**UNLICENSED ROUTE**

Crushing tablets, opening capsules, and administration via feeding tubes generally falls outside a drug’s product licence. In these circumstances the prescriber and practitioner accept liability for any adverse effects resulting from this administration.

**TUBE TIP POSITION**

- Check the drug is absorbed from the site of delivery.
- This can be a problem for jejunal tubes (some drugs have a reduced absorption).

**WHICH TYPE OF WATER?**

- Check local policy
- The type of water recommended depends on local practice and the exit site of the tube.

**SYRINGE TYPE AND SIZE?**

- 50ml oral, enteral or catheter tipped syringe should be used.
- It may be necessary to use a specially designed connector.
- A smaller syringe may produce too much pressure and spill the tube (check manufacturers guidelines).
- Do not use syringes intended for intravenous use due to the risk of accidental parenteral administration.

**INFECTION CONTROL AND SAFETY**

- Wash hands and wear gloves.
- It is important that exposure to drug powder is kept to a minimum*.

**TUBE BLOCKAGE**

- Inadequate flushing is the most common cause of tube blockage.
- Using the wrong formulation of medication can also cause tube blockage.
- If flushing with warm water does not unblock the tube, seek specialist advice, do not apply excessive force.

**DISCHARGE PLANNING**

- Ensure the agreed feed and drug regimen are practical in a community setting.
- Ensure all necessary information is given to the community pharmacist and GP.

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**STEP BY STEP GUIDE**

- **Can the patient still take their medication orally?**
- **Do not add medication directly to the feed**
- **Seek further advice for fluid restricted or paediatric patients as flushing volumes may need to be reduced**
- **Review all medication. Is it all really necessary?**
- **Can an alternative route be used?**

**PREPARE THE MEDICATION**

- Assemble medication and equipment needed e.g. syringes, pestle and mortar
- Prepare each drug separately
- Never mix drugs unless instructed by a pharmacist

**FLUSH TUBE**

- Flush the tube with at least 30ml of water

**STOP THE FEED**

- Do you need to allow a break before administering the medicines?

**ASSEMBLE MEDICATION AND EQUIPMENT NEEDED**

- Syringes
- Water
- Pestle and mortar
- Syringe tip

**SOLUBLE TABLETS**

- Dissolve in 10-15ml of water
- Administer down tube

**LIQUIDS**

- Shake well
- Viscous (thick) liquids – dilute with an equal amount of water immediately before administration
- Administer down tube

**TABLETS**

- Crush uncoated and sugar coated tablets using a pestle and mortar or suitable device
- Administer down tube

**CAPSULES**

- Open capsules and tip powder into medicine pot
- Mix with 10-15ml of water
- Administer down the tube

**RINSE TABLET CRUSHER/CONTAINERS**

- And/or draw up water into the syringe used and flush this down tube.
- This ensures that the whole dose is given.

**IF MORE THAN ONE MEDICINE IS TO BE ADMINISTERED**

- Flush between drugs with at least 10ml of water to ensure that the drug is cleared from the tube.

**PREFERRED FORMULATIONS**

- Liquids or soluble tablets are the preferred formulations to be administered via a feeding tube.
- Some injections can be given enterally.
- *Crushing tablets or opening capsules should be considered as a last resort.

**INTERACTIONS**

Interactions between feed and drugs can be important. Always check with your pharmacist before administering any medication via a feeding tube.

Where possible give dose during a break in the feeding regimen to minimise this.

**PROBLEM DRUGS**

- Phenytoin, Digoxin and Carbamazepine: Blood levels may be affected by feeds, these should be checked regularly. It may be necessary to increase the dose.
- Antacids: The metal ions in the antacids bind to the protein in the feed and can block the tube. Consider using alternative drugs.
- Penicillins: Feed may reduce the absorption, a higher dose may be needed. If possible stop feed 1 hour before and 2 hours after administration.
- Other antibiotics: Levels of antibiotics such as ciprofloxacin, tetracyclines and rifampicin can be significantly reduced by feed.
- Consider other alternatives or increase doses.

(This list is not exhaustive.)

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**MEDICINES THAT SHOULD NOT BE CRUSHED**

- Enteric Coated (EC): The coating is designed to resist gastric acid to protect the drug and/or reduce gastric side effects.
- Modified/Slow Release (MR, SR, LA, XL): These are tablets or capsules that are specifically designed to release the drug over a long period of time. Crushing these will cause all the drug to be released at once and may cause toxic side effects.
- + Cytotoxics & Hormones: These should not be crushed due to the risks to staff from exposure to the powdered drug.

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The British Pharmaceutical Nutrition Group
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For further advice contact your local hospital Medicines Information Department

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