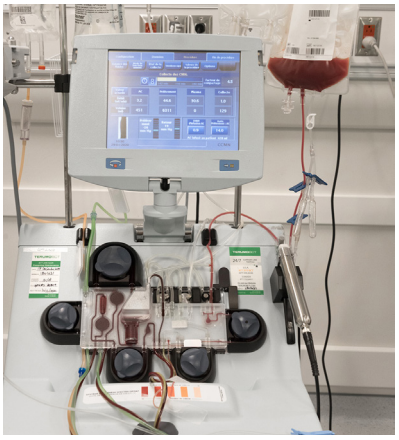
HEALTH SHEET

Autologous stem cell transplantation

General information



This procedure is done as part of cancer treatment. This fact sheet briefly explains the steps involved.

What is a stem cell?

The large bones of the body contain tissue called “bone marrow”. The marrow contains stem cells (or mother cells). These serve to form the different blood cells:

> White blood cells, which help fight infections.

> Platelets, which help blood to clot (to stop bleeding).

> Red blood cells, which carry oxygen from the lungs to all organs of the body.

The bones that have the most bone marrow are those of the pelvis and the middle of the chest (sternum).

What is an autologous stem cell transplant?

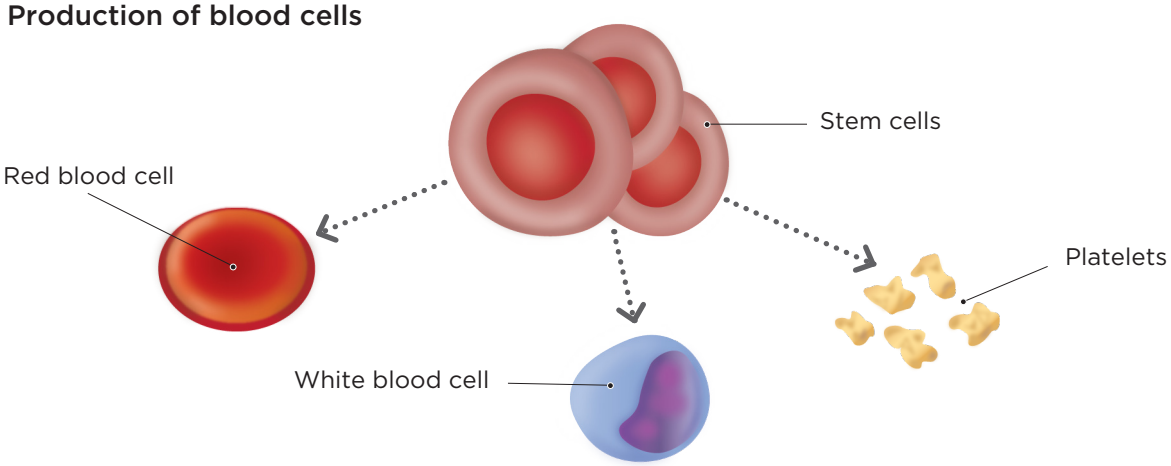
A stem cell transplant is done to replace stem cells that have been damaged by intensive chemotherapy.

The transplant involves reinjecting your own stem cells that were collected and stored before your treatment.

Because the transplant is done using your own cells, it’s called an “autologous” transplant. With this procedure you can once again have healthy bone marrow that functions properly.

This transplant is done for certain cancers, especially blood cancers, such as lymphoma, myeloma, etc.

Production of blood cells



Stem cells transform into different blood cells.

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How is this treatment work?

Here are the main stages of autologous stem cell transplantation. The entire course of treatment lasts 9 to 11 weeks.

1. DOING A PRE-TRANSPLANT ASSESSMENT

Before starting, your health status will be fully assessed. You'll undergo several tests and exams (blood tests, lung x-rays, dental exams, etc.).

You'll also see several health professionals, including your doctor and your pivot nurse (also called nurse navigator). Your pivot nurse will explain the steps of the transplant and follow you throughout the treatment.

This stage lasts about 30 days.

2. MULTIPLYING THE STEM CELLS

For this, you'll be given medications: injections and possibly also chemotherapy. These stimulate your bone marrow to make more stem cells and release them into your blood. This stage is called "mobilization". See the fact sheet ***Autologous stem cell transplantation - Stem cell mobilization***.

This stage can last 7 to 10 days.

3. COLLECTING THE STEM CELLS

This is done shortly after the stem cells are mobilized. These cells are removed from your blood using a special device. Then they're frozen to preserve them.

Later they'll be reinjected into you. See the fact sheet ***Autologous stem cell transplantation – Stem cell collection.***

This stage can last 3 to 5 days.

4. DESTRUCTION OF CANCER CELLS

To kill any cancer cells you may still have, you'll have intensive chemotherapy treatment.

This will be stronger and have more side effects than the chemotherapy you've received so far. This is called the "conditioning treatment".

For this stage and the next one, you'll need to stay in the hospital.

5. REINJECTING THE STEM CELLS

This step takes place 1 to 2 days after the conditioning treatment. Your stem cells collected in stage 3 are thawed and reinjected into your body. This is the actual transplant.

For the conditioning treatment and transplantation, you will usually need to stay 3 to 4 weeks in the hospital. This includes the recovery period, while waiting to ensure you have enough blood cells (red and white) circulating in your body again. Then you'll be able to leave the hospital safely.

For stages 4 and 5, see the fact sheet ***Autologous stem cell transplantation – Treatment and reinjection.***

Who can I contact for help or to ask questions?

Feel free to contact any member of your healthcare team. Your pivot nurse will also follow you throughout your treatment.

Tel.: .....

The pivot nurse is available Monday to Friday, from 8:00 a.m. to 4:00 p.m.

CHUM PATIENT HEALTH LINE

514 890-8086
24 hours a day, 7 days a week
You're a CHUM patient? You have questions about your health status? A nurse can help you.

USEFUL RESOURCES

Canadian Cancer Society :
cancer.ca
1 888 939-3333

The French National Cancer Institute :
en.e-cancer.fr

Lymphome Canada :
lymphome.ca

Myeloma Canada :
myelomacanada.ca/en

Other health sheets published by the CHUM are available. Ask for those that might fit your situation.

You can also find them on our website
chumontreal.qc.ca/fiches-sante

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