

Parenteral Nutrition Administration (PN)

Contents

Parenteral Nutrition Administration (PN).....	1
Policy	1
Scope/Audience	1
Associated documents.....	1
Definitions.....	2
Important Requirements.....	2
Prior to administration	3
Procedural considerations	4
On-going Monitoring	4
Blood Sampling	4
Cessation of PN.....	4
Ordering PN outside normal working hours	4
Process to order PN (Weekend Only).....	5
Measurement/Evaluation	5
References.....	6

Policy

Staff involved in Parenteral Nutrition will adhere to the CDHB's following requirements.

Scope/Audience

CDHB staff working with Parenteral Nutrition i.e. Medical Staff, Dieticians, Pharmacists, Nurses within their scope of practice

Administration is limited to CDHB staff who have successfully completed the CVAD self learning.

Associated documents

- [CDHB Fluid and Medication Management](#)
- [CVAD policy Fluid and Medication Management](#)

The latest version of this document is available on the CDHB intranet/website only.

Printed copies may not reflect the most recent updates.

- Parenteral Nutrition Order Form (Ref 2629, 2630, 2631, 3005)
- Fluid Prescription Form (QMR004B)
- Fluid Balance Chart
- Nutritional Support Team (NST) FAQs
- Adult Parenteral Nutrition-Patient Information (Ref 2618)

Definitions

Parenteral Nutrition (PN) involves the administration of carbohydrates, proteins and fats directly into the bloodstream, bypassing the intestinal system. PN is prescribed when adequate nutrition cannot be maintained by the enteral route.

Important Requirements

- Staff must adhere to CDHB Fluid and Medication and CVAD Policy requirements
- Parenteral Nutrition must always be administered via a Central Venous Access Device (CVAD) with a dedicated WHITE lumen.
- Within the Christchurch Hospital Medical /Surgical Division, a PICC/Hickman Line is the preferred choice of CVAD's. Where an implanted port I.e. Portacath is in situ, this may also be used.
- Central Venous Catheter (CVC) may be used if PN is prescribed for < 5 days
- A Volumetric Pump must always be used for the administration of PN.
- No other additives/fluids are to be introduced to the PN solution unless by pharmacy staff.
- It is recommended that the PN infusion should not be disconnected until the bag is complete for safe consistent practice
- The position of the CVAD catheter tip should be confirmed as being in the lower $\frac{1}{3}$ of the superior vena cava before commencing PN
- Parenteral Nutrition is to be prescribed by medical staff on the Fluid Prescription Chart (QMR004B)
- All order forms for parenteral nutrition will be signed by authorised staff (dietitians and doctors) and faxed to Pharmacy department by 10am. PN infusion bags will be delivered by pharmacy staff to the ward maintaining sterility.
- PN bags must be stored in the medication refrigerator until 60-90 minutes prior to infusion.

The latest version of this document is available on the CDHB intranet/website only.

Printed copies may not reflect the most recent updates.

- To protect the PN solutions from direct sunlight cover it with the outer coloured polyurethane bag (supplied from pharmacy) and seal the bottom of the bag.
- Patients are better able to tolerate the infusion when it is at room temperature for administration

Prior to administration

- A baseline capillary blood glucose level must be taken prior to commencement of the PN infusion.
- Prior to commencement a EWS will be calculated and documented on the patients Observation Chart
- Social hand hygiene and aseptic non touch technique must be adhered to when connecting or handling equipment.
- Patient identification must be undertaken according to the [CDHB Patient Identification Policy](#).
- The solution must be checked for absence of particles, colour and emulsion consistency prior to commencement of each bag.
- If particles are present or the bag has an inconsistent appearance, PN solution to be returned to Pharmacy unused with an explanation of why the solution was not used.
- PN 1.2µmeter lipid filter (supplied with the PN bag) must be connected to IV administration line before priming
- The administration and filter will be ready to connect to the CVAD once fully primed with PN.
- If a multi-lumen CVAD is in situ, the WHITE lumen is used for dedicated access. This should be clearly labelled for PN use only
- The PN line must be labelled with date and time of commencement. The administration set is to be changed every 24 hours.
- Ensure the infusion is run at the rate prescribed
- For the first 24 hours PN is sometimes run at a reduced rate to minimise risk of hyperglycaemia and/or fluid and electrolyte imbalance. Check with medical staff and Dietician regarding advised infusion rate if it is not clear on the charted prescription
- After 24hrs if patient's laboratory markers (biochemistry) remain within acceptable parameters, PN can be increased to full rate. Check with medical staff and Dietician regarding advised infusion rate and administer as per the prescription

The latest version of this document is available on the CDHB intranet/website only.

Printed copies may not reflect the most recent updates.

