

Health professionals are not always clear on the procedure for administering medication rectally, the benefits of this route or its indications

Rectal drug administration in adults: how, when, why

Learning points...

- › The relevant anatomy of the gastrointestinal tract
- › How drugs are absorbed when administered rectally
- › The principles of safe administration of drugs per rectum

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Administering medication per rectum can be the most appropriate route for some patients may not always be considered by health professionals. Cultural sensitivities, as well as misinformation regarding insertion methods, may be barriers to the practice. This article explains how the rectal route functions in drug absorption, clarifies when this route is appropriate to use and outlines the steps nurses should follow to prepare patients adequately and safely to carry out the procedure.

Medications administered per rectum (PR) are ideal for local or systemic treatment, as the rectal mucosa has a blood and lymph supply that is capable of effective systemic absorption. The rectum is relatively underused in some societies as a route for safe administration of medicines, arguably due to the intimacy of the site compared with more socially accepted and visible routes, such as oral or topical administration, or injection.

Benefits and contraindications

Drugs administered PR have a faster action than via the oral route and a higher bioavailability – that is, the amount of effective drug that is available is greater as it has not been influenced by upper gastrointestinal tract digestive processes. Rectal absorption results in more of the drug reaching the systemic circulation with less alteration on route. As well as being a more

effective route for delivering medication, rectal administration also reduces side-effects of some drugs, such as gastric irritation, nausea and vomiting (Tortora and Derrickson, 2008).

There are occasions when the administration of medication PR is contraindicated, for example:

- › Lack of consent (verbal, written or implied);
- › Recent rectal or anal surgery – this can include tissue changes caused by pelvic radiation;
- › Abnormalities or trauma involving the perineal or perianal areas;
- › When a prescriber has specifically instructed that it not take place;
- › Suspected paralytic ileus or colonic obstruction – this should be discussed first with relevant medical or other prescribing staff.

Suppositories and enemas

Medication intended for rectal administration often comes in the form of a suppository or an enema. Suppositories (Fig 1a) are small, torpedo-shaped pellets that melt at body temperature, whereas enemas (Fig 1b) are substances in liquid form designed for rectal administration.

Suppositories and enemas are administered for a number of reasons including:

- › To evacuate the bowel before surgical intervention and other investigations – enemas and suppositories may be combined for this type of preparatory treatment and the patient may have to self-administer;
- › To help relieve constipation – a simple suppository formulation, such as glycerine, can soften stools and aid the passage of faeces. An enema may also

5 practice points

- 1 Practitioners must ensure their knowledge and practices about drug administration per rectum are based on a solid evidence base
- 2 Nurses must understand all the advantages, contraindications and safety aspects of rectal drug administration
- 3 Clinical staff should explain to patients the benefits of administering drugs via this route
- 4 Patients must be informed about, and consent to, receiving drugs per rectum
- 5 Cultural diversity and individual sensitivities must be considered when preparing patients to receive drugs per rectum

FIG 1. RECTAL MEDICINES



1a. Suppository

1b. Enema

be needed for cases that do not respond adequately to a suppository. This must be addressed with caution and the patient's overall health will need to be considered before administration;

- » To introduce medications, such as sedation, respiratory treatments, analgesia, antibiotics – as long as the patient does not object to medicines via this route. For those who require multiple medications, PR administration may be inappropriate due to overloading the rectum at any one time;
- » To relieve and treat haemorrhoids or anal pruritus (itching) – many preparations soothe the mucosa and relieve symptoms of common anal disorders.

Guidelines for the administration of medicines should be followed and medicines should be prescribed according to local policy.

Nurses should familiarise themselves with the indications and contraindications of all drugs including enemas and suppositories for treatment of constipation.

