



Transanal Endoscopic Microsurgery (TEMS)

What is TEMS?

TEMS stands for Transanal Endoscopic Microsurgery and is performed by a consultant with specialist training and expertise in the procedure. This specialised microscopic technique is performed by passing a tube through the anus/bottom into the back passage. Through this tube a telescope and instruments are passed to perform the procedure. It requires no cuts on the outside of the anus or abdomen. TEMS is usually performed under general anaesthetic.

What is TEMS used for?

TEMS is most often used to remove benign polyps (non-cancerous growths) from the rectum that cannot be taken away other than by a major operation. Sometimes, TEMS is used to remove small and early cancers from the rectum so avoiding major surgery. This can be done for very early cancers or considered where the TEMS operation is safer than major surgery. Your surgeon will explain these choices to you as appropriate.

What are the alternatives?

Endoscopic Mucosal Resection (EMR) is another procedure to remove cancerous or other abnormal tissues (lesions). This is performed during colonoscopy. However conventional major surgery may be necessary if EMR or TEMS procedure is not possible. This will be discussed by your surgeon before the operation.

What are the risks and benefits?

- The operation carries a lower risk than undergoing a major operation, so your recovery is faster as there are no external wounds and the rectum does not need to be removed.
- Very occasionally the abdominal cavity can be entered during the operation. The defect will be closed and your specialist may decide to give you a stoma for safety until the defect has healed (less than 5%).
- Bleeding from the site of surgery can occur for up to two days afterwards or a week or so later. It usually stops by itself without further surgery. Occasionally it is necessary to stop the bleeding with another minor operation.
- You may experience soreness in the rectum where the polyp has been removed. This can lead to inflammation around and in the back passage which is usually treated with antibiotics.
- Occasionally problems passing urine can be made worse, especially in older men but this usually settles within days.
- Deep vein thrombosis (blood clots in the legs) or pulmonary emboli (blood clots in the lungs).
- The lesion / cancer may reoccur and further surgery may be required (less than 5%).

What do I need to do before the operation?

You will usually attend a pre-operative assessment clinic to make the necessary health checks. To prepare your bowel for this procedure, please read these instructions about a special diet you are requested to follow before your surgery and also how to take the laxative, Plenvu, which you will be given by the nurse at your pre-operative assessment as your bowel must be completely free of waste material.

The nurse will also inform you if your surgery is to take place in the morning or afternoon, to ensure that you follow the appropriate instructions.

About Plenvu

Plenvu is a special powder and when dissolved in water, it is a bowel cleansing agent. This means it flushes everything out of your bowel through a laxative action, so that it is completely empty and clean, ready for your TEMS procedure. Plenvu comes in a box containing two packets, (Dose one and two). Information about Plenvu preparation is contained within the packaging. **You should read before taking this product.**

Preparing your bowel

It is important that you follow these instructions closely, as the success of your procedure could depend on your bowel being as clean as possible.

Your current medication

For medication advice, or if you are a renal or diabetic patient on medications or insulin, please check with your pre-operative assessment nurse before taking the Plenvu.

Three days before your date for your TEMS procedure- start eating a low residue diet (avoiding fibre). See table below for when you should start this diet and take the Plenvu:

Day of TEMS	The day to start eating a Low Residue Diet	The day to start taking Plenvu
Monday	Friday before	Sunday before
Tuesday	Saturday before	Monday before
Wednesday	Sunday before	Tuesday before
Thursday	Monday before	Wednesday before
Friday	Tuesday before	Thursday before

Low residue diet-foods allowed

- **Dairy products:** milk and milk drinks, butter and margarine, eggs and cheese
- **Meat products:** Tender beef, lamb, veal, pork and chicken, crispy grilled bacon
- **Fish products:** Boneless fish or battered/breadcrumb coated fish such as fish fingers etc.,
- **Carbohydrates/starchy foods:** Plain pasta (not wholemeal), rice (not brown), white bread, cream crackers, potatoes (without skins) e.g. mashed or chips
- **Breakfast cereals:** Cornflakes, Rice Crispies, Frosties, Sugar Puffs, Special K
- **Puddings, cakes and sweets:** Rice, tapioca, semolina, corn flour, custard, milk, jelly, ice-cream, steamed puddings, plain biscuits, plain cakes, plain/flavoured yoghurt (with **no** added fruit or nuts)

Information for Patients

- **Drinks:** any type of drink is suitable that does not contain fibre bits (i.e. if drinking fruit juices, strain first)

Foods to avoid:

- **Fruit** including dried fruit. Avoid fruit peel/rind & pips in jam, marmalade, cakes
- **Vegetables and salad.** Strain soups containing vegetables
- **Bread.** Wholemeal, whole wheat, granary, brown or high fibre white or rye bread
- Coarse cereals e.g. All Bran, Weetabix (avoid bran)
- Nuts, pips, seeds
- High fibre biscuits. Digestive and those containing oats, bran, dried fruit etc.
- High fibre crisp breads and whole wheat crackers
- Pickles, tough meat, sausages, herrings and any fish with fine bones

How to take Plenvu for a morning TEMS procedure

The day before your TEMS procedure

9am - Stop eating solid food. **Do not** eat anything solid now until after your TEMS procedure. You are allowed to drink clear fluids whilst taking the Plenvu and up until two hours before you are admitted to hospital but these drinks must not have any milk, fruit or fibre bits in them. Sugar may be added to sweeten them.

