

A Guide to Assist Clinicians Ordering Therapeutic Plasma Exchange Procedures

Consider the following factors when ordering therapeutic plasma exchange. You should also refer to your own facility's standards and procedures.



1. Procedure target: How much plasma needs to be exchanged?

- The standard of care is between 1 and 1.5 plasma volumes (PVs).¹
- To calculate PV: $PV = (1 - Hct) \times TBV$ (TBV = patient's total blood volume)
- If one (1.0) PV is exchanged, approximately 63% of disease mediators are removed. If one and a half (1.5) PVs are exchanged, approximately 78% of disease mediators are removed.²⁻⁴

2. Frequency of procedure:^{2-3,5} How many therapeutic plasma exchange procedures are required?

- Frequency will depend on whether treatments are acute or chronic and may include:
 - Daily
 - Every other day
 - Other frequency, such as weekly or biweekly

3. Replacement fluid: What types of replacement fluid are used for therapeutic plasma exchange?

- Options include:⁶
 - Plasma
 - Albumin (typically 5%)⁷⁻⁸
 - Saline (0.9% NaCl) can be used in small quantities to dilute either of the replacement fluids listed above⁹

4. Anticoagulation: What type of anticoagulant is used for therapeutic plasma exchange?

Citrate dextrose solution A (ACD-A) is the typical anticoagulant used when performing centrifugal therapeutic plasma exchange.¹⁰

5. Fluid balance: What type of fluid balance can be targeted for therapeutic plasma exchange?

- Consider fluid balance target based on the patient's condition. Options include:
 - Isovolemia: 100%
 - Hypovolemia: < 100%
 - Hypervolemia: > 100%

6. Laboratory monitoring: What lab testing may be ordered prior to therapeutic plasma exchange?

- Consider labs based on the patient's condition.
- Options include: CBC, complete metabolic panel, fibrinogen, ionized calcium, LDH, PT/PTT, other.

7. Vascular access: What type of vascular access can be used for therapeutic plasma exchange?

- Peripheral venous access is preferable when a patient has suitable peripheral veins.¹¹
- Other access options include central venous access, such as catheters or ports, when peripheral access is not feasible.¹¹

References

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