Trust Policy

Plymouth Hospitals NHS
NHS Trust

Adult Total Parenteral Nutrition policy

Date	Version
June 2017	1.0

Purpose

These guidelines are aimed at adults receiving total parenteral nutrition (TPN) on general or specialist wards at Plymouth Hospitals NHS Trust either as short term in-patients or home parenteral nutrition (HPN) patients. They do not include patients in Neonatal areas.

Who should read this document?

All nursing and medical staff, Dieticians on nutrition support team, Pharmacy Technical Service staff, On-call Pharmacists and Biochemists with an interest in nutrition.

Key messages

This guideline has been produced using the expertise of the TPN policy group within Plymouth Hospitals NHS Trust which is a multidisciplinary team of professionals regularly involved in monitoring nutrition support, biochemistry, vascular access or dietetics. NICE Guideline 32 (2006) has been used to inform the process.

Accountabilities

Production	Lisa Cripps Lead Nutrition Nurse Specialist and TPN Policy Group
Review and approval	Nutrition Steering Committee
Ratification	Greg Dix, Director of Nursing
Dissemination	Lisa Cripps
Compliance	Lisa Cripps Lead Nutrition Nurse Specialist, Jill Swales Matron for nutrition

Links to other policies and procedures

Consent to examination or treatment,
http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Trust%20Documents/Healthcare%20Governance/Consent%20to%20Examination%20or%20Treatment%20Policy.pdf

Care Plan for patients with a CVAD or Midline:

http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Trust Documents/Vascular Access/Care plan for patients with a CVAD or Midline Catheter.pdf
CCAT assessment tool:
http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Trust Documents/Vascular Access/Central Catheter Assessment Tool.pdf

CVC Care Guidelines:
http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Trust Documents/Vascular Access/Central Vascular Access Team Catheter Care Guidelines.pdf

Changing a dressing on a CVC:
http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Trust Documents/Vascular Access/Changing a dressing of a central venous catheter.pdf

Taking Blood cultures from a CVC:
http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Trust Documents/Vascular Access/Taking Blood Cultures from a Central Venous Catheter.pdf

The ANTT approach: 2015 ANTT Update:

http://staffnet.plymouth.nhs.uk/?folderId=5508

http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Trust Documents/ANTT Approach Posters/ANTT - Competency for Aseptic Non Touch Technique.pdf

Intravenous Drug administration.
http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Trust Documents/Medicines Management/Procedures for Administering Injectable Drugs.pdf

Medicines Management Policy:
http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Trust Documents/Medicines Management/Medicines Management Policy and Standard Procedures.pdf

Policy for Self-Administration of Medicines by Patients
(Adult and Paediatric);
http://staffnet.plymouth.nhs.uk/LinkClick.aspx?fileticket=XQt_GW7V7WE%3d&portalid=1

Standard Operational Procedure for preparing and administration of Intravenous Medicines and Fluids;
http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Trust Documents/Medicines Management/Administering IV drugs and fluids Standard Operating Procedure.pdf

Total Parenteral Nutrition Competency for Registered Nurses: (pending)

NICE Clinical Guideline 32 (2006) Nutrition Support for Adults: oral nutrition support, enteral tube feeding and parenteral nutrition: https://www.nice.org.uk/Guidance/CG32

Version History

V1	June 2017	Approved by Nutrition Steering Committee and ratified by Greg Dix, Director of Nursing

Last Approval	Due for Review
June 2017	June 2022

The Trust is committed to creating a fully inclusive and accessible service. By making equality and diversity an integral part of the business, it will enable us to enhance the services we deliver and better meet the needs of patients and staff. We will treat people with dignity and respect, promote equality and diversity and eliminate all forms of discrimination, regardless of (but not limited to) age, disability, gender reassignment, race, religion or belief, sex, sexual orientation, marriage/civil partnership and pregnancy/maternity.

An electronic version of this document is available on Trust Documents. Larger text, Braille and Audio versions can be made available upon request.

1 Introduction

Total Parenteral Nutrition (TPN) is the intravenous delivery of an artificial, nutritionally balanced combination of sterile nutrients, electrolytes and trace elements. TPN is used when patients are at risk of or are malnourished and enteral/oral nutrition is unable to be used to meet the patients' nutritional requirements. TPN is associated with significant clinical risk, therefore, should only be initiated when all enteral feeding routes have been considered and deemed inappropriate.