Fluid allowed

Water, black tea/coffee (lemon allowed), herbal tea, Oxo, Bovril, Marmite or stock cubes dissolved in hot water and squash.

18:00 - Start taking the Plenvu

Open Dose one. Pour the contents of the sachet into a jug that holds 500ml. Add water into the jug up to the 500ml mark and stir until all the powder has dissolved.

In a separate jug that holds a 500ml, fill with plain water or squash. Alternate the two jugs over the next hour, drinking the 500ml of water/squash and the 500ml of Plenvu, approximately one glass every 15 minutes.

Note! When you start drinking the Plenvu solution, it is important that you stay close to a toilet. At some point, you will start to experience watery bowel movements. This is quite normal and indicates that the bowel preparation is working. The bowel movements will stop soon after you have finished drinking. If you have slept the night and still not had a bowel movement, contact the hospital you are attending. The telephone numbers are listed at the end of this information.

05:00- take the second sachet of Plenvu

Open Dose two. Pour contents of sachets A and B into a jug that holds 500ml. Add water into the jug up to the 500ml mark and stir until all the powder has dissolved.

In a separate jug that holds a 500ml, fill with plain water or squash. Alternate the two jugs over the next hour, drinking the 500ml of water/squash and the 500ml of plenvu, approximately one glass every 15 minutes.

Information for Patients

It is important to drink additional fluids from the fluids allowed list before, during and after the bowel preparation.

Side effects

You may experience headaches, nausea and sometimes vomiting. These effects pass off quickly. Abdominal bloating can occur and, less frequently, abdominal cramps. Should the feeling of swelling of your stomach or pain arise, Plenvu should be slowed or temporarily stopped.

The skin around your bottom can become red and sore due to frequent bowel motions. A barrier cream such as Vaseline or nappy rash preparations can protect the skin. The soreness is temporary and will disappear in a few days.

Rarely some people are allergic to Plenvu, and may get an itchy skin rash (nettle rash or hives), swelling of the face, ankles or other part of the body, extreme fatigue, or shortness of breath.

If any of the side effects mentioned become serious, or you notice side effects not listed in this leaflet, please contact the colorectal nurses or your GP/pharmacist.

What to do if:

If you take more than you should, drink lots of liquids especially fruit juices.

If you forget to take Plenvu, take the next dose as soon as you remember. If it is several hours after the time when you should have taken it, contact the colorectal nurses at the hospital where you are having your TEMS procedure, your doctor or pharmacist for advice. It is important that you complete your preparation at least an hour before your procedure.

Do not take a double dose to make up for a forgotten dose.

Day of your TEMS procedure

You can continue to drink clear fluids up until two hours before you are due to be admitted to hospital.

If you have any queries or concerns about this information or need advice, please contact the pre-operative assessment nurse or colorectal nurse.

Remember. Do not eat anything after 09:00 the day before your procedure. You have started to cleanse your bowel and eating food will undo the effect of the laxatives.

What happens during the operation?

The operation on the rectum is performed through your anus. Using specially designed instruments and viewing the procedure through a microscope your surgeon will precisely cut out the polyp or small cancer. A cuff of normal tissue surrounding the section of rectum removed is included in the specimen. The resulting defect is either closed using sutures or can be left open.

What should I expect after the operation?

You will usually go home within 24 hours of the operation. You will be given simple pain relief to take home. Inflammation in the rectum where the surgery has been performed may cause some discomfort in the back passage. Also the tube used during the procedure stretches your back passage which will result in some soreness but you should be able to get up and about very soon after surgery. You should be able to eat and drink normally straightaway.

What should I expect once home?

It can take up to two weeks to fully recover from a TEMS procedure and you may feel tired at times. We advise you to have a supply of pads and stay close to home to begin with as your bowel function may be unpredictable at first.

The anal muscles which control your bowels are stretched during the operation and it takes time to regain muscle tone. You may experience leakage from the back passage or urgency to go to the toilet.

If you suffer pain in the abdomen, back passage, lower back, or feel unwell once discharged from hospital contact your GP or the hospital.

Follow up

Your surgeon will see you in the Outpatients Clinic a few weeks after your operation. The results of the TEMS operation and your follow up will be discussed.

Contacts - Good Hope Hospital

Consultant secretary **0121 424 7414**
Day Case Unit **0121 424 9821**
Colorectal Nurses **0121 424 7429**
Monday to Friday 08:00-16:00

If you require this information in another format, such as a different language, large print, braille or audio version please ask a member of staff or email interpreting.service@uhb.nhs.uk