

ENTERAL



MIC-KEY* button
PATIENT CARE GUIDE

Introduction

If you cannot maintain your hydration and nutritional requirements for more than four weeks then your doctor may decide to place a gastrostomy tube. This gastrostomy tube allows the direct administration of feed through a small tube directly into your stomach.

Your dietitian will prescribe a feeding regime including the volume of water that needs to be administered through your tube. The feed consists either of blended table food or ready to hang tube feeds.

On the back of this booklet there is a space to write your tube information, feeding schedule, medication and the volume of water prescribed. This will help you to remember the instructions. Please remember it is essential to use and care for your tube correctly.

Follow the instructions your healthcare professional provides and keep this guide handy for extra help and general guidelines. A useful glossary of terms can be found at the back of this guide (page 14).



Your MIC-KEY* button

A MIC-KEY button has been inserted into your stomach through your abdominal wall. There is an inflatable balloon in the stomach and an external bolster on the outside to hold it in place. This tube allows the intake of food and water that your body requires.

The MIC-KEY feeding port

The MIC-KEY button has an anti-reflux valve which is located inside the feeding port, which helps prevent stomach contents from leaking out of the tube once the closure cap is opened. Once the patient end of the extension set is connected to the MIC-KEY button the anti-reflux valve will open. This then allows you to administer feed, water, medications or allows you to aspirate from the stomach. The extension set can also be used for venting (also called decompression or burping).

Note: Never try to feed or put medication directly into the feeding port without using an extension set.

It is important to keep the feeding port and anti-reflux valve clean as dried feed and medication may lodge inside the recess and hold the valve open.

The balloon valve

Your feeding tube has a balloon inside your stomach that has been inflated to hold the tube in place. Your healthcare professional filled it with sterile water when the tube was inserted.

The balloon is inflated and deflated by inserting a Luer-slip syringe into the balloon port. It should only be used when checking the balloon volume or replacing the MIC-KEY button. It is important to never attempt to feed through the balloon port, it is also important to keep this port clean. The recess in the port can trap foreign material and it must be clean to function properly.

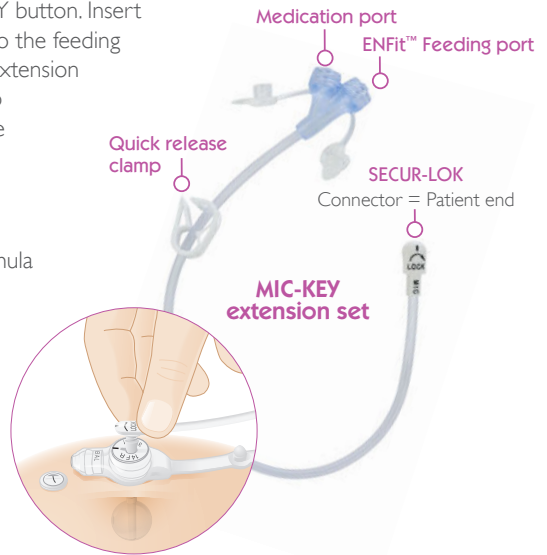
MIC-KEY* extension sets

The MIC-KEY SECUR-LOK extension set

This extension set is used for feeding. To attach the extension set align the black line on the patient end of the extension set with black line on the feeding port of the MIC-KEY button. Insert the "nose" of the SECUR-LOK connector into the feeding port and rotate it a 3/4 turn clockwise. The extension set swivels with movement and allows you to change position during feeding. Do not rotate past the stop point which is located just past 3/4s of a turn, this could damage the internal structure of the MIC-KEY button.

Prompt flushing and rinsing prevents the formula from drying and building up. Wash the extension set after every use with warm soapy water and rinse it thoroughly. For hygiene and functionality reasons it is recommended to replace the MIC-KEY extension sets at least every two weeks.

The different MIC-KEY SECUR-LOK extension sets are shown below. Available in 12 and 24 inch variations.



MIC-KEY extension set Y ENFit™ right angle



MIC-KEY extension set Y ENFit™ right angle short



MIC-KEY extension set bolus ENFit™ straight



MIC-KEY extension set bolus ENFit™ right angle

Daily care and use

Stoma care

It is recommended you create a habit of inspecting the skin around your stoma site after feeding. Make sure the skin is clean and dry, then observe the stoma for a few minutes checking that there is no gastric leakage.

The MIC-KEY® button usually does not require a dressing. Gently clean the skin around the stoma (fig. a). Gently rotate the MIC-KEY button a full circle plus a 1/4 turn in the stoma before you clean it to prevent the balloon from sticking to the internal gastric wall (fig. b).

