



Give appropriate verbal and written information to the patient and/or carer

- Provide verbal and written information to patients who may have or who have had a transfusion, and their family members or carers (as appropriate), explaining:
 - the reason for the transfusion
 - the risks and benefits
 - the transfusion process
 - any transfusion needs specific to them

 - any alternatives that are available, and how they might reduce their need for a transfusion
 - that they are no longer eligible to donate blood
 - that they are encouraged to ask questions.
- Document discussions in the patient's notes.
- Provide the patient and their GP with copies of the discharge summary or other written communication that explains:
 - the details of any transfusions they had
 - the reasons for the transfusion
 - any adverse events
 - that they are no longer eligible to donate blood

Transfuse the patient following the appropriate recommendations for each component / product (see below)

• Consider using a system that electronically identifies patients to improve the safety and efficiency of the blood transfusion process

Red blood cells recommendations

- Use restrictive red blood cell transfusion thresholds for patients who need red blood cell transfusions and who do not:
 - have major haemorrhage or
 - have acute coronary syndrome or - need regular blood transfusions for chronic
- When using a restrictive red blood cell transfusion threshold, consider a threshold of 70 g/litre and a haemoglobin concentration target of 70-90 g/litre after transfusion.
- Consider a red blood cell transfusion threshold of 80 g/ litre and a haemoglobin concentration target of 80-100 g/litre after transfusion for patients with acute coronary
- · Consider setting individual thresholds and haemoglobin concentration targets for each patient who needs regular blood transfusions for chronic anaemia
- Doses
- Consider single-unit red blood cell transfusions for adults (or equivalent volumes calculated based on body weight for children or adults with low body weight) who do not have active bleeding.
- After each single-unit red blood cell transfusion (or equivalent volumes, calculated based on body weight, for children or adults with low body weight), clinically reassess and check haemoglobin levels, and give further transfusions if needed.

Platelets recommendations

- Offer platelet transfusions to patients with thrombocytopenia who have clinically significant bleeding (World Health Organization [WHO] grade 2) and a platelet count below 30×10⁹ per litre.
- Use higher platelet thresholds (up to a maximum of 100×10⁹ per litre) for patients with thrombocytopenia and either of the following:
 - severe bleeding (WHO grades 3 and 4)
- bleeding in critical sites, such as the central nervous system (including
- Offer prophylactic platelet transfusions to patients with a platelet count below 10×10^9 per litre who are not bleeding or having invasive procedures or surgery, and who do not have any of the following conditions:
 - chronic bone marrow failure
 - autoimmune thrombocytopenia - heparin-induced thrombocytopenia
 - thrombotic thrombocytopenic purpura.
- Consider prophylactic platelet transfusions to raise the platelet count above $50x10^9$ per litre in patients who are having invasive procedures or
- Consider a higher threshold (for example 50-75×10⁹ per litre) for patients with a high risk of bleeding who are having invasive procedures or surgery, after taking into account:
 - the specific procedure the patient is having
 - the cause of the thrombocytopenia
 - whether the patient's platelet count is falling - any coexisting causes of abnormal haemostasis
- Consider prophylactic platelet transfusions to raise the platelet count above 100×10⁹ per litre in patients having surgery in critical sites, such as the central nervous system (including the posterior segment of the eyes).
- Do not routinely offer prophylactic platelet transfusions to patients with any of the following:
 - chronic bone marrow failure
 - autoimmune thrombocytopenia
 - heparin-induced thrombocytopenia - thrombotic thrombocytopenic purpura.
- Do not offer prophylactic platelet transfusions to patients having procedures with a low risk of bleeding, such as adults having central venous cannulation or any patients having bone marrow aspiration and trephine
- \bullet Do not routinely transfuse more than a single dose of platelets.
- Only consider giving more than a single dose of platelets in a transfusion for patients with severe thrombocytopenia and bleeding in a critical site, such as the central nervous system (including eyes).
- Reassess the patient's clinical condition and check their platelet count after each platelet transfusion, and give further doses if needed.

Fresh frozen plasma recommendations

- Only consider fresh frozen plasma transfusion for patients with clinically significant bleeding but without major haemorrhage if they have abnormal coagulation test results (for example, prothrombin time ratio or activated partial thromboplastin time ratio above 1.5).
- Do not offer fresh frozen plasma transfusions to correct abnormal coagulation in patients who:
 - are not bleeding (unless they are having invasive procedures or surgery with a risk of clinically significant bleeding) - need reversal of a vitamin K antagonist.
- Consider prophylactic fresh frozen plasma transfusions for patients with abnormal coagulation who are having invasive procedures or surgery with a risk of clinically significant bleeding.
- Reassess the patient's clinical condition and repeat the coagulation tests after fresh frozen plasma transfusion to ensure that they are getting an adequate dose, and give further doses if needed.

Cryoprecipitate recommendations

- Consider cryoprecipitate transfusions for patients without major haemorrhage who have:
 - clinically significant bleeding and
- a fibrinogen level below 1.5 g/litre. • Do not offer cryoprecipitate transfusions to correct the fibrinogen level in
- patients who: - are not bleeding and
- are not having invasive procedures or surgery with a risk of clinically significant bleeding. • Consider prophylactic cryoprecipitate transfusions for patients with a
- fibrinogen level below 1.0 g/litre who are having invasive procedures or surgery with a risk of clinically significant bleeding. Use an adult dose of 2 pools when giving cryoprecipitate transfusions (for
- children, use 5-10 ml/kg up to a maximum of 2 pools) • Reassess the patient's clinical condition, repeat the fibrinogen level
- measurement and give further doses if needed

Prothrombin complex concentrate

- Offer immediate prothrombin complex concentrate transfusions for the
- emergency reversal of warfarin anticoagulation in patients with either:
 - severe bleeding or

recommendations

- head injury with suspected intracerebral haemorrhage
- For guidance on reversing anticoagulation treatment in people who have a stroke and a primary intracerebral haemorrhage, see recommendation 1.4.2.8
- in the NICE guideline on the initial diagnosis and management of stroke. • Consider immediate prothrombin complex concentrate transfusions to reverse warfarin anticoagulation in patients having emergency surgery, depending on the level of anticoagulation and the bleeding risk.
- Monitor the international normalised ratio (INR) to confirm that warfarin anticoagulation has been adequately reversed, and consider further prothrombin complex concentrate.
- Monitor the patient's condition and vital signs before, during and after blood transfusions, to detect acute transfusion reactions that may need immediate investigation and treatment.
- Observe patients who are having or have had a blood transfusion in a suitable environment with staff who are able to monitor and manage acute reactions