



Autologous stem cell transplant

An information sheet for patients, families & whānau

What is an autologous stem cell transplant?

A stem cell transplant is a treatment option for some people who have a blood cancer or blood condition.

You may also hear this procedure called

- High-dose treatment with stem cell support (HDTSCS)
- Peripheral blood stem cell transplant (PBSCT)
- Autologous bone marrow transplant (ABMT)
- Autograft

An autologous stem cell transplant (or auto transplant) involves collecting your own stem cells which are stored and then given back to you as an infusion after you have been given high doses of chemotherapy. This provides some patients with a better chance of cure or long term control of their disease.

For adults, auto transplants are carried out in bone marrow transplant centres located in Auckland City Hospital, Waikato Hospital, Palmerston North Hospital, Wellington Hospital and Christchurch Hospital. Auto transplants for children are carried out in Starship Children's Hospital in Auckland.

If you are accepted for an auto transplant you will need to begin planning and preparing as the transplant is likely to have an impact on your family, work/school life, finances and general health. It is important to be prepared emotionally, physically and medically.

How are stem cells collected?

Stem cells are collected through a process called mobilisation and harvest. First, you are given drugs that increase the number of stem cells in your bone marrow and help move them into your blood. This is called 'mobilisation'. The collection of the stem cells is called the 'harvest'.

A line is placed in a vein in your arm, or sometimes your neck. Blood passes through a machine that separates the stem cells from the rest of your blood. The stem cells are collected and stored while the remaining blood is returned to you.

The procedure does not involve an operation or surgery, and you are awake during the collection. This process will take approximately four to five hours. Sometimes more than one collection is needed, so your stem cells may be collected over several days.

The stem cells are kept until you are ready for high dose treatment and your stem cell return (explained below). Depending on your treatment plan and transplant centre, they may be frozen or used fresh.

What is high dose treatment and stem cell return?

This phase is commonly referred to as 'the transplant'. The transplant will happen in a dedicated unit. Some patients will receive their transplant as outpatients, while other patients will be admitted to hospital based on a variety of factors your transplant team will discuss with you. Firstly, you will undergo conditioning treatment which is a high dose chemotherapy. The treatment kills any remaining cancer cells in preparation for your stem cells to return and make new healthy bone marrow cells. This will be given over a period of one to eight days.

The kind of conditioning therapy chosen for you will depend on several factors including the type of disease you have, your age and general health.

Around 24 hours after your conditioning treatment, your stem cells are returned to you as an intravenous (IV) infusion. If the cells have been frozen, they are defrosted before being returned; some patients may receive fresh stem cells.

Most people have one autologous stem cell return. Some people, particularly those with myeloma or certain solid tumours, may have two or more returns over a period of several months.

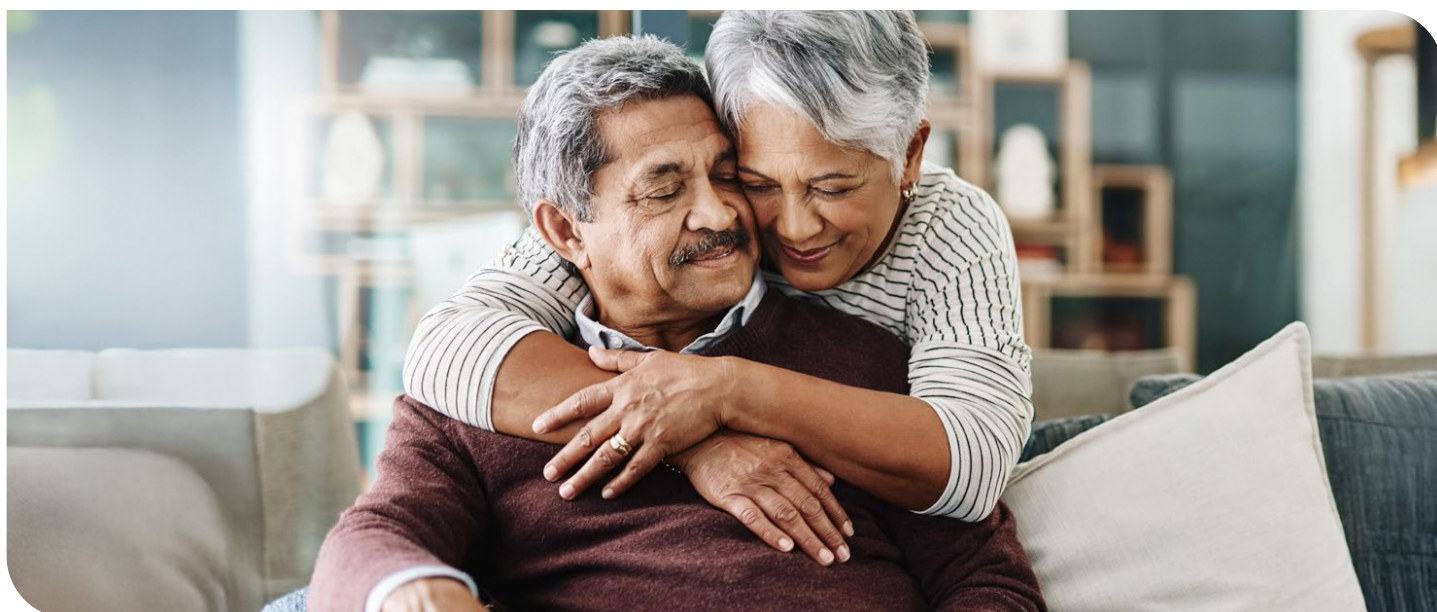
What is bone marrow recovery?

