PARENTERAL NUTRITION SUPPORT IN HOSPITALISED ADULT PATIENTS - PROVISION AND MANAGEMENT POLICY

Version

<table>
<thead>
<tr>
<th>Name of responsible (ratifying) committee</th>
<th>Clinical Support Clinical Governance Meeting</th>
</tr>
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<tbody>
<tr>
<td>Date ratified</td>
<td>October 2019 Formulary &amp; Medicines Group Meeting</td>
</tr>
<tr>
<td>Document Manager (job title)</td>
<td>Dr Tim Trebble, Consultant Gastroenterologist Lesley Gregory, Chief Dietitian</td>
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<tr>
<td>Date issued</td>
<td>02 December 2019</td>
</tr>
<tr>
<td>Review date</td>
<td>29 November 2021</td>
</tr>
<tr>
<td>Electronic location</td>
<td>Clinical Policies</td>
</tr>
<tr>
<td>Related Procedural Documents</td>
<td>Nutrition Policy; Refeeding Guidelines (Drug and Therapy Guideline); Pharmacy Homepage&gt;What to do when pharmacy is closed&gt; Parenteral Nutrition; Central Venous Catheters: Care and management; Asepsis Policy</td>
</tr>
<tr>
<td>Key Words (to aid with searching)</td>
<td>Nutrition; Parenteral; Intravenous; Central line; PICC line; Dietitian; Nutrition Nurse; IV Nurse Specialist/ Snr Practitioner; Nurse; Pharmacist; Nutrition Support team; Nutrition Ward Round Parenteral Nutrition Support; Food; Patients; Diet; Dietary intake; Feeding Parenteral feeding; Nutrition policy; Nutrition planning; Dietetics; Intravenous therapy</td>
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Version Tracking

<table>
<thead>
<tr>
<th>Version</th>
<th>Date Ratified</th>
<th>Brief Summary of Changes</th>
<th>Author</th>
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<tbody>
<tr>
<td>7</td>
<td>11/10/2019</td>
<td>Updated re prescriptions for use. Changes to be the personnel required.</td>
<td>Acute dietetic team</td>
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<tr>
<td>6</td>
<td>20.04.2017</td>
<td>Updated regarding - anticipated duration of PN, - use of midline catheters not routine, - PN nursing competency appendix D</td>
<td>Lesley Gregory Chief Dietitian</td>
</tr>
<tr>
<td>5</td>
<td>09.06.2014</td>
<td>Updated in new format including Equality Impact Statement and updated Monitoring compliance with Procedural Documents and updated Appendix B. New reporting structure for Nutrition Steering Group</td>
<td>Lesley Gregory Chief Dietitian</td>
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</tbody>
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QUICK REFERENCE GUIDE

This policy must be followed in full when developing or reviewing and amending Trust procedural documents.

For quick reference the guide below is a summary of actions required. This does not negate the need for the document author and others involved in the process to be aware of and follow the detail of this policy.

1. Parenteral Nutrition (PN) must only be given intravenously through a dedicated line or lumen, via a central catheter. It must never be given via a peripheral cannula.

2. Parenteral Nutrition should be used when enteral/oral nutrition is contra-indicated, does not provide or is not expected to provide adequate nutrition to meet the patient’s expected requirements (dependent on their clinical status) The duration of parenteral nutrition cannot be accurately anticipated at the onset but should ideally be for a minimum of 3-5 days and is at the discretion of the Nutrition team. It should only be provided when all other practical enteral feeding routes have been trialed/exhausted and deemed inappropriate.

3. It is essential that only healthcare professionals experienced with providing PN, and working as part of the multi-disciplinary team, manage these patients’ nutrition.

4. Administering PN requires full aseptic technique.

5. PN should be requested from the dietitian initially, who will liaise with the IV team at initial referral to organize suitable central access, if not already available, and with Pharmacy initially and on subsequent days to order feed bags.

6. The referral must be given to the Dietitian by 11am on Monday – Thursday and by 2 pm on Fridays at Queen Alexandra Hospital to allow for nutritional assessment on the same day.
1. INTRODUCTION

Parenteral Nutrition should be used when enteral/oral nutrition is contra-indicated, does not provide or is not expected to provide adequate nutrition to meet the patient’s expected requirements (dependent on their clinical status) ideally for a minimum of 3-5 days although this is difficult to predict sometimes at the onset. Parenteral nutrition is a high cost treatment and associated with significant clinical risk – see Appendix 1, Standard 1. It should only be provided when all other practical enteral feeding routes have been trialed/exhausted or deemed inappropriate.

It is essential that an experienced healthcare professional working as part of the multi-disciplinary Nutrition Team first assesses a patient requiring parenteral nutrition. Locally, a Dietitian, who is part of the Nutrition Team, undertakes this function. Members of the team will closely monitor the patient working alongside the patient’s primary medical team.

2. PURPOSE

This Clinical Policy is designed for Healthcare Professionals in Portsmouth Hospitals NHS Trust to select and manage adult patients receiving Parenteral Nutrition (PN) appropriately.

3. SCOPE

This Policy encompasses nutrition provided via an intravenous catheter. It is relevant to all healthcare professionals involved in the:
- Nutritional assessment of patients.
- Placement of suitable feeding catheter.
- Management of catheter site and line, and delivery of PN solution.
- Prescription and manufacture of PN solution.
- Monitoring patient for signs of metabolic, septic or mechanical complications and tolerance of PN
- Management of nutrition during PN and concomitant feeding routes (enteral/oral nutrition) as appropriate.
- Dovetailing parenteral nutrition with subsequent enteral/oral nutrition as appropriate to ensure optimal nutritional intake.

PN may occur in any Clinical Specialty and will affect all Divisions of PHT. Health Professionals would include: referring Consultant/Registrar and medical/surgical team, Registered Dietitians, Registered Pharmacists, Registered Clinical Biochemists, Consultant Lead and members of the Nutrition Support Team, IV Nurse Specialist/Practitioner, Clinical Nutrition Nurse Specialist, Registered Nursing Staff including ward nurses, Outreach Nurses, Stoma Specialist Nurses and Diabetes Nurse Specialists.

Exclusions

This Policy excludes Paediatric services.

