

3 Way Taps



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.
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Year Group: BVSc4 +



Equipment for this station:

- Model 1: Administering different drugs
 - 3 way tap
 - 2 x fluid bags with coloured water
 - Bucket
 - Dog model
- Model 2: Draining an effusion
 - 3 way tap
 - Syringe
 - Fluid bag connected to giving set
 - Kidney dish

Considerations for this station:

- The fluid is coloured and may stain your clothes.
- The fluid contains disinfectant, if you come in contact with it wash your hands with water.

Anyone working in the Clinical Skills Lab must agree to abide by the 'CSL_I00 CSL house rules' & 'CSL_I02 lab area rules' and must read the 'CSL_I01 CSL induction'

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



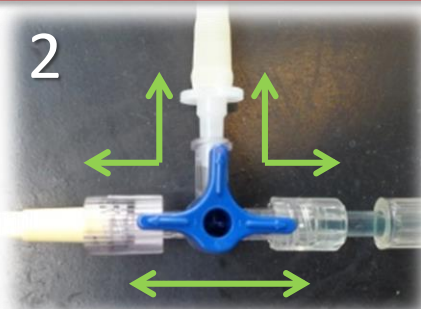
Clinical Skills: 3 Way Taps

1



Examine the 3 way tap. There are small arrows indicating directions of flow.

2

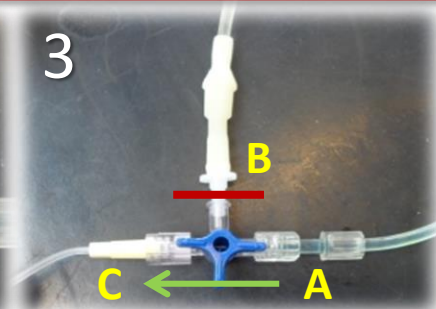


Fluid can flow in the direction of all the 3 sides that have arrows.

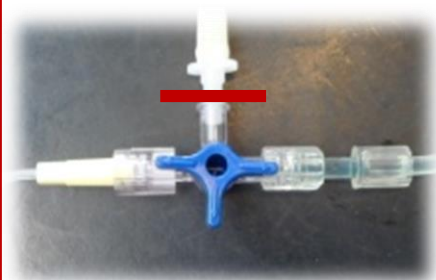
Some 3 way taps also have a STOP knob - fluid cannot flow in the direction of the knob but can flow to all the other directions.

Flow = green arrows

3



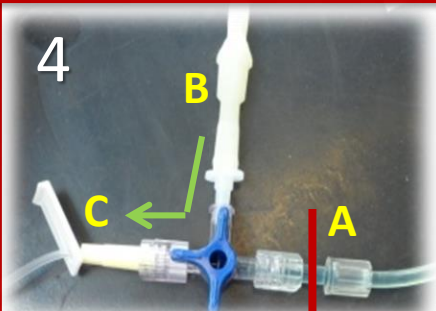
For fluid to flow from A to C, but not to B, ensure that when the fluid meets the 3 way tap there are two arrows at A and C (neither are 'blocked') whereas direction B is blocked.



The side where there is no arrow is the side that is currently blocked.

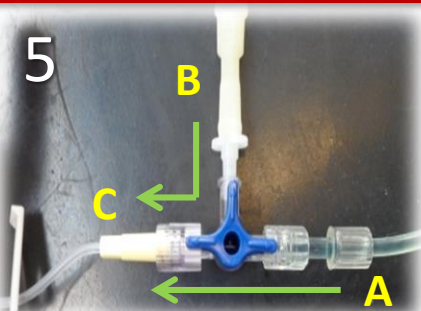
Red line = the direction that is currently blocked.

4



For fluid to flow from B to C, but not to A, ensure that when the fluid meets the 3 way tap there are two arrows at B and C (neither are 'blocked') whereas direction A is blocked.

5



For fluid to flow from A and B to then exit at C, ensure that there are arrows facing each of A, B and C and none of them are blocked.

N.B. This will only work if there is an infusion pump or the force of gravity acting on the fluid. Otherwise fluid may flow in any direction.

6



When using a 3 way tap it is impossible to block all three lines off at once. If all lines need to be blocked off then the line will need to be 'blocked' elsewhere e.g. use the dial on the giving set.



Clinical Skills:

3 Way Taps:

Model 1. Administering different drugs

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Model 1:

This model demonstrates two different drugs in each fluid bag flowing to a patient.

