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# Diploma in Pharmacy 1<sup>st</sup> Year

## Pharmaceutics

### Experiment

To demonstrate appropriate methods of usage and storage of insulin pens.

#### Aim:

To demonstrate appropriate methods of usage and storage of insulin pens.

#### Reference :

‘ Dr. Gupta G.D , Dr. Sharma Shailish , Dr. Sharma Neelam ’  
“Practical Manual of Pharmaceutics” Published by Nirali Prakashan, Page no 120 – 123

#### Theory :

An insulin pen is a device that allows injecting insulin into the body. Insulin pens come in a variety of shapes and sizes. The majority of them are thrown away. A prefilled amount of insulin is contained in a disposable pen. When this sort of pen runs out of ink, it is discarded. Reusable pens are one type A reusable pen comes with a replaceable insulin cartridge. The cartridge is discarded after it is empty. After that, a new, prefilled cartridge is inserted. When injecting insulin, always use a new needle.

Insulin pens come in a variety of brands and styles. The majority of them fit into one of two categories

- 1) **Disposable Pen:** This pen comes with an insulin cartridge that is already filled. The entire pen unit is discarded once it has been used.
- 2) **Reusable Pen:** This pen has an insulin cartridge that can be replaced. When a cartridge is empty, it is discarded and a new one is installed.

After each insulin infusion, the disposable needle must be replaced.  
Reusable insulin pens can survive for several years if taken care properly.

## **Procedure :**

The overall steps are as follows

- 1) While using a new pen it should be removed from the refrigerator 30 minutes before use.
- 2) Expiration date should be checked and also the insulin is the correct type and strength or not.
- 3) A new cartridge should be inserted into a reusable pen (if necessary).
- 4) The insulin should be mixed by rolling the pen gently between the palms of the hands.
- 5) The pen should be tilted up and down until the insulin is clear and smooth,
- 6) Hands should be thoroughly washed.
- 7) The pen cap should be removed and the top should be cleaned with alcohol.
- 8) A new needle should be firmly attached to the pen.
- 9) The needle caps should be removed while retaining the outer cap.
- 10) The dial should be turned to the correct dose.
- 11) The dose should be checked twice before injecting.
- 12) The chosen injection site should be cleaned with alcohol, and the area should be allowed to dry.
- 13) Insulin should not be injected into wounded or bruising areas.
- 14) The injection site should be changed to avoid lumps or swelling (if possible).
- 15) The pen should be held to the injection site, being sure to follow any instructions on the packaging.
- 16) Then the injection button should be pressed.
- 17) Should wait for 10 seconds before removing the needle from the skin.
- 18) The injection site should be pressed for 5 to 10 seconds, but the skin should not be rubbed.
- 19) Then the needle should be removed and disposed safely.
- 20) The cap on the pen should be replaced.

## Storage

- 1) Unopened insulin and new insulin pens should be stored in the refrigerator
- 2) However, once insulin is opened, it should be kept at room temperature and out of direct sunlight.
- 3) It has been studied that when the insulin is stored at room temperature, it lasts for around 28 days.
- 4) Expiry date depends on the type of insulin that the pen contains. The date should be checked and all the instructions for storage and use should be followed.
- 5) Expired or improperly stored insulin may not be as effective as it should be. Insulin pens should never be stored with the needle attached, even if it is a new needle. This can affect the cleanliness and sterility of the needle, interfere with the insulin dose given, and increase the risk of infection.

## Result :

The appropriate methods of using and storing the insulin pens were studied.

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