

# *Pharmaceutical Technology for 3rd year students/ Lec 8*

*By:*

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# ***COLLODIONS***

Are liquid preparations containing pyroxylin (a nitrocellulose) in a mixture of ethyl ether & ethanol.



✓ They are applied to the skin by means of a soft brush or other suitable applicator &, when the ether & ethanol have evaporated, leave a film of pyroxylin on the surface.







# *Tinctures*

Tinctures are alcoholic or hydroalcoholic solutions prepared from vegetable materials or from chemical substances.

✓ Tinctures contain alcohol in amounts ranging from approximately 15%-80%. This protects against microbial growth and keeps the alcohol-soluble extractives in solution. Other solvents, such as glycerin, may be employed.

✓ Storage Conditions;

tightly stoppered

not exposed to excessive  
temperature.

Not exposed to light.

✓ Uses of Tinctures; Medicated  
tinctures taken orally



✓ Generally, the topical solutions employ an aqueous vehicle,.



## ✓ Coal tar topical Solution

Coal tar topical solution is an alcoholic solution containing 20% coal tar and 5% polysorbate 80.

✓ Coal tar is a nearly black viscous liquid having a characteristic naphthalene-like odor and a sharp, burning taste.



## ✓ Hydrogen Peroxide topical Solution

One method of preparation uses the action of either phosphoric or sulfuric acid on barium peroxide.





✓ **Hydrogen peroxide its ability to cleanse wounds by mechanical**

✓ Povidone iodine topical Solution

✓ The povidone iodine complex contains approximately 10% available iodine and slowly releases it when applied to the skin.

- ✓ Medicated Soaps and Shampoo Solutions
- ✓ Incorporation of active pharmaceutical ingredients (APIs) in the soaps and shampoos combines the cleansing/degreasing abilities of the vehicle and facilitates the topical application of the API to affected areas of the body.
- ✓ Medicated soap and shampoo formulations frequently contain antimicrobial agents to protect against bacteria, yeast, and mold contamination.

# *Sprays*

- In the future, several drugs that typically have been administered by other routes will be taken nasally, e.g. glucagon nasal spray can relieve hypoglycemic symptoms within 7 minutes in comparison to conventional emergency intravenous glucose or intramuscular glucagon.





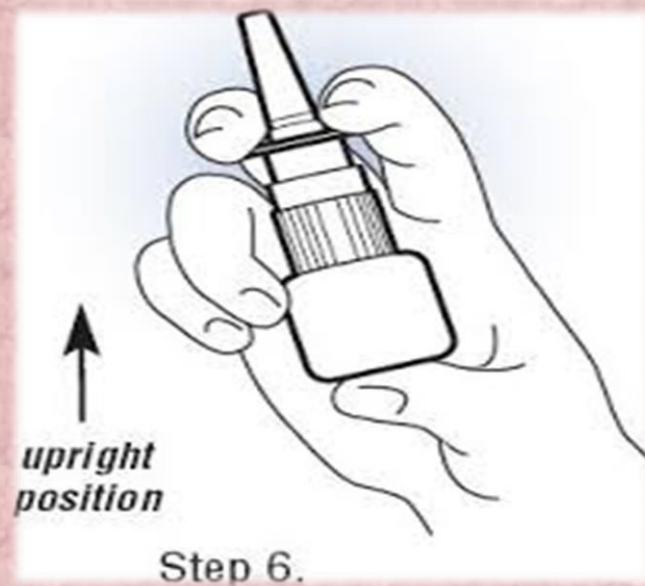
➤ To break up a solution into small particles several mechanical devices are commonly employed: -

1- *plastic spray bottle*



2- *one – way pump sprays;*





# ***Nonaqueous Solutions, Liniments***

✓ Are alcoholic or oleaginous solutions or emulsions of various medicinal substances intended to be rubbed on the skin. Liniments with an alcoholic or hydroalcoholic vehicle are useful when rubefacient, counterirritant, or penetrating action is desired;

- Liniments are not applied to skin areas that are **broken** or **bruised** because excessive irritation might result.
- For oleaginous liniments, the solvent may be a **fixed oil or a volatile** substance, or it may be a combination of fixed & volatile oils.



- ✓ All liniments should bear a label indicating that they are suitable only for external use & must never be taken internally.
- ✓ Liniments should be stored in tight containers. Depending on their individual ingredients, liniments are prepared in the same manner as solutions, emulsions, or suspensions.

# *Vaginal & Rectal Solutions*

## *Vaginal Douches*

Solutions may be prepared from powders, liquid solutions or liquid concentrates.

In using liquid concentrates, the patient is instructed to add the prescribed amount of concentrate (usually a teaspoonful or capful) to a certain amount of warm water (frequently a quart).

✓ Among the components of douche powders are the following:

- 1- Boric acid or sodium borate
- 2- **Astringents**, ex., potassium, alum, ammonium alum, zinc sulfate
- 3- **Antimicrobials**, ex., oxyquinoline sulfate, povidone iodine
- 4- Quaternary ammonium compounds, ex., benzethonium chloride
- 5- **Detergents**, ex., sodium lauryl sulfate
- 6- **Oxidizing agents**, ex., sodium perborate
- 7- Salts, ex., sodium citrate, sodium chloride
- 8- **Aromatics**, ex., menthol, thymol, eucalyptol, methyl salicylate, phenol.



✓ Douche powders are used for their hygienic effects. A few douche powders containing specific therapeutic anti-infective agents such as those used against monilial and trichomonal infections.

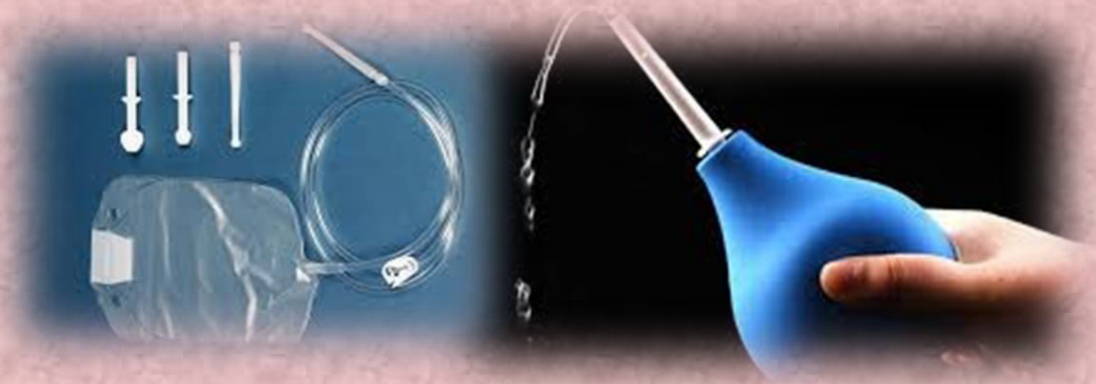


## *Retention Enemas*

A number of solutions are administered rectally for local effects (e.g., hydrocortisone) or for systemic absorption (e.g., aminophylline).



- Corticosteroids are administered as retention enemas or continuous drip as adjunctive treatment of some patients with ulcerative colitis.



## *Evacuation Enemas*

Are rectal enemas that used to cleanse the bowel.

Commercially, they are available in disposable plastic squeeze bottles containing a premeasured amount of enema solution,

The pharmacist should advise the patient to gently insert the tip of the product with steady pressure, not necessary to squeeze all of the contents out of the bottle and the product will work within 5 to 10 minutes.