Procedural considerations

- Document PN infusion commencement and change of bags on Fluid Balance Chart (C00087).
- PN infusions, infusion sets and extension sets are changed every 24 hours between 1700-1800hrs daily except in Christchurch Hospital ICU where an infusion time of up to 48 hours has been authorised as per their specific local policy and procedure dictate.

On-going Monitoring

- BGL are to be checked 4 hourly for the first 48 hours, then eight hourly as the patient stabilises.
- All patients are to be weighed daily or at a minimum of bi-weekly if condition becomes stable.
- Refer to Adult Parenteral Nutrition Prescription-QMR0114 for all other PN monitoring guidelines.

Blood Sampling

- It is recommended that blood sampling is obtained via peripheral access if it is clinically indicated and patient has appropriate access.
- If peripheral access is not possible, blood samples may be obtained via CVAD. Refer to CVAD policy Blood sampling should take place at the time recommended/requested by the dietitian.
- Refer to the CVAD Self Learning Package for further information.

Cessation of PN

Abrupt cessation of PN may cause possible re-bound hypoglycaemia

- PN may only be discontinued following decision from medical staff and discussion with the dieticians'
- Decrease PN volume infused to half rate for 1-2 hours
- Continue to monitor BGL Q4hrly for 24hrs following discontinuation of PN to monitor for rebound hypoglycaemia

Ordering PN outside normal working hours

(0800 hours- 1630 hours- Monday-Friday)

PN should be ordered and commenced during normal working hours.

The latest version of this document is available on the CDHB intranet/website only.

Printed copies may not reflect the most recent updates.

If clinically indicated and PN is required over the weekend a standard PN solution bag is available on Ward 15 for EMERGENCY weekend use only.

Important Considerations

- The urgency/need for PN must be clearly indicated when ordering outside normal working hours
- The patient must have appropriate dedicated CVAD access
- A baseline blood sample for biochemistry monitoring must be completed.
- Monitor patients that may be at risk of re-feeding syndrome and supplement and/or correct levels of potassium, phosphate and magnesium if required
- Pharmacy cannot make changes to the PN composition during the weekend i.e. no additional Sodium, Potassium can be added to solution

Process to order PN (Weekend Only)

- Contact On Call Dietician- Saturday/Sunday (0900hrs- 1700 hrs)
- Contact details-027 4587835
- Use the standard 1.5L PN solution. (available from Ward 15 drug room fridge)
- Medical staff to fax 'PN out of hours Form' (Located with PN solution bag in Ward 15) to the Pharmacy Sterile Production Unit. (Fax # 81148)
- For the first 24 hours PN is run at a reduced rate to minimise risk of hyperglycaemia and/or fluid and electrolyte imbalance.
- Medical staff to chart infusion rate and volume on Fluid Prescription Form at a rate of 31mls/hr (750mls over 24hrs)
- After 24hrs if patient's laboratory markers (biochemistry) remain within normal parameters, PN can be increased to full rate @ 62mLs /hr for 24hrs
- Commence PN between 1700hrs-1800hrs

Measurement/Evaluation

Incident Management System

CDHB Laboratory monitoring and liaison with wards

Canterbury and West Coast IV Link Clinical Practice Observation Programme

The latest version of this document is available on the CDHB intranet/website only.

Printed copies may not reflect the most recent updates.

References

Nutrition Support Team: FAQs Folder

Centres for Disease Control and Prevention Guidelines for the prevention of intravascular catheter –related infections. CDC Recommendations and Reports (2002), 9: 51: 1-26.

Gillanders, L., Angstmann, K., Ball, P., Chapman-Kiddell., C, Hardy. G, Hope. J, Smith.,R, Strauss., B & Russell., D. AuSPEN clinical practice guidelines for home parenteral nutrition patients in Australia and New Zealand, Nutrition, 2008: 24(8) 998-1012.

National Institute for Health and Clinical Excellence (NICE) 2000. Nutrition Support in Adults: oral nutrition support, enteral tube feeding and parenteral nutrition (Clinical Guide 32). London National Institute for Health and Clinical Excellence (NICE)

Pittiruti, M., Hamilton H., Biffi, R., Macfie, J & Pertkiewicz, M. (2009). ESPEN Guidelines on Parenteral Nutrition, Central Venous Catheters. (access, care, diagnosis and therapy of complications) Clinical Nutrition, Vol 28, pp 366-377.

Theaker. C. (2005). Infection control issues in central venous catheter care. Intensive and Critical Care Nursing. Vol 1, 99-109.

Policy Owner	Surgical Clinical Nurse Specialist/ Chair of Nutritional Support Team
Policy Authoriser	Executive Director of Nursing & Chief Medical Officer
Date of Authorisation	15 December 2015

The latest version of this document is available on the CDHB intranet/website only.

Printed copies may not reflect the most recent updates.