It is important that an experienced healthcare professional working as part of the Nutrition Support Team (NST) first assess a patient for whom TPN has been requested in order to minimise the risks and ensure this is an appropriate treatment option.

2 Purpose, including legal or regulatory background

Plymouth Hospitals NHS Trust aims to deliver safe and effective care to all its patients.

This policy encompasses TPN provided via a Central Venous Access Device (CVAD) and peripheral parenteral nutrition (PPN) via a Midline. It is relevant to all healthcare professionals involved in:

- Insertion of appropriate CVAD
- Care and maintenance of CVADs and delivery of TPN solution
- Prescription and manufacture of TPN solution
- Monitoring patient for signs of metabolic, septic or mechanical complications and tolerance of TPN

Following NCEPOD report (2010) it was identified that TPN must be administered in environments familiar with TPN so it can be delivered and monitored safely. Therefore, patients who require TPN on wards unfamiliar with TPN may be moved to wards where TPN delivery is commonplace and expertise exists. In the event that a patient cannot be moved for other clinical reasons, provision may be made for staff experienced in the setting up and delivery of TPN to assist the ward with the connection, disconnection and monitoring of TPN.

This policy excludes neonatal parenteral nutrition.

3 Definitions

Nutrition support team (NST): Consultant gastroenterologists with an interest in Nutrition, Surgeon with specialist interest in Intestinal Failure, Microbiologists, Nurse Specialists including a Non-Medical Prescriber (NMP), Dieticians, Consultant chemical pathologist & Pharmacist.

Vascular Access Team (VA Team): Service that provides Central Vascular Access Device (CVAD) insertions and produces documents to support practice.

Total Parenteral Nutrition (TPN): an artificial, nutritionally balanced combination of sterile nutrients. Home Parenteral Nutrition (HPN): Long term TPN that is given at home either by a competent patient, a carer or homecare company registered nurse.

4 Duties

Due to the potential risks of intravenous nutrition, regular review and monitoring of the patient is required, with the aim of preventing and detecting complications early to limit their consequences.

NST RESPONSIBILITIES

- Act as a single point of contact for clinical staff via Bleep/Telephone or Salus and refer onwards for CVAD insertion within 48hours of referral where possible.
- Assessing appropriateness of artificial nutrition support for patients.
- Multidisciplinary calculation of nutritional requirements and prescription of a suitable regimen via NST Consultant or Non-Medical Prescriber. Referring to a regional tertiary centre for paediatric prescribing: in this instance Bristol Children's Hospital nutrition support team.
- Daily review during normal working hours Monday to Friday with identified plan in place in patient notes for Saturday, Sundays and Bank holidays.
- Weekly review of in-patients on TPN and HPN patients as appropriate at Nutrition MDT
- Monitoring nutrition delivery and nutritional status and making alterations to regimen as necessary
- Reviewing biochemistry, patient condition, physiological measures and adjust nutritional treatment accordingly (the primary responsibility for this remains with the referring team especially over weekends and bank holidays)
- Facilitate safe reintroduction of enteral nutrition
- Supporting patients who require long term and home parenteral nutrition or home intravenous fluid
- Monitoring of vitamin, mineral and trace element status of the patient
- Supporting ward staff in the care of patients requiring PN.
- Informing Pharmacy if TPN is discontinued
- Advising on Intestinal Failure management, high output stoma or fistulation care
- Provide sufficient nutrition information in the patient notes so that the diabetic nurse specialists or clinicians can form prescribing regimens appropriately.
- When TPN treatment is discontinued and the CVAD is to be left in situ but dormant for >24hours ensure that 10mls 0.9% Sodium Chloride flush and then Taurolock™ is prescribed to fill the dead space of the dormant lumen. Typical

volumes of lumens are:- PICC 1ml, CVC or Midline 0.5ml the Taurolock™ should be aspirated from the lumen before further use.

REFERRING TEAM RESPONSIBILITIES

- Referral should be anticipated early where possible. Referrals made to the **NST before 13:00hrs** during normal working days for same day nutritional assessment. Later patient referrals may be assessed the following working day. A request for NST referral and a reason for the referral **MUST** be documented in the patients' record. (See referral flow chart Appendix A).

