

Transplant and Acute Lymphoblastic Leukemia (ALL)

Learning more about you or your child's ("your") treatment options can help you make informed medical decisions.

This fact sheet **tells you:**

- What ALL is
- What the transplant steps are
- When to see a transplant doctor
- Questions to ask your doctor

What is **ALL**?

ALL is a fast-growing blood cancer. It's also called acute lymphocytic leukemia or acute lymphoid leukemia. If you have ALL, your body makes unhealthy **lymphocytes** (a type of blood cell) in your bone marrow (soft, spongy tissue inside your bones). Healthy lymphocytes help your body fight infections. If you have ALL, your lymphocytes don't fight infections very well. They also grow quickly and crowd out your bone marrow, preventing it from making the healthy blood cells your body needs.

What is a **blood or marrow transplant (BMT)**?

BMT, also known as a bone marrow transplant, can be used to treat patients with ALL. It replaces your unhealthy blood-forming cells with healthy ones. BMT is not surgery. For some people, transplant cures the ALL. For others, it delays **relapse** (ALL coming back).

The most common type of transplant for ALL is an **allogeneic transplant**. It uses healthy, blood-forming cells donated by someone else to replace your unhealthy ones. The healthy cells can come from a family member, an unrelated donor, or umbilical cord blood.

Allogeneic transplant steps

1. First, your doctor searches for your donor. This can take weeks to months.
2. Next, you will get chemotherapy, and possibly radiation, to kill the unhealthy cells. This can take up to 2 weeks.
3. On transplant day, the donated cells are given to you through an intravenous (IV) infusion. They travel to the inside of your bones.
4. After a few weeks, the donated cells begin to make healthy blood cells.
5. Then, you will need many months to recover. You will spend some of this time in or near the hospital.

Doctors, nurses and social workers will closely care for you during the entire process to prevent and treat any side effects or complications.

When to **see a transplant doctor**

You or your child should see a transplant doctor right away if:

- The initial chemotherapy doesn't lead to remission (no signs of ALL) within 28 days of starting treatment
- The ALL has a high risk of coming back
- The ALL comes back 1 or more times after treatment
- Your child is diagnosed before they turn 1 year old

Your first appointment with a transplant doctor

Even if you don't need a transplant right away, it's important to see a transplant doctor early. Most patients have a better chance of a cure if they have a transplant in the early stage of ALL.

At your first appointment, the doctor will:

- Review your medical history
- Talk with you about your treatment options and their risks and benefits
- Make recommendations for you and your other doctors

Learn about your **risk for relapse**

Doctors look at certain factors to see how likely it is that the ALL will come back including:

- The number of white blood cells in your bloods when you were diagnosed
- Cytogenetic and molecular testing results

Doctors do cytogenetic and molecular testing by looking closely at your blood and your bone marrow. They look at the chromosomes and genes in the leukemia cells. **Chromosomes and genes** have instructions that tell your body how to make everything it needs to work properly. Certain changes in the ALL chromosomes and genes predict a lower risk of relapse. Others predict a higher risk.

Questions to ask your doctor

- What are my chances of a cure or long-term remission if I get a transplant? If I don't get one?

- Does my current health or age affect how well transplant might work?

- What do my cytogenetic and molecular markers mean for my treatment?

- What are the possible side effects of transplant? How can they be reduced?

- How might my quality of life change over time, with or without transplant?

For children 14 years old or younger, the doctor may test for **minimal residual disease (MRD)**. This test looks for chromosomes and genes from the ALL that may still be in your child's bone marrow. The results tell doctors if the ALL is likely to come back.

Ask the doctor for a copy of your child's test results and to explain what the results mean. Remember, if the ALL has a high risk of relapse and your child is healthy enough for transplant, it's important to see a transplant doctor right away.

Resources for you

- Talk to someone who can help
 - Call: 1 (888) 999-6743
 - Email: patientinfo@nmdp.org
- Find a clinical trial for ALL
 - Call: 1 (888) 814-8610
 - Email: clinicaltrials@icctp.org
- Order free resources
 - Visit: BeTheMatch.org/request



Every individual's medical situation, transplant experience, and recovery is unique. You should always consult with your own transplant team or family doctor regarding your situation. This information is not intended to replace, and should not replace, a doctor's medical judgment or advice.