Home parental nutrition, central lines and top tips

A patient guide

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SHARING EXPERTISE

OUR VISION

We PROTECT and IMPROVE the HEALTH of people around the world.

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Why parenteral nutrition?

Principles of normal intestinal function

The function of the gastro-intestinal (GI) tract is to process ingested food by mechanical and chemical means, extract/absorb nutrients and excrete waste products.

The GI tract is composed of a long tube that runs from the mouth to the anus, as well as associated glands, chemicals, hormones and enzymes that assist in digestion.

The major processes that occur in the GI tract are: motility, secretion, regulation, digestion, and circulation. The proper function and coordination of these processes are vital for maintaining good health by providing the effective digestion and absorption of nutrients.

Common indications for parenteral nutrition when GI function has changed include:

- Inflammatory Bowel Disease (IBD) such as Crohn's that requires resting of the GI tract
- High output enterocutaneous fistulas
- Short Bowel Syndrome
- Gastroparesis
- Malignancy

When to administer additional IV fluids?

Additional IV fluids are commonly administered when a blood test shows that a patient is clinically dry or when a patient feels dehydrated (increased thirst, dry mouth and headache).

How to help minimise the effect of GI changes?

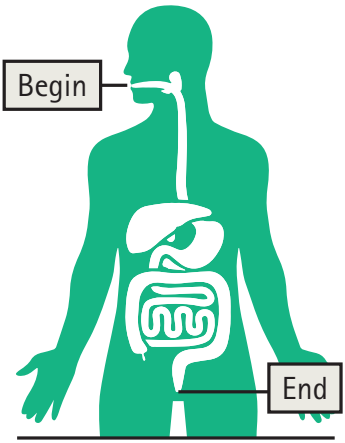
Medications such as pantoprazole and loperamide are commonly used to help regulate production of gastric acids and help reduce stoma or fistula output respectively.

Regular intestinal function

When we eat food this is broken down into nutritional components that the body can use. This process is called digestion.

Digestion takes place in the digestive system beginning in the mouth and ending at the anus.

The diagram overleaf shows the whole of the digestive system. Once we have swallowed food, digestion takes place in the oesophagus, stomach, small intestine and large intestine (see below right).

