

The role of stem cell transplantation in ALL



BACKGROUND

- More people with ALL are **achieving remission** with chemo-immunotherapy and CAR T-cell therapy (a treatment using modified immune cells to **target cancer**) than ever before
- For people with **newly diagnosed ALL**, even high-risk, these treatments can **clear detectable disease** (known as MRD-negative remission)

So, what role do stem cell transplants play now?

Should high-risk patients still receive stem cell transplants (SCTs) during first remission?

An SCT is **recommended** for people with ALL **high-risk features including:**



Early T-cell precursor ALL

Abnormalities in chromosomes (called a complex karyotype)



Unfavorable **genetic changes** (like *IKZF1*; Ph-like; *KMT2Ar*)



Slow response to therapy e.g., detectable disease (MRD positivity) after initial treatment or taking more than 4 weeks to reach complete remission

Should all patients receive an SCT after CAR T-cell therapy?

Consider for people with disease with **high-risk features** or **MRD positive** (detectable leukemia cells)



What is the best conditioning treatment before a SCT?



Myeloablative conditioning is a **high-intensity** treatment and is the **current standard approach**



Total body irradiation is a whole-body radiation therapy. This may offer **better outcomes**, especially for **younger patients**



Patients with **no detectable disease** (MRD negative) may achieve **similar results** with **low-intensity** treatment instead of **high-intensity**



WHAT DOES THIS MEAN FOR PATIENTS?

- The latest advancements in ALL treatment offer hope of **more effective** and **less toxic options** than older chemotherapy regimens
- SCTs are an **option** for high-risk patients, but research aims to find out **who will benefit most** and **when** a transplant is needed