- Daily biochemical monitoring as set out in Appendix C. Biochemical monitoring may become less frequent in stable patients. The full set of bloods for PN can be requested by writing "TPN" in the text box on iCM system.

- Referring clinicians will prescribe supplementary crystalloids if appropriate until the patient is established on TPN and review the prescribing accordingly.

- Prescribing additional medications on the drug chart according to NST recommendations. Pabrinex® I and II should also be prescribed as these patients are at risk of re-feeding syndrome; this is one pair twice daily for three days intravenous administration with the first dose administered prior to the TPN commencing.

- Arranging placement of appropriate CVAD via duty floor anaesthetist if the VA team have no capacity to insert in a timely manner.

- Ensure MRSA/MSSA swabs taken (required prior to CVAD insertion) request these in the DA workbooks (if available) and on iCM. Results do not need to be available prior to line insertion.

- **E-Swab requests** on iCM for MRSA and MSSA screening swab requests Use order profiles:

MMSSA for MRSA and MSSA screening

- Referring clinicians must maintain the safety of diabetic patients on TPN and follow advice provided by diabetic service especially when prescribing to achieve glycaemic control.

- When the decision is made to discontinue TPN a referral should be made to the dietetic department via SALUS and to Diabetes nurse specialists where indicated to ensure the patient receives appropriate ward follow up.

- When TPN treatment is discontinued and the CVAD is to be left in situ but dormant for >24hours flush the TPN lumen with 10mls 0.9% Sodium Chloride

and ensure Taurolock™ is prescribed to fill the dead space of the dormant lumen. Typical volumes of lumens are:- PICC 1ml, CVC or Midline 0.5ml to be aspirated from the lumen before further use. All devices must be removed at the earliest opportunity should they not be in daily use.

- TPN is not to be obtained out of hours (17.00 – 09.00) under any circumstances. For weekend and bank holiday access to TPN for **NEW PATIENT REFERRALS ONLY** please refer to the most recent Out of Hours PN protocol on Trust Net. (Appendix B)

- When accepting patients from critical care areas on TPN, please ensure the NST are informed by critical care staff prior to transfer to wards in order that on-going TPN provision can be made. Critical care areas should prescribe weekend TPN supplies for patients discharged to wards on Friday afternoons and Bank Holidays ensuring that the TPN is sent to the ward with the patient and the relevant prescription sheet including infusion rate and duration.

Dealing with Suspected Line Infection

- Any patient with a pyrexia >38 degrees centigrade should have TPN infusion discontinued; blood cultures should be taken and clearly labelled from all CVAD lumens. Concurrent, clearly labelled peripheral blood cultures and a full septic screen taken in accordance with current trust policy. Taking Blood Cultures from a CVC

NURSING STAFF RESPONSIBILITIES

- Ward nurses will follow trust policies and procedures pertinent to **Surgical** ANTT during connection and disconnection of TPN maintaining a critical aseptic field, Central Venous Access Device care (CVAD); suspected Catheter Related Blood Stream Infection (CRBSI) Intravenous Drug administration and Infection Control policies and are accountable for their actions. See The following links ANTT CVC care guidelines CCAT tool Taking Blood Cultures from a CVC Changing CVC dressing Care Plan for CVAD or Midlines

- Ward nurses will undertake TPN competency training via their clinical educators to complement the above policies and will be recorded on their OLM profile.

- Ensure accurate fluid balance monitoring via trust fluid balance chart is maintained.

- Blood glucose must be monitored minimally once daily whilst requiring TPN in non-diabetic patients.

- Any diabetic patient must be referred to the Diabetes nurse specialists when decision to commence TPN is made and capillary blood glucose monitored four to six hourly or according to their own Variable rate insulin infusion regimen if indicated.

- Temperature, pulse, respiration (TPR) must be monitored and documented at least six hourly initially and twice daily minimum when on cyclical TPN. Once the patient is stable observations should be recorded in line with the Physiological Observation Standard for Adult, Non-Obstetric inpatient.