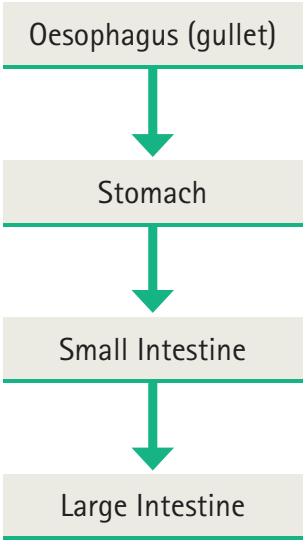


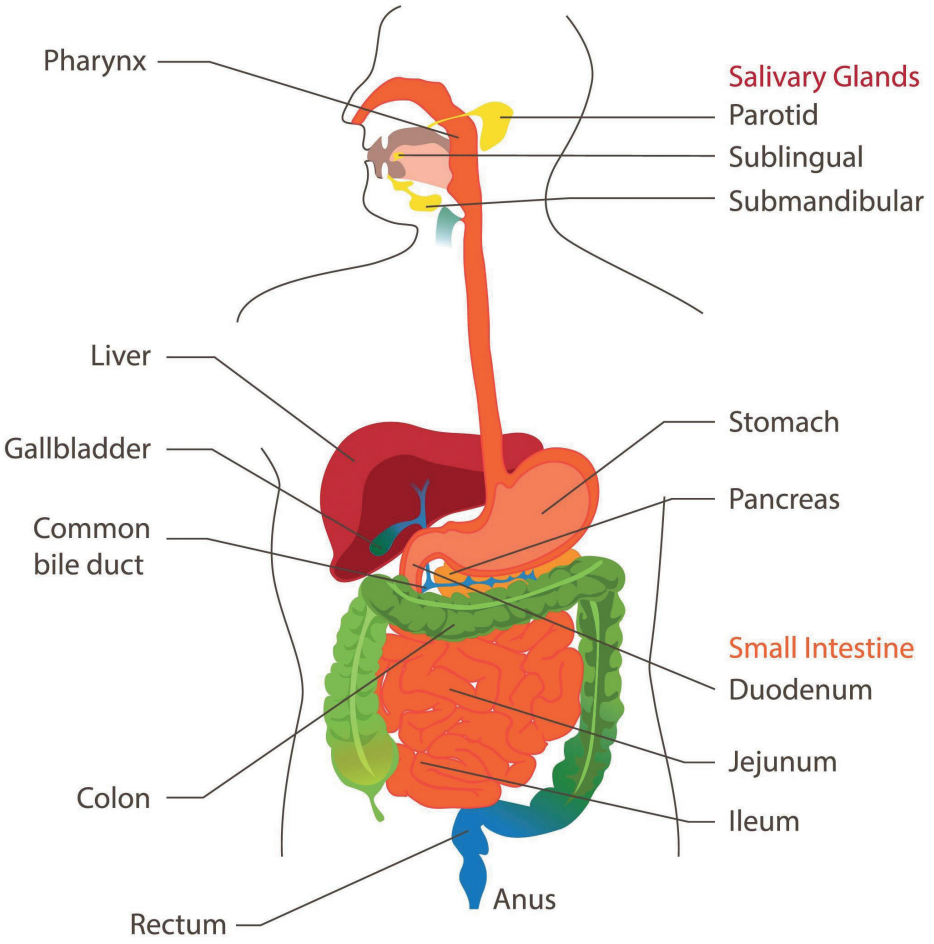
The digestive system

The stages of digestion

1. The mouth, stomach and small intestine digest the food.
2. The food that has been digested is then absorbed into the bloodstream via the small intestine.
3. The large intestine absorbs any excess water.
4. Undigested food passes out of the anus as faeces.

The whole digestive tract is about nine metres (30 feet) long.





If your referring trust asks us to, during your pre-discharge visit, the TransCare nurse will go through the following with you:

- How your gut has changed
- How to minimise the effect of gastrointestinal changes
- How and when to administer additional intravenous (IV) fluids

Aseptic environment

It is critical that your PN is administered in an aseptic environment.

What does aseptic mean?

- Free from harmful bacteria
- For your procedure to be as safe as possible you need to ensure asepsis by using a good sterile technique which we will teach you
- If bacteria contaminates the procedure you can become very unwell with a line infection and develop sepsis
- PN can provide the perfect breeding ground for bacteria due to sugar and other nutrient content

Tips on opening sterile items

- Always ensure that you open high enough above the sterile field to ensure that you don't touch the sterile field with the packaging
- Do not open items too high as they might bounce off
- In cases of dropped ancillaries – always replace, never attempt to clean and reuse
- If you are handling items with ungloved hands on the sterile field, be careful not to touch anything else at the same time
- If you think you have contaminated your sterile field or items on the field, we recommend starting the procedure again
- Never re-spike the PN bag with a new giving set when troubleshooting an issue, always use a new PN bag and a new giving set

Definition of Sterile: Completely clean and free from bacteria.

Handwashing

Palm to palm.

Right palm over back of left hand and left palm over back of right hand.

Palm to palm, with bent and spread out fingers.

Outer parts of fingers on the opposite palm, with fingers bent.

Circular rubbing of left thumb in closed right hand, and vice versa.

Circular rubbing backwards and forwards, with closed right hand fingertips in left palm, and vice versa.

Ensure to rub around the wrists.

Aseptic Non-Touch Technique (ANTT)

What is ANTT?

ANTT is an umbrella term that includes a set of principles and a standardised practice of aseptic technique to minimise risk of infection when carrying out aseptic or invasive procedures.

