

SOP for DVET

Standard operating procedure for a double volume exchange transfusion in neonates includes the following steps:

1. Prepare the equipment: Gather all the necessary equipment, including two sterile umbilical catheters, extension tubing, infusion pumps, sterile saline or heparinized saline, packed red blood cells, blood warmer, and vital sign monitoring equipment.
2. Prepare the infant: Place the neonate in a warm environment, with vital signs monitoring in place. Ensure that resuscitation equipment, such as a bag valve mask, is readily available.
3. Obtain informed consent: Explain the procedure, its risks, and benefits to the parents or legal guardians. Obtain their consent for the exchange transfusion.
4. Perform skin preparation: Cleanse the neonate's skin with an antiseptic solution, ensuring a sterile field around the umbilical area.
5. Anesthetize the umbilical area: Administer a local anesthetic at the umbilicus site to minimize discomfort during catheter insertion.
6. Insert umbilical catheters: Insert two sterile umbilical catheters, one in the umbilical vein and the other in the umbilical artery. Secure them using sterile adhesive tape.
7. Connect extension tubing: Connect the extension tubing to the umbilical catheters, ensuring a tight connection. Flush the extension tubing with sterile saline or heparinized saline.
8. Start the exchange transfusion: Initiate the exchange transfusion by connecting the arterial line to the blood warmer and the venous line to the packed red blood cells. Start the transfusion slowly, closely monitoring vital signs, heart rate, blood pressure, and oxygen saturation.
9. Maintain temperature control: Monitor the infant's temperature closely throughout the procedure and adjust the blood warmer as needed to maintain the desired temperature.
10. Monitor and record vital signs: Continuously monitor and record the neonate's vital signs, including heart rate, blood pressure, respiratory rate, and oxygen saturation.
11. Complete the exchange volume: Continue the transfusion until the targeted exchange volume, usually twice the estimated circulating volume, has been reached.
12. Monitor stability: Assess the infant's hemodynamic stability, urine output, and overall clinical condition throughout the transfusion. Monitor for any signs of complications, such as hypothermia, hyper- or hypo-tension, or electrolyte imbalances.

13. Secure catheters and monitor post-procedure: After completing the transfusion, secure the umbilical catheters carefully and monitor the neonate closely for a post-procedure period. Observe the infant for any signs of adverse reactions or complications.

14. Documentation: Document the details of the procedure, including the volume of blood exchanged, vital signs throughout the procedure, and any complications that occurred.

15. Follow-up care: Provide appropriate post-procedure care, including monitoring for any late complications or adverse effects. Educate the parents or legal guardians on signs and symptoms that require immediate medical attention.

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