

Intranasal (IN) Medication Delivery

The intranasal (IN) route for medication delivery has several advantages but is not preferred over traditional IV routes. Not all medications can be given intranasally for various reasons. **Naloxone, Midazolam, Fentanyl, and Ketamine** may be given IN. The intranasal route is also useful for topical anesthetics prior to nasal intubations.



The device is designed to mist the medication in the nasopharynx. The nasal cavity is quite vascular which allows an almost instant route for the medication to enter central circulation. Each mL, 10-50 microns of the medication, is expelled in the nasal cavity across mucus membrane where it is absorbed into the circulation. Studies have shown serum levels of IN delivered medications to be comparable to serum level of medications given IV. Those same studies also report small amounts of the medication being absorbed by the lungs

Factors which could reduce the effectiveness of the IN delivery:

decreased blood flow to nasal mucosa (trauma / surgery)
dehydration (dry mucous membranes)
epistaxis
hypotension
increased mucous production (common cold, cystic fibrosis)
vasoconstrictors, topical (ie snorting cocaine)

Procedure:

(non-sterile)

- Load syringe with desired amount of medication (max 2 mL)
- Apply atomizer adapter on the syringe
- Place the tip of the atomizer 1.5 cm within the nostril
- Quickly compress the syringe, administering MAX 1 mL per nostril
- If needed, repeat the procedure in the other nostril

- IN medication delivery does not replace the need for IV access. This is simply another route for medication deliver when vascular access is unobtainable.
- Vascular access may be unobtainable for several reasons, including but not limited to:
 - Poor peripheral access
 - Combative / Violent Patients
 - Less frightening (pediatrics)