



MUSCULAR DYSTROPHY

INTRODUCTION:

Muscular dystrophy is a genetic disorder where the muscles undergo progressive degeneration and the patient gets progressively weaker without the involvement of the nervous system

In this muscle wasting and weakness are symmetrical and there is no sensory loss .

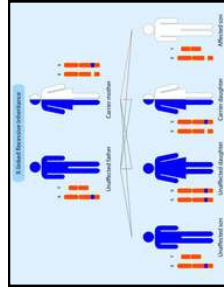
DIFFERENT TYPES OF MUSCULAR DYSTROPHY:

Common ones are:

1. Duchenne muscular dystrophy
2. Becker's muscular dystrophy
3. Limb girdle muscular dystrophy

DUCHENNE MUSCULAR DYSTROPHY

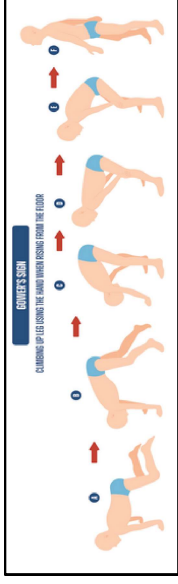
- It is the most common and severe form of muscular dystrophy .
- Males are more affected where females will be the carrier of the disease.
- It is caused by the deficiency of the dystrophin protein
- Occurrence: 1 in 3500 births



Clinical features:

1. Muscle weakness starts between the age of 2 - 4 and get progresses by year
2. Earliest sign : Poor head control
3. False bulk formation in the calf muscles.
4. Excessive lumbar curve posture and walking pattern
5. Difficult in climbing stairs
6. Difficult in getting up from squatting
7. Frequent fall
8. Motor milestones delayed especially walking .
9. Child will never run.

Gower's sign :



The disease is staged as follows:

- stage1 [ambulatory stage]
- Stage2 [wheelchair bounded]
- Stage3 [bed ridden]

INVESTIGATIONS :

1. CPK levels are greater than 10 times normal in children with DMD
2. Muscle biopsy
3. ECG and echocardiogram to assess cardiac status
4. Genetic counselling

MANAGEMENT:

1]MEDICAL MANAGEMENT:

Corticosteroids, Antimyotonic drugs, Immunosuppressants, Enzyme or hormone therapy

2]NUTRITION CONSIDERATION :

- Tonics, cod liver oil and vitamin c can be used as supplementary foods.

3]Physiotherapy management :

1 - AMBULATORY STAGE:

- Positions which encourage contracture formation are avoided.

- 1]Long sitting and prone lying are encouraged
- 2]Passive stretching daily
- 3] splinting especially at night to avoid contracture

2 - WHEELCHAIR DEPENDENT STAGE :

- Correct fitting wheelchair is ordered so that a good sitting position may be maintained.
- Initially self propelled wheelchair is used , thus helping to maintain in cardiorespiratory status and muscle endurance for as long as possible.
- Upper limb weakness becomes incapacitating at this stage , so motorized wheelchair is preferred.

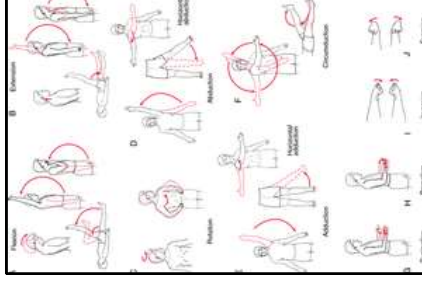
3 - BED- RIDDEN STAGE :

- Breathing exercises. [in this stage where respiratory muscles might get involved and lead to chest infections]. This increases the vital capacity and oxygenation.

DIAGRAMATIC REPRESENTATION OF EXERCISES:

AT HOME :RANGE OF MOTION EXERCISES NEEDED

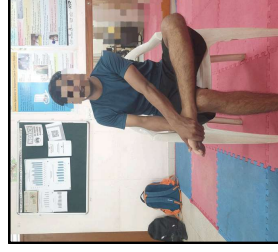
10 REPETITIONS DAILY



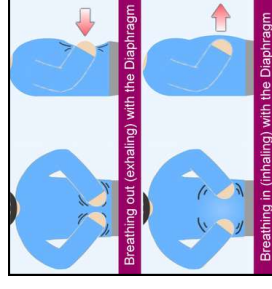
1] TO AVOID PLANTAR FLEXION CONTRACTURE [EARLIEST PROBLEM]



2] ANKLE EVERTOR STRETCH [4-5 STRETCHES DAILY]



3] DEEP BREATHING EXERCISES



Reference:

Sundar book of rehabilitation, textbook of neuro physiotherapy by Dr. Shalujain