Spinal cord injury

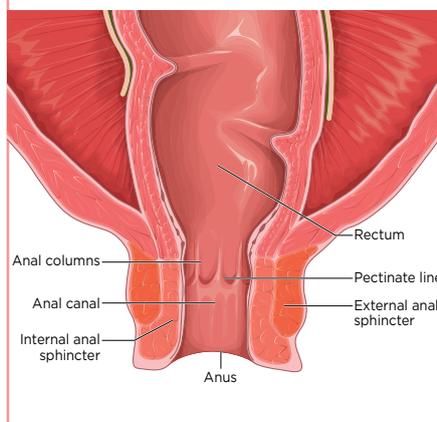
There are particular precautions for patients who have a spinal-cord injury (SCI), especially above the level of T6, when using the rectal route. Such individuals are at risk of autonomic dysreflexia, which occurs in response to a noxious stimulus below the level of injury, such as bowel distension or insertion of a suppository. This can trigger an episode of extreme hypertension that can lead to stroke, haemorrhage, seizures and death (Cowan, 2015).

Many people with SCI are dependent on bowel management regimes and health-care staff must be taught how to perform the procedure correctly (Ness et al, 2012). According to Coggrave (2012), autonomic dysreflexia is worsened as a consequence of faecal loading and impaction. This raises special considerations for nurses, as failure to support the elimination needs of people with SCI increases the likelihood of this complication.

Related anatomy and physiology

The rectum constitutes the final 20cm or so of the terminal gastrointestinal tract; approximately 2-3cms of this is the anal canal. Absorption from within the anal canal is via its highly vascular mucous membrane that is divided into folds or pillars, known as anal columns (Tortora and Derrickson, 2008). The anal canal is divided into areas above and below the pectinate line (Fig 2); the area below (distal) is sensitive to pain, touch and temperature,

FIG 2. THE RECTUM



whereas the area above (proximal) is only sensitive to stretch. Therefore, once carefully inserted into the rectum, medication should not cause pain.

Within the anal canal are two areas to control the opening of the anus – the internal and external sphincters (Fig 2). The internal sphincter functions involuntarily, whereas the external sphincter is under the control of the individual. This is important and underlines the need to ensure a patient receiving drugs via the rectal administration route is sufficiently relaxed and cooperative, to enable both insertion and retention of the drug.

Inserting suppositories

There have been a number of conflicting reports about which end of a suppository should be inserted first. Most of the confusion stems from an article published in *The Lancet* (Abd-el-Maeboud et al, 1991), which suggested that suppositories should be inserted blunt-end first.

Bradshaw and Price (2007) identified a lack of evidence for the claims made by Abd-el-Maeboud et al. Unfortunately subsequent adoption of their advice is uncritically applied, to the extent that their “findings” have entered common clinical practice, as evidenced by Kyle (2009) and Dougherty et al (2015). The Royal Marsden Manual (Dougherty et al, 2015) continues to refer to Abd-el-Maeboud et al's (1991) study, but there is now a caveat to say that a common-sense approach should be adopted when deciding which end of a suppository should be inserted first.

However, other authors, for example Peate and Gault (2013), agree that evidence to support instructions on which end of a suppository is to be inserted first may be obtained from the manufacturers, who recommend inserting the pointed end first. This is important when considering a

manufacturer's legal terms of use, and nurses should reflect on how they might defend criticism of their chosen method.

Logic, alongside manufacturers' recommendations and those of other authors, such as Macqueen et al (2012), determines that suppositories should be inserted pointed-end first.

Nursing observations

It is essential to obtain the patient's consent to carry out an assessment before the rectal administration of medication. With consent, the perineal and perianal area should be examined for signs of:

- » Soreness or redness in the anal area or inner buttocks;
 - » Excoriation of skin, especially where there are signs of infected tissue;
 - » Pruritus: although this is not necessarily a contraindication for PR administration, it will need to be monitored and reported if persistent;
 - » Skin tags: these are unlikely to cause problems during administration but care should be taken to avoid damage that might lead to bleeding;
 - » Infestations;
 - » Haemorrhoids: these may be a problem if they are large and friable, as insertion of PR drugs may cause pain or bleeding;
 - » Foreign bodies: these are uncommon but their presence should be reported to senior staff;
 - » Bleeding: this requires further investigation and should be reported to senior staff;
 - » Wounds and discharge from dressings.
- If any of the above are present, advice should be sought before proceeding.

The procedures

Equipment

- » Appropriate personal protective equipment that is compliant with local policies;
- » Prescription chart noting the legal requirements for the correct prescription;
- » Medication as prescribed – after first checking the patient's allergy status;
- » Lubricant may be required for either a suppository or enema insertion tube;
- » Small clinical waste bag;
- » Absorbent pad in case of discharge;
- » Gauze swabs or tissues;
- » Bedpan, commode and toilet paper, or ready access to a toilet if required.

