Acacium Group

Disconnection from Central Venous Access Device (CVAD)

Procedure Reference | SOP TPN 02

Version | V4.0

Procedure Name	Disconnection from Central Venous Access Device (CVAD)
Purpose of Document	To ensure that the correct preparation, procedure & outcome are achieved by implementing a consistent and systematic approach to effective administration of TPN
Target Audience	All appropriately trained nurses
Version	V4.0
Author	Kate Nicholson-Florence
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Lead Director	Karen Matthews-Shard
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Last Reviewed	3 yearly or when clinical or operation guidelines change
Next Review Date	March 2026
Equality Impact Assessment (EIA) Form	Acacium Group is committed to Equality, Diversity and Inclusion and in line with our values, we strive to ensure that everyone that is part of the Acacium community is not disadvantaged or discriminated against given their individual need or characteristics. To support this, an Equality Impact Assessment has been undertaken on this policy/procedure. This information is held centrally and can be requested from the Clinical Governance Team.
About Acacium Group	Details of all Acacium Group trading companies that this policy applies to are detailed within Appendix A

Document History			
Version	**Date**	**Changes made/comments**	**By whom**
V1	Dec 2016	Implementation of document history page	KNF/SJ
V1	May 2018	Frequency of review date changed	KMS/VM
V2	Nov 2019	3 Yearly Review	Clinical Advisory Group
V2.1	Oct 2020	Updated re rebrand	CC
V3	Mar 2023	Reviewed and updated	Clinical Advisory Group
V4	Jan 2024	Rebrand	Clinical Advisory Group

Table of Contents

1. Introduction

Total parenteral nutrition (TPN) is a method of feeding directly into the blood stream providing nutrition directly into a major vein. The nutrition is supplied in a liquid form in a bag that it is sterile. TPN is composed of a mixture of glucose, protein, fat, electrolytes, vitamins, minerals and water, each patient has a different mix designed to meet their individual needs – this will be documented on the prescription form.

2. Aim

To provide guidance in the safe and effective disconnection of TPN.

3. Who needs to be aware of this procedure

All Acacium Group nurses who are trained and competent in administering and disconnecting TPN.

4. Hazards/complications

- Infection of site
- Line sepsis
- Electrolyte imbalance
- Hyperglycemia / hypoglycemia
- Liver disease
- Air embolism

5. Assessment of need

Assessment of care needs should be an ongoing basis and give consideration to the possible hazards/complications above as well as considering infection, overall health and nutritional status.

6. Consent

Please read the Acacium Group Policy on consent thoroughly and ensure valid consent has been gained.

Please now ensure you understand the Consent Policy and Mental Capacity Act in full.

7. Client and relatives/carers involvement

Initially the need for TPN may be distressing to the relatives or care workers of the client. Where possible, they should be fully consulted and informed about the care required and involved. It is important to allow family members to feel involved with the care provision.

8. Client information

Detailed information should be provided on what is required to effectively administer the TPN safely. This should be in documented in the care plan and clients may also have an individual patient information leaflet if required.

9. Equipment

- 2 x 10ml Leur Lock Syringe
- 10ml ampoule sodium chloride 0.9%
- 5ml ampoule sodium heparin (10 units sodium heparin in 1ml)
- 2x filter needle
- 2 x alcohol wipe
- Ampoule opener if applicable

10. Procedure

Disconnection with ampoules and syringes

	Action	Rationale
1.	Taper down the rate of the infusion, as per care plan, if recommended by the nutrition team over the last hour. (more prevalent in paediatrics)	To prevent rebound hypoglycemia
2.	Gather equipment	To ensure that you have all the equipment required
3.	Place the equipment on the trolley/ work area	To prepare for the procedure
4.	Wash hands thoroughly and dry them with a paper towel	To prevent infection
5.	Put on non-sterile gloves or recommendations from local guidelines. See Appendix A.	To protect against contamination with hazardous substances
6.	Open syringes and attach filter needles using a non-touch technique. Re-sheath the needle and place syringe on a clean surface.	To prepare for the procedure To maintain infection control
7.	Check expiry dates on the 0.9% sodium chloride and open ampoule	To ensure that the sodium chloride 0.9% is in date
8.	Draw up 10mls sodium chloride 0.9% into the syringe	To allow flushing of the line to ensure patency
9.	Dispel air from the syringe as necessary using aseptic non-touch technique and place syringe on a clean surface	To reduce the risk of air embolism
10.	Check expiry date on the ampoule of sodium heparin and ensure that it is the correct concentration. Open the ampoule	To ensure that the sodium heparin is in date and that the client does not become over heparinised.
11.	Draw up 5mls of sodium heparin into the syringe.	To heplock the CVAD to minimise the risk of 'clotting off'
12.	Dispel air from the syringe as necessary using aseptic non-touch technique. Re-sheath the needle and place syringe on a clean surface.	To reduce the risk of air embolism
13.	Stop the infusion, clamp central venous catheter with its integral clamp.	To discontinue the TPN infusion and prevent blood from back tracking up the CVAD
14.	Switch off the pump and close the roller clamp on the giving set.	To stop the pump alarming as infusion finished. To further prevent blood from back tracking up the CVAD
15.	Remove the needles from both syringes.	In preparation for the procedure

