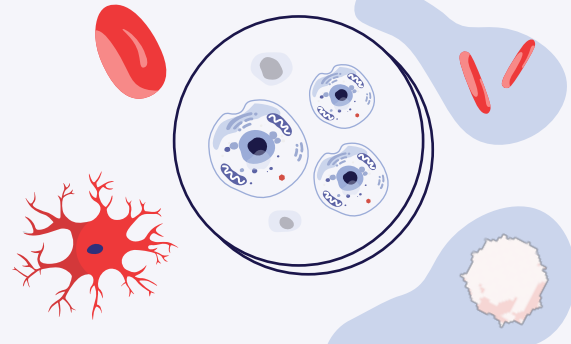


What is Cell Therapy?

Cell therapy is the transfer of a specific cell type, or types, into a patient to treat or prevent a disease.

Getting to Know Cells

Cells make up every living thing. All of our tissues and organs are made up of specialized cell types, each carrying out a very specific function. Inside of each cell lives the genetic instructions for what cell type it will turn into. We all begin with a foundation of stem cells, which are immature cells that will divide into many different types of mature, specialized cells depending on what the body needs to function.



Changes in Our Cells

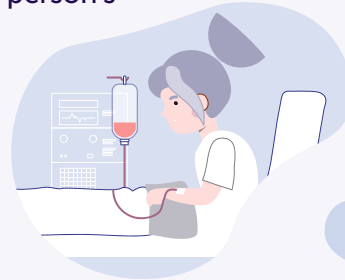
When cells grow old or become damaged, they usually die, and new cells are created to take their place. However, there are times when the body will not be able to recognize this cell change, and instead will continue to replicate as a damaged cell with changed DNA. A change in the DNA housed within the cell's nucleus changes how our cells function, because it affects how the proteins in our body get built.

How Cell Therapy Works

The source of the cells used for cell therapy come from one of two places:

Autologous cell therapy means the cells used are from the person's own body. The cells are removed, modified outside the body and then returned to the body.

Allogeneic cell therapy means the cells are from someone other than the patient, such as a healthy and compatible or matched donor. These may be treated, or not treated before going to the patient.



Applying Cell Therapy

Many cell types have the potential to be modified and used as a therapy. Some examples are:

Hematopoietic (blood forming) stem cells are able to turn into any type of blood cell the body needs. These cells are used during a hematopoietic stem cell transplantation to treat various blood cancers and other blood disorders.

CAR T-cell therapy modifies the individual's immune cells called T-cells by adding receptors to them. Once delivered back to the patient, they recognize and kill cancer cells.



Visit patienteducation.asgct.org for more information