

Unit 16: Injection techniques Factsheet

Giving an injection

Injections can be given in 1 of 4 ways:

1. Subcutaneous - under the skin
2. Intra-muscular - into the muscle
3. Intra-dermal - into the skin e.g. TB testing
4. Intravenous - directly into the blood stream (vet only usually).

General points on safe effective injecting

- Read the medicine label before treating an animal to check the route of administration and the dosage rate
- Cleanliness and hygiene around the injection site is very important
- Avoid contaminating the needle e.g. dirt or blood of previous animal
- Change needles regularly
- Secure the animal well to avoid needle movement or breakage.

How to fill a syringe

- Shake the bottle to make sure the contents are thoroughly mixed
- With the syringe plunger depressed and the bottle held upside down insert the needle through the rubber bung
- Hold the syringe at eye level and pull the plunger back until you have the required dose.

1. How to inject subcutaneously

i) Cattle

1. Using your left hand, fold the loose skin behind the shoulder and hold the injection with the right hand
2. Hold your right index finger in front of the needle to avoid jabbing the cow
3. Wait until the cow is quiet and calm and then insert the needle at a 45 degree angle, once in place, squeeze the barrel slowly
4. There should be no resistance. If this occurs, it means that the needle has been entered into the rough hide
5. After you have injected the solution, let the skin go flat, hold the insertion point with your thumb and then gently remove the needle
6. Do NOT shake the needle around when extracting as this causes discomfort to the animal.

ii) Sheep

- Smaller length needle is needed
- Choose either the fold of skin behind the shoulder or the fold of skin behind the neck
- Part the wool and locate the skin
- Using your left hand, fold the loose skin behind the shoulder and hold the injection with the right hand
- Hold your right index finger in front of the needle to avoid jabbing the sheep
- Wait until the sheep is quiet and calm and then insert the needle at a 45 degree angle, and squeeze the barrel slowly
- Again, there should be no resistance, but if this occurs, gently pull the needle out and re-insert gently into the correct area.

2. How to inject intra-muscularly

Cattle

- Restrain the animal - this is an important aspect of animal welfare and also important for your own safety
- Ensure that the coat is clean and dry to reduce the risk of infecting the needle before it pierces the skin
- Hold the needle in your right hand
- Prepare the skin around the injection site by tapping it with the outside of your fist, on the 3rd tap, pierce the skin with the needle
- Place the syringe on the needle and slowly inject the solution
- To extract the needle hold the skin around it with your left hand and gently withdraw the needle
- Rub the injection site gently to disperse all the medicine.

Sheep

- Restrain the animal - usually in a sheep race
- Ensure that the wool is clean and dry to reduce the risk of infecting the needle before it pierces the skin
- Hold the syringe with the needle attached in your right hand
- Select the administration site with plenty of muscle cover
- Stab the needle into the flesh
- Slowly inject the solution
- To extract the needle hold the skin around it with your left hand and gently withdraw the needle
- Rub the injection site gently to disperse all the medicine.

Injection sites

ALWAYS READ THE MEDICINE LABEL FOR CORRECT ADMINISTRATION METHOD

The table below shows the most common injection sites.

Class of animal	Subcutaneous	Intramuscular
Dairy cow / heifer	Loose skin behind shoulder	Pelvic gluteal muscle
Sheep, ewe and ram	Loose skin behind shoulder or neck	Hind leg muscle
Lambs	Loose skin behind shoulder or neck	Neck muscle
Calf	Loose skin behind shoulder or neck	Hind leg muscle
Store/finished beef animal	Loose skin behind shoulder or neck	Neck muscle

Injecting large amounts of solution under the skin e.g. calcium or magnesium

Sometimes a large dose is needed under the skin. Flutter valves are used.

How to use a flutter valve

- Attach the head of the flutter valve to the neck of the bottle and then turn the bottle upside down
- Check that there is no air in the tube and the liquid is flowing through the tubing
- Insert the needle into the cow - usually subcutaneously behind the shoulder
- Connect the tubing as it flows to the needle
- Adjust the height of the bottle to adjust flow rate - bubbles rate
- Split large amounts into 2 - either flank.

Choice of needle

Needle choice is important because

- Pain can be minimized with correct thickness
- Fluids injected can be thick or thin
- The solution has to reach the correct depth.

Needles are described according to a set of numbers

The numbers refer to the length of the needle, and the thickness of the needle (the correct term is gauge).

Needles come in all lengths and thicknesses.

Examples



From Top
18 G x $\frac{3}{4}$ inches
16G x 1 inch
16G 1.5 inch