

Experimental animals

Causa of using Lab. Animals :-

- 1- To study the immunological and pathological process of disease .
- 2- To study the antigenicity of vaccines .
- 3- To production of antibodies .
- 4- As a blood source .

Exampling of lab. Animals:(White rat , rabbit , mice and Gina pig) .

Animals identification :

Basic information as noted is usually maintained on cage cards .Cage cards should be utilized to identify single or group housed rodents .

When larger animals such as rabbits are housed in a single cages ,while in small animals both cage cards and individual animal identification .

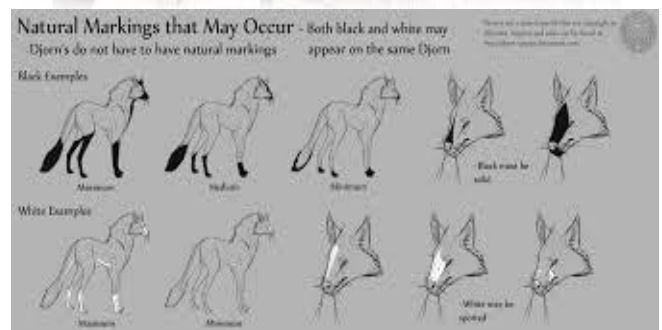
Specific procedures for marking or identification animals are described in the following :-

1- Temporary

- a) Cage marking .
- b) Dyes .
- c) Hair clip .

2- Permanent

- a) Natural marking .
- b) Branding.
- c) Ear punching .

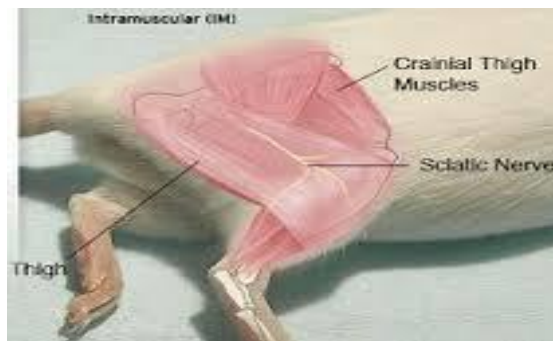


Types of injections :-

(Not all techniques are appropriate for each species).

1- Intra muscular injection :

Is not a reliable route for introduction of drugs in to small animals because the muscle mass is so small that the technique is not practical .



2- Intra peritoneal injection :

Is the most commonly used procedure for rodents .



3- Intra venous injection :

Are possible in the mouse though the tail vein as well as venous and arterial injection and blood collection ,take the advantage of the rabbit 's ears .

4- Intra dermal and sub cutaneous injection :

Are also valuable in the rabbits and rodents .



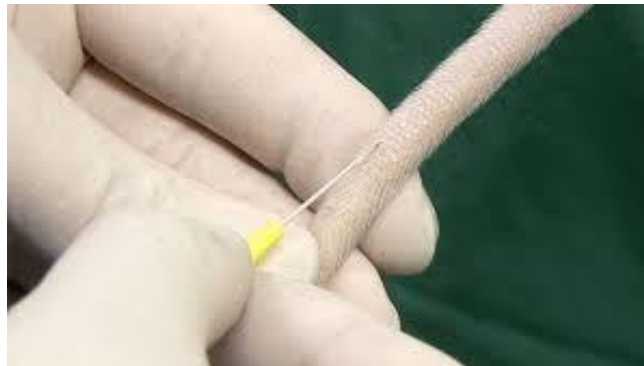
❖ Injection routes of mice :

- Intraperitoneal injection of mice :

The aim of this technique to administer material in to the space surrounding the abdominal organs , avoiding injection directly in to any organs .

- Intravenous injection of mice :

- 1- Fill syringe with antigen solution and remove the air bubbles .
- 1- Place mouse in a restrainer .
- 2- Warm the tail with a heat lamp or by immersing in warm water to dilate vessels .
- 3- Swab the tail with 70 % ethanol .
- 4- Visualize the lateral vein and insert needle parallel to the vein .



❖ Injection routes of Rabbits :-**- Intradermal injections :**

- 1- Restrain the rabbit using either physical or chemical restraint .
- 2- Shave the injection site and disinfect .
- 3- Isolate the injection site by pinching skin and inject .

- Intravenous injection :

Usually the site for Intravenous injection is the marginal ear vein that is accessible and easily visualized in rabbits .

- 1- Remove rabbit from its cage .
- 2- Place rabbit in restrainer .
- 3- Fill syringe with antigens solution and remove air bubbles .
- 4- apply pressure around the base of the ear to distend the marginal ear vein .
- 5- Swab the ear with 70% ethanol gauze sponge or swab .
- 6- Insert needle just beside and parallel to the vein .
- 7- When the needle appears to be in the vein , gently pull back the plunger , if blood appear in the syringe , proceed with the injection , if no blood seen , move to another location on the vein and try again .
- 8- Slowly inject the antigen solution in the vein , pause for a few seconds and remove the needle .
- 9- Place a piece of cotton over the injection site as the needle is removed .

