

Informed Consent – Blood Transfusion

Note: EmEx informed consent tools facilitate emergency physicians and nurses in their duty to inform patients (and family members) about procedures or treatments. This material is generally written at a more sophisticated level than most stand-alone patient education materials. It is appropriate for this document to be printed, given to the patient/family to review, further explained by an emergency physician or nurse and any remaining questions answered.

Disclaimer: EmEx does not direct patient care or take part in medical decisions. Hospitals are expected to modify ED Toolkit items to meet local and federal regulations and standards of care.

Benefits of Transfusion

Red blood cells improve oxygen delivery, restore adequate blood volume, and reduce symptoms of severe anemia (such as weakness, dizziness, shortness of breath, and angina). Platelets and fresh frozen plasma reduce bleeding (increase the ability of the body to form a clot) in patients with low platelets and other coagulation problems. It is a standard of care to utilize blood products when the clinical situation warrants this treatment.

Risks of Transfusion

Severe, noninfectious complications, although uncommon, now account for most of the significant problems from blood transfusions in the US. The most common "reactions" to blood products are *non-hemolytic transfusion reactions*, which can cause fever and other systemic symptoms. These reactions, which have no lasting effects, occur about once in every 1,000 transfusions.

More serious *acute hemolytic transfusion reactions* occur when red blood cells are transfused to recipients with antibodies that cause the cells to break apart. The incidence of such reactions is about 1 in 25,000 red cell transfusions and fatalities are rare. These reactions usually result from errors in patient identification (blood given to the wrong patient). Symptoms include chills, head and back pain, shortness of breath, low oxygen levels, chest pain, tachycardia, and low blood pressure. U.S. hospitals use a stringent process to prevent errors in cross matching and patient identification.



Allergic reactions to blood are also possible and range from mild reactions (itchy rash) in about 1 in every 4,000 transfusions to more severe allergic reactions (swelling, wheezing, and low blood pressure) in about 1 in every 30,000 transfusions.

Patients with diminished heart function can experience fluid overload in the lungs, which may be prevented by giving the transfusion slowly, or possibly using diuretics. Fatalities occur about once in every 4.5 million transfusions. Also, patients getting multiple transfusions can also get too much iron in their system.

Blood products are rarely contaminated with bacteria although this is more frequent in platelet products due to room temperature storage. Bacterial testing of platelet concentrates is mandatory and has resulted in a 50% decrease in contamination. Transmission of bacterial infection occurs about once in 100,000 platelet transfusion.

There is a risk that a given blood transfusion will transmit a viral infection to its recipient. Relative risks of transmission in the US is about 1 of every 250,000 units transfused for hepatitis B, 1 in every 350,000 units transfused for West Nile Virus, and about 1 of every 2 million units transfused for either HIV or hepatitis C.

Transfusion-associated acute lung injury (TRALI) is a syndrome of acute respiratory distress, often associated with fever, fluid overload in the lungs (in patients with normal heart function), and low blood pressure and occurs as often as 1 in 5,000 transfusions. This can range from mild to life-threatening, but most patients recover fully within 4 days and the mortality rate from this condition is under 10%. TRALI is currently the leading cause of transfusion-related fatality reported to the FDA in the United States.

Alternatives to Transfusion

At this point there are no artificial products available that are as effective and safe as transfusion of donated human blood products.



Risk of Refusal of Transfusion of Blood Products

We understand that some patients object to blood transfusions for personal, medical, or religious reasons. We do respect this decision when the individual understands the risk of refusing. In general, the risk of refusing red blood cells is impaired oxygen delivery to vital tissues, which can cause heart attacks, strokes and death.

References

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