Use cotton-tip applicators (cotton buds) or a soft cloth and gently clean using a mild soap and warm water. If you think soap is irritating the skin then try cleansing with water alone or try another soap.

Clean the feeding port with a cotton-tipped applicator (cotton bud) or soft cloth to remove medication or food (fig. c).

Avoid puncturing or tearing any part of the feeding tube.

Note: Always wash your hands with warm soapy water before and after touching your feeding tube.

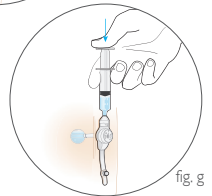
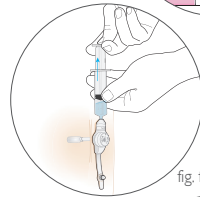
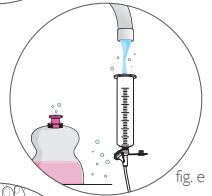
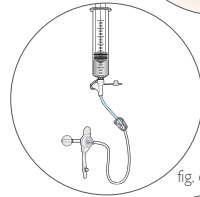
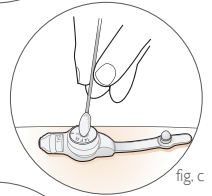
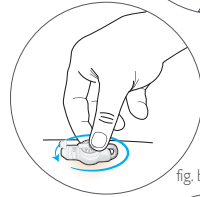
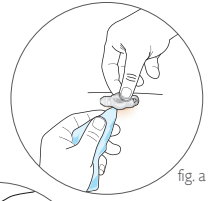
Flush the tube

Flush your tube after each feed or administration of medication (fig. d) and remove and wash the MIC-KEY extension set with soap and water (fig. e). Then rinse thoroughly and store in a clean and dry place. If you are on a continuous feed flush the extension set tubing at least three times every day.

Extension sets are disposable and should be replaced every two weeks or as instructed by your healthcare professional.

Balloon maintenance

Check the volume of water in the balloon once every week. To do this attach the Luer-slip syringe to the balloon port and withdraw all the water, while leaving the feeding tube in place (fig. f). If there is less water than the volume originally prescribed, reinflate the balloon with sterile water to the prescribed volume (fig. g). Only top up the water you have lost, you do not need to completely replace all of the water. Never fill the balloon with air. Air will rapidly migrate out of the balloon and the MIC-KEY button will not stay in place.



Check for correct tube placement

- It is important to check the position of the tube when it has been changed and before every use
- If advised by your healthcare professional, check the position of the tube by measuring the pH value of gastric aspirate before starting your enteral nutrition
- Check the MIC-KEY® button remains a comfortable fit and sits 2-3mm from the skin surface.

Decompression and venting

Your healthcare professional may instruct you to decompress or vent (release air or food from the stomach) before and/or after feeding. The decompression helps to decrease discomfort by relieving pressure in the stomach.

- Attach the MIC-KEY Extension Set to the feeding tube
- Remove the plunger from the barrel of the ENFit™ enteral syringe
- Attach the barrel of the syringe to the extension set connection port and unclamp the extension
- Allow fluid and air to flow up into the barrel of the syringe. If there is a large volume of fluid then clamp the extension set and pour content from the barrel of the syringe into a collecting container or bag. Repeat until decompression is complete
- If advised by your healthcare professional replace the stomach content
- After decompression/venting flush the tube and extension set with water and begin/resume feeding.

NOTES:

- If your MIC-KEY button appears to be an incorrect fit or the gastric pH is above 5.5 do not use the tube, and contact your healthcare professional immediately for instructions on how to proceed
- pH measurement may not be a reliable method to confirm position if enteral nutrition/ medication/water has been administered within the last hour; therefore confirm the patient has been nil by mouth/nil by tube for at least one hour before testing gastric pH.



National patient safety alerts (NPSA) guidelines

IMMEDIATE ACTION REQUIRED

It is important that you are aware of the signs and symptoms which may occur up to 72 hours following the insertion.

**The following signs require
IMMEDIATE urgent medical attention:**

- Pain during feeding (including medication delivery and water flushes)
- Any pain or distress after the procedure
- New bleeding from the procedure site
- Leakage of fluid around the tube.

**In the event of any one of these symptoms,
the following actions **MUST** be taken:**

- Stop feeding/medication delivery immediately
- Seek immediate medical advice in order to be examined and the symptoms assessed immediately.

Contact your healthcare professional for further advice.