This Policy does not include the administration of Intravenous fluids including:
- Intravenous crystalloids (eg sodium chloride solution, Hartmann’s solution, glucose)
- Intravenous colloids (eg Human Albumin Solution, Gelofusin).
- Intravenous delivery of medications.
- Any intravenous solutions etc administered via a peripheral cannula.
‘In the event of an infection outbreak, flu pandemic or major incident, the Trust recognises that it may not be possible to adhere to all aspects of this document. In such circumstances, staff should take advice from their manager and all possible action must be taken to maintain ongoing patient and staff safety’

4. DEFINITIONS

Parenteral nutrition (PN or TPN)
PN involves the provision of patients’ nutrition by intravenous administration with an artificially prepared solution. PN does not utilise the gastro-intestinal tract and therefore removes an important physiological and immunological barrier. This may therefore expose the patient to an increased risk of metabolic and septic complications. PN can provide the full range of macronutrients ie protein, fat, carbohydrate and micronutrients ie vitamins, minerals and trace elements, and fluid that the patient requires (TPN or Total Parenteral Nutrition) or it can provide partial nutrition in addition to enteral and/or oral nutrition.

The principle indications for PN include

- Complete intestinal failure, which may be transitory, for example in post-operative ileus, upper Gastro-intestinal obstruction, post-operative anastomotic leak, and intestinal pseudo-obstruction.
- Short bowel syndrome, which may be functional for example, in severe Crohn’s disease or as a result of surgical resection(s) where the length of remaining bowel or the position of the resection(s) is insufficient to sustain adequate nutritional and fluid balance.
- Other common indications include mesenteric vessel disease, radiation enteritis and scleroderma.

It is usually considered that the duration of parenteral nutrition should be anticipated to be at least 3 days, for the benefits of nutritional support to outweigh the considerable risks associated with PN. See Appendix 1, standard 1.

Enteral Nutrition (EN)
Enteral nutrition can be defined as the provision of nutrition including macronutrient and micronutrients, sufficient to meet the patients’ expected nutritional requirements, via the gastro-intestinal tract. EN can be both oral and/or administered via feeding tubes (including naso-gastric, gastrostomy, naso-jejunal, jejunostomy).

Central line
Centrally-inserted catheter denotes a catheter (not cannula), placed in the superior vena cava via:

- The basilic or cephalic vein (Peripherally-Inserted Central Catheter or ‘P.I.C.C. line’). A single or double lumen PICC line can be placed depending on whether intravenous access is required for parenteral nutrition in addition to other intravenous access for additional fluids, medications, and blood-taking.
- The right or left internal jugular vein, or the subclavian vein (central venous catheter or CVC line). These lines may be tunnelled subcutaneously to minimise the risks of sepsis in long-term use.
- Subcutaneous port used for long-term intravenous administration.

**NOTE:** Parenteral nutrition is not delivered via a midline catheter unless under exceptional circumstances. It can only be used on discussion and agreement with Dr Trebble and the Nutrition Support Team and the IV team. This is to ensure that the correct support mechanisms can be put in place to support staff and prevent adverse incidents.

If a midline for PN is being considered, then the direct management of that line will primarily sit with the IV team, who will see the patient on a daily basis to assess not only the exit site but the vessel, working in conjunction with the Nutrition Support Team.
Nutrition Team (NST)
The NST is a multi-disciplinary team of health professionals comprising:
Lead Consultant – Consultant Gastroenterologist and Physician – Dr Tim Trebble
Surgical Dietitian(s) from Department of Nutrition and Dietetics
PN Pharmacist and/or ward Pharmacist
Clinical Nutrition Nurse Specialist(s)
Dietitians undertake the initial and day-to-day assessment and management of patients receiving PN.

Nutrition Steering Group (NSG) and Hospital Food Group
The NSG is a management body attended by representatives from interested parties (clinical biochemistry, IV team CCOT) and members of the Nutrition Team. It oversees policies and guidelines relating to artificial nutrition and is responsible for the development and coordinating nutrition support services. It reports to the Clinical Support Governance Committee.

5. DUTIES AND RESPONSIBILITIES

The Primary Medical or Surgical Team
The Consultant or Registrar has the responsibility to initiate the request for PN, taking into account all relevant clinical and nutritional factors in the decision. They may consult with the Nutrition team who can advise on aspects of this decision as required. They should make the referral initially to the Dietitian for that ward/clinical area who will assess the patient’s nutritional status and requirements and set the process in motion or refer onto an experienced dietitian who is part of the NT.

Clinician on the Nutrition Team
This is a Consultant/Registrar with an interest and expertise in Nutrition, especially artificial feeding and clinical nutrition, to lead the Nutrition Ward Round and provide clinical input into the decisions relating to nutrition. The clinician will usually Chair the Nutrition Steering Group.

Registered Dietitian
The Registered Dietitian is responsible for assessing the patient’s nutritional status and estimating appropriate nutrition requirements within 24 hours of referral (Monday to Friday) – See appendix 1, Standard 2. They will advise on the appropriateness of commencing PN and any alternative enteral routes, consulting medical staff within the primary referring team and the Nutrition Team as appropriate. The dietitian will:
• Assess the appropriateness for a PICC and PN
• Select an appropriate feeding regimen and will liaise with the ward Pharmacist or designated PN pharmacist regarding the regimen required.
• Liaise with the IV Nurse Specialist/ Srn Practitioner to request a PICC line if no dedicated central venous catheter is available for PN administration. The Dietitian or IV Nurse Specialist/ Srn Practitioner will recommend a multi-lumen line if other IV access is required in addition to PN or the PN regimen is not going to provide adequate fluid and additional IV fluids will be needed.

Parenteral Nutritional Support In Hospitalised Adult Patients Policy
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Review Date: 01 December 2021
• Consult with the Nutrition Team as appropriate and review the patient, to ensure optimal nutrition (subject to the patient’s clinical status) is maintained throughout according to the patient’s clinical status.

Pharmacist
The ward or PN Pharmacist will liaise with the dietitian if they receive the request for a PN regimen initially and consult the dietitian regarding an appropriate PN regimen within 24 hours of receipt of the request (Monday to Friday – see Appendix 1, Standard 2). They will liaise with the primary clinicians to request a prescription for the PN regimen and consult with the NST. The PN pharmacist is a member of the Nutrition Steering Group.

IV Nurse Specialist/ Snr Practitioner
The IV Nurse Specialist/ Snr Practitioner will receive requests from the Dietitian or members of the Nutrition Support Team if a Peripherally Inserted Central Catheter is required for the provision of PN. They will assess the patient for suitability and insert a PICC line if possible/feasible at earliest opportunity. They will review the catheter site for evidence of infection, occlusion or failure, advise on line management, and provide support and training for the ward nursing and medical staff. The IV Therapy Nurses are members of the Nutrition Steering Group.

