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**Acacium Group**

# **Connection to Central Venus Access Device (CVAD)**

**Procedure Reference | SOP TPN 01**

**Version | V4.0**

<b>Procedure Name</b>	Connection to Central Venus Access Device (CVAD)
<b>Purpose of Document</b>	To ensure that the correct preparation, procedure & outcome are achieved by implementing a consistent and systematic approach to the effective administration of TPN
<b>Target Audience</b>	All appropriately trained nurses
<b>Version</b>	V4.0
<b>Author</b>	Kate Nicholson-Florence
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<b>Last Reviewed</b>	3 yearly or when clinical or operation guidelines change
<b>Next Review Date</b>	March 2026
<b>Equality Impact Assessment (EIA) Form</b>	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.
<b>About Acacium Group</b>	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 sop review changed	KMS/VM
V2	Nov 2019	Yearly Review	Clinical Advisory Group
V2.1	Oct 2020	Updated re rebrand	CC
V3	Mar 2023	Review and updated	Clinical Advisory Group
V4	Jan 2024	Rebrand	Clinical Advisory Group

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## 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 administration of TPN.

## 3. Who needs to be aware of this procedure

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

## 4. Hazards/complications

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

## 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 documented in the care plan and clients may also have an individual patient information leaflet if required.

## 9. Equipment

- Client's prescription chart
- Prescribed bag of TPN
- Sterile pack (in acute settings and available in some home settings)
- Administration set
- Sterile gloves
- 10ml ampoule sodium chloride 0.9%
- Alcohol wipes x2
- 10 ml syringe (nothing smaller)
- Filter needle
- TPN
- Infusion pump
- Sharps bin

## 10. Procedure

### Single person Aseptic Non-Touch Technique – Connection of TPN using ampoules

	Action	Rationale
1.	Remove TPN from the fridge and ensure correct TPN is removed in-line with MAR chart	TPN needs to come to room temperature
2.	Gather the equipment and prepare a clean/sterile working environment	To minimise the risk of cross infection
3.	Prepare the client and obtain consent. Check against the prescription chart	To gain consent and check that the TPN is correct for that client
4.	Wash hands with bactericidal soap and water and dry them with a paper towel	To minimise the risk of cross infection.
5.	Inspect the insertion site of the device	To detect any signs of inflammation, infiltration, if present take appropriate action
6.	Put sterile gloves or recommendations from local guidelines	To minimise the risk of cross infection
7.	Open syringe and attach filter needle using ANNT, place on a clean/sterile environment	To be able to draw up the flush without contamination
8.	Open the sodium chloride 0.9% ampoule. Draw up 10mls into the syringe. Dispel the air from the syringe	To be able to flush the CVAD and assess patency
9.	Open administration set on sterile/clean surface. Leave it in the packaging ensuring that the luer-lock end of the administration set is left securely in the packaging	To minimise the risk of cross-infection
10.	Clamp all the connections on the open administration set and loosen the end	To aid the priming of the set
11.	Remove the ring pull from the bag of TPN and clean the end using an alcohol wipe. Leave to dry as per manufactures recommendations	To minimise the risk of cross contamination and infection
12.	Keeping fingers well away from the key part, gently insert spike into entry port using a screwing motion	To minimise the risk of cross contamination and infection. To reduce the risk of piercing the bag.

13.	Slowly run the TPN through the administration set controlling the flow rate with the clamp. Gently rub the disc as fluid passes through to dispel any air bubbles	To remove air bubbles and prevent air embolism
14.	Ensure that there is no air remaining in the administration set. Close roller clamp on giving set	To remove air bubbles and prevent air embolism
15.	If Heplock is in use refer to care plan and MAR chart for amount. Withdraw blood to establish patency and position and discard Heplock.	To prevent accidental injection of Heparin
16.	Remove needle and inject gently 10mls (or the prescribed amount for children) of 0.9% sodium chloride for injection into the CVAD. Ensure that the syringe is connected before un clamping the line.	To establish patency of the CVAD
17.	Check that there is no resistance is met, no pain or discomfort is felt by the client and there is no leakage from the CVAD	To establish patency of the CVAD.
18.	Remove the protective cover from the administration set and connect the administration set to the needle-free port.	To minimise the risk of cross contamination and cross infection.
19.	Place the administration set into the pump	To commence infusions.
20.	Check the pump rates against the prescription	To ensure correct volumes are administered at the correct rate.
21.	Open the roller clamps and commence the infusion	To commence the infusion.
22.	Check the insertion site for signs of leakage, and ask the client if they are comfortable	To check patency of the CVAD.
23.	Tape the administration set if necessary, in a way that places no strain on the CVAD.	to prevent damage the CVAD and vein.
24.	Remove gloves and dispose of equipment following local disposal protocols	To dispose of the clinical waste in a safe manner.
25.	Wash your hands	To minimise the risk of infection
26.	Monitor the client, device, insertion site and flow rate frequently	To monitor ongoing patency of the CVAD.