Enteral feeding instructions

Continuous feeding

1. Wash your hands before you start
2. You will need a new giving set, your feed and a 60ml ENFit™ syringe for water (as prescribed by your dietitian) to flush the feeding tube
3. Remove the giving set from its packaging and attach to the feed
4. Purge the air from the feeding set as per the manufacturer's guidance and programme the pump as guided by your healthcare professional
5. Connect the MIC-KEY® extension set to the MIC-KEY button with a firm 3/4 turn
6. Using the 60mL syringe, flush the tube with the prescribed volume of water to ensure that the tube is patent
7. Connect the MIC-KEY extension set to the pump giving set and begin feeding
8. When your feed is nearly finished, administer the remaining water for your post-feed flush (this is to ensure no residual feed is left in the tube which could cause clogs)
9. After administering the feed and water, detach the extension set with an anti-clockwise turn and cap the MIC-KEY button securely with the attached closure cap
10. Wash the extension set with warm, soapy water until the tubing is clear. Rinse thoroughly with water and store in a clean and dry place.



Bolus feeding

1. Wash your hands before you start
2. Prime the MIC-KEY® extension set by filling it with water and then clamp. Attach the feeding extension set to the MIC-KEY button (as instructed on page 4)
3. Attach a 60ml ENFit™ syringe (minus the plunger) to your MIC-KEY extension set. Pour in the prescribed volume of water and unclamp the extension set to administer the pre-feed flush
4. When the syringe is nearly empty, begin administering the feed by pouring it into the syringe
5. It is important to keep the syringe filled to prevent air from entering the stomach. You can adjust the flow rate by raising or lowering the syringe
6. When the syringe is nearly empty, add the prescribed avolume of water to the syringe for the post-feed flush
7. After administering the feed and water, disconnect the bolus extension set by rotating it anti-clockwise until the black line on the feeding port lines up with the black line on the extension set
8. Gently detach the extension set and cap the MIC-KEY button securely with the attached closure cap
9. Wash the extension set with warm, soapy water until the tubing is clear. Rinse thoroughly with water and store in a clean and dry place.

Taking medications

Medication should be in liquid form where possible. If the liquid medication is too thick you can thin it with water to help prevent clogging your tube, however YOU MUST check with your Pharmacist before doing so.

- If your medication is only available in a pill or capsule form, ask your healthcare professional or Pharmacist if it is one you can crush and mix with water. Not all pills and tablets can be taken this way
- If crushing is an option for your medication, crush it into a fine powder and make sure it is well dispersed in the water. Most medications mix well with warm water but some do not
- Never mix medication with feed unless your healthcare professional tells you to do so
- Contact your healthcare professional prior to administering any new medication through your tube. It is important to flush the tube with water in between each medication to ensure they do not mix in the tube. Mixing in the tube could cause the properties of the medication to change or increase the likelihood of a clog.

Replacing your MIC-KEY* button



When and how?

Your healthcare professional will help you decide when to replace your MIC-KEY button. We recommend you change your tube every three months to maintain optimum stoma health and hygiene. With training from your healthcare professional you may be able to change the tube yourself.

Stoma measuring

A stoma measuring device is used to help determine the correct size MIC-KEY button for you. Your MIC-KEY button size will change over time as your stoma length will fluctuate as you grow.

Important: It is recommended to check the measurement of your stoma every three to six months. This can be done each time the MIC-KEY button is changed to ensure you still have the correct size. Check with your healthcare professional for more information.

1. Lubricate the stoma measuring device with water based lubricant
2. Place the patient in the supine position for the first stoma measurement
3. Before removing the MIC-KEY button note the likely length of the stoma to help you decide how far to advance the stoma measuring device into the stomach
4. Attach the Luer-slip syringe to the balloon valve of the MIC-KEY button that is in the patient's stomach. Pull back on the plunger until all of the water is out of the balloon (fig. i, Pg11)
5. Gently remove the MIC-KEY button from the patient's stomach. It may help to use a little water-soluble lubricant as you are removing it (fig. j)
6. Once the MIC-KEY button is removed advance the lubricated stoma measuring device into the stomach and inflate the balloon with 5mL of sterile water
7. Pull the measuring device gently upwards until it stops and advance the disc to external stomach wall
8. Read above the disc for the stoma length
9. Loosen the disc, if possible place the patient into a sitting position and measure the stoma length again
10. Take an average of the two measurements or use the longer measurement if appropriate
11. Select appropriate size of MIC-KEY button.

