

# 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).<sup>1</sup>
- 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.<sup>2,3,4</sup>

## 2. Frequency of Procedure:<sup>2,3,5</sup> 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:<sup>6</sup>
  - Plasma
  - Albumin (typically 5%)<sup>7,8</sup>
  - Saline (0.9% NaCl) can be used in small quantities to dilute either of the replacement fluids listed above<sup>9</sup>

## 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.<sup>10</sup>

## 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.<sup>11</sup>
- Other access options include central venous access, such as catheters or ports, when peripheral access is not feasible.<sup>11</sup>

## References

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Terumo BCT, Inc.  
Lakewood, CO, USA  
+1.303.231.4357

Terumo BCT Europe N.V.  
Zaventem, Belgium  
+32.2.715.0590

Terumo BCT Asia Pte. Ltd.  
Singapore  
+65.6715.3778

Terumo BCT Latin America S.A.  
Buenos Aires, Argentina  
+54.11.5530.5200

Terumo BCT Japan, Inc.  
Tokyo, Japan  
+81.3.6743.7890