- Minimum once weekly weight to be documented on MUST nutrition risk assessment chart, enhanced monitoring will be requested where appropriate by the NST.

- CVAD entry site should be covered and secured with a Chlorhexidine Gluconate impregnated, sterile self-adhesive dressing that is also transparent and semi-permeable polyurethane allowing clear visibility of the insertion site.

- TPN must be commenced using a naïve; unused dedicated CVAD lumen. This lumen should be labelled “TPN only”. On Bioflow PICC lines TPN should be administered via the silver port and via the white (proximal) port of a Vygon multi-lumen CVC. Note that correct line tip position must be confirmed following line placement, and this must be documented prior to using the CVAD.

- A bag of TPN must not be connected for more than 24hours, discard any unused solution and change to corresponding bag for that date.

- TPN can only be administered via a CVAD or midline (peripheral formulations only). Administration of PN via the femoral vein **must** be avoided unless no other alternative venous access is possible.

- CVAD devices used to deliver TPN must be cared for according to the Trust care & Maintenance guidelines. (see above links)

- TPN must be connected and disconnected using surgical aseptic non-touch technique as per Trust protocol by registered nursing staff that have attended the IV study day, have been assessed as competent in IV administration and the handling of CVADs which includes competency assessment for registered staff in administration of TPN (see above links and SOP IV medicines and drugs Medicines Management)

- ALL lumens of ALL DEVICES having TPN administered via them MUST be accessed using Surgical ANTT

- Ensure prescribed TPN bag is correctly labelled to the correct patient. Check patient identity prior to administration.

- TPN must be administered via an infusion pump at the correct rate as prescribed and the pump history cleared and infusion volumes re-entered at each bag change.

- No additions should be made to the TPN bag at any time by ward staff.

- Set up TPN and disconnect at same time daily (where possible before 21.00) and ensure the prescription chart is signed correctly.

- Label the administration sets as per Trust protocol.

- For administration of TPN and care and maintenance of CVADs, refer to and follow the Vascular Access Trust guidelines and the Trust administration of IV's. (see above links)

- If you have a problem with any CVADs (i.e. blocked lumen), contact the Vascular Access Team for support. Extension 31454, bleep 89985/89198. Out of Hours please contact the Acute Care Team bleep 0195.

- All patients commenced on TPN must be treated following current CVAD or Midline care plan (Care plan)

- Once TPN has started it should not be interrupted unless an adverse event occurs such as suspected CVAD sepsis, anaphylaxis, grossly abnormal biochemistry or metabolic complication such as refeeding syndrome (significant fall in serum K, Mg or PO4). Where possible, the NST should be consulted before doing so. If the TPN is discontinued or disconnected for any reason then this must be documented (fluid/drug chart/nursing notes).Under no circumstances should the partly used TPN bag be reconnected. For patients on 24 hour PN with a single lumen CVAD requiring bloods - do not stop and disconnect the PN. Take blood peripherally from the other arm where possible. For multi-lumen lines ensure TPN is paused (not disconnected), before taking blood from other lumen. Alternatively, take blood when the patient has a break from TPN where possible.

- If a patient requires transporting to another department i.e. for imaging procedures, TPN infusion should continue and transported by a member of ward staff competent in CVAD care. If this is not possible then the TPN infusion should be discontinued prior to transfer and replacement crystalloid fluids prescribed.

- Other drugs may be administered via other lumens using surgical ANTT approach during TPN administration but check with pharmacy for drug compatibilities.

- All TPN bags must be covered with light protective covers to prevent degradation of the contents.

- Provide the patient with regular mouth care.

- Bags of TPN that rupture prior to administration due to manipulation or seams splitting must be reported via Datix. Crystalloid infusions must be prescribed and pharmacy must be contacted at 09.00 the following morning for a replacement bag to be dispensed until the NST have supplied a supplemented bag for use that evening.

- When the decision is made to discontinue TPN and is documented in the patients' notes, a referral should be made via SALUS to the dietetic department and diabetes nurse specialists where indicated to ensure the patient receives appropriate ward follow up.

- When TPN treatment is discontinued and the CVAD is to be left in situ but dormant for >24hours flush the TPN lumen with 10mls 0.9% Sodium Chloride under positive pressure using push pause technique. Preserve the lumen for TPN until advised by nutrition team that treatment can cease. All devices must be removed at the earliest opportunity should they not be in daily use.