Preparing the patient

Once equipment has been prepared:

1. Explain the procedure in terms the patient will understand. Ask the patient

to repeat what to expect from the procedure to ensure comprehension. When you are satisfied the patient understands, gain declared spoken consent, as appropriate.

2. Ensure privacy by drawing curtains around the bed space. Retain the patient's dignity by minimising exposure and checking their comfort – for example, absence of pain, agreeable temperature.
3. If the suppository or enema is for drug administration rather than aperient, where possible the bowels should be opened before administration.
4. Help the patient to lie on their left side with the right knee raised towards the chest, if possible. This enables eventual gravity-assisted flow into the rectum and ideally towards the sigmoid colon, which deviates to the patient's left-hand side. The right knee may be supported by a pillow. A rectal examination to assess whether faecal matter is present may be performed before administering suppositories or enemas that are designed to relieve constipation. Staff should have appropriate training prior to carrying out a rectal examination (Ness et al 2012).
5. Place an absorbent pad under the patient's hips and buttocks.
6. Ensure the patient remains comfortable and ready for the procedure.
7. Wash your hands thoroughly to remove any potential bacteria that could contaminate the patient.
8. Wear non-sterile gloves and apron while at the bedside.

Suppositories

1. Check the "six rights" for administration of medicines (Box 1).
2. Remove all packaging from the suppository and place the equipment onto a clean dressing trolley or similar.
3. Squeeze sufficient lubrication onto a piece of gauze and lubricate the apex (pointed end) of the suppository.
4. Ask the patient to relax, perhaps by concentrating on their breathing or controlling their breaths.
5. Part the buttocks and gently insert the suppository into the anal canal to around 2-4cm using a gloved index finger.
6. Repeat the process if more than one suppository has been prescribed;
7. Wipe away excess traces of lubrication from the anal area;
8. Place all used equipment, gloves and apron in clinical waste and wash your hands.

BOX 1. "SIX RIGHTS" OF DRUG ADMINISTRATION

Each time you administer a medication, you need to check you have the:

- Right individual
- Right medication
- Right dose
- Right time
- Right route
- Right documentation

9. The patient should be asked to retain the suppository for 20 minutes or longer, providing this is comfortable, in order for the drug to be absorbed.
10. Leave the patient in a comfortable position, preferably still lying on the left side, with a call bell so staff can be called for assistance if necessary.
11. Document the administration procedure.
12. Document the effectiveness of the suppository, as appropriate.
13. Observe the patient for any adverse reactions.

Enemas

1. Follow preparation instructions and steps 1-4 above for suppository insertion;
 2. Remove the cover from the nozzle and lubricate the tip of the nozzle, and along its length;
 3. Part the buttocks and, holding the nozzle, gently insert it into the anal canal;
 4. Slowly squeeze the bag or pack until all the contents have been deposited;
 5. While still squeezing – which helps to avoid any re-entry of contents due to vacuum effect in the enema – gently withdraw the nozzle.
- Be aware, this procedure can sometimes make the patient feel faint or nauseated.

Evacuant enema

Ask the patient to retain the enema for as long as possible before discharging faecal material. The effect is likely to be rapid, as the presence of the enema itself may stimulate a response.

Where feasible, elevate the foot of the bed to aid enema retention. When the patient is ready to evacuate, help them to a commode or onto the bedpan, as appropriate.

Retention enema

Unlike evacuant enemas, retention enemas are designed to be kept in the rectum to enable absorption of the drug via the

mucous membranes. An example of a retention enema is prednisolone for patients who have ulcerative colitis or Crohn's disease. Ask the patient to remain in the left lateral position for at least 30 minutes to aid retention. Raising the foot of the bed may also help.

Conclusion

Clinical nurses need to think about when it may be preferable to administer drugs to a patient PR. If they think it may be appropriate, they should discuss this with the patient and then, if the patient is in agreement, liaise with prescribers.

Efforts should also be made to ensure clinical staff are aware of the correct insertion method for suppositories and check that the information on which they base their practice has a solid evidence base. **NT**

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