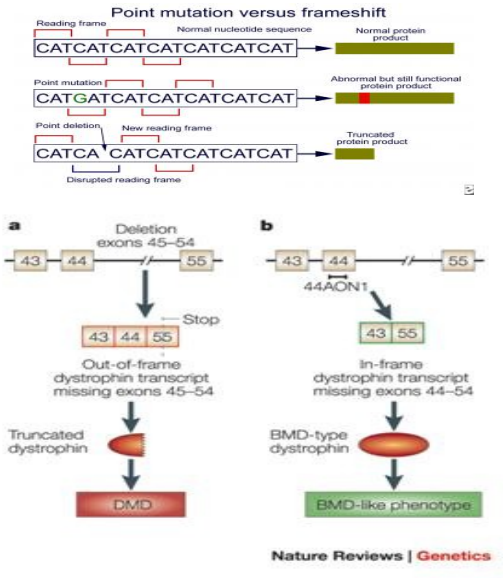
What is Muscular Dystrophy?

Muscular Dystrophy (MD) is a group of inherited diseases in which the muscles that control movement (called voluntary muscles) progressively weaken.

What Are the Causes of MD?

- Muscular dystrophy is caused by defects in certain genes, with type determined by the abnormal gene.
- In 1986, researchers discovered the gene that, when defective or flawed, causes Duchenne muscular dystrophy (DMD). In 1987, the muscle protein associated with this gene was named dystrophin. Duchenne muscular dystrophy occurs when that gene fails to make dystrophin.
- Becker muscular dystrophy (BMD) occurs when a different mutation in the same gene results in some dystrophin, but it's either not enough or it's poor in quality.



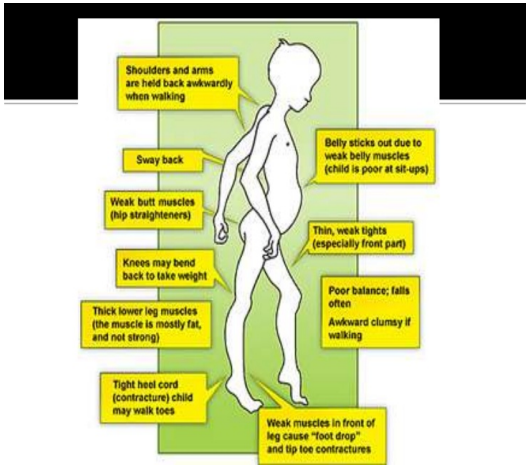
Duchenne MD Vs. Becker MD

Duchenne Muscular Dystrophy (DMD)

- DMD is the most common form of muscular dystrophy in children and only affects males.
- It appears between the ages of 2 and 6.
- The muscles decreases in size and grow weaker over time yet many appear larger.
- Disease progression varies, but many people with Duchenne (1 in 3,500 boys) need wheelchair by the age of 12. In most cases, the arms, legs, and spine become progressively deformed, and there are may be some cognitive impairment.
- Severe breathing and heart problems mark the later stages of the disease. Those with Duchenne MD usually die in their late teens or early 20s.

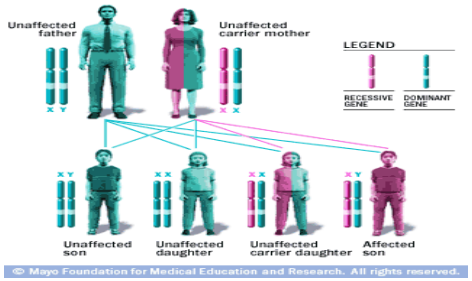
Becker muscular dystrophy (BMD)

- BMD is similar to Duchenne muscular dystrophy, but the disease is much milder.
- Symptoms appear later and progress more slowly.
- It usually appears between the ages of 2 and 16 but can appear as late as age 25.
- Like Duchenne muscular dystrophy, Becker muscular dystrophy affects only males (1 in 30,000) and causes heart problems.
- Disease severity varies. Those with Becker can usually walk into their 30s and live further into adulthood.



How are BMD and DMD inherited?

- Most of the muscular dystrophies are a form of inherited disease called X-linked disorders or genetic diseases that mothers can transmit to their sons even though the mothers themselves are unaffected by the disease.
- A female who carries the defective X chromosome can pass the disease to her son (whose other chromosome is a Y, from the father)



- Men carry one X chromosome and one Y chromosome. Females carry two Y chromosomes. Thus, in order for a girl to become affected by muscular dystrophy, both of her X chromosomes would have to carry a defective gene, which is an extremely rare occurrence, since her mother would have to be a carrier (one defective X chromosome) and her father would have to have muscular dystrophy (since men carry just one X chromosome)
- A few muscular dystrophies aren't inherited at all and occur because of a new gene abnormality or mutation

Treatments

- **Can't be cured, but treatment may help**
- Medications, therapy, breathing aids, or surgery may help maintain function, but life span is often shortened.
- **Prescription**
- Prednisone (Deltasone)
- **Also common**
- **Lifestyle:** Physical exercise
- **Devices:** Splint
- **Therapies:** Physical therapy
- **Other treatments:** Surgery