4.13: Transfusion of blood components

Table 4.2 summarises key points about the transfusion of commonly used components in adult patients (see Chapter 10 for administration of components in paediatric/neonatal practice). Clinical use of blood components is discussed in Chapters 7–10.

Table 4.2 Blood component administration to adults (doses and transfusion rates are for guidance only and depend on clinical indication) (based on BCSH Guideline on the Administration of Blood Components, 2009, with permission)

<table>
<thead>
<tr>
<th>Blood component</th>
<th>Notes on administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red cells in additive solution</td>
<td>Transfusions must be completed within 4 hours of removal from controlled temperature storage. Many patients can be safely transfused over 90–120 minutes per unit. A dose of 4 mL/kg raises Hb concentration by approximately 10 g/L. Note: The common belief that one red cell pack = 10 g/L increment only applies to patients around 70 kg weight – the risk of transfusion-associated circulatory overload (TACO) is reduced by careful pre-transfusion clinical assessment and use of single-unit transfusions, or prescription in millilitres, for elderly or small, frail adults where appropriate. During major haemorrhage, very rapid transfusion (each unit over 5–10 minutes) may be required.</td>
</tr>
</tbody>
</table>

Please note the Transfusion Handbook has not been updated since 2014 and requires review. Guidance within the Handbook may therefore be out of date with other current guidelines.

Contact JPACOffice@nhsbt.nhs.uk for more information.
<table>
<thead>
<tr>
<th>Blood Component</th>
<th>Details</th>
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</table>
| Platelets                | One adult therapeutic dose (ATD) (pool of four units derived from whole blood donations or single-donor apheresis unit) typically raises the platelet count by 20–40×10^9/L.  
  Usually transfused over 30–60 minutes per ATD.  
  Platelets should not be transfused through a giving-set already used for other blood components.  
  Start transfusion as soon as possible after component arrives in the clinical area. |
| Fresh frozen plasma (FFP) | Dose typically 12–15 mL/kg, determined by clinical indication, pre-transfusion and post-transfusion coagulation tests and clinical response.  
  Infusion rate typically 10–20 mL/kg/hour, although more rapid transfusion may be appropriate when treating coagulopathy in major haemorrhage.  
  Because of the high volumes required to produce a haemostatic benefit, patients receiving FFP must have careful haemodynamic monitoring to prevent TACO.  
  FFP should not be used to reverse warfarin (prothrombin complex is a specific and effective antidote). |
| Cryoprecipitate          | Typical adult dose is two five-donor pools (ten single-donor units).  
  Will raise fibrinogen concentration by approximately 1 g/L in average adult.  
  Typically administered at 10–20 mL/kg/hour (30–60 min per five-unit pool). |