

# Blood stem cell cryopreservation fact sheet

## What is cryopreservation?

Cryopreservation is the process of freezing and storing cells at very low temperatures to maintain their viability for future use. For example, preparing and cooling blood stem cells to a temperature of minus 196°C using liquid nitrogen allows blood stem cells to retain high rates of survivability for years after donation. Without cryopreservation, a blood stem cell product would expire after 2 to 4 days.

## What are the advantages of cryopreservation?

Cryopreservation is a proven technique for ensuring the safe storage, transport and use of potentially life-saving blood stem cells. It's been especially critical in allowing us to provide safe, timely delivery of cells during interruptions in travel and shipping, as experienced during weather emergencies and the COVID-19 pandemic. Cryopreservation helps make sure a product is available so that transplant takes place when it's best for the recipient.

## What is NMDP<sup>SM</sup> Cryopreservation Service?

NMDP Cryopreservation Service allows the donor's peripheral blood stem cells or bone marrow to be collected and stored for a specific patient prior to the patient's transplant. This process ensures that the donor's cells will be available for the patient when they need it.

## Does cryopreservation change the blood stem cell donation experience?

Not at all. After collection, a NMDP courier will immediately transport the donor's blood stem cells to a partner lab for cryopreservation and storage. The donor's cells will stay in storage until the intended recipient is ready to proceed to transplant, at which point the frozen cells will be shipped to the recipient's infusion center.

## Is the donor notified that their donated cells will be cryopreserved?

Yes. The donor center will have a conversation with the donor and get their consent during the workup process.

## Is there a cost to the donor?

No. As with all expenses related to donation, there is no cost to the donor.

## What happens to the donor's cryopreserved cells if the patient does not proceed to transplant?

In the unlikely event the intended recipient is unable to proceed to transplant, donors whose cells were stored through NMDP Cryopreservation Service are asked to make their stored cells available to other searching patients. The donor will be notified if their cells aren't used for the intended recipient or if they're used for another patient.

If the cells are stored by the transplant center rather than NMDP Cryopreservation Service, different consents may be involved. Donors can talk to their donor center representative about their specific case.

If the donor's cells were cryopreserved and are being stored by the patient's transplant center, the donor's unused cells would be discarded. Prior to being discarded, the cells could be used for training purposes or in-house lab preparation.

Thank you for considering blood stem cell donation and cryopreservation.

Patients and their families rely on donors like you to save their life.