Clinical Nutrition Nurse Specialist
The CNNS team facilitates and coordinates discharge into the community for patients on PN. The Lead CNNS has overall responsibility for the management of the HPN process and is responsible for authorising HPN and obtaining Blueteq numbers. CNNS team are responsible for the assessment of the patients and carers to manage/administer PN at home and for registering patients with Homecare companies, who then provide training, PN and equipment in the community. The Nutrition Nurse will facilitate the placement of a Hickman line if required for long-term PN. Post discharge the CNNS team are the point of contact for patients for I.V access related issues and will organise replacement catheters or admission to hospital as required. They will also take bloods, blood cultures, remove sutures, line dressings as required. CNNS team will also manage any ancillary item issues. The CNNS are members of the Nutrition Steering Group.

The Ward Nursing Staff
Registered nurses must have undertaken the PHT IV Study Day and been signed off on the completed competency framework before practicing autonomously with IV fluids. They are responsible for the line management and administration of the PN according to the prescription and the IV fluid charts. They should undertake patient observations, alerting members of the primary medical or surgical team, and members of the NST as appropriate, to any adverse observations eg. Hyper/hypoglycaemia, deranged electrolytes and excessive positive or negative fluid balance.
6. PROCESS

The process for initiating PN and the management of patients receiving PN is outlined in the flow diagram Fig 1.

- **Decision to withdraw PN following senior medical review when adequate alternative, or planned withdrawal of nutritional support is achieved.**
- **Review by Primary Medical team**
- **Initiation/Decision for PN (Consultant/Registrar)** In liaison with members of the Nutrition Support Team
- **Referral to Dietitian for nutrition assessment and feeding regimen**
- **Dietitian or medical staff on NST to refer to IV Nurse Specialist/ Snr Practitioner for assessment of venous access for PN**
- **Dietitian to liaise with the PN/Ward Pharmacist regarding PN prescription**
- **Pharmacist requests PN regimen from Pharmacy and obtains prescriber’s authorisation.**
- **PN administered on ward, monitor clinical observations, take capillary blood glucose twice daily. (Ward nursing staff)**
- **Patient monitored as per Policy and reviewed by primary medical team, individual members of Nutrition Support team and on NST ward round**
- **The Nutrition Support Team can advise on all aspects of Parenteral Nutrition**
- **PN solution prescribed on IV Fluid Prescription Chart (primary medical team)**
- **PN bag is prepared by Pharmacy and delivered to ward**

**Figure 1**
**Bleep Ward Dietitian or Telephone Dietitian Ext 6150**
## Roles and Competencies in Requesting and Administering Parenteral Nutrition

<table>
<thead>
<tr>
<th>Action</th>
<th>Role</th>
<th>Requirement</th>
<th>Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Referral for provision of parenteral nutritional support</td>
<td>Primary medical or surgical team or Nutrition Support Team member</td>
<td>To provide parenteral nutritional support to patients for whom the oral or enteral route is inaccessible or not functioning adequately</td>
</tr>
<tr>
<td>2</td>
<td>Nutritional assessment prior to initiating parenteral nutrition.</td>
<td>Suitably experienced dietitian</td>
<td>- confirm that PN is appropriate and no enteral route is feasible, - assess patient’s nutritional requirements with respect to their clinical status - select appropriate regimen or discuss requirements with team - liaise with the IV Nurse Specialist/ Snr Practitioner if IV access required and pharmacy to supply the most appropriate PN regimen.</td>
</tr>
<tr>
<td>3</td>
<td>Vascular access for administration of parenteral nutrition</td>
<td>IV Nurse Specialist/ Snr Practitioner or surgical team</td>
<td>To provide safe and appropriate central access dedicated to the provision of PN either as a PICC line or centrally placed line.</td>
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<tr>
<td>4</td>
<td>Provision of parenteral nutrition feed</td>
<td>Suitably experienced medical staff. Pharmacy</td>
<td>To prescribe and provide appropriate parenteral nutrition feed consistent with prescription within the time-constraints of the Pharmacy Parenteral Nutrition Service</td>
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| **5** | Instituting parenteral nutrition on the ward to the patient | Registered Nurses | The parenteral nutrition feed administrated, is consistent with the prescribed regimen with respect to:
- Patient Identity
- Rate
- Duration
- Date of bag
Refer to ‘Administering Parenteral Nutrition’ (Appendix A) and ‘Procedure to administer PN’ (Appendix B) | Appropriately trained and competent Registered Nurse. |
| **6** | Monitoring patient following institution of parenteral nutrition | Nursing staff, Medical or surgical team, dietitian | Monitoring of clinical observations | Appropriately trained and competent Nursing staff and medical or surgical team. |
| **7** | Taking venous/peripheral blood samples and other tests as required | Phlebotomists Nursing staff, Primary medical or surgical team | Taking capillary blood glucose four times daily and venous blood samples | Appropriately trained and competent Nursing staff, medical or surgical team. |
| **8** | Monitoring patient’s clinical and biochemical response to parenteral nutrition | Dietitian, Primary medical or surgical team | Assessing biochemical changes Fluid balance and clinical response following institution of parenteral nutrition, altering nutrition support appropriately | Appropriately experienced Dietitian and Primary medical or surgical team |
| **9** | Monitoring vascular access in patient and dressing to site. | IV Nurse Specialist/ Snr Practitioner And Registered Nurses | Assessing catheter site for evidence of infection, occlusion, and failure. Complete the Central Venous Catheter Care Bundle document. | Appropriately trained and competent Registered Nurse or IV therapy nurse or medical staff. |
| **10** | Withdrawal of parenteral nutrition | Dietitian | Assessment of patient’s tolerance and intake of oral/enteral nutrition intake or inadequate line access requiring discontinuation of PN. | Experienced Dietitian |
There are 8 Clinical Standards for the Provision of Parenteral Nutrition Support in PHT outlining the process to be undertaken in the Selection, initiation and management of patients on PN.

7. TRAINING REQUIREMENTS

The skills required for individual members of the Nutrition Team are generic skills provided within their routine roles. Each discipline will provide training and support and check competencies for new members of their profession on the NT. Individual members will provide advice within their scope of practice to ward and medical staff on best practice as described in this Policy. A Nutrition Education meeting is held regularly for team members to share knowledge and expertise on all aspects of artificial and clinical nutrition. This is disseminated throughout the individual professions that make up the NST. Individual members regularly attend relevant Conferences, report back to colleagues and take part in clinical governance activities to ensure up-to-date evidence-based practice is maintained.

Registered Nurses should have successfully completed the IV Study Day before working autonomously with IV fluids.