- TPN bags must be stored in a dedicated 9cubic foot medical grade fridge with daily documented temperature control between 2-8degrees Celsius; each bag must be removed from the fridge 15 minutes prior to administration.

HOME PARENTERAL NUTRITION PATIENTS

- When patients established on HPN are admitted, they may self-administer recently supplied, in-date bags brought into hospital from home providing the patient is clinically well enough and the cold chain maintained. A 'Special' Prescription will be supplied by the NST team for ward nurses to use in the event of a patient requiring nursing staff to do the TPN connection, following the above information within nursing staff responsibilities. The Trust Self administration of Medicines policy must be followed (see link below)

- Due to contract changes within the HPN framework 2016 once supplies at home are deplete a suitable hospital bag must be used. If necessary requesting a bespoke formulation via pharmacy.

- HPN patients who are independently administering their treatment at home through their long term CVAD's will have been assessed as competent by their homecare company, although evidence of this is not always available. Upon first hospital admission on HPN, each patient **MUST** be assessed as competent using the patient assessment form in Annex 1 of the following hyperlink and the completed form be printed and stored in the patients notes:
  Self administration of medicines

- In the event of an HPN patient requiring transfer to a local hospice or rehab facility for end of life or on-going care, a full site inspection must be undertaken by their homecare company ensuring adequate storage facilities exist. This will be organised by the NST. Hospital transfer should not take place until the above issues are confirmed as appropriate in the patients' notes by the NST.

VASCULAR ACCESS TEAM RESPONSIBILITIES

- The Vascular Access team will aim to place a TPN suitable CVAD within 48hours of referral from NST during normal working hours. (Note direct referrals to VA Team for TPN CVAD's will not be accepted)

- Will ensure that chest X-rays are taken post line insertion and that safe to use information is clearly written in the patients' notes.

- Will follow up newly inserted CVAD within first 24hours and perform first dressing change.

- Will maintain current Vascular Access policies and procedures.

GENERAL AND NEUROSURGICAL CRITICAL CARE RESPONSIBILITIES

- These areas have a patient group whose physiological status is dynamic and changeable. Their nutritional support is provided using current critical care protocols. Provision of nutrition support remains the Intensive Care consultant's responsibility. Critical Care Unit Nutrition Support Guidelines

- Once a patient is commenced on TPN the Salus icon - Specialty request Nutritional Team should be turned to red which the NST can follow pending discharge to ward areas.

- Upon discharge to general ward areas Critical care clinicians should prescribe sufficient weekend TPN supplies for patients being discharged to wards on Friday afternoons or Bank Holidays ensuring that the TPN is sent to the ward with the patient and the relevant prescription sheet. The prescription must include the hourly rate and duration of the TPN infusion.
- All lumens of all devices having TPN administered via them must be accessed using surgical ANTT in keeping with trust wide adopted practice.

PHARMACY DEPARTMENT RESPONSIBILITIES

- Supply and dispense TPN prescriptions received from the nutrition support team with additions made under the auspices of The Medicines Act (1968) section 10 exemptions.
- Distribute TPN bags to ward areas each evening. Bags for the weekend and bank holidays will be delivered to wards on Saturday mornings.
- Commercial Services and High Cost Drugs will interface with relevant homecare companies ensuring the current Home Parenteral Nutrition Framework contract is upheld.
- Judiciously follow the current out of hours protocol for commencing parenteral nutrition in **NEW PATIENT** referrals only (TPN) over the weekend or bank holiday for adults (excluding critical care areas) ensuring that the nutrition support team are informed at the start of the next working day, or leave an message on the NST answerphone at the time Ext 32562.

5 Key elements (determined from guidance, templates, exemplars etc)

TPN will be delivered in accordance with NICE (2006) CG32 Nutrition Support in Adults.

Care of patients receiving TPN will follow recommendations set out in the NCEPOD report (2010) which is supported by ISMP (2014).

Screening for Malnutrition using the MUST score BAPEN (2010) will take place within 24 hours of admission. Any patient scoring >2 should be referred to a ward dietician and referred to the NST if the Gastrointestinal tract is not accessible or functioning.