Principles of ANTT

- The aim of ANTT for clinical procedures is always asepsis
- Asepsis is achieved by protecting Key-Parts and Key-Sites from microorganisms transferred from the individual doing the procedure and the immediate environment
- Basic infection control precautions, such as hand hygiene and keeping the environment clean, significantly reduce the risk of contaminating Key-Parts and Key-Sites
- Aseptic or sterile fields also protect Key-Parts and Key-Sites from getting contaminated

Identifying Key-Parts and Key-Sites

- Key-Parts are the critical parts of the procedure equipment that if contaminated are most likely to cause infection
- Key-Sites are open wounds and medical device access sites such as catheter exit sites

Examples of Key-Parts

- Tip of the syringe (including prefilled syringes)
- Needle
- Both ends of a giving set
- Fluid bag access port or PN
- Vial's access port

Sterile gloves

Why do we use gloves?

- The items we use in our sterile field must be sterile and our hands are not. If we touch sterile items with an ungloved hand they are no longer sterile
- When you have gloves on, your hands are considered sterile, as long as you have used good technique while applying them
- You can now move your items around on your sterile field as needed
- The only things you should be touching with your gloves on, during connection and disconnection, are items wrapped in sanicloths, sterile items and your line

Tips on applying gloves

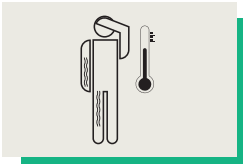
- Handle the gloves from the folded over section only – the 'cuff'
- This section will sit on the inside when finished and so will not be sterile
- Use the second gloved hand to organise the fingers on the first
- Don't touch the main body of the glove with your ungloved hand. Start again if you do as the glove is no longer sterile
- If you can find the thumb of the glove, it is often a good guide for the rest of the glove
- Always ensure your hands are completely dry
- It is worth practising with a pair without being watched to get a feel of how to apply them
- Stay calm

Definition of Sterile: Completely clean and free from bacteria.

Infection

What are the signs of possible bloodstream infection?

- Fever (temperature of 38°c and above) or very low body temperature (35°c and below)
- Chills or excessive shivering

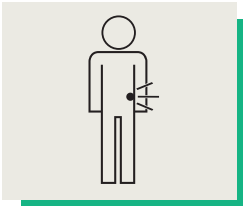


- Rapid pulse and rapid breathing
- Passing urine less than normal

- Nausea and vomiting
- Feeling very unwell

What are the signs of possible exit or tunnel infection?

- Redness around exit site
- Swelling or inflammation
- Pain or tenderness



- Surrounding skin is warm to touch
- Pus, discharge or exudate oozing from exit site

- For tunnel infection, tracking or redness on direction of tunnelled line

Infection

What are the signs of possible port pocket infection (for portacaths only)?

- Pain or tenderness when pressure is applied on the port site
- Redness or erythema of the skin on port site
- Swelling or inflammation of the port site
- Induration or localised hardening at the port site
- Presence of exudate or pus

Action to take and point of contact

- If high temperature of 38 degrees and above during infusion, STOP INFUSION AT ONCE AND DO NOT USE OR ACCESS LINE UNTIL REVIEWED
- For medical emergencies including suspicion of sepsis dial 999

For non-medical emergencies

- Contact or see your GP
- Contact the Trust Nutrition Nursing Team and leave a message if no answer
- Contact the TransCare Freephone number on 0800 840 5503

Air embolism

What is an air embolism?

This occurs when air enters either through the central line or in the wound where a central line was removed.

What are the signs and symptoms of an air embolism?

- Shortness of breath
- Chest pain
- Cough or wheezing
- Weak or irregular pulse
- Light headedness or fainting
- Discoloured and/or cold and clammy skin

Action to take and point of contact

- Use the blue clamps to clamp above any suspected air entry site on your line
- If an open wound where the central line is - cover site immediately with an occlusive dressing (such as Tegaderm or IV 3000)
- **Call 999 or attend accident and emergency immediately if you have any of the above symptoms – this is a medical emergency**
- Contact the Trust Nutrition Nursing Team and leave a message if no answer
- Contact the TransCare Freephone number on 0800 840 5503

Blocked line

What is line blockage?

A line blockage is an occlusion in the line that prevents the infusion to go through or when it is not possible to flush the line.

How to detect a blocked line?

- The pump keeps alarming 'downstream occlusion' and you are unable to infuse your HPN after ensuring there are no kinks on the giving set or visible obstruction on the outside of the line
- You are unable to flush your line with the pre-filled saline syringes using normal pressure

How to help prevent line blockage?