8. REFERENCES AND ASSOCIATED DOCUMENTATION


3. Department of Health. Standards for Better Health. 21-7-2004.or link Nutrition support in adults


33. Guidelines for the Provision of Parenteral Nutrition for Adults. Developed by the Nutrition Steering Group of PHT

34. Refeeding Guidelines for Adult Patients at Risk of Developing Refeeding Syndrome.

35. Phlebotomy and Venous Blood Sampling Policy (Adult) – Clinical Policy


38. Clinical Policy - Central Venous Catheters: Care and management


9. EQUALITY IMPACT STATEMENT

Portsmouth Hospitals NHS Trust is committed to ensuring that, as far as is reasonably practicable, the way we provide services to the public and the way we treat our staff reflects their individual needs and does not discriminate against individuals or groups on any grounds.

This policy has been assessed accordingly

Our values are the core of what Portsmouth Hospitals NHS Trust is and what we cherish. They are beliefs that manifest in the behaviours our employees display in the workplace. Our Values were developed after listening to our staff. They bring the Trust closer to its vision to be the best hospital, providing the best care by the best people and ensure that our patients are at the centre of all we do.

We are committed to promoting a culture founded on these values which form the ‘heart’ of our Trust:

Respect and dignity
Quality of care
Working together
Efficiency

This policy should be read and implemented with the Trust Values in mind at all times.

10. MONITORING COMPLIANCE WITH PROCEDURAL DOCUMENTS
This document will be monitored to ensure it is effective and to assure compliance.

<table>
<thead>
<tr>
<th>Minimum requirement to be monitored</th>
<th>Lead</th>
<th>Tool</th>
<th>Frequency of Report of Compliance</th>
<th>Reporting arrangements</th>
<th>Lead(s) for acting on Recommendations</th>
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<tr>
<td>Annual audit of PN usage Standard 1</td>
<td>Sarah Williams (interim) Mike Bennett-Marsden</td>
<td>Electronic Database</td>
<td>Annual</td>
<td>Policy audit report to: • Nutrition Steering Group</td>
<td>Mike Bennett-Marsden Dr T M Trebble</td>
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<tr>
<td>Spot check on 10 patients for Standards 2-8</td>
<td>Dr TM Trebble</td>
<td>Tool sheet</td>
<td>Annual</td>
<td>Policy audit report to: • Nutrition Steering Group</td>
<td>Sarah Williams Dr T M Trebble</td>
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Standard 1- Referral for parenteral nutritional support

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<th>Standard Statement</th>
<th>Rationale</th>
<th>Criteria</th>
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<tr>
<td>Referral for in-patient parenteral nutritional support reflects “appropriate” clinical indications. Referral is initiated by a senior member of the primary medical or surgical team with direct, adequate and early liaison with nutritional services.</td>
<td>Parenteral nutritional support is a valuable but expensive therapy associated with considerable potential complications (5;12). Use of parenteral nutrition in patients increases morbidity compared to oral and enteral nutrition (13;14). “Appropriate” parenteral nutritional support conforms to: “indicated” clinical scenarios where there is recognised potential value of the therapy; “unavoidable” use, where other methods of nutritional support have been assessed and considered non-viable or insufficient. Parenteral nutrition is unlikely to provide significant benefit when used for less than 3 - 5 days (5), or where poor prognosis associated with the primary pathology or co-morbidity negates the value of intervention. Specialist and early review of patients referred for parenteral nutritional support reduces “inappropriate” use, morbidity and costs of treatment (23;25;27;28).</td>
<td>Essential 1. The decision to institute parenteral nutrition is made by a senior member of primary team and the request is documented. 2 The referral allows prompt review by the dietitian and pharmacist and provides adequate information with respect to the indications for therapy and related medical history. 3 Introduction of parenteral nutritional support is appropriate (as per guidelines) with an anticipated use for 3 days or more, all methods of enteral nutrition having been previously considered and deemed inappropriate, and route of feeding chosen can provide patient’s expected nutritional requirements.</td>
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### Standard 2- Planning of parenteral nutritional support

<table>
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<th>Standard Statement</th>
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<tr>
<td>Following the decision by the primary team to institute or continue support, the parenteral nutrition “chain” from assessment to administering feed to the patient is efficient and co-ordinated, and requires less than 24 hours (Monday to Friday). Parenteral nutrition can be provided over a Bank holiday to ensure specific criteria are met. PN will not be provided for longer than 24 hours before a dietetic review. (32)</td>
<td>Delays in instituting nutritional support increases mortality (29) A co-ordinated service is likely to allow a high level of efficiency in the provision of parenteral nutrition. This requires efficient communication between relevant staff within the parenteral nutrition chain. Delays in starting parenteral nutritional support after the clinical decision is made for this course of action should be kept to a minimum.</td>
<td>2.1. Essential 1 Following referral for parenteral nutritional support the patient is assessed by the dietitian within 24 hours (Monday to Friday). The referral must be given to the Dietitian by 11am on Monday – Thursday and by 2 pm on Fridays at Queen Alexandra Hospital to allow for nutritional assessment on the same day. 2 The daily order is given to pharmacy by 12 pm on Monday to Thursday and 3pm on Fridays at Queen Alexandra Hospital. PN bags will provide an appropriate profile of macro- and micro-nutrients suitable for the patient. 3 Vascular access for feeding: is in place same day as parenteral nutrition ordered. 4 Parenteral nutritional support is started within 24 hours of receipt of referral (Monday to Friday). (32) 5 Dietitians are informed of patients transferred to the ward receiving parenteral nutritional support, from ITU. 6 Out of hours procedure in place to ensure new patients are not overfed and reviewed by Nutrition Team members within 48 hours of commencement.</td>
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### Standard 3 - Provision of parenteral nutritional support