Patients receiving HPN will be monitored by the NST team who will liaise with relevant homecare companies during episodes of hospital stay as set out in the Health Act 2008.

6 Overall Responsibility for the Document

TPN policy group.

Consultation and Ratification

The design and process of review and revision of this policy will comply with The Development and Management of Trust Wide Documents.

The review period for this document is set as default of five years from the date it was last ratified, or earlier if developments within or external to the Trust indicate the need for a significant revision to the procedures described.

This document will be approved by the TPN policy , Harm Free Care Group and ratified by the Executive Director.

Non-significant amendments to this document may be made, under delegated authority from the Executive Director, by the nominated author. These must be ratified by the Executive Director and should be reported, retrospectively, to the approving group or committee.

Significant reviews and revisions to this document will include a consultation with named groups, or grades across the Trust. For non-significant amendments, informal consultation will be restricted to named groups, or grades who are directly affected by the proposed changes

8 Dissemination and Implementation

Following approval and ratification, this policy will be published in the Trust's formal documents library and all staff will be notified through the Trust's normal notification process, currently the 'Vital Signs' electronic newsletter.

Document control arrangements will be in accordance with The Development and Management of Trust Wide Documents.

The document author(s) will be responsible for agreeing the training requirements associated with the newly ratified document with the named Executive Director and for working with the Trust's training function, if required, to arrange for the required training to be delivered.

9 Monitoring Compliance and Effectiveness

- The Nutrition Support Team will monitor compliance with this policy Monday to Friday, using retrospective review of patient's notes for weekends and Bank Holidays.
- Compliance with this policy will be monitored during the daily patient review and incidents of non-compliance will be reported via DATIX system
- Learning for this policy will take place via the twice yearly nutrition study days and targeted delivery sessions for high use areas

10 References and Associated Documentation

British Association for Parenteral and Enteral Nutrition (2013) Introducing 'MUST' [Online] Available at: http://www.bapen.org.uk/screening-for-malnutrition/must/introducing-must

Great Britain. *The Health and Social Care Act 2008: Elizabeth 11.Chapter 14 (2008)* London. The Stationary Office

[Online] Available at: http://www.legislation.gov.uk/ukpga/2008/14/contents

Institute for Safe Medication Practices (2014) *High Alert Medications* [Online] Available at: http://www.ismp.org/Tools/institutionalhighAlert.asp

National Institute for Health and Care Excellence (2006) *Nutrition Support in Adults: oral, enteral tube feeding and parenteral nutrition. [Online]* Available at: http://www.nice.org.uk/cg32

NCEPOD (2010) PN: *A Mixed Bag, An enquiry into the care of hospital patients receiving parenteral nutrition*. [Online]http://www.ncepod.org.uk/2010report1/downloads/PN_report.pdf

Nursing and Midwifery Council (2015) *The Code: Professional standards of practice and behaviour for Nurses and Midwives.* [Online] Available at: http://www.nmc-uk.org/Documents/NMC-Publications/revised-new-NMC-Code.pdf

Royal Berkshire NHS Foundation Trust (2015), Parenteral Nutrition: Protocol for the Provision and Management of Parenteral Nutrition in Adult Hospital In-Patients.

Dissemination Plan — Appendix 1

Core Information	
Document Title	Adult Total Parenteral Nutrition Policy
Date Finalised	June 2017
Dissemination Lead	
Previous Documents	
Previous document in use?	
Action to retrieve old copies.	

Dissemination Plan				
Recipient(s)	When	How	Responsibility	Progress update
All staff		Email	Document Control	

