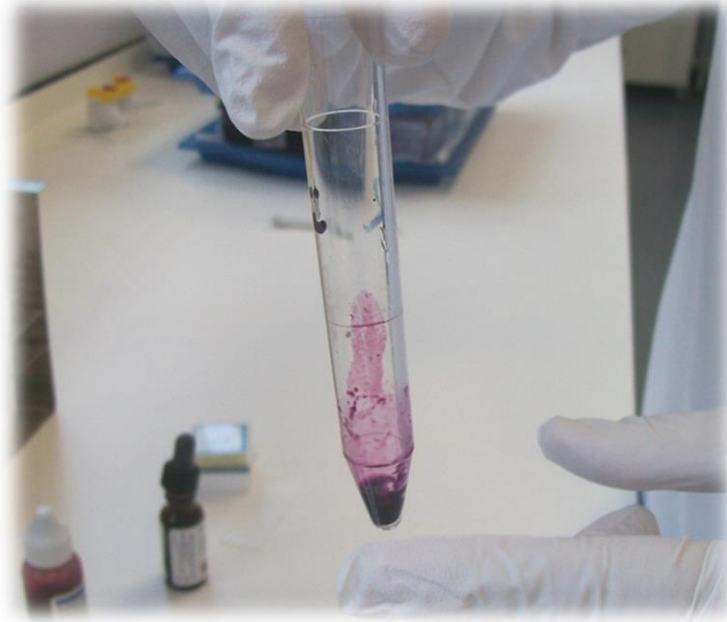


# Urine Sediment Preparation



## 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 +



## Equipment list: Urine Sediment Preparation

### Equipment for this station:

- Urine sample
- 5ml or 1ml disposable conical tip centrifuge tubes
- Disposable plastic pipettes
- Centrifuge
- Stain (Kova™ or Sedi-stain™)
- Microscope glass slide
- Microscope slide coverslips
- Paper towel
- Gloves

### Considerations for this station:

- Centrifuges can be dangerous – make sure you know how to use it properly. Always use the table top centrifuge on a flat, stable surface and do not try to open the centrifuge while it is in operation. For more information please refer to General Risk Assessment form 'Centrifuge CSL\_R04' (in the CSL)
- Microscope slides must be disposed of in a sharps bin. Take care when handling glass slides and cