Type of Pharmaceutical containers

1. **Ampoules –** single-use, fusion sealed need to be broken when used. Ex: injection.
2. **Bag –** with flat or wavy surface, made of flexible materials, closed at bottom and sides by sealing, top may be fusion sealed.
3. **Blister –** multi-dose container of two layers, one form the base and another is shaped to contain the individual doses.
4. **Cartridge –** container generally cylindrical in shape and designed for specially designed apparatus. Ex: prefilled syringe.
5. **Gas cylinder –** cylindrical container filled with liquefied or dissolved gas. The outflow at normal temperature and air pressure is normally regulated using a specially designed device. Ex: inhaler.
6. **Injection syringe –** may be prefilled, can be single dose or multi-dose use, normally designed with or without a fixed nozzle, a movable piston and a cannula-like nozzle.
7. **Strip** – multi-dose container with two layers containing the solid or semi-solid individual doses.
8. **Tube** – collapsible container for multi-dose semi-solid preparation, squeezing the container releases the material through a nozzle.
9. **Vial** – small container with stopper, single or multi-dose, stopper need to be pierced to remove the medicine. Ex: medicine for injection.

The interaction between the medicine and packaging should not cause following incidents:

- The release of chemicals from components of the packaging materials;
- The release of visible and/or subvisible particles;
- The absorption or adsorption of pharmaceutical components by the packaging materials;
- Chemical reactions between the pharmaceutical product and the packaging materials;
- The degradation of packaging components in contact with the pharmaceutical products;
- The influence of the manufacturing process (e.g. sterilization) on the container.

Labels of drugs/medicines play a vital role by providing important information. According to the international standards the following information must be present in the labels;

(a) the name of the drug product;
(b) a list of the active ingredients (if applicable, with the International Nonproprietary Names), showing the amount of each present, and a statement of the net contents, e.g. number of dosage units, weight or volume;
(c) the batch number assigned by the manufacturer;
(d) the expiry date in an uncoded form;

(e) any special storage conditions or handling precautions that may be necessary;
(f) directions for use, and warnings and precautions that may be necessary; and
(g) the name and address of the manufacturer or the company or the person responsible for placing the product on the market.

Some of the international standards for packaging:

Quality systems — model for quality assurance in design, development, production, installation and servicing. International Standard ISO 9001. 1994.

Quality systems — model for quality assurance in production, installation and servicing. International Standard ISO 9002. 1994.

Quality systems — model for quality assurance in final inspection and test. International Standard ISO 9003. 1994.

Quality management and quality systems elements. Part 1: Guidelines.International Standard ISO 9004-1. 1994.

Quality management and quality systems elements. Part 2: Guidelinesfor service. International Standard ISO 9004-2. 1994.

Quality management and quality systems elements. Part 3: Guidelines for processed materials. International Standard ISO 9004-3. 1994.

Quality management and quality systems elements. Part 4: Guidelines for quality improvement. International Standard ISO 9004-4. 1994.