PROCEDURE

Blood transfusion

A blood transfusion gives donated blood cells or clotting components through a vein.

PURPOSE
Restore blood cells or clotting components

PROCEDURE TYPE
Therapeutic; bedside infusion through a vein

WHERE IT IS DONE
At the bedside, outpatient clinic, or operating theatre

ANAESTHESIA
None

HOW LONG IT TAKES
About 30 minutes to 4 hours per component

PREPARATION
Blood testing and consent; fasting usually unnecessary

RECOVERY
Usually same day; drive only if otherwise safe

MAIN RISKS
Reactions, fluid overload, lung injury, infection

RESULTS
Clinical response during transfusion; blood tests afterward

Overview

A blood transfusion gives blood or a specific blood component through a tube placed into a vein. Most transfusions use donated blood that has been tested, processed, and matched to reduce the risk of a reaction.

You may receive red blood cells to carry oxygen, platelets to help stop bleeding, or plasma containing proteins that help blood clot. A transfusion replaces what is missing while your healthcare team treats the underlying bleeding, illness, or other cause.

Why the procedure is performed

A transfusion may be recommended when its expected benefit is greater than its risks. The

decision considers your symptoms, blood tests, bleeding, overall health, and how quickly your condition is changing.

Red blood cells may be given after major blood loss or when anaemia is affecting oxygen delivery. Platelets may be used if your platelet count is very low or they are not working properly, particularly if you are bleeding or need an invasive procedure.

Plasma may be used during significant bleeding when clotting proteins are missing. It is not normally given simply to increase blood volume.

Who should and should not have it

A transfusion may be appropriate for significant bleeding, dangerously low blood components, or symptoms that cannot safely wait for slower treatments. It may also support surgery, cancer treatment, bone marrow disorders, or inherited blood conditions.

It may be avoided when counts are stable, symptoms are mild, or treatments such as iron can safely correct the problem.

A non-urgent transfusion may be delayed if:

An incompatible unit must not be given. In an emergency, specially selected blood may be used before full matching is complete.

You can decline a transfusion for personal or religious reasons. Tell your healthcare team early so alternatives and emergency plans can be discussed and recorded.

- Your identity or blood sample cannot be confirmed
- Compatible blood is unavailable
- A previous serious reaction needs investigation
- New fever or breathing symptoms need assessment
- Specially selected or treated components must be arranged

How to prepare

Follow your treating facility's instructions, as they take priority over general guidance.

A blood sample is usually taken to confirm your blood group and look for antibodies that could react with donor cells. Tell the team about previous transfusions, pregnancies, transfusion reactions, allergies, heart or kidney problems, and all medicines or supplements you take. Do not stop a blood thinner like warfarin or apixaban unless your healthcare team tells you to.

Fasting is not usually required, but you may need to stop eating or drinking if the transfusion is being given around surgery or another procedure.

A healthcare professional should explain the benefits, risks, and alternatives and ask for your consent. An intravenous line, or IV, will be placed if you do not already have one.

What happens during the procedure

Staff check your identity, prescription, blood group, and the component label. You may be asked to confirm your name and date of birth several times.

Your temperature, pulse, blood pressure, and breathing may be recorded before the component is connected to your IV. You will be watched closely when the transfusion starts and checked during and afterward.

Immediately report fever, chills, itching, shortness of breath, nausea, unusual anxiety, or chest or back pain.

Timing depends on the component, number of units, urgency, and risk of fluid overload. Emergency transfusions may be given more quickly with close monitoring.

Recovery and what to expect afterward

Pain: You may feel a brief sting when the IV is inserted. Report burning, swelling, or increasing pain around it.

Eating: You can usually eat and drink normally unless another condition or procedure requires restrictions.

Activity: Many people resume light activities after an outpatient transfusion. Increase activity gradually if your underlying condition still causes weakness, tiredness, or breathlessness.

Driving: Drive only if you feel well, can control the vehicle safely, and have not received sedating medicine. Follow facility-specific restrictions.

Work: You may return the same day or next day if you feel well. Recovery can take longer after major bleeding, surgery, or serious illness.

Risks and possible complications

Most transfusions do not cause a serious problem, but no transfusion is risk-free. Fever, chills, itching, or a rash need immediate assessment because they can resemble an early serious

reaction.

Other complications include:

Donated blood is screened for major infections, making transmission uncommon, although no testing removes every risk.

- Haemolytic reaction: The immune system destroys donor red cells
- Fluid overload: Extra fluid strains the heart and lungs
- Transfusion-related lung injury: A sudden inflammatory reaction affects breathing
- Bacterial contamination: A component causes a serious infection
- Delayed reaction: Red cells break down days or weeks later
- Antibody formation: Future matching becomes more difficult
- Iron overload: Iron accumulates after repeated red-cell transfusions

Results and follow up

Bleeding, circulation, or symptoms of severe anaemia may improve during or soon after transfusion, although another illness may delay improvement.

Blood tests may be repeated to check haemoglobin, platelets, or clotting. Follow-up should also address why your blood count changed and whether further treatment is needed.

If you had a reaction, ask what was recorded and whether you will need specially selected blood in the future.

Alternatives

Alternatives depend on what is missing and how urgently it must be replaced. They may not work quickly enough during major bleeding or severe instability.

Ask what may happen if you wait, choose an alternative, or have no transfusion.

- Observation and repeat tests: Avoids transfusion but allows low counts or symptoms to continue
- Iron, vitamin B12, or folate: Treats confirmed deficiencies more slowly
- Medicines that stimulate red-cell production: Help selected conditions but are not immediate replacements

- Medicines that reduce bleeding: Preserve blood but cannot replace blood already lost
- Surgery, endoscopy, or radiology: May stop bleeding but has procedural risks
- Cell salvage: Returns your own blood during some operations
- Specific clotting-factor products: Treat particular clotting problems more precisely than plasma

When to call your healthcare team

During a transfusion, tell staff immediately about any new symptom. Do not wait for it to settle.

After leaving, seek emergency help for severe breathing difficulty, chest pain, collapse, confusion, blue or grey lips, or swelling of the face or tongue.

Contact your healthcare team urgently for fever, shaking chills, worsening shortness of breath, dark urine, yellow skin or eyes, very little urine, a spreading rash, or increasing back or chest pain. These problems can occur hours or days later.

Contact the team if expected symptoms are not improving, tiredness is worsening, or you have questions about follow-up tests. Seek advice sooner for IV-site bruising that is enlarging, painful, hot, or swollen.

Common questions

Will I be asleep?

No. Transfusion does not normally require anaesthesia or sedation, although you may be asleep if it is given during an operation.

Can I drive home?

Often, yes. Do not drive if you feel unwell, weak, dizzy, or sleepy, or if another treatment restricts driving.

How painful is it?

You should mainly feel the brief sting of IV placement. Blood entering the vein should not hurt.

How long will it take?

One component may take about 30 minutes to 4 hours. Several units, tests, monitoring, and compatibility checks extend the visit.

When will I know whether it worked?

Some people improve within hours. Follow-up blood tests provide a clearer measure.

Can I refuse a blood transfusion?

Yes, if you can make the decision. Ask about likely consequences, alternatives, and how your wishes would be handled in an emergency.

Sources

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