### Single person Aseptic Non-Touch Technique – Connection of TPN using pre-filled syringes

Action		Rationale
1.	Gather the equipment and prepare a clean/sterile working environment	To minimise the risk of cross infection
2.	Prepare the client and obtain consent. Check against the prescription chart	To gain consent and check that the TPN is correct for that client
3.	Wash hands with bactericidal soap and water and dry them with a paper towel	To minimise the risk of cross infection.
4.	Inspect the insertion site of the device	To detect any signs of inflammation, infiltration, if present take appropriate action
5.	Put on non-sterile gloves or recommendations from local guidelines	To minimise the risk of cross infection
6.	Open the packaging of the pre-filled syringe of sodium chloride 0.9% ampoule. Dispel the air from the syringe	To be able to flush the CVAD and assess patency

7.	Open administration set on sterile/clean surface. Leave it in the packaging ensuring that the luer-lock end of the administration set is left securely in the packaging	To minimise the risk of cross-infection
8.	Clamp all the connections on the open administration set and loosen the end	To aid the priming of the set
9.	Remove the ring pull from the bag of TPN and clean the end using an alcohol wipe	To minimise the risk of cross contamination and infection
10.	Keeping fingers well away from the key part, gently insert spike into entry port using a screwing motion	To minimise the risk of cross contamination and infection. To reduce the risk of piercing the bag.
11.	Slowly run the TPN through the administration set controlling the flow rate with the clamp. Gently rub the disc as fluid passes through to dispel any air bubbles	To remove air bubbles and prevent air embolism
12.	Ensure that there is no air remaining in the administration set. Close roller clamp on giving set	To remove air bubbles and prevent air embolism
13.	Using the pre-filled syringe gently 10mls (or the prescribed amount for children) of 0.9% sodium chloride for injection into the CVAD. Ensure that the syringe is connected before un clamping the line.	To establish patency of the CVAD
14.	Check that there is no resistance is met, no pain or discomfort is felt by the client and there is no leakage from the CVAD	To establish patency of the CVAD.
15.	Remove the protective cover from the administration set and connect the administration set to the needle-free port.	To minimise the risk of cross contamination and cross infection.
16.	Place the administration set into the pump	To commence infusions.
17.	Check the pump rates against the prescription	To ensure correct volumes are administered at the correct rate.
18.	Open the roller clamps and commence the infusion	To commence the infusion.
19.	Check the insertion site for signs of leakage, and ask the client if they are comfortable	To check patency of the CVAD.
20.	Tape the administration set if necessary, in a way that places no strain on the CVAD.	To prevent damage the CVAD and vein.
21.	Remove gloves and dispose of equipment following local disposal protocols	To dispose of the clinical waste in a safe manner.
22.	Wash your hands	To minimise the risk of infection
23.	Monitor the client, device, insertion site and flow rate frequently	To monitor ongoing patency of the CVAD.

## 11. Associated Policies / SOPs

### Policies

CLIN 06 Consent Policy

CLIN 07 Infection Prevention Policy

CLIN 15 Nutrition Policy

CLIN 42 Management of TPN Policy

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## ORG 03 Health and Safety Policy

**SOPs**

SOP TPN 02 Disconnection 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:

 Part of Acacium Group	 Part of Acacium Group
 Part of Acacium Group	 Part of Acacium Group