

Medications via Enteral Feeding Tubes: A Clinician's Guide

Patients in hospitals, long-term care, or in home settings may have feeding tubes for nutrition, hydration, and in many cases, medications. Safe medication delivery and tube patency require an interdisciplinary approach—proper ordering, dispensing, and administration—to optimize therapy, reduce toxicity, and prevent clogging.

Patients discharged home need education to ensure effective medication use and avoid complications.

This practice tool guides clinicians on best practices for administering medications via feeding tubes.



Photo courtesy of Dale Medical Products.

Safety Issues



Due to the complex nature of preparing and administering medications via feeding tubes, reports of occluded tubes, reduced therapeutic effects, and toxicity leading to patient harm are prevalent.¹

A recent survey conducted by the Global Engineered Device Supplier Association (GEDSA) of patients and caregivers on home enteral nutrition (EN) and receiving medications via their feeding tube was recently published by the Institute of Safe Medication Practices (ISMP).² They found that most patients are administering both liquid and crushed medications via their tubes and are not receiving syringes from an outpatient pharmacy. Instead, they obtain them from

a durable medical equipment (DME) company, from online sources, or from the hospitals while they are inpatients.

Patients reported they require up to 12 syringes per day and are using syringes much larger than the medication dosage, thus increasing the risk of medication dose error. More than half of the survey respondents reported difficulty obtaining medication syringes, particularly the smaller ones that match the medication's dose. They also reported having difficulty obtaining bottle adapters, a tool needed to properly pull the medication from the bottle into the syringe.²

Not having the best size syringes and bottle adapters can impact dose accuracy and can result in medication-related complications and patient harm. ***It is important that clinicians educate patients prior to discharge on the need for correctly sized syringes and how to obtain them.***

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Medication Use Process with Medication Delivery via EN Tubes: Recommendations

Prescribing Medications via EN Tubes



- Conduct medication review.
 - Consider medication alternatives instead of feeding tube route.
 - Ensure proper form of medication for route and size of feeding tube.
 - Consider if medication needs to have tube feedings held for an extended time.
- Consider certain types of medications that need specific instructions such as:
 - » Liquid medications with high sorbitol or high osmolality that need dilution.
 - » Medications that should not be crushed such as extended release, sustained release, etc.
 - » Film-coated tablets that need extra crushing and dilution.
 - Prescribe complete order and instructions for administering medications through a feeding tube including dosage, form (tablet, liquid, suspension, capsules or packets), frequency, and route as gastric or jejunal.
 - Perform ongoing medication review and post medication administration monitoring.

Medication Order Review, Preparation, and Dispensing

- Use the 5 rights of medication administration providing the right medication, at the right dose, to the right patient, through the right route, and at the right time, helping to minimize errors and improve patient safety.
- Review medication orders to be administered via feeding tube.
- Review allergy/sensitivity history of patient.
- Assess for appropriateness of medication indication, dose and form for feeding tube administration.
- Consider formulation factors that can increase tube clogging risk.
- Ensure proper form of medication for route and size of feeding tube.
- Consider if medication needs to have tube feedings held for an extended time.



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Preparing and Administering Medications

