

## Haematopoietic progenitor cell count (HPC) and advanced clinical parameters for managing HSCT clinical challenges

Haematopoietic stem cell transplantation (HSCT) is a complex treatment that involves several steps. Patients and treating physicians may be faced with certain challenges in almost every phase: from stem cell mobilisation and chemotherapy to the engraftment period. There is an integrated approach for optimising stem cell apheresis and assessing patient status throughout the HSCT process. All the necessary information can be obtained from a simple, routine CBC with HPC count.

### Clinical challenges during HSCT

- ✓ Have enough stem cells been mobilised?
- ✓ Does the patient show signs of an infection?
- ✓ Did the platelets reach a critically low level?
- ✓ Are there signs of bone marrow recovery?



## HSCT MANAGEMENT

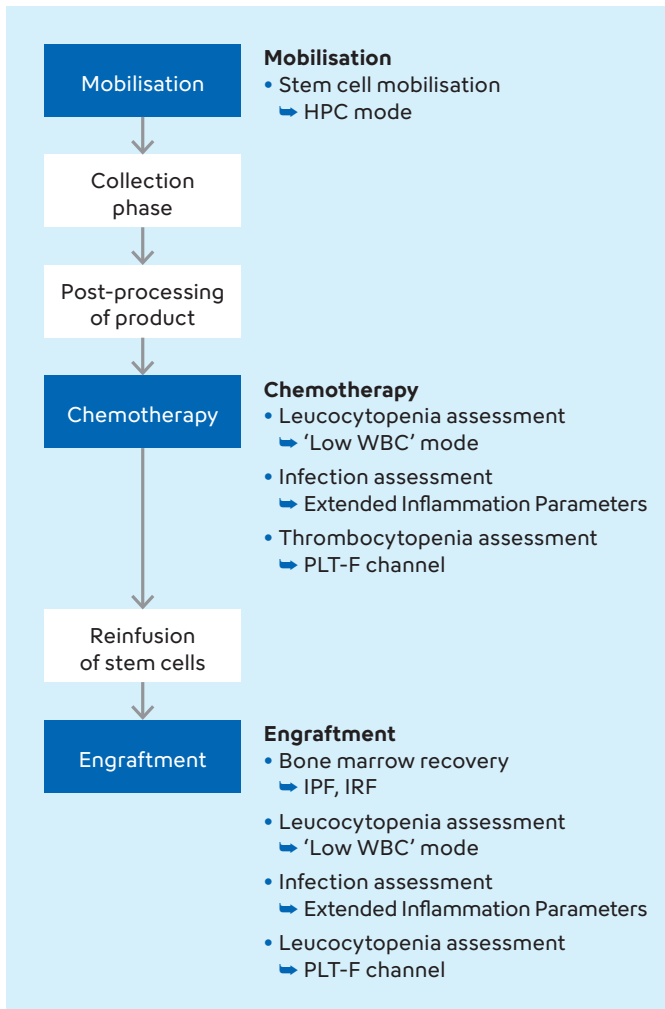
### Example case

A 55-year-old female patient was diagnosed with primary mediastinal large diffuse B cell Non-Hodgkin's lymphoma. On day twelve after the haematopoietic stem cell transplantation, the patient's condition is conspicuous with fever, suspected infection and mouth sores. The daily records of white blood cells, red blood cells and platelets reveal moderate pancytopenia and show no significant shift yet. Is the patient already in the engraftment phase?

### Your benefits – better assessment of your patients throughout HSCT

- Confidently assess mobilisation success and decide whether apheresis can be started using the HPC mode\*.
- Detect and assess the course of infections early on with a particularly precise white blood cell count and differential, plus a combination of innovative parameters that further characterise inflammations\*.
- Obtain more support for your clinical decision of a platelet transfusion with a highly accurate platelet count and information on immature platelets.
- Assess successful engraftment reliably\* by using both immature platelet and reticulocyte information.

Know more.  
Decide with confidence.  
Act faster.



### Stem cell mobilisation

Studies have shown\* that the HPC mode is comparable with the CD34+ count in mobilised peripheral blood. This means you can determine the optimal apheresis starting point while reducing the number of CD34+ counts to the legally required minimum.

The reduced number of CD34+ tests leads to an increased efficiency in the lab, plus the HPC mode results can be delivered faster, letting you optimise your clinical management.

### Leucocytopenia assessment

You can obtain reliable white blood cell values even with severely leucocytopenic samples from your laboratory ('Low WBC' mode).

### Infection assessment

A group of novel haematologic inflammation parameters\* that quantify or characterise activated neutrophil and lymphocyte populations (IG, NEUT-RI, NEUT-GI, RE-LYMP, AS-LYMP ) helps you to assess your patients' condition.

### Thrombocytopenia assessment

We help you obtain the most accurate platelet count, even at concentrations as low as the transfusion threshold, by combining different platelet count technologies (PLT-F) inside the Sysmex haematology analyser. So, you can decide and act with confidence.

### Bone marrow recovery

Certain parameters obtained from a blood test have been demonstrated\* to be valuable predictors of stem cell engraftment:

- IPF (reflects platelets newly released from the bone marrow) is a marker of successful engraftment of the megakaryocyte lineage and a predictor of platelet recovery.
- IRF (reflects highly immature reticulocytes newly released from the bone marrow) is an indicator of erythropoiesis, and correlates well with the engraftment of neutrophils.

Benefit from more background information in our freely accessible white papers: [www.sysmex-europe.com/whitepapers](http://www.sysmex-europe.com/whitepapers)

\* For references to independent publications, please visit [www.sysmex-europe.com/academy/library/publications](http://www.sysmex-europe.com/academy/library/publications) or contact your local Sysmex representative.