16.	Disconnect administration set from central venous catheter	To allow the CVAD to be prepared for flushing to ensure patency
17.	Clean rubber bung of bionector with alcohol wipe and allow to dry for 30 seconds (whilst keeping hold of bionector in one hand)	Infection control and de-contamination
18.	Connect syringe of sodium chloride 0.9% to the bionector.	To flush the CVAD and ensure patency
19.	Release clamp on central venous catheter, draw back until you see a blood flashback	To ensure patency of the central venous catheter and expel any air left in the barrel of the syringe.
20.	Slowly push the prescribed amount of sodium chloride 0.9% into the central venous catheter using a pulsing technique.	To flush any remaining irritating solution away from the central venous catheter
21.	Clamp catheter and remove syringe	To prevent bleeding and to enable connection of heplock
22.	Connect syringe of sodium heparin (10 units/ml)	O flush the Heplock into the CVAD
23.	Release clamp on central venous catheter, draw back until you see a blood flashback	To ensure patency of the central venous catheter and expel any air left in the barrel of the syringe.
24.	Slowly push the prescribed amount of sodium heparin into the central venous catheter with a smooth technique	To administer the heplock to prevent the central venous line clotting.
25.	When flushing the last 1ml of sodium heparin, clamp central venous catheter as you flush	To clamp the central venous catheter under pressure to prevent backtrack and clotting in the catheter.
26.	Remove the syringe from the bionector and secure the central venous catheter	To prevent displacement of the CVAD
27.	Dispose of clinical waste and sharps safely	To maintain infection control and health and safety

Disconnection with pre-filled m

	Action	Rationale
1.	Taper down the rate of the infusion if recommended by the nutrition team over the last hour. (more prevalent in paediatrics)	To prevent rebound hypoglycemia
2.	Gather equipment	To ensure that you have all the equipment required
3.	Place the equipment on the trolley / work area	To prepare for the procedure
4.	Wash hands thoroughly and dry them with a paper towel	To prevent infection
5.	Put on non-sterile gloves or recommendations from local guidelines	To protect against contamination with hazardous substances
6.	Check expiry dates on the pre-filled syringes.	To ensure that the sodium chloride 0.9% is in date
7.	Dispel air from the syringe as necessary using aseptic non-touch technique and place syringe on a clean surface	To reduce the risk of air embolism
8.	Stop the infusion, clamp central venous catheter with its integral clamp.	To discontinue the TPN infusion and prevent blood from back tracking up the CVAD.
9.	Switch off the pump and close the roller clamp on the giving set.	To stop the pump alarming as infusion finished. To further prevent blood from back tracking up the CVAD

10.	Disconnect administration set from central venous catheter	To allow the CVAD to be prepared for flushing
11.	Clean rubber bung of bionector with alcohol wipe and allow to dry for 30 seconds (whilst keeping hold of bionector in one hand)	Infection control and de-contamination
12.	Connect pre-filled syringe of sodium chloride 0.9% to the bionector.	To flush the CVAD and ensure patency
13.	Release clamp on central venous catheter, draw back until you see a blood flashback	To ensure patency of the central venous catheter and expel any air left in the barrel of the syringe.
14.	Slowly push the sodium chloride 0.9% into the central venous catheter using a pulsing technique.	To flush any remaining irritating solution away from the central venous catheter
15.	Clamp catheter and remove syringe	To prevent bleeding and to enable the connection of the heplock
16.	Connect pre-filled syringe of sodium heparin (10 units/ml)	To flush the Heplock into the CVAD
17.	Release clamp on central venous catheter, draw back until you see a blood flashback	To ensure patency of the central venous catheter and expel any air left in the barrel of the syringe.
18.	Slowly push sodium heparin into the central venous catheter with a smooth technique	To administer the heplock to prevent the central venous line clotting.
19.	When flushing the last 1ml of sodium heparin, clamp central venous catheter as you flush	To clamp the central venous catheter under pressure to prevent backtrack and clotting in the catheter.
20.	Remove the syringe from the bionector and secure the central venous catheter	To prevent displacement of the CVAD
21.	Dispose of clinical waste and sharps safely	To maintain infection control and health and safety

11. Associated Policies / SOPs

Policies

CLIN 06 Consent Policy
CLIN 07 Infection Prevention Policy
CLIN 15 Nutrition Policy
CLIN 42 Management of TPN Policy
ORG 03 Health and Safety Policy

SOPs

SOP TPN 01 Connection of TPN
SOP TPN 03 Changing a Central Venous Access Device (CVAD) Dressing
SOP TPN 04 Heplocking of the Central Venous Access Device (CVAD)
SOP TPN 05 Changing the Bionector

12. References

- Great Ormond Street Hospital for Children Home Parenteral Nutrition Teach Pack - https://www.gosh.nhs.uk/conditions-and-treatments/procedures-and-treatments/introduction-parenteral-nutrition-home/
- Nutrition Support in adults NICE Clinical Guideline no. 32 (2006); Updated 2017
- Infection Control: prevention of healthcare-associated infection in primary and community care NICE Clinical Guidelines no. 2 (2003); Updated February 2017

- Central venous catheter - dressing change: MedlinePlus Medical Encyclopedia

Appendix A: About Acacium Group

Acacium Group consists of a number of trading companies, each providing services within core niche areas of the health and social care industries. Therefore, as this document is a Group Policy, the Policy herein applies to all trading companies detailed below:

pulse Part of Acacium Group	Thornbury Nursing Services Part of Acacium Group
Thornbury Community Services Part of Acacium Group	Scottish Nursing Guild Part of Acacium Group