See your healthcare professional if you are experiencing any of the following and request for your stoma length to be checked with the MIC-KEY stoma measuring device:

- Significant weight gain or loss
- Tube pinches or feels tight, tube is leaving impressions on the skin
- Tube feels too loose and/or stoma is leaking
- Stoma is uncomfortable and/or irritated
- Tube does not rotate freely during daily cleaning (feels stuck or buried)

How to replace a MIC-KEY® button

1. Wash your hands and remove the new feeding tube from the packet. Fill the balloon with 5mL of sterile or distilled water (fig. h)
2. Remove the syringe and observe the balloon, it should be symmetrical. Check thoroughly for leaks. In the unlikely event leaks are observed do not use the tube and report to your healthcare professional. Following successful assessment of the new device remove the water from the balloon
3. Attach the Luer-slip syringe to the balloon valve of the MIC-KEY button that is in the patient's stomach. Pull back on the plunger until all of the water is out of the balloon (fig. i)
4. Gently remove the MIC-KEY button from the patient's stomach. It may help to use a little water-soluble lubricant as you are removing it (fig. j)
5. Lubricate the new MIC-KEY button with a water-soluble agent to aid in the insertion. Do not use oil or petroleum jelly
6. Gently guide the new MIC-KEY button into the stoma. Insert the MIC-KEY button all the way until it is flat against the skin (fig. k)
7. Hold the MIC-KEY button in place and fill the balloon with the correct volume of distilled or sterile water (see table below). Do not use air (fig. l)
8. Position the balloon against the stomach wall by pulling the MIC-KEY button up and away very gently until it stops
9. Wipe away fluid or lubricant from the tube and stoma
10. If you are confident that the MIC-KEY button is correctly placed reinject the stomach contents and flush the MIC-KEY button with water
11. Please ensure you follow the NPSA guidance shown on page seven.

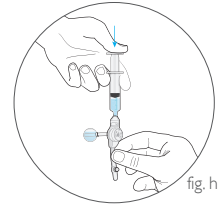


fig. h

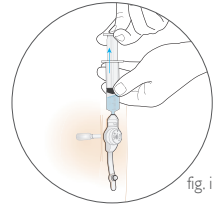


fig. i

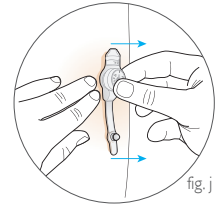


fig. j

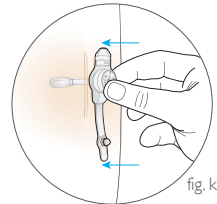


fig. k

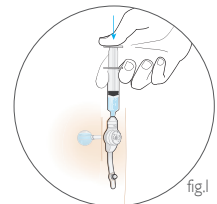


fig. l

Size	Minimum fill volume	Maximum fill volume
12Fr	3mL	5mL
14Fr	5mL	10mL
16Fr	5mL	10mL
18Fr	5mL	10mL
20Fr	5mL	10mL
24Fr	5mL	10mL

Know what to do if...

Your child vomits

If your child vomits during feeding it may help to:

- Have your child sit up during feeding. Some children have gastroesophageal reflux, causing food to flow backwards up into the oesophagus. Correct positioning during feeding is very important to help prevent vomiting, reflux and aspiration. Make sure the patient is in an upright position or at least at a 30 degree angle during the feed and for up to an hour afterwards
- Only use fresh formula, do not use formula if it has been unrefrigerated longer than four hours or has been open in the fridge more than 24 hours
- Slow the flow rate of the feed or even take a short break, then start again when your child feels better. Should you need to pause the feed it is important to flush the tube with water to prevent blockages. Also you should flush the tube again before re-starting the feed.

If vomiting (or nausea) persists or your child vomits after feeding, please call your healthcare professional.

If your child develops difficulty breathing during or immediately after the feed then stop feeding at once and call your healthcare professional immediately.

Balloon leaks or ruptures

Always keep a replacement MIC-KEY® button at home. Silicone balloons generally last 1-8 months but the life span of the balloon varies according to numerous factors. These factors may include medication, volume of water used to fill the balloon, gastric pH and MIC-KEY button care.

The feeding tube clogs

Smaller diameter tubes may clog more easily but require less water to flush. Infants usually receive a 3 to 10mL flush. Follow guidance from your dietitian on how much water to flush the tube with. Some patients with feeding tubes are water volume restricted so be sure to count the water that is used to flush the MIC-KEY button and include this in their daily allowance.

To prevent your MIC-KEY button from blocking flush the tube with warm cooled boiled water:

- Before and after each feed
- Before, after and in between each medication
- Every four to six hours if the patient is receiving a continuous feed.