Review and Approval Checklist — Appendix 2

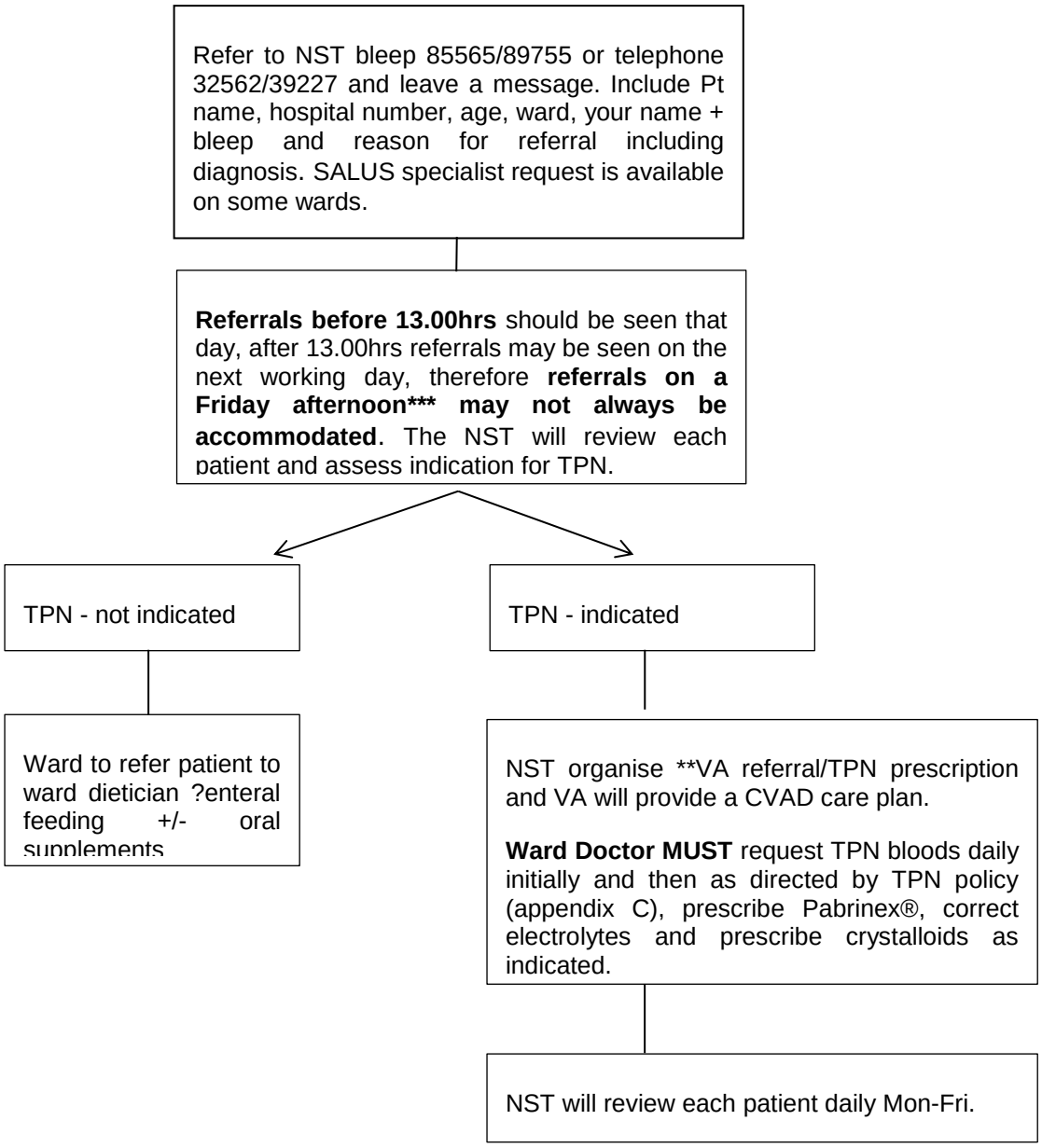
Review		
Title	Is the title clear and unambiguous?	Yes
	Is it clear whether the document is a policy, procedure, protocol, framework, APN or SOP?	Yes
	Does the style & format comply?	Yes
Rationale	Are reasons for development of the document stated?	Yes
Development Process	Is the method described in brief?	Yes
	Are people involved in the development identified?	Yes
	Has a reasonable attempt has been made to ensure relevant	Yes