Your stem cells will start to travel to the bone marrow and develop into new blood cells. This is called engraftment and usually takes about 10-14 days. During this time, your doctors and nurses will monitor you very closely.

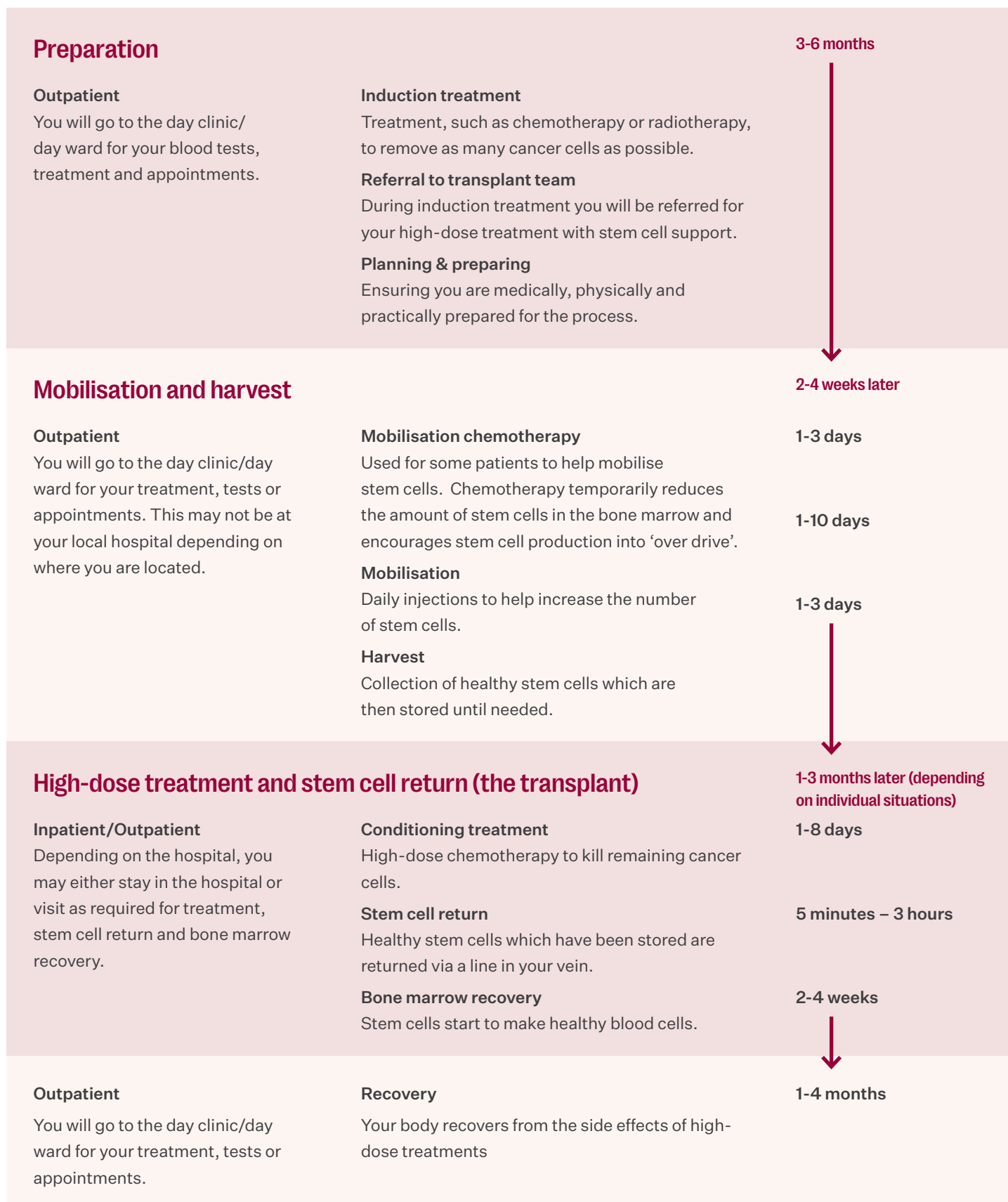
What happens afterwards?

Once your bone marrow has recovered and your health has improved from any other side effects of the high dose treatment, you will be discharged from hospital or from intensive outpatient follow-up (if you are being managed as an outpatient). In the early weeks after your transplant, you will need to visit the hospital regularly so your doctors and nurses can continue to monitor your recovery.

It can take a few months for your immune system to recover, however the amount of time can vary depending on the person. You will still be at risk of infection so it is important to take some sensible precautions to prevent infections during this time. You may experience fatigue in the months following your stem cell transplant.



An overview of the high-dose treatment and autologous stem cell transplant process



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Or visit one of our Support Services offices in Auckland, Hamilton, Wellington, Christchurch or Dunedin.



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