Balloon will not deflate

If you cannot extract water from the balloon with the Luer-slip syringe ensure the recess in the balloon valve is clean. Occasionally the recess will trap spills of feed or other material as a result of normal daily living. Be sure the valve is not blocked by food. Clean inside the recess then firmly seat the syringe into the valve by pushing and twisting a 1/4 turn. Try pulling back on the plunger again. If the balloon will not deflate, use a blunt needle or cotton-tipped applicator (earbud) to depress the balloon valve and release the water. Be sure you have a replacement tube to insert into the stoma.

Stoma and skin problems

For stoma problems, immediately call your healthcare professional if:

- The stoma is bleeding
- You notice blood mixed with stomach content
- The stoma is persistently red and sore, and/or the red area is larger than 2.5 cm in diameter
- The stoma emits an odour
- The skin surrounding the stoma is swollen
- There is pus around the stoma
- You have a fever
- You have consistent pain
- If your stomach is distended

Red or sore skin around the stoma may be the result of an incorrectly fitting tube (for example, if you have gained/lost weight) or could be due to gastric leakage. Clean and dry the area frequently.

Skin problems such as granulation tissue may also occur. Granulation tissue is the result of the body's effort to repair the surgical incision. The tissue area may enlarge and require treatment.

Important: If you notice that your MIC-KEY® button is uncomfortable, please contact your healthcare professional.

For more information on troubleshooting please contact technical@vygon.co.uk

Your child develops diarrhoea

Causes of diarrhoea include:

- Feeding too quickly - try giving the feed at a slower rate
- Spoiled formula - it's best to mix new formula for each feed. If you do save leftover formula, always refrigerate it and never keep for longer than 24 hours
- Changes in formula, blended table food, medications or feeding routines. These and other changes can cause constipation as well as diarrhoea. Introduce any changes gradually if possible.

If diarrhoea continues after these actions then call your healthcare professional.

Your child becomes constipated

Inactivity, change in formula, medication, dehydration or change in the feeding routine can cause constipation. If constipation persists please consult your healthcare professional.

Glossary of terms

Aspiration

Suction to remove fluid from a vessel or cavity.

Bolus feeding

Feed delivered in a short period of time either administered via the pump bolus setting or delivered via gravity through a 60mL ENFit™ syringe.

ENFit™ syringe

A purple enteral syringe with an ENFit™ tip for feeding, flushing, administering medication and gastric decompression.

Continuous feeding

Small volumes of feed administered constantly throughout the day (or night) without interruption (often during 20-24 hours).

Enteral feeding

Liquid nourishment delivered by a tube inserted into the stomach or intestine.

Feeding pump

A small machine, plug-in or battery powered, that automatically controls the volume of formula being delivered through the feeding tube.

Feeding set (giving or pump set)

Tubing that connects the feeding container or pump to the MIC-KEY button extension set.

MIC-KEY button/feeding tube

A low-profile gastrostomy tube which delivers hydration and nutrition directly into the stomach.

Gastroesophageal reflux

A condition in which acidic gastric fluid flows backwards into the oesophagus, resulting in heartburn.

Gastrointestinal decompression

The removal of gas or fluid from the stomach, also called “venting”.

Gastrostomy

An opening into the stomach from the abdominal wall, made surgically for the introduction of hydration, nutrition and medication.

Granulation tissue

Extra tissue formed on or around the surface of the stoma.

Gravity feed

Formula flows into the stomach by gravity without the use of a pump.

Intermittent feeding

Feeding smaller volumes of formula frequently during the day or night.

Luer-slip syringe

Syringe with a slip-in tip instead of a twist and lock tip, used to remove and inject water into the balloon.

Stoma

Opening through which your feeding tube enters the body.

Your MIC-KEY button information

Healthcare professional: _____ Phone: _____

Insertion date: ____ / ____ / ____

Tube replacement dates: _____

Tube specifications

Tube product code: _____

Order number: _____ Lot number: _____

French size: _____ Stoma length: _____ cm Balloon fill volume: _____ mL

Extension set (5x1/box), change every two weeks

Product code: _____ Order number: _____

Bolus extension set (5x1/box), change every _____ weeks

Product code: _____ Order number: _____

Feed

Brand of feed: _____

Name of feed: _____ Volume of formula: _____ mL

Feeding times: _____

Volume per feed: _____ Volume of water: _____ mL

Mix well and refrigerate: follow your dietitian's guidance.

Pump setting or flow rate: _____

Additional ingredients: _____

Flush with _____ mL water before and after every feed.

Blended table food: follow your dietitian's advice.

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Value Life