

Regenerative medicine

The term [regenerative medicine](#) is often used to describe procedures or therapies to restore lost, damaged, or aging cells and tissues in the human body.

Some important human diseases are caused by the death or damage of one or a few cell types, e.g., insulin-producing cells in diabetes or dopaminergic neurons in Parkinson's disease. The replacement of these cells could offer a lifelong treatment for these disorders.

In regenerative medicine, the main emphasis is on the use of [stem cells](#) due to their capacity to self-renewal as well as to their potential to differentiation into specific cell types and tissues. By ex vivo procedures (performed outside the body) unlimited amount of cells can be produced to treat a wide range of degenerative diseases.

Thus, a widespread therapeutic use of adult stem cells and their derivatives is anticipated to replace or restore tissues that have been damaged by disease, injury or aging, such as diabetes, heart attacks, Parkinson's disease or spinal cord injury.