NEW YORK STATE COUNCIL ON HUMAN BLOOD AND TRANSFUSION SERVICES
AND
NEW YORK STATE BOARD FOR NURSING

Appendix A
Transfusion Reaction Response Guide

Acute Reactions

Symptoms/Signs	Possible Etiology	Actions
• Chest pain or pressure • Lower back pain • Dyspnea • Tachycardia • Nausea/vomiting • Diarrhea • Hypotension • Shock	These symptoms/signs may be related to **fluid overload, acute hemolysis, sepsis, anaphylaxis,** or **transfusion-related acute lung injury (TRALI)**	• Stop infusion • Maintain IV line with normal saline at a “keep vein open” rate • Notify physician or other provider • Reconfirm patient and unit identification to verify that the correct unit is being given to the intended recipient • Notify the blood bank; collect a type and screen specimen. Send these along with the remaining blood unit and administration set, with attached solutions, to the laboratory unless otherwise instructed • Do not initiate another transfusion without blood bank consultation • Document reaction in patient’s chart as per institution policy
• Chills • Fever - 1°C (2°F) or more increase in temperature up to 4 hours after the transfusion • Flushing • Restlessness	These symptoms/signs may be due to a **febrile, nonhemolytic reaction** related to infused white blood cells or cytokines, or may be the initial presentation of a more serious **acute hemolytic reaction** or **sepsis**	
• Local erythema • Hives • Itching • Flushing	These symptoms/signs are related to a mild **allergic reaction** to plasma proteins	• Stop infusion • Maintain IV line with normal saline at a "keep vein open” rate • Notify physician or other provider • Reconfirm patient and unit identification to verify that the correct unit is being given to the intended recipient • Administer diphenhydramine (Benadryl), if ordered, and steroids if ordered • Notify the blood bank (per hospital policy); initiate transfusion reaction workup • If symptoms resolve, the physician or other provider may decide to restart the transfusion after treatment • Monitor closely for any further signs or symptoms • Document reaction in patient’s chart as per institution policy

Delayed Reactions

Clinical Presentation	Possible Etiology	Actions
• Fever • Rash • Elevated liver function tests • Diarrhea • Symptoms/signs may occur from several days to a month after transfusion • Rapid progression to death with virtually 100% mortality	These symptoms/signs may be caused by **transfusion-associated graft-vs-host disease**, which can arise if HLA-incompatible donor T-lymphocytes attack recipient tissues.	• Notify physician • Notify blood bank
• Fall in hemoglobin and hematocrit • Fever • Jaundice • Hemoglobinuria • Increased lactate dehydrogenase and other evidence of hemolysis • Typically occurs 3-7 days after transfusion, but may occur ≥28 days after transfusion • Patient is often asymptomatic • Direct antiglobulin test (DAT) may be positive and an antibody not detected prior to the transfusion may be identified	These symptoms/signs may be caused by a **delayed hemolytic reaction**, which is due to an antibody, developed as a result of pregnancy or a transfusion in the past, when the antibody is of low enough titer so as to be undetectable at the time of a recent transfusion, but has intensified as a result of the transfusion (an anamnestic response).	• Notify physician • Notify blood bank
• Thrombocytopenia, <20% of pre-transfusion value, occurring with an abrupt onset, generally 1-2 weeks after transfusion • Melena • Hematuria • Vaginal bleeding • Occurs most commonly in multiparous women • Usually self-limited, but severe bleeding may occur and can be fatal (*e.g.,* intracranial bleeding)	These symptoms/signs may be caused by **posttransfusion purpura**, in which antibodies stimulated by a recent transfusion (usually of red blood cells or platelets) destroy platelets in a patient who has made an antibody against a foreign platelet antigen as a result of pregnancy or a previous transfusion.	• Notify physician • Notify blood bank