<table>
<thead>
<tr>
<th>Standard Statement</th>
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<th>Criteria</th>
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<tr>
<td>Provision of parenteral nutrition should accord with an up to date prescription reflecting acute requirements and clinical condition of the patient. Production of parenteral nutritional feeds that are not used (“wasted”) is an inefficient use of limited resource and is avoided.</td>
<td>Administration of inappropriate feeds with respect to content and rates may lead to over or under feeding and result in metabolic (31) and clinical complications. Production of parenteral nutrition bags that are not used due to changes in patients’ clinical condition, appropriateness for treatment and nutritional requirement has resource implications. Effective co-ordination between primary team and nutritional services avoids the unnecessary production and prescription of parenteral nutritional feeds.</td>
<td><strong>Essential</strong>&lt;br&gt;1. The requirement and regimen for parenteral nutritional support is assessed daily (Monday – Friday) between primary medical staff, dietitian and pharmacy as required. 2. Details of PN provision included in medical notes. 3. The parenteral nutritional feed administrated is consistent with the prescribed regimen with respect to:&lt;br&gt;2.1 Patient Identity&lt;br&gt;2.2 Rate&lt;br&gt;2.3 Duration&lt;br&gt;2.4 Date of bag 4. Parenteral nutrition bags ordered but unused (wasted) is at minimum levels. Reclaim where possible. 5. Parenteral nutrition is only prescribed with a valid prescription signed by a Doctor or appropriately qualified prescriber. 6. Parenteral nutrition bags are:&lt;br&gt;5.1 Dispensed in accordance with PHT dispensing practice.&lt;br&gt;5.2 Issued to the ward by 19.00 (Monday to Friday). Discarded at the latest, 48 hours after start of infusion. Not disconnected from the patient unless absolutely necessary and the delivery is not interrupted unless it is essential. Discarded if disconnected from patient and <strong>NOT</strong> reconnected to the patient. Prescribed on either Prescription Chart and/or the IV Fluid chart</td>
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and the request form is kept in the patient’s case notes.
7. Total duration of PN feeding is anticipated to be of 3 days or more.
Standard 4 - Review of metabolic status of patient during parenteral nutritional support

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<thead>
<tr>
<th>Standard Statement</th>
<th>Rationale</th>
<th>Essential</th>
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<tr>
<td>Following the introduction of parenteral nutritional support, there is regular review of the patient’s nutritional requirements and metabolic state with respect to tolerance of therapy and changing medical condition; and early recognition and management of associated metabolic complications.</td>
<td>Serious metabolic complications of parenteral nutritional support may occur at or following the introduction of therapy as a consequence of the rate and composition of the feed and with respect to the patient’s clinical condition (30;31, 33). These complications can be prevented or managed by assessment of nutritional requirement and metabolic state of the patient and appropriate adjustment of the parenteral nutrition (12;30;31). Complications relating to specific nutritional deficiencies are managed by altering the composition of the (bespoke) parenteral nutritional feed or extra intravenous electrolyte/fluid replacement (12).</td>
<td>1. Metabolic review is performed with regular and protocol driven laboratory investigations.</td>
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<td>2. Serum U &amp; Es, adjusted calcium, phosphate and LFT’s, magnesium are measured at least daily. All the above tests should be available as a baseline when requesting parenteral nutrition. Micronutrients should be measured if PN continues for more than 3 weeks – zinc and copper – every 2-4 weeks depending on results; selenium if risk of depletion and further testing dependent on baseline; Manganese – every 3-6 months.(32)</td>
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<td>3. The development of complications of parenteral nutrition should be recognised and treated rapidly and appropriately by specialised members of the nutritional services or senior medical staff. These include: i. Refeeding syndrome (33); ii. Impaired liver function; iii. Hyperglycaemia.</td>
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<td>4. Management may include alteration to the regimen or delivery of parenteral nutrition.</td>
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<td>5. Reviews recorded in medical notes.</td>
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**Standard 5 - Obtaining and reviewing vascular access for parenteral nutritional support**

<table>
<thead>
<tr>
<th>Standard Statement</th>
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<tr>
<td>Obtaining, reviewing and managing vascular access for parenteral nutritional support is undertaken by senior medical or specifically trained staff, is effective and appropriate to the planned duration and regimen of therapy.</td>
<td>Complications related to vascular access are common during administration of parenteral nutrition leading to considerable patient morbidity (12). The development of mechanical complications during line insertion, local infections and venous thrombosis is influenced by the type of line used, regimen and duration of the feed and the patient’s clinical state (11;12;21).</td>
<td>Essential</td>
</tr>
</tbody>
</table>

  1. Vascular access for parenteral nutrition is available either through dedicated central venous catheter or dedicated lumen in CVC or peripherally inserted central catheter (PICC) and line placed by SPR or above or IV therapy nurse.

  1.2. By full aseptic procedure

  1.3. Is appropriate for feeding regimen and duration of feeding.

  2. Central line placement confirmed by x-ray or imaging before feeding started.

  3. PN commences within 24 hrs of decision to institute parenteral nutrition (32)

  4. Venous catheter site is clearly visible

  5. There is documented evidence of catheter site inspection daily

  6. Daily 5ml Hepsal flush should routinely be prescribed for flushing of lines in between bag changes

  7. Lumens used for administering parenteral nutrition are not used for administering medications, other intravenous infusions, withdrawing blood. Double or triple lumen catheters can be placed to allow one to be dedicated to PN.

  8. Complete the Central Venous Catheter Care Bundle document daily

  9. Use of a peripheral Teflon cannula is avoided due to high risk of complications.

  10. Midline catheters only used under exceptional circumstances (see page 7)

Management of vascular access by health professionals with specialist training reduces complication rates and morbidity (23;26).

Vascular access for parenteral nutrition should be reviewed regularly by specifically trained nurses including IV Therapy Nurse (11) and the development of complications should be recognised and treated rapidly and appropriately.
## Standard 6 – Review of clinical status of patients during parenteral nutritional support

<table>
<thead>
<tr>
<th><strong>Standard Statement</strong></th>
<th><strong>Rationale</strong></th>
<th><strong>Criteria</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to and following the introduction of parenteral nutrition there is regular clinical review of the patient with respect to tolerance of therapy, development of associated complications and changes in medical condition that may influence the character, form and duration (and appropriateness) of subsequent nutritional intervention.</td>
<td>The introduction of parenteral nutritional support may be associated with systemic septic, hepatic (12;21) and cardiovascular complications that may reflect the rate and content of the administered feeding regimen (30;31). Initial and follow up clinical review by an appropriately and clinically qualified professional reduces systemic complication rates associated with parenteral nutritional support (23;28). Early recognition and appropriate treatment of systemic complications of parenteral nutrition is likely to improve prognosis. Regular ward observations and fluid balance is likely to assist this.</td>
<td>Essential 1. Prior to the introduction of parenteral nutrition, the patient is assessed for: 1.1 Evidence of malnutrition/nutritional deficiencies 1.2 Co-morbidity that may affect risk of complications of parenteral nutrition 1.3 Co-morbidity &amp; prognosis that may influence effectiveness of parenteral nutritional support. 2. Following introduction of therapy, daily clinical review is undertaken by a clinically trained and experienced health professional (i.e. medical or clinical nurse specialist) examining specifically for clinical complications of parenteral nutritional support. 3. Strict asepsis must be maintained at all times when manipulating any feeding line. 4. Ward measurements that are reviewed include: 4.1 Daily assessment and recording fluid balance 4.2 PR &amp;BP twice daily; 4.3 Blood glucose (BM) four times daily, minimum. 4.4 Weight documented twice weekly. 5. Where 2 or more blood glucose results are 10 mmol/l or higher then insulin should be commenced with advice from the diabetes specialist nurses. Blood glucose should be regularly monitored for times every 24 hours on PN and as required when administering intravenous. Refer patient to Diabetes team to assess and advise on suitability of sub-cutaneous insulin administration.</td>
</tr>
</tbody>
</table>
6. The lumen is dedicated to the provision of parenteral nutrition and not used to administer any other intravenous fluids, medications, or for taking blood samples for laboratory analysis (unless to confirm line sepsis). It should be labelled for PN administration.

