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**ABO AND RH CONSIDERATIONS WHEN TRANSFUSING PLASMA OR PLATELETS**

Provided by LifeServe Blood Center’s Medical Department

This document discusses ABO and Rh considerations and gives general guidelines when transfusing plasma and platelets.\*

NOTE: For pediatric patients, use type-specific plasma or platelet units when possible

1. **PLASMA**
   1. ***Rh-matching is not necessary for plasma transfusions***
   2. ABO-MATCHING
      1. Known recipient blood type:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **PLASMA CHOICE** | | | |
|  |  | #1 | #2 | #3 | #4 |
| **RECIPIENT** | O | O | A | B | AB |
| A | A | AB | Contact Blood Bank Medical Director\* | |
| B | B | AB |
| AB | AB |  |

* + 1. Unknown recipient blood type:
       1. Usually in an emergent situation, e.g. trauma
       2. Numerous studies have demonstrated that type-A plasma is safe for transfusion during trauma

|  |  |  |
| --- | --- | --- |
| **PLASMA CHOICE** | | |
| #1 | #2 | #3 |
| A or AB | B | O |

1. **PLATELETS**
   1. Rh-MATCHING
      1. Although platelets do not express Rh antigens, platelet products contain a small number of red blood cells
      2. It is very unlikely that an anti-D antibody will be formed in a Rh-negative recipient who receives Rh-positive platelets
         1. ***Because of this risk, Rh-negative platelets for premenopausal, Rh-negative females should be considered***
         2. If Rh-negative platelets are strongly desired for other recipient populations then they may be provided
      3. If Rh-negative platelets are unavailable for a Rh-negative recipient then Rh immune globulin (RhIg) may be given before the transfusion
         1. RhIg has a 3 week half-life therefore a single dose should provide prophylaxis for multiple transfusions over a 2 to 4 week period
   2. ABO-MATCHING
      1. Platelets have ABO antigens however, due to inventory constraints, it is difficult for facilities to consistently provide ABO-identical units for all recipients, therefore this has rarely been standard practice
      2. Transfusion of non-ABO-identical platelets may potentially result in a lower post transfusion platelet increment, but it is generally not clinically significant
      3. If ABO-compatible platelets are requested, then use the following table:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **PLATELET CHOICE** | | | | | | | |
|  |  |  | #1 | #2 | #3 | #4 | #5 | #6 | #7 | #8 |
| **RECIPIENT** | O Pos | All | O  Pos | O  Neg | B  Pos | B  Neg | A  Pos | A  Neg | AB  Pos | AB  Neg |
| O Neg | Males  Postmenopausal Females |
| Premenopausal Females | O  Neg | B  Neg | A  Neg | AB  Neg | O  Pos | B  Pos | A  Pos | AB  Pos |
|  |  |  |  |  |  |  |  |  |  |  |
| **RECIPIENT** | A Pos | All | A  Pos | A  Neg | O  Pos | O  Neg | B  Pos | B  Neg | AB  Pos | AB  Neg |
| A Neg | Males  Postmenopausal Females |
| Premenopausal Females | A  Neg | O  Neg | B  Neg | AB  Neg | A  Pos | O  Pos | B  Pos | AB  Pos |
|  |  |  |  |  |  |  |  |  |  |  |
| **RECIPIENT** | B Pos | All | B  Pos | B  Neg | O  Pos | O  Neg | A  Pos | A  Neg | AB  Pos | AB  Neg |
| B Neg | Males  Postmenopausal Females |
| Premenopausal Females | B  Neg | O  Neg | A  Neg | AB  Neg | B  Pos | O  Pos | A  Pos | AB  Pos |
|  |  |  |  |  |  |  |  |  |  |  |
| **RECIPIENT** | AB Pos | All | AB  Pos | AB  Neg | A  Pos | A  Neg | B  Pos | B  Neg | O  Pos | O  Neg |
| AB Neg | Males  Postmenopausal Females |
| Premenopausal Females | AB  Neg | A  Neg | B  Neg | O  Neg | AB  Pos | A  Pos | B  Pos | O  Pos |

* + 1. If a recipient’s blood type is unknown, e.g. an emergent situation, then use the following table:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **PLATELET CHOICE** | | | | | |
|  | #1 | #2 | #3 | #4 | #5 | #6 |
| **Females < 50 Y** | A or AB  Neg | B  Neg | O  Neg | A or AB  Pos | B  Pos | O  Pos |
| **Males**  **Females > 50 Y** | A or AB  Pos or Neg | B  Pos or Neg | O  Pos or Neg |  |  |  |