The fluid will flow into the animal and then flow out of a tube from the abdomen, so place a bucket to collect the fluid from this tube.

8



Ensure both giving sets are turned off so no flow is going to the patient.

9



Task 1

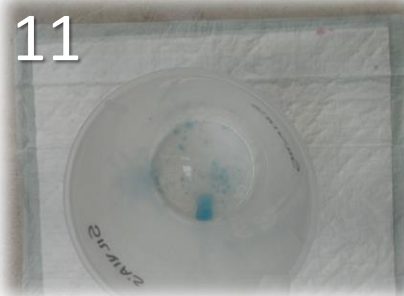
Set the 3 way tap so that only drug A (blue) will flow to the patient.

10



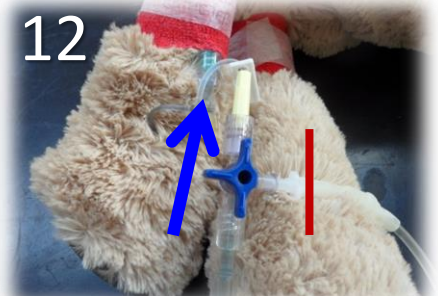
Once confident that only drug A (blue) will flow to the patient turn on the fluid flow from the bag.

11



Check that only blue liquid flows to the patient and out to the bucket.

12



The 3 way tap should be set as above.



Clinical Skills:

3 Way Taps:

Model 1. Administering different drugs

13



Turn off the giving set.

14



Empty the bucket.

15



Task 2

Set the 3 way tap so only drug B (yellow) will flow to the patient.

16



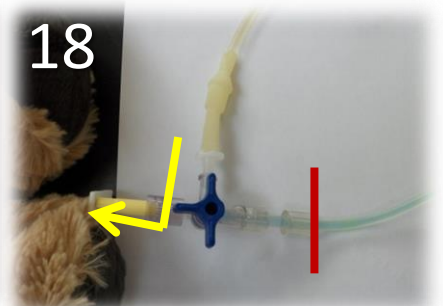
Once confident that only drug B (yellow) will flow to the patient turn on the fluid flow from the bag.

17



Check that only yellow liquid flows to the patient and out to the bucket.

18



The 3 way tap should be set as above.



Clinical Skills:

3 Way Taps:

Model 1. Administering different drugs

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Drug B (yellow)

Turn off the giving set.

20



Empty the bucket.

21



Task 3

Set the 3 way tap so both drug A (blue) and B (yellow) flow to the patient.

22



Drug A (blue)



Drug B (yellow)

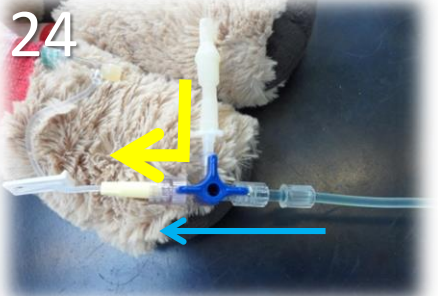
Once confident that drug A (blue) and drug B (yellow) will flow to the patient turn on the fluid flow from the bag.

23



Check that blue and yellow liquid flows to the patient and out to the bucket. The liquid may turn green.

24



The 3 way tap should be set as above.

Once the tasks are complete turn off the giving sets and empty the bucket.



Clinical Skills:

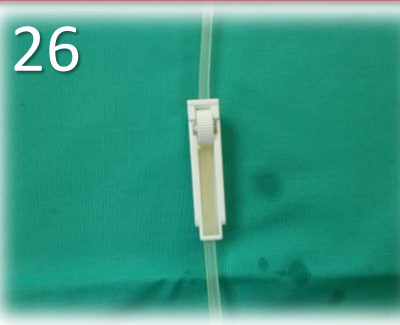
3 Way Taps: Model 2. Draining an effusion



Model 2:

The aim is to simulate draining an effusion from an animal's thorax via thoracocentesis. A butterfly catheter would be inserted into the thoracic cavity and the effusion drained by emptying a syringe without disconnecting anything e.g. by using a 3 way tap.

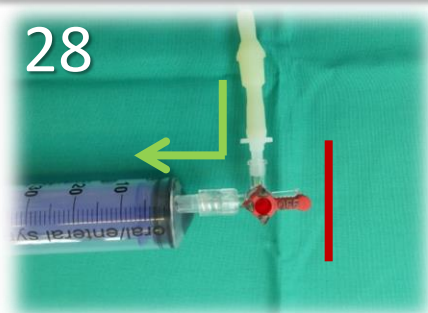
The fluid bag simulates the effusion (do not use a butterfly catheter).