7. If additional IV fluids required then use Hartmann’s solution in preference to 0.9% saline, unless patient hyperkalaemic.

8. If other peripheral access for haematological and biochemical analysis is not possible due to poor vascular access then the line should be first flushed with 20ml saline and the first 10ml of blood should be discarded to avoid drawing up parenteral feed. (34)
## Standard 7 - Response to clinical complication during parenteral nutritional support

<table>
<thead>
<tr>
<th>Standard Statement</th>
<th>Rationale</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>The development of clinical complications during parenteral nutritional support requires early and directed intervention with respect to both nutritional therapy and the patients underlying clinical condition; supervised by senior medical or/and appropriately trained specialist nurses including IV therapy nurse.</td>
<td>Clinical complications occurring in parenteral nutritional support are common, may reflect the rate and content of parenteral nutritional feeds, venous access and the patient’s clinical condition (12;21;30;31). Early recognition and treatment by appropriately trained staff may reduce the morbidity associated with parenteral nutritional support and associated complications (21;26;28). Protocol driven management approaches and specialist support of primary teams improves quality of care and reduces morbidity associated with parenteral nutritional support and associated clinical complications (21;23;26;28) Unnecessary withdrawal of nutritional support or venous catheter replacement is associated with increased risk of complications.</td>
<td>Essential 1. Regular clinical review of patients following the introduction of parenteral nutrition patients allows early recognition and treatment of associated clinical complications including catheter associated infections, cardiovascular and fluid balance problems and abnormal hepatic function. 2. Management includes altering nutritional regimens and instituting medical interventions with the aim of continuing parenteral nutritional support with resolution of the acute complication. 3. In the event of suspected vascular catheter infection: 3.1. The line is not removed unless infection is clinically evident or bacteriologically confirmed. Advice should be sought from the IV therapy nurse before removing a line suspected of contamination. 3.2. Specialist or senior medical advice is sought 3.3. If line is removed, nutritional support is withheld for less than 48 hours. 3.4. Swabs are taken if site inflamed or discharging. 3.5. Blood cultures are taken from peripheral and central sources. (34) 3.6. Suspected infection: antibiotics are started appropriately.</td>
</tr>
</tbody>
</table>
## Standard 8 - Withdrawal of parenteral nutritional support

<table>
<thead>
<tr>
<th>Standard Statement</th>
<th>Rationale</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Withdrawal of parenteral nutritional support follows senior medical review, occurs in the presence of adequate and alternative nutritional support (if active treatment is indicated) and is co-ordinated with nutritional services.</td>
<td>Inappropriate withdrawal of nutritional support or the reintroduction of parenteral nutritional support exposes patients to potential complication associated with inadequate nutritional intake and line insertion. The frequency of inappropriate withdrawal of nutritional support may be reduced by restricting this clinical decision to appropriately qualified staff or senior medical staff, in consultation with the dietitian especially if patient is receiving oral/enteral nutrition. Delayed withdrawal of parenteral nutritional support exposes patients to the potential complications of nutritional support without benefit.</td>
<td>Essential 1. Where appropriate, parenteral nutrition should not be withdrawn or reduced until the patient is tolerating significant enteral nutrition via a feeding tube/device and/or via oral intake (as assessed by dietitian) 2. Where PN is withdrawn due to complications of treatment, agreed protocols should be followed in order to avoid unnecessary breaks from nutritional support or line loss. 3. The decision to stop/reduce PN is made by Consultant/Registrar/Dietitian. 4. Delays in withdrawing parenteral nutritional support after the clinical decision is made for this course of action should be kept to a minimum (less than 24 hours).</td>
</tr>
</tbody>
</table>
## APPENDIX A: ADMINISTERING PARENTERAL NUTRITION

**ADMINISTERING PARENTERAL NUTRITION IS A FULL ASCEPTIC PROCEDURE**

### DO

- ✓ CHECK LABEL – PATIENT NAME, DATE, INFUSION RATE(S)
- ✓ CHECK PN PRESCRIBED ON FLUID PRESCRIPTION CHART. Attach PN bag label on Chart.
- ✓ EACH BAG HAS **ONE GIVING SET, ONE CONNECTION** and **ONE DISCONNECTION**.
- ✓ USE ONLY A DEDICATED LUMEN FOR PN – LABEL THE LUMEN FOR PN
- ✓ DISCARD ANY REMAINING FEED AFTER ALLOTED TIME LAPSED - UP TO 48 HOURS MAX.
- ✓ Check Temperature, Pulse, Respiration and Blood Pressure twice a day.
- ✓ Check blood glucose four times daily. Inform the doctor if 2 readings are greater than 10 mmol/l and consider commencing insulin therapy.
- ✓ Weigh twice weekly.

### DON’T

- **DO NOT DISCONNECT THE PARENTERAL NUTRITION BAG**
- **DO NOT RECONNECT A BAG IF IT HAS BEEN DISCONNECTED**
APPENDIX B: Procedure for the administration of Parenteral Nutrition

Prior to setting up the infusion:
1. Remove the bag of PN from the fridge 2 hours before connection to patient.
2. Remove the Parenteral nutrition from its outer plastic bag, place the red/white/silver bag provided over the PN bag to protect it and hang it from the drip stand.
3. Check the patient’s identity against the prescription sheet in accordance with Trust Policy.
4. Check that the patient’s details are printed on the label and that it is within its expiry date.
5. Check that the prescription sheet provided with the bag matches the label.
6. Inspect the bag for any visible cracks or leaks. The solution should be milky white and there should be no separation within it. In the event of the Parenteral Nutrition (PN) being unsuitable for use, contact pharmacy.