	expertise has been used?	
	Is there evidence of consultation with stakeholders and users?	Yes
Content	Is the objective of the document clear?	Yes
	Is the target population clear and unambiguous?	Yes
	Are the intended outcomes described?	Yes
	Are the statements clear and unambiguous?	Yes
Evidence Base	Is the type of evidence to support the document identified explicitly?	Yes
	Are key references cited and in full?	Yes
	Are supporting documents referenced?	Yes
Approval	Does the document identify which committee/group will review it?	Yes
	If appropriate have the joint Human Resources/staff side committee (or equivalent) approved the document?	Yes
	Does the document identify which Executive Director will ratify it?	Yes
Dissemination & Implementation	Is there an outline/plan to identify how this will be done?	Yes
	Does the plan include the necessary training/support to ensure compliance?	Yes
Document Control	Does the document identify where it will be held?	Yes
	Have archiving arrangements for superseded documents been addressed?	Yes
Monitoring Compliance & Effectiveness	Are there measurable standards or KPIs to support the monitoring of compliance with and effectiveness of the document?	Yes
	Is there a plan to review or audit compliance with the document?	Yes
Review Date	Is the review date identified?	Yes
	Is the frequency of review identified? If so is it acceptable?	Yes
Overall Responsibility	Is it clear who will be responsible for co-ordinating the dissemination, implementation and review of the document?	Yes

Equalities and Human Rights Impact Assessment | Appendix 3

This Policy does not require an Equalities and Human Rights Impact Assessment.

Referrals to Nutrition Support Team (NST) for TPN*



***Some patients may be on Home Parenteral Nutrition please contact the nutrition support team using contact numbers provided. Most will have a SALUS attribute of HPN**

**** Vascular Access**
*****Out of hours Protocol may be used**

For Out of Hours access to PN protocol follow this link via out of hours access to medicine:

http://staffnet.plymouth.nhs.uk/Departments/ClinicalSupportService/Pharmacy(MedicinesInformation).aspx

(iii) Biochemistry

Table 1 Monitoring for inpatients

Parameter	Baseline	First week	Subsequently
Urea, creatinine, sodium and potassium	√	Daily until stable	1-2 times a week
Bedside glucose	√	Twice daily until stable (more often if hyperglycaemia)	Daily
FBC	√	Twice weekly	Weekly
Liver profile and GGT	√	Twice weekly until stable	Weekly
Calcium, albumin	√	Twice weekly until stable	Weekly
Magnesium, phosphate	√	Twice weekly until stable	Weekly
CRP	√	Twice weekly	Weekly
Triglyceride		Weekly	*Fortnightly*
Ferritin	√	Not done	Monthly
Fe	√	Not done	Monthly

Vitamin B12	√	Not done	Monthly
Folate	√	Not done	Monthly
Vitamin A and Vitamin E	Not required only check if there is risk of depletion		Bi-Monthly
Vitamin D	Not required only check if there is risk of depletion		Bi-Monthly
Cu and Zn	Not required only check if there is risk of depletion		Bi-Monthly
Se	Not required only check if there is risk of depletion		Bi-Monthly
Mn (special tube required)	Not required only check if there is risk of depletion		Bi-Monthly

Table 2 Monitoring for HPN patients

Parameter	**Baseline**	**Subsequently**
Urea, creatinine, sodium and potassium	√	Bi-Monthly *or as clinically appropriate*
CRP	√	Bi-Monthly *or as clinically appropriate*
Glucose	√	Bi-Monthly *or as clinically appropriate*
Liver profile and GGT	√	Bi-Monthly *or as clinically appropriate*
Calcium, albumin	√	Bi-Monthly *or as clinically appropriate*
Magnesium, phosphate	√	Bi-Monthly *or as clinically appropriate*
Triglyceride	√	Bi-Monthly *or as clinically appropriate*
FBC	√	Bi-Monthly *or as clinically appropriate*
Ferritin	√	Bi-Monthly *or as clinically appropriate*

Fe	√	Bi-Monthly *or as clinically appropriate*
Vitamin B12	√	Bi-Monthly *or as clinically appropriate*
Folate	√	Bi-Monthly *or as clinically appropriate*
Vitamin A and E	Only check if there is risk of depletion	Every 6 Monthly
Vitamin D	Only check if there is risk of depletion	Every 6 Monthly
Cu and Zn	Only check if there is risk of depletion	Every 6 Monthly
Se	Only check if there is risk of depletion	Every 6 Monthly
Mn	Only check if there is risk of depletion	Every 6 Monthly

Appendix D

Vascular Access care plan: See hyperlink within text of policy

Appendix E

Diabetic team input - Pending