KAYEXALATE, brand of sodium polystyrene sulfonate is a benzene, diethenyl-polymer, with ethylbenzene, sulfonated, sodium salt and has the following structural formula:

\[
\text{CH}_2\left(\text{CH}_2\right)\text{SO}_{3}\text{Na}^+ - \text{SO}_{3}^-
\]

The drug is a cream to light brown finely ground, powdered form of sodium polystyrene sulfonate, a cation-exchange resin prepared in the sodium phase with an in vitro exchange capacity of approximately 3.1 mEq (in vivo approximately 1 mEq) of potassium per gram. The sodium content is approximately 100 mg (4.1 mEq) per gram of the drug. It can be administered orally or in an enema.

**CLINICAL PHARMACOLOGY**

As the resin passes along the intestine or is retained in the colon after administration by enema, the sodium ions are partially released and are replaced by potassium ions. For the most part, this action occurs in the large intestine, which excretes potassium ions to a greater degree than does the small intestine. The efficiency of this process is limited and unpredictably variable. It commonly approximates the order of 33 percent but is so large that definitive indices of electrolyte balance must be clearly monitored. Metabolic data are unavailable.

**INDICATION AND USAGE**

KAYEXALATE is indicated for the treatment of hyperkalemia.

**CONTRAINDICATIONS**

KAYEXALATE is contraindicated in the following conditions: patients with hypocalcemia, patients with a history of hypersensitivity to polystyrene sulfonate resins, obstructive bowel disease, neonates with reduced gut motility (postoperatively or drug induced) and oral administration in neonates (see PRECAUTIONS).
The resin may be introduced into the stomach through a plastic tube and, if desired, mixed with a diet appropriate for a patient in renal failure. The resin may also be given, although with less effective results, in an enema consisting (for adults) of 30 g to 50 g every six hours. Each dose is administered as a warm emulsion (at body temperature) in 100 mL of aqueous vehicle. The emulsion should be agitated gently during administration. The enema should be retained as long as possible and followed by a cleansing enema.

After an initial cleansing enema, a soft, large size (French 28) rubber tube is inserted into the rectum for a distance of about 20 cm, with the tip well into the sigmoid colon, and taped in place. The resin is then suspended in the appropriate amount of aqueous vehicle at body temperature and introduced by gravity, while the particles are kept in suspension by stirring. The suspension is flushed with 50 mL or 100 mL of fluid, following which the tube is clamped and left in place. If back leakage occurs, the hips are elevated on pillows or a knee-chest position is taken temporarily. A somewhat thicker suspension may be used, but care should be taken that no paste is formed, because the latter has a greatly reduced exchange surface and will be particularly ineffective if deposited in the rectal ampulla. The suspension is kept in the sigmoid colon for several hours, if possible. Then, the colon is irrigated with nonsodium containing solution at body temperature in order to remove the resin. Two quarts of flushing solution may be necessary. The returns are drained constantly through a Y tube connection. While the use of sorbitol is not recommended, particular attention should be paid to this cleansing enema if sorbitol has been used.

The intensity and duration of therapy depend upon the severity and resistance of hyperkalemia.

KAYEXALATE should not be heated for to do so may alter the exchange properties of the resin.

HOW SUPPLIED

KAYEXALATE is available as a cream to light brown, finely ground powder in jars of 1 pound (453.6 g), NDC 0024-1075-01.

Store at 25° C (77° F); excursions permitted to 15° – 30° C (59° – 86° F) [see USP Controlled Room Temperature]

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