

Duchenne muscular dystrophy

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In news

Recently one of the recipients of Swarnajayanti Fellowship proposes to provide new genetic treatment for thalassemia, Duchenne muscular dystrophy, haemophilia

A brief note on the issue

- Sandeep Eswarappa, Assistant Professor Indian Institute of Science (IISc), Bengaluru one of the 21 recipients of this year's Swarnajayanti Fellowship proposes to suppress the disease-causing premature stop codon or the genetic process that initiates these diseases.
- He is trying to bring about the suppression through translational read through a gene regulatory principle found in humans, yeasts, bacteria and drosophila which takes place with the variation of the genetic code.

What is thalassemia?

- Thalassemia is an inherited (passed from parents to children through genes) blood disorder caused when the body doesn't make enough of a protein called haemoglobin, an important part of red blood cells.
- When there isn't enough haemoglobin, the body's red blood cells don't function properly and they last shorter periods of time, so there are fewer healthy red blood cells traveling in the bloodstream.
- Thalassemia can cause anaemia, leaving you fatigued

What is Duchenne muscular dystrophy?

- Duchenne Muscular Dystrophy, **a severe type of muscle weakness that usually begins at an early age and worsens quickly**, may soon have a new strategy of treatment through genetic regulation.

- There is no known cure for duchenne muscular dystrophy. Treatments usually aim to control symptoms to improve quality of life.
- Muscle weakness usually begins around the age of four, and worsens quickly.
- Muscle loss typically occurs first in the thighs and pelvis followed by the arms.
- This can result in trouble standing up.
- Most are unable to walk by the age of 12

What is haemophilia?

- It is a mostly **inherited genetic disorder that impairs** the body's ability to make blood clots, a process needed to stop bleeding.
- This **results in people bleeding for a longer time after an injury**, easy bruising, and an increased risk of bleeding inside joints or the brain.