

Thème 3 B - Motricité volontaire.
3B : motricité volontaire, plasticité cérébrale.

Thalidomide

Describe the reasons why women used thalidomide then expose the side-effects. Discuss the process of getting them on the market. How can science and technology help affected people? Are new drugs always safe?

Document 1: (source: Columbia schools)

Thalidomide was released onto the market in 1958 in West Germany under the label of Contergan. Primarily prescribed as a sedative or hypnotic, thalidomide also claimed to cure "anxiety, insomnia, gastritis, and tension". Afterwards, it was used against nausea and to alleviate morning sickness in pregnant women. Thalidomide became an over-the-counter drug in Germany around 1960 and could be bought without a prescription.

The infants that were exposed to thalidomide during development phases had a 40% chance of survival. The McCredie-McBride hypothesis explains that the limbs of the infants become malformed as a result of the thalidomide harming the neural tissue—simply because the neural tissue has such a large impact on the formation and the development of the limbs.

Document 2: treatment.

Prosthesis is a synthetic alternative for missing limbs, teeth, and various other body parts. Advances in prosthetic limbs have increased greatly during the twentieth century. The use of new materials such as modern plastics, complex procedures and better pigments have created more realistic looking artificial limbs that are lighter in weight. With the advancement of myoelectric prosthetic limbs, patients are able to move their limbs without the use of cords or other devices.

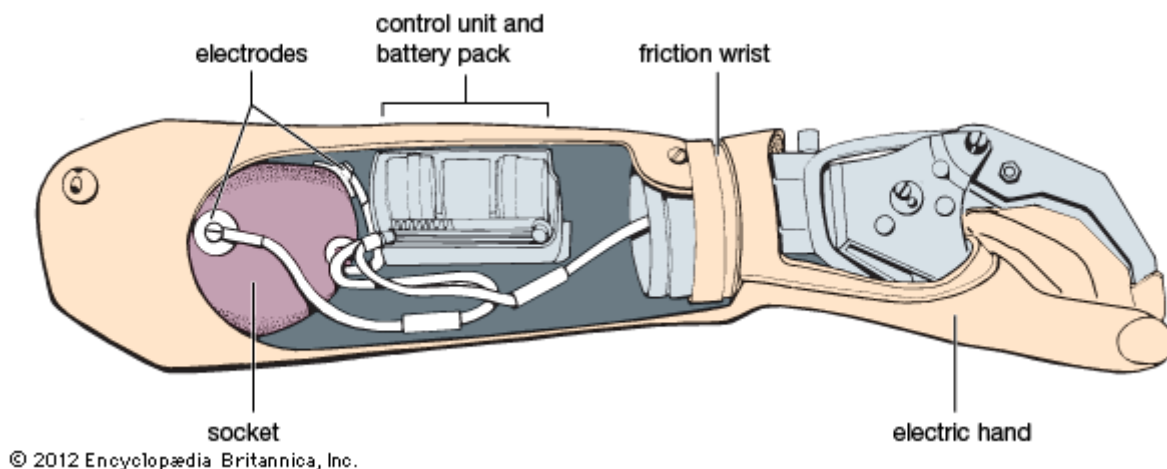
The myoelectric limbs can detect electric signals from the nervous system and muscles. They were first used on adults, but now they are being fitted to children. Patients that experience a loss of limbs due to phocomelia are typically treated with prosthetics. It is recommended that infants at the age of 6 months have a prosthetic mitten fitted enabling them to get used to the prosthesis. A hook will be added when the child reaches the age of 2 years. Eventually the patient may receive a myoelectric prosthetic limb. Patient are treated in this way because when they are young they cannot use a complex prosthetic limb and they do not have the necessary tissues and bones to hold it.



Source: <https://en.wikipedia.org/wiki/Phocomelia>

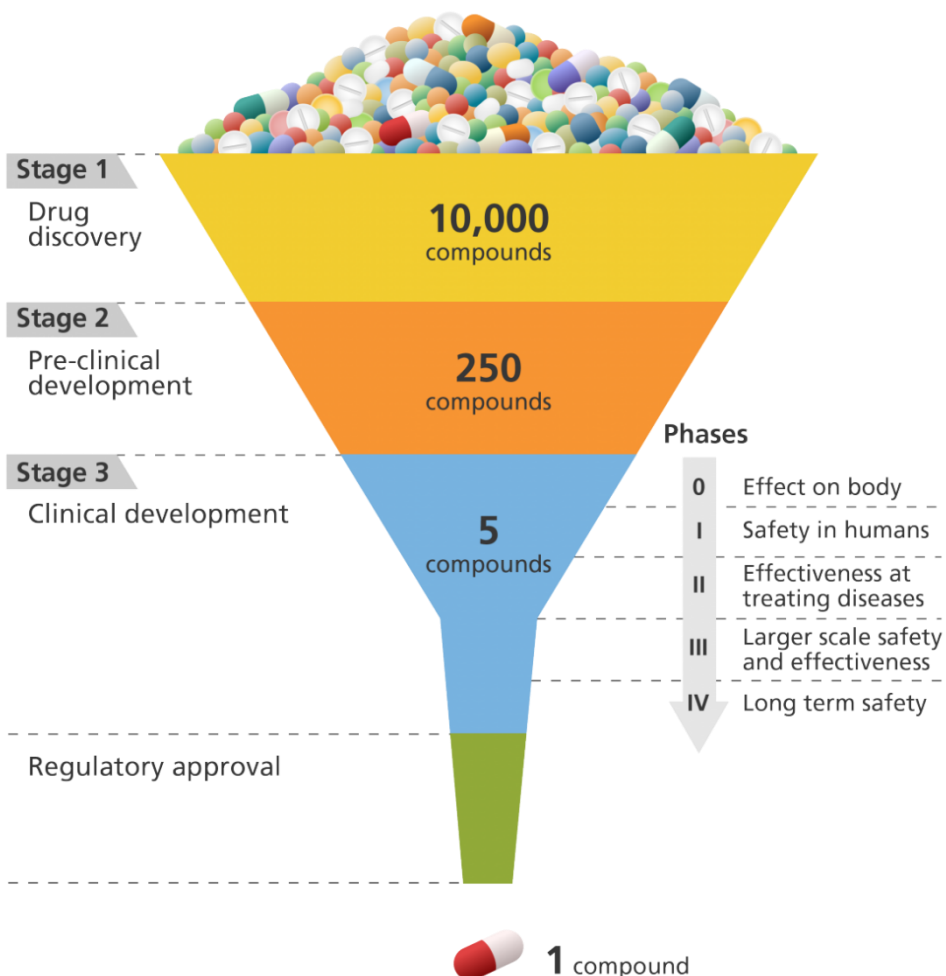
Note: Phocomelia is a condition that involves malformations of the arms and legs. Thalidomide was one of the major causes.

Document 3: parts of a below-elbow myoelectric prosthesis



Document 4:

To introduce a new drug product into the U.S. Market, companies must submit a new drug application (NDA). It is the responsibility of the company seeking to market a drug to test it and submit evidence that shows it is safe and effective.



Source: <https://www.fda.gov/Drugs/DevelopmentApprovalProcess/HowDrugsareDevelopedandApproved/>