Dusting powders :-

→ Dusting powders are used Externally for local application, not intended for systemic circulation.

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→ The desirable characters of dusting powders are non-irritability, homogenity, free flow, spreadability the fine state of sub-divison and had the capacity to protect the skin from chafing & irritation

→ The formulation usually contains substances such as Kaolin, talc, zinc oxide, starch and boric acid.

Dusting powders should contain a label as "for External use only".

Categories of the drugs dispensed are lubricants, protectives, adsorbents, antiseptics, antipruritics, astringents and antiperspirants.

Dusting powders are of 2 types:

a) medical Dusting powders.

b) Surgical Dressing powders

Medical Dusting powders:

medical dusting powders are used mainly for superficial skin Condition

→ Surgical dusting powders are used in body cavities and also on major wounds and umbilical cords of infants

→ must be Sterile before use

→ Dusting powders are generally prepared by mixing 2 or more Ingredients.

→ Talc & Kaolin are more Commonly used because they are chemically inert.

→ Sterilised by dry heat method [160° for 2 hrs) before use

→ medical dusting powders must be free from spores of dangerous pathogens like: tetanus, gas gangrene and anthrax.

→ medical dusting powders are not advised to be applied on open wounds or areas of broken skin. Hence label of this powder should bear the following instructions.

→ for External use only

→ Do not apply on open wounds & broken skin.

Surgical Dusting powders:

→ These are used in body cavities and major wounds, on burns and on the umbilical cords of infants. Therefore it is Essential to sterilize such powders.

→ They usually contain antibacterial agents like chlorhexidine and hexachlorophene and sterilizable maize starch and sterilized talc.

Externally used powders for body cavities are called insufflations and are defined as follow:-

→ Dusting powders that are blown by an insufflator in to the regions such as nose, throat body cavities like teeth sockets, vagina, Ear to which it would be difficult to apply the powder directly

→ Sometimes insufflations intended for the nose are used in the same way as snuff.

Snuff :- Another type of dusting powders which are inhaled in to the nostrils for their antiseptic decongestion or bronchodilation action is called snuffs.

Dusting powders are dispensed in sifter top containers or pressure aerosols.

→ The pressure aerosols containers are costlier but can protect the powder from atmospheric conditions

Insufflations:

Insufflations are the fine powders which are used to produce:

(i) a local Effect as in the treatment of Ear, nose and throat infection with antibiotics

(ii) a Systemic Effect, from a drug which gets destroyed in the gut.

→ These powders are applied with the help of an apparatus known as insufflator.

→ This divides the powder in to a stream of finely divided particles to the site of application. The major difficulty in using this apparatus is that:

→ It is difficult to obtain a measured quantity of drug to get a uniform dose.

→ It has a tendency to get blocked when the powders used are wet or the apparatus itself is wet

The introduction of newer pressure aerosols have Eliminated these difficulties.

→ The diluents normally used for insufflations

are lactose and for preparations applied to open wounds and raw surfaces, sterilisable maize starch.

Dentifrices (Tooth powders)

Dentrifice is a powder used to clean the teeth with the help of tooth and other parts of oral cavity (gums) using a finger or a tooth brush.

It should have the following characteristics:

- Should be finely powdered
- Should have cleansing action.
- Should have good flavour
- If it is paste it requires moistening agents, thickening agent and sweetening agents.

→ They are available as tooth powders, tooth pastes, gels, dental creams and even as dental foams

→ They are meant to Enhance the personal appearance of the teeth (daily removal of pellicles) by maintaining cleaner teeth

→ Reduction of bad odour (removal of putrifying food particles from spaces between teeth and also make the gum healthy.

→ They contain a suitable detergent or soap, some abrasive substance and a suitable flavour.

→ The abrasive agents such as calcium sulphate, magnesium carbonate, sodium carbonate and sodium chloride are used in fine powder form.

→ A strong abrasive substance should not be used because it may damage the tooth structure

→ The main components of tooth powders are solid particles of very fine size and the end product is also a very dry powder

Douche powders :-

→ Douche powders are intended to be used as antiseptics or cleansing agents for a body cavity : most commonly for vaginal use, although they may be formulated for nasal, otic or opthalmic use also

→ A douche powder formulation often include aromatic oils.

→ It becomes nuessary to pass them through Sieve 40 or 60 to Eliminate agglomeration and to Ensure complete mixing.

→ They can be dispensed either in wide mouth glass bottles or in powder boxes but the former are preferred because of protection afforded against air and moisture

Effervescent powders :

→ They are specially formed solid dosage form of medicament intended to be taken internally.

Effervescent powders contains materials which react in presence of water Evolving Carbondioxide

→ The basic requirements for Effervescent granules are : 1) medicament
2) Sodium bicarbonate
3) citric acid
4) Tartaric acid

→ The purpose of taking such types of ingredients is to produce Effervescence when such preparation is added to water before administration.

→ The Carbondioxide gas is released as a result of acid-base reaction.

→ The preparation is advised to be taken while Effervescing.

→ The advantages of Effervescent granules are:-

1) The Carbonated water formed serves to mask the saline or bitter taste of the drugs.

2) Carbondioxide stimulates the flow of gastric juice and accelerates absorption of medicament

3) Effervescent granules are preferred to Effervescent powders in order to decrease the rate of dissolution in water due to decrease in surface area.

4) The reaction is sustained so as to avoid complete loss of Carbondioxide.

Efflorescent powders

→ Efflorescent powders are Crystallized powders that Contain water of hydration or Crystallization and when they Exposed to atmosphere they partially or Completely release its water

→ Due to liberation of water powder becomes pasty or tends liquify.

Ex:- Alum
Sodium acetate
Sodium Carbonate
Atropine Sulphate
Caffeine.

Remedies:-

→ use Corresponding anhydrous salt and double wrapped to prevent absorption of moisture from the air.

Hygroscopic and deliquescent powders:-

→ Hygroscopic substances absorb the moisture content from the atmosphere because of less vapour pressure than the atmospheric water vapour pressure.

→ After the absorption of the moisture, they remain in the powder form.

→ Deliquescent substances also absorb the moisture contents from the atmosphere and turn to liquid form.

→ This creates a serious problem to the stability

of the medicaments which are sensitive against moisture.

→ Several precautions are to be taken to dispense such powders:

→ Supply the drug in granular form to provide the minimum Exposure to atmosphere

→ Double wrapping should be done in which waxed paper is used for inner lining

→ In highly humid climate one may use aluminium foil or plastic packets for preventing the access of air