



Rx Update

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INTRAVENOUS PROMETHAZINE – SERIOUS SAFETY ISSUES

Promethazine (Phenergan[®]) injection is a phenothiazine agent that is used as an antihistamine, sedative, and antiemetic. It is very caustic to veins and tissues because of the phenol component and its low pH (4 to 5.5). **It can cause serious vascular, nerve, and soft-tissue damage.** The preferred route of administration for promethazine injection is by deep IM administration into a large muscle. Alternative routes of promethazine administration include oral and rectal routes. **Promethazine should not be given by subcutaneous or intra-arterial routes.** Inadvertent intra-arterial or subcutaneous injection or extravasation can cause severe adverse effects, including burning, pain, erythema, swelling, arteriospasm, thrombophlebitis, venous thrombosis, phlebitis, paralysis, abscess, nerve damage, tissue necrosis, and gangrene. Skin grafting and amputation have sometimes been required to treat severe adverse effects.

Promethazine can be administered intravenously (IV) **with special precautions.** The preferred method of IV administration of promethazine injection is to dilute the dose in 50 ml of D5W or NS and infuse over 20 minutes. The minibags used to dilute the dose prior to administration are located in the Pyxis machines. Promethazine can also be diluted to a concentration of 5 mg/ml and given IV push at a maximum rate of 12.5 mg/minute. **It should only be administered through a large-bore vein. It should never be administered through small hand, wrist, foot, or scalp veins.** Patients should be encouraged to immediately report any burning or discomfort during or after the infusion. Line patency should be ensured prior to administration and the infusion should be immediately stopped if pain and/or burning are reported to evaluate for extravasation or inadvertent intra-arterial injection. Hypotension has been reported with promethazine IV and blood pressure should be monitored at baseline and 30 minutes after the dose is administered.

Reference: *ISMP Medication Safety Alert*. 2006; 11(16): 1-3.

LANSOPRAZOLE INJECTION – FILTRATION

Lansoprazole (Prevacid[®]) injection is a proton-pump inhibitor indicated for the treatment of erosive esophagitis when patients are unable to take medications by the oral route. The recommended dose is 30 mg diluted in NS 50 ml and administered IV over 30 minutes. It is sometimes administered as a continuous infusion at 6 mg/hour, after a 60 mg bolus dose is given over 30 to 60 minutes. A dedicated line is not required for lansoprazole administration; however, the intravenous line should be flushed before and after administration of lansoprazole injection with either 0.9% sodium chloride, lactated ringer's, or 5% dextrose solution. Lansoprazole is incompatible with a number of medications and **it should not be administered with other medications or diluents unless the compatibility is known.**

Lansoprazole injection should be administered intravenously using the in-line 1.2 micron filter provided. The filter must be used to remove precipitate that may form during administration. The filter should be primed prior to use. Verify no air bubbles are present on the patient side of filter. If air bubbles are observed, the set clamp should be opened slightly to re-establish flow, and then gently tap filter housing. Observe that no air bubbles are present and close the clamp. The maximum working pressure is 1500 mmHg (30 psi, 2 bar). When the working limits of the filter are exceeded, causes of the added resistance should be investigated and corrected. The administration set clamp should be closed during solution container change. **The filter should be changed every 24 hours and pumps should not be used downstream of filter.**