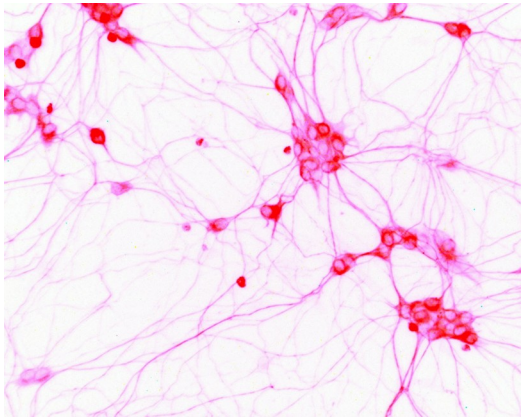
Stem Cells

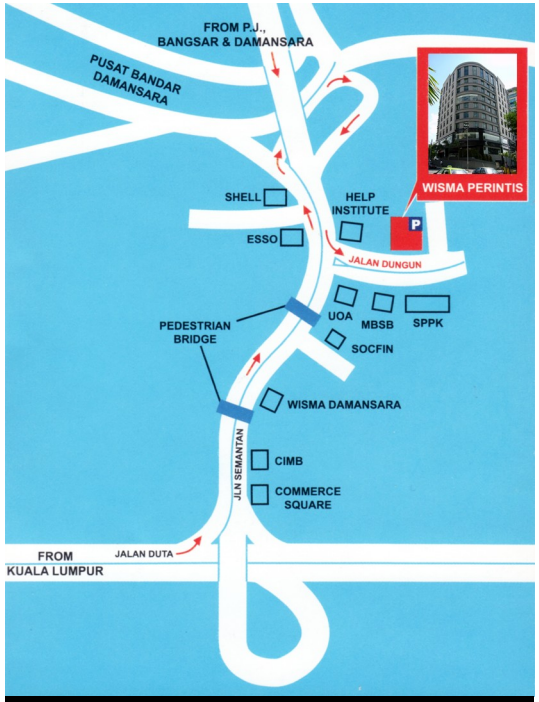
In adults, stem cells act as a repair system for the body. They allow replacement of ageing and damaged cells in organs.

In adults, damaged tissue is usually replaced with scar tissue which loses most of its original function. Stem cell therapy has the potential to restore the original structure and function of the damaged tissue.

Researchers believe that stem cell therapy could dramatically improve medical treatment, especially in the field of regenerative medicine.



Adult Stem Cells



P Parking is available in the basement

Location Map

KUALA LUMPUR SPORTS MEDICINE CENTRE

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KLSMC Sports Medicine

INFORMATION FOR PATIENTS

KLSMC STEM CELLS

KUALA LUMPUR SPORTS MEDICINE CENTRE

Peripheral blood stem cell harvest

This leaflet explains what is involved in a peripheral blood stem cell harvest. It explains what happens before the harvest takes place and how cells are collected during the harvest.

What are stem cells?

Stem cells are the source of all cells in the body, and are formed in the bone marrow. To prepare for harvesting, these stem cells will be prompted to move into the bloodstream using a hormone called G-CSF.

What is G-CSF?

G-CSF is a hormone produced by the body and is involved in two major functions: to help bone marrow stem cells enter the bloodstream and to create replacement stem cells in the bone marrow.

Most people will require 2-4 daily injections of G-CSF to ensure enough stem cells enter the bloodstream for harvesting. These injections are usually given just under the skin of the abdomen.

Side effects are generally minimal and may include a rash, bone aches, and occasionally redness and discomfort at the site of injection.

Rarely, coughing, fever or shortness of breath may happen. If these side effects occur, you should contact your doctor immediately.

How is stem cell harvesting done?

Early in the morning before the planned peripheral blood stem cell harvest, a blood test will be taken to check that the number of stem cells is adequate for harvesting.

To enable harvesting, an apheresis catheter will be inserted into a large vein at the top of the thigh. It will be inserted by an experienced doctor under a local anaesthetic to minimize discomfort from the procedure. The catheter allows blood to be passed through a cell separator which filters out stem cells and returns the processed blood to the body. Once harvesting is complete, the apheresis catheter will be removed.

What side-effects can occur?

Some people may feel light-headed during harvesting, particularly at the start of the procedure. This can be improved by lying down in bed and slowing down the rate of blood flow through the cell separator.

A drug called ACD is given to stop blood clotting in the cell separator. Side-effects from ACD include pins and needles in fingertips or lips, or feeling generally unwell. In general, side-effects from ACD tend to be mild, and this is minimised by taking calcium supplements before harvesting.

A disposable kit is used for harvest, and there is no risk of infection from blood-contaminated tubing or equipment.

What can I do during harvesting?

Stem cell harvesting usually takes about two hours. No fasting is required, and normal medications should be taken. During this time, the person should be in bed, but it is possible to read, watch TV, and have a light meal. Visitors are normally not encouraged during harvesting.

What happens to the stem cells?

Once harvested, the stem cells can be used immediately for treatment and/or frozen for later use.

If you have any questions about peripheral blood stem cell harvesting, please ask your doctor or nurse.