Risks of Blood Transfusion
Side Effects and Hazards for Whole Blood and All Blood Components
A Compendium of Transfusion Practice Guidelines; American Red Cross, 3rd Edition 2017

Immunologic Complications, Immediate
1. Hemolytic transfusion reaction (incidence: 1:12,000 to 1:38,000)
2. Immune mediated platelet destruction (incidence: 4-13%)
3. Febrile non-hemolytic reaction (incidence: 0.1-0.4%)
4. Allergic/urticarial reaction, mild (incidence: 0.1-0.6%)
5. Anaphylactic reaction (incidence: 1:20,000 to 1:50,000)
6. TRALI (transfusion related acute lung injury) (incidence: 1:12,000 to 1:148,000)

Immunologic Complications, Delayed
1. Delayed hemolytic reaction (incidence: 1:5,400 to 1:62,000)
2. Alloimmunization (incidence: 1:1,500 to 1:3,000)
3. PTP (post transfusion purpura) (incidence: less than 1:2,000,000)
4. TA-GVHD (transfusion associated graft-vs-host disease) (incidence: exceedingly rare)

Non-immunologic Complications
1. Infectious agent transmission (viruses, bacteria, parasites, vCJD, and others)
   a. Incidence:
      1) CMV: 1-4% with leukoreduced components in a sero-negative donor
      2) Babesia: 47 transfusion transmissions from unscreened blood since 2010
      3) Malaria: <0.1 per 1,000,000
      4) Leishmaniasis: rare case reports
      5) vCJD: 4 cases worldwide
      6) Lyme disease: no cases
      7) HIV: 1:1,467,000
      8) HCV: 1:1,149,000
      9) HBV: 1:765,000-1,006,000
     10) HTLV I/II: 1:4,364,000
     11) Treponema pallidum: no cases since the 1960s
     12) West Nile Virus: 11 cases of transfusion transmission from screened blood
     13) Trypanosoma cruzi: No transmissions reported from screened blood
2. Bacterial sepsis (incidence: 1:5,000,000 for red cells, 1:107,000 for platelets)
3. TACO (transfusion associated circulatory overload); leading to pulmonary edema (incidence: 1-8%)
4. Hypothermia, leading to coagulopathy (incidence: unknown, mostly occurs in trauma or in pediatric and neonatal patients)
5. Metabolic complications (incidence: unknown, mostly occurs in trauma or in pediatric and neonatal patients)

Fatalities Reported to FDA Following Blood Transfusion

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<td>Hemolytic non-ABO</td>
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