You can help prevent line blockage or occlusion by ensuring the line is flushed after infusion using the correct solution prescribed by the nutrition team and following the correct technique (push pause).

Action to take and point of contact

- Contact the Trust Nutrition Nursing Team and leave a message if no answer
- Contact the TransCare Freephone number on 0800 840 5503

Line fracture

What is line fracture?

It is a term used to describe a damaged line. Please note this advice is for your line and not the giving set.

What are the signs and symptoms of possible line fracture?

- The line may be visibly damaged
- Fluid or blood may leak from your line
- The line may leak when being flushed
- If internal then pain or swelling may occur on flush or infusion

How can a line fracture?

- The hub at the end of the line can become detached
- Excessive force when flushing
- Accidental damage
- Repeated bending or clamping of the line

Action to take and point of contact

- Use two blue clamps and clamp the line above the fracture
- Place a gauze between the line and clamp to help protect line

THIS PROBLEM NEEDS URGENT ATTENTION – MAKE SURE YOU GET HELP

- For medical emergencies dial 999
- Contact the Trust Nutrition Nursing Team and leave a message if no answer
- Contact the TransCare Freephone number on 0800 840 5503

Line malposition

What is line malposition and line migration?

Malposition is the unintended and unexpected placement of the catheter tip in a vessel other than superior vena cava (SVC).

Migration is the movement of line inside the vein resulting to incorrect position. It can also be movement of line outside the vein.

How to detect possible line migration?

- You feel an unusual sensation in your neck or chest when flushing the line
- You may hear a whooshing sound in your ear on the same side as your line (specifically PICC lines) when flushing the line
- The line appears longer or the reference mark for measurement has moved

What is the function of cuff (tunnelled lines)?

- The cuff is placed under the skin, just above the exit site. In about 3-4 weeks after insertion of the line, tissue will grow onto the cuff and create a seal
- The seal helps keep the line from slipping out
- It also helps prevent bacteria from going into the bloodstream

Action to take and point of contact

- Contact the Trust Nutrition Nursing Team and leave a message if no answer
- Contact the TransCare Freephone number on 0800 840 5503
- For medical emergencies dial 999

Thrombosis (Blood clot)

What is a blood clot?

This is a collection of cells that usually occurs in or around your IV line. It can occur at any time, however some patients are more susceptible.

What are the signs and symptoms of blood clots?

- Your line may become harder to flush or may not bleed back if required
- You may notice redness, swelling, and the area may be hot to touch and painful
- Your arm or shoulder may swell

Action to take and point of contact

- Don't use your line until you have been medically reviewed
- Do not force the flush through
- Contact the Trust Nutrition Nursing Team and leave a message if no answer
- Contact the TransCare Freephone number on 0800 840 5503
- Contact or see your GP
- For medical emergencies dial 999

Fluid overload

What is fluid overload?

It is a medical condition where there is too much fluid in the body. The increased level of fluids, results in excessive volume of fluid flowing around the circulatory system; this can overwork the heart and lead to heart failure.

What are the signs and symptoms of possible fluid overload?

- Shortness of breath
- Oedema or swelling of lower extremities (legs and feet) and possibly arms and hands
- Tiredness
- Chest discomfort

Action to take and point of contact

- Contact or see your GP
- Contact the Trust Nutrition Nursing Team and leave a message if no answer
- Contact the TransCare Freephone number on 0800 840 5503
- For medical emergencies dial 999

Dehydration

What is dehydration?

It is a medical condition where there is not enough fluid in the blood.

Your body is losing more fluids than it is getting in.

What are some of the signs and symptoms of possible dehydration?

- Feeling thirsty, dry mouth/lips
- Passing urine less frequently
- Urine may be darker in colour and strong smelling
- Feeling light headed or dizzy
- Low blood pressure

Action to take and point of contact

- Don't necessarily increase oral intake without review
- Consider additional IV fluids if prescribed
- Contact or see your GP
- Contact the Trust Nutrition Nursing Team and leave a message if no answer
- Contact the TransCare Freephone number on 0800 840 5503
- For medical emergencies dial 999

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