Administering Subcutaneous Injections

Disclaimer

A series of booklets has been developed by the Clinical Skills Lab team (staff, recent graduates and students) from the School of Veterinary Sciences, University of Bristol, UK. Please note:

- Each booklet illustrates one way to perform a skill and it is acknowledged that there are often other approaches. Before using the booklets students should check with their university or college whether the approach illustrated is acceptable in their context or whether an alternative method should be used.
- The booklets are made available in good faith and may be subject to changes.
- In using these booklets you must adopt safe working procedures and take your own risk assessments, checked by your university, college etc. The University of Bristol will not be liable for any loss or damage resulting from failure to adhere to such practices.

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Year Group: BVSc3 +

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Equipment list:
Administering Subcutaneous Injections

Equipment for this station:

- Tray with subcutaneous injection 'block models' attached
- Bottle of water for injection (substitute for Metacam in this scenario)
- Needle
- Syringe
- Swab
- Bottle of surgical spirit

Considerations for this station:

- Use in conjunction with the booklet:
  - 'CSL_D10 Making a Skin Tent for a Subcutaneous Injection'
- You may also find the 'Parenteral Medication and Venous Access' video on Blackboard useful
- Please reuse needles and syringes if repeatedly practising the skill
- When needles are blunt dispose of them in a sharps bin
- Needles are sharp and can cause injury
- Please refer to the instruction booklet 'CSL_U02 Safe Use of Needles' for instructions on how to use, dispose of or safely re-cap needles (e.g. if needles are being reused for the station)
- For more information please refer to 'General Risk Assessment Form: Needles CSL_R03' (which is in the CSL)

Anyone working in the Clinical Skills Lab must read the 'CSL_I01 Induction' and agree to abide by the 'CSL_I00 House Rules' & 'CSL_I02 Lab Area Rules'

Please inform a member of staff if equipment is damaged or about to run out.

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Clinical Skills:
Administering Subcutaneous Injections

You have been asked to administer 0.5ml of Metacam to Barney, a cat under your care. Begin by attaching the capped needle to the syringe using an aseptic technique – see booklet 'CSL_U02 Safe Use of Needles.'

Note: In the Clinical Skills Lab (CSL) 'Water for Injection' is used as the 'drug'.

With multi-use bottles such as antibiotics it is good practice to use a surgical spirit (alcohol) swab to wipe the rubber septum (at the top of the bottle) and allow several seconds to dry. However, alcohol swabs should not be used with certain bottles e.g. containing vaccines or insulin, as these can be adversely affected by the surgical spirit.

Uncap the needle and pick up the bottle of water for injection in your non-dominant hand and hold at a slight angle. Insert the needle into the bottle through the rubber septum and withdraw a little more liquid than required. Inject the extra amount of liquid back into the bottle along with any obvious air until only the required 0.5ml remains in the syringe.

If there are still air bubbles in the syringe, tap/flick the barrel of the syringe to move the air to the top, draw back a little more liquid and then inject the extra liquid and the air back into the bottle. Use the little finger of your non-dominant hand to secure the syringe as you tap/flick.

If there are still air bubbles in the syringe, try removing the needle from the bottle, draw up a little more air, flick the syringe to move the air bubbles to the top and press on the plunger to expel the air.

It is important when doing this to hold the syringe with the needle pointing directly upwards.

In readiness for performing the subcutaneous injection, hold the syringe in your dominant hand and use your non-dominant hand to make a 'skin tent' on the block. See booklet 'CSL_D10 Making a Skin Tent for a Subcutaneous Injection'.

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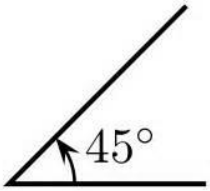
Clinical Skills:
Administering Subcutaneous Injections

Insert the needle into the skin tent at a 45° angle. The needle should be inserted up to the hub. Be careful not to push the needle out of the other side of the skin tent.



When the needle is in the correct place (in the space between the 'skin' and the 'muscle') draw back a little on the plunger (yellow arrow) to ensure the needle is not in a blood vessel (in a live animal a 'flash' of blood is seen in the syringe). On the model, air will be drawn into the syringe.

In a live animal resistance is felt as a vacuum is created. If air appears in the syringe, the needle has probably passed through the skin tent and out of the animal.

Use your index and middle fingers to support the syringe at the top 'collar' (your hand should be beneath the syringe) and use your thumb to depress the syringe plunger. Alternatively, use the palm of your hand to depress the syringe plunger.

Withdraw the needle and gently massage the area to disperse the medication. Dispose of the needle and syringe appropriately. See booklet 'CSL_U02 Safe Use of Needles.'

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Resetting the station:
Administering Subcutaneous Injection

1. To recap the needle use the one hand technique, see booklet:

   'CSL_U02 Safe use of Needles'

   and then remove the needle from the syringe.

1. When needles become blunt, dispose of in a sharps bin and replace with a new needle.
2. Leave the station ready for next person as shown below.

Station ready for the next person:

Please inform a member of staff if equipment is damaged or about to run out.

I wish I'd known:
Administering Subcutaneous Injection

- A subcutaneous injection can be administered anywhere that there is enough loose skin to form a 'tent'. Although the scruff is the most obvious site, others can be used if the scruff is inaccessible.
- If you do manage to pierce through the opposite/far side of the skin tent with the needle, do not panic! Simply withdraw the needle gently and try again.