Setting up the infusion:
Wash hands and gather equipment

Equipment needed
- Dressing Trolley
- 2 - 4 packets of gauze
- Alcogel
- Sani-Cloth CHG 2% sachets x 4
- 10ml luer slip syringe
- Tape
- 1 x Sterile Dressing Towel
- 10ml pod 0.9 % saline
- Scissors
- 1 x Dressing pack.
- I.V administration set
- 2 x Sterile Gloves.
- Drip stand and Graseby 500 pump

A: Setting up Equipment:
1. Wash hands using seven step hand washing guide.
2. Prepare dressing trolley for an aseptic procedure as per Trust Guidelines.
3. Cut x 2 pieces of tape and attach to edge of trolley.
5. Snap off cap over port on PN bag.
6. Open out dressing pack onto trolley.
7. Open administration set onto sterile field.
8. Open 10ml syringe and extra gauze squares onto sterile field.
9. Open Sterile gloves x 2 packs onto sterile field.
10. Open Sani-cloth CHG 2% sachets onto sterile field.
11. Open sterile towel, pick up the end of the catheter, and lay it onto the sterile towel.
   Secure with a piece of tape if necessary. Clean the catheter with a Sani-Cloth (starting at the
   swan lock) and then place catheter onto the sterile towel.
12. Check expiry date on saline pod and place pod onto edge of trolley, off of the sterile field.
B: Cleaning the catheter:
1. Put on sterile gloves and rearrange items on sterile field if necessary.
2. Using a piece of gauze pick up the saline pod with one hand. Using the other hand clean the cap of the saline pod for 15 seconds using a Sani-Cloth 2%CHG wipe.
3. Allow to dry then snap off the cap using a clean piece of gauze and draw up the saline using the 10ml syringe.
4. Using a new Sani-Cloth 2%CHG wipe clean the Swan-lock, end of line and clamp for 15 seconds holding the end of the line in your hand. Once clean do not place catheter back onto towel.
5. Place end of catheter onto a clean piece of gauze on top of the sterile towel and leave to dry.
6. Attach 10ml saline syringe to Swan-lock. Unclamp line.
7. Inject saline into catheter using a push pause action. Clamp line, remove syringe and place line onto gauze on top of the sterile towel.
8. Remove sterile gloves.

C: Attaching and Priming the I.V administration set:
1. Put on new sterile gloves.
2. Using a new Sani-Cloth 2%CHG wipe clean the port on the PN bag. Allow to dry.
3. Move roller clamp down on administration set (A).
4. Check safety clip is open. Open if closed (E).
5. Remove Blue sheath from spike on administration set and insert into port on PN bag using a Non touch technique.
6. Squeeze the drip chamber until half full with PN (C).
7. Holding the cassette inverted release the roller clamp slowly until the PN starts filling the giving set (D).
8. Stop priming set by closing the roller clamp when PN starts dripping out of the end of administration set. Ensure the roller clamp is fully closed (A). The administration set must remain on the sterile field during this process.
9. Unscrew and remove blue cap on end of administration set then attach end of administration set to Swan-lock on catheter.
10. Insert administration set into pump and programme pump as per label on bag of PN. Check rate matches pharmacy prescription sheet.
11. Prior to starting infusion remember to undo clamp on catheter and open roller clamp on administration set.
12. Dispose of equipment appropriately.
13. Sign pharmacy prescription sheet and file in patients notes. PN should also be prescribed and signed for on an IV fluid prescription chart.
APPENDIX C: Disconnecting the Infusion – Sims Graseby 500 Pump and P.N.

Wash hands and gather equipment.

Equipment:
Sani-Cloth CHG 2% sachets x 3
1 x Sterile Dressing Towel.
1 x Dressing Pack.
2 x Pieces of Tape.
Sterile Gloves.
1x 10ml Saline steripod
1 x 10ml syringe.

Tray:
Alcogel
1. Switch off pump and close clamp on patient’s line.
2. Wash hands using six stage hand washing guide.
3. Prepare dressing trolley for an aseptic procedure as per Trust Guidelines.
4. Tape up clothing so line is exposed.
5. Cut pieces of tape for dressing towel.
6. Clean hands with Alcogel using six stage hand washing guide.
7. Open out dressing pack touching corners only.
8. Open 10ml syringe and extra gauze squares onto sterile field.
9. Open Sani-cloth CHG 2% sachets onto sterile field
10. Open Sterile gloves onto sterile field.
11. Check expiry date on saline pod and place pod onto edge of trolley, off of the sterile field.
12. Open sterile paper towel and place under catheter. Tape in place.
13. Put on sterile gloves.
14. Using a piece of gauze pick up the saline pod with one hand. Using the other hand clean the cap of the saline pod for 15 seconds using a Sani-Cloth 2%CHG wipe.
15. Allow to dry, then snap off the cap using a clean piece of gauze and draw up the saline using the 10ml syringe.
16. Pick up the line with one hand using a piece of gauze so as not to touch the line directly with your sterile hand.
17. Clean the connection between the line and the administration set, and also the clamp, for 15 seconds with a Sani-Cloth 2%CHG wipe. Allow to dry, then disconnect the administration set from the line (only touch the part of the administration set that you have cleaned).
18. Attach 10ml saline syringe to Swan-lock. Unclamp line.
19. Inject saline into catheter using a push pause action clamping the catheter while flushing last 1ml of saline in order to maintain positive pressure.
20. Remove syringe.
21. Remove sterile gloves, dispose of rubbish and wash hands.
**APPENDIX D: Competency Statement: Care of a patient with Parenteral Nutrition**