Set the 3 way tap so that fluid can be drawn from the effusion into the syringe.

Once confident that the 3 way tap is set correctly, open the giving set connected to the fluid bag.

Draw back on the syringe and fluid should fill the syringe.



The 3 way tap should be set as above.

Next set the 3 way tap so that fluid is expelled from the syringe into the kidney dish.



Once confident that the 3 way tap is in the correct position inject the fluid into the 3 way tap.

Fluid should flow into the kidney dish.



The 3 way tap should be set as above.

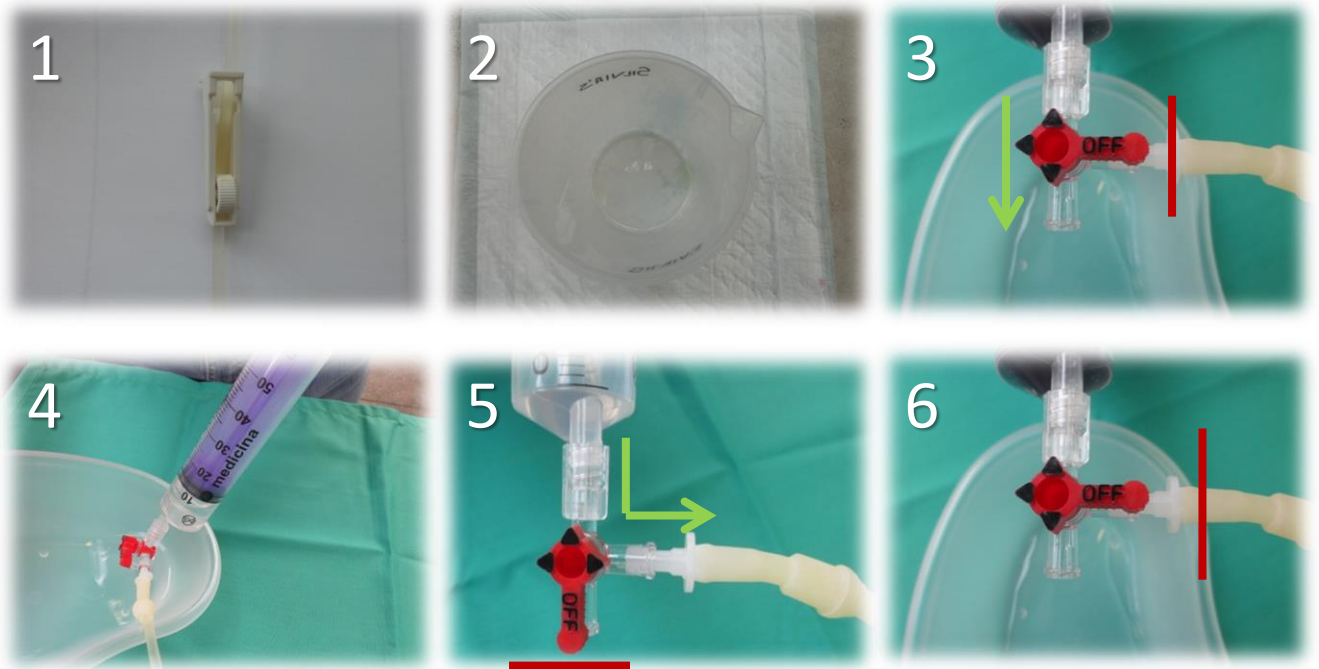
In the live animal these steps would be repeated as necessary to drain the chest (do not repeat the steps on the model).



Resetting the station: 3 Way Taps

1. Model 1: Turn off the flow through giving sets
2. Dispose of any liquid in the bucket down the sink
3. Model 2: Refill the fluid bag with water. Set the 3 way tap as below (3) so water will be able to flow through the 3 way tap to the syringe.
4. Then place the syringe in the water you removed. Draw up the water.
5. Set the 3 way tap as below (5) so water flows from the syringe into the fluid bag.
6. Set the 3 way tap to prevent the water flowing out of the fluid bag as below.
7. Repeat steps 3-5 until the fluid bag is full.

Station ready for the next person:



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



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I wish I'd known: 3 Way Taps

- It is important to double check the flow through 3 way taps; when draining a pneumothorax if you muddle up the 3 way tap you could in fact cause a pneumothorax.