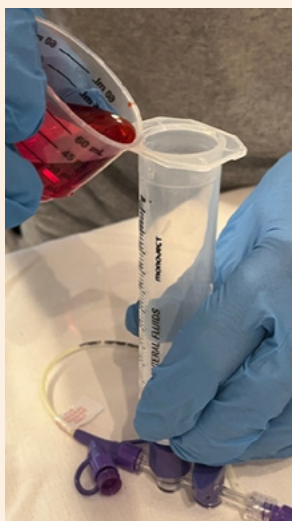


Photo courtesy of Peggy Guenter

- Perform medication order review to check that ordered medications are accurate by name, dosage, frequency, and route, and there are no duplications.
- With a gastrojejunal (GJ) tube, determine whether the medication is to be administered via the gastric (G) port or jejunal (J) port.
- Check for medication allergies and drug-nutrient interactions.
- Question and clarify any orders that appear inaccurate or warrant additional review.
- Do not mix medications together in order to prevent drug-drug interactions which can interfere with the intended therapeutic response or form precipitates that may clog feeding tubes.
- Do not add medications directly to tube feeding formulas to prevent drug-nutrient interactions.
- Ensure the full medication dose is being delivered to the patient with the intended therapeutic response at the right time.
- Dilute medications with a high sorbitol content or high osmolality with water prior to administration.
- Do not crush medications that are modified release such as delayed release (DR), extended release (ER), sustained release (SR), or enteric coated. Be on the alert for film coating, as it may not be immediately apparent that drug has a coating.
- Watch for film-coated tablets as they may increase the risk of clogging the tube; crush them to a fine powder.
- Use the five rights of medication delivery giving the right medication, at the right dose, to the right patient, through the right route, and at the right time in order to help minimize errors and improve patient safety.
- If medications are not prepared in the pharmacy, prepare them just prior to administration, and prepare them individually:
 - » Crush tablets using a mortar and pestle or a pill crusher device
 - » Use purified water (e.g., sterile water, distilled water) for medication dilution
 - » Use a separate cup for each medication, then dilute and stir with purified water as recommended
- Mix or shake prepared medications immediately prior to administration if particles have settled out of solution.
- Verify correct patient using two patient identifiers.
- Verify tube placement prior to medication administration.
- Hold or stop tube feedings during medication delivery.
- Manually flush with at least 15 mL purified water before and after each medication.
- Methods to deliver medications via EN tubes include (see ASPEN video on medication delivery for specific directions on each method):
 - » Syringe Gravity Flow Method
 - » Syringe Push Method
 - » Tablet Drop Method
 - » Liquid Medications from Bottles Containing a Medication Cap
- Clean the medication syringes if they are to be used more than once, if not, discard.
- Document medication administration and monitor patient for medication tolerance and effectiveness.

Special Considerations with Medication Administration

Low Dose Tip Syringes, ENFit Cleaning, and Preparing for Home

- Use ENFit syringes for medication delivery to feeding tubes.
- Use low-dose tip ENFit syringes for lower dose medications where exact dosing is critical.
- Use a medication straw to pull up liquid/diluted medications from a cup into an ENFit syringe.
- Use an ENFit bottle cap or bottle adapter to pull liquid medications from a bulk source into an ENFit syringe.
- Begin patient education and medication administration instruction early for patients leaving the hospital with feeding tubes.



Photo courtesy of Cardinal Health

- Include matching the medication with the size of syringe to be used.
- Review where supplies including medication syringes, medication straws, and bottle adapters should be obtained.

Resources

The following resources provide guidance on safe and effective medication administration via feeding tubes.

Publications

- Boullata JI. Enteral medication for the tube-fed patient: making this route safe and effective. *Nutr Clin Pract.* 2021 Feb;36(1):111-132.
- Boullata JI (ed). *Guidebook on Enteral Medication Administration.* Silver Spring, MD: American Society for Parenteral and Enteral Nutrition, 2019.
- Klang MG. Developing guidance for feeding tube administration of oral medications. *JPEN J Parenter Enteral Nutr.* 2023 May;47(4):519-540

Videos from ASPEN in collaboration with the University of Rochester Medical Center

Access the full Medications via Enteral Feeding Tubes videos at nutritioncare.org/ENmedsvideos.

- **Part 1:** Organizational System Considerations
- **Part 2:** Prescribing Medications for Delivery
- **Part 3:** Medication Order Review, Preparation, and Dispensing (the pharmacist's role)

- **Part 4:** Preparing and Administering Medications for Feeding Tube Delivery (the nursing/caregiver role)
- **Part 5:** Special Considerations with Medication Administration (low-dose tip syringes, ENFit cleaning, and preparing for home)

GEDSA provides several resources on its website, including the following:

- **Procedure for Home Care Settings:** Preparing and Administering Medications Using ENFit at bit.ly/41E7fmr
- **ENFit:** Administering Medication in In-Patient Settings at bit.ly/4sc9p7Q
- **ENFit:** Administering Medication in Home Care Settings at bit.ly/4saGeSB

References

1. Institute for Safe Medication Practices (ISMP). Preventing errors when preparing and administering medications via enteral feeding tubes. *ISMP Medication Safety Alert! Acute Care.* 2022;27(23):1-4.
2. Institute for Safe Medication Practices (ISMP). Patient access to appropriately sized oral/enteral medication syringes is needed. *ISMP Medication Safety Alert! Acute Care.* 2026;31(7):1-4.