<table>
<thead>
<tr>
<th>Competency Indicators 1st Level</th>
<th>Achieved Assessor Signature</th>
<th>Competency Indicators 2nd Level</th>
<th>Achieved Assessor Signature</th>
<th>Competency Indicators 3rd Level</th>
<th>Achieved Assessor Signature</th>
<th>Competency Indicators 4th Level</th>
<th>Achieved Assessor Signature</th>
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<tbody>
<tr>
<td>After obtaining consent from the patient (as appropriate)</td>
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<td>After obtaining consent from the patient (as appropriate) Level 1+</td>
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<td>After obtaining consent from the patient (as appropriate)</td>
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<td>After obtaining consent from the patient (as appropriate)</td>
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<tr>
<td>a) Record information/ intervention accurately in patients record</td>
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<td>a) Has an understanding of ethical issues surrounding intravenous feeding.</td>
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<td>a) Ensure that all PN interventions are provided by the appropriate Health Care Professional in accordance with Trust Policies.</td>
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<td>a) Member of Nutrition Support Team and Nutrition Support Group</td>
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<td>b) Keep patient, relatives and significant others informed of all actions</td>
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<td>b) Has successfully completed the IV study day with a level 2 competency.</td>
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<td>b) Ensure clinical area has appropriate equipment pertaining to PN administration.</td>
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<td>b) Participate in undertaking audit, setting Trust wide standards and policies for Parenteral Nutrition.</td>
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<tr>
<td>c) Knows how to locate and has awareness of PN policy, IV policy, Blood Sampling policy and Hand Hygiene policy</td>
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<td>c) Understands how to refer a patient to the Dietitians for provision of PN</td>
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<td>c) Utilising experience and knowledge, manage any PN related complications, referring to Nutrition Support team, Dieticians, IV team or Doctor as required.</td>
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<td>c) Act as an expert resource, advising, teaching and supporting members of Portsmouth NHS Trust.</td>
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<tr>
<td>d) Utilising a holistic approach, understand the implications for a patient having Parenteral Nutrition</td>
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<td>d) Knows how to safely store PN on the ward</td>
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<td>d) Facilitate learning and practice development within clinical area.</td>
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<td>d) Coordinates and facilitates discharge for patients on PN</td>
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<tr>
<td>e) Report significant changes and refer to relevant Health Care Professional.</td>
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<td>e) In accordance with PN policy is able to administer PN consistent with the prescribed regimen with respect to: - Patient Identity - Rate - Duration - Date of bag - Prescribed on Daily Adult Fluid Prescription chart</td>
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<td>e) Participate in multi-disciplinary discussion with Nutrition Team involving patient,</td>
<td></td>
<td>e) Management of patients in the community with PN.</td>
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<tr>
<td>• Observations</td>
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<td>• Blood glucose</td>
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<td>• Insertion site</td>
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<td>• PN infusion</td>
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<td>f) Maintain patient comfort and safety.</td>
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<td>g) Maintain correct infection control procedures such as correct disposal of sharps, hand hygiene and an aseptic technique</td>
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<td>h) Inform Health Care Professional of any change in patients condition/status</td>
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<td>f) Understands why all PN interventions must be undertaken using an aseptic technique via a dedicated lumen</td>
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<td>g) Is able to administer PN using an aseptic technique</td>
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<td>h) Understands why the catheter site must be visible and inspected daily in accordance with the Saving lives care bundle on VitalPac</td>
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<td>i) Understands the importance of:</td>
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<td>- accurate fluid balance recording</td>
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<td>- twice daily patient observations</td>
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<td>- four times daily blood glucose</td>
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<td>- twice weekly weight</td>
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<tr>
<td>j) Is able to respond appropriately to any significant changes in patient condition</td>
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<tr>
<td>k) Recognises when patients require intervention by other HCP e.g. Dietitian, IV Nurse, Outreach team.</td>
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</tbody>
</table>

**Education resources to support your development**

Author: Lesley Gregory & Jo Pratt

Department: Dietetics and Nutrition Nurses

Review Date:
Record of Achievement.

To verify competence please ensure that you have the appropriate level signed as a record of your achievement in the boxes below.

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Date</td>
<td>Date</td>
<td>Date</td>
</tr>
<tr>
<td>Signature of Educator/ Trainer</td>
<td>Signature of Educator/ Trainer</td>
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<td>Signature of Educator/ Trainer</td>
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<tr>
<td>Date:</td>
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<tr>
<td>Signature of Assessor</td>
<td>Signature of Assessor</td>
<td>Signature of Assessor</td>
<td>Signature of Assessor</td>
</tr>
</tbody>
</table>

Training Requirements

Registered Nurses should have successfully completed the IV Study Day before working autonomously with IV fluids

References to Support Competency


2. Parenteral Nutritional Support management in hospitalised adult patients – Clinical Policy

3. Phlebotomy and Venous Blood Sampling Policy (Adult) – Clinical Policy


5. Clinical Policy - Central Venous Catheters; Care and management


### Equality Impact Screening Tool

**To be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval for service and policy changes/amendments.**

<table>
<thead>
<tr>
<th><strong>Stage 1 - Screening</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title of Procedural Document:</strong> Parenteral Nutritional Support In Hospitalised Adult Patients</td>
</tr>
<tr>
<td><strong>Date of Assessment</strong></td>
</tr>
<tr>
<td><strong>Responsible Department</strong></td>
</tr>
<tr>
<td><strong>Name of person completing assessment</strong></td>
</tr>
<tr>
<td><strong>Job Title</strong></td>
</tr>
</tbody>
</table>

**Does the policy/function affect one group less or more favourably than another on the basis of:**

<table>
<thead>
<tr>
<th><strong>Yes/No</strong></th>
<th><strong>Comments</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>No</td>
</tr>
<tr>
<td>Disability</td>
<td>No</td>
</tr>
<tr>
<td>Learning disability; physical disability; sensory impairment and/or mental health problems e.g. dementia</td>
<td>No</td>
</tr>
<tr>
<td>Ethnic Origin (including gypsies and travellers)</td>
<td>No</td>
</tr>
<tr>
<td>Gender reassignment</td>
<td>No</td>
</tr>
<tr>
<td>Pregnancy or Maternity</td>
<td>No Feed adjusted during pregnancy</td>
</tr>
<tr>
<td>Race</td>
<td>No</td>
</tr>
<tr>
<td>Sex</td>
<td>No</td>
</tr>
<tr>
<td>Religion and Belief</td>
<td>Yes Adjustment required if on strict vegetarian/vegan diet</td>
</tr>
<tr>
<td>Sexual Orientation</td>
<td>No</td>
</tr>
</tbody>
</table>

If the answer to all of the above questions is NO, the EIA is complete. If YES, a full impact assessment is required: go on to stage 2, page 2

More Information can be found be following the link below

### Stage 2 – Full Impact Assessment

<table>
<thead>
<tr>
<th>What is the impact</th>
<th>Level of Impact</th>
<th>Mitigating Actions (what needs to be done to minimise / remove the impact)</th>
<th>Responsible Officer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin and excipient are not vegetarian or vegan when added to the bag of parenteral nutrition. There are no suitable alternatives manufactured. Vegetarians and vegans are disadvantaged when prescribed parenteral nutrition as there are no alternatives available from any company producing PN.</td>
<td>Low</td>
<td>There is a potential negative impact on those who adhere to a vegetarian or vegan diet if the additions are left out.</td>
<td>Nutrition support team. Consultant or Registrar from primary clinical team</td>
</tr>
</tbody>
</table>

#### Monitoring of Actions

The monitoring of actions to mitigate any impact will be undertaken at the appropriate level

<table>
<thead>
<tr>
<th>Specialty Procedural Document:</th>
<th>Specialty Governance Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Service Centre Procedural Document:</td>
<td>Clinical Service Centre Governance Committee</td>
</tr>
<tr>
<td>Corporate Procedural Document:</td>
<td>Relevant Corporate Committee</td>
</tr>
</tbody>
</table>

All actions will be further monitored as part of reporting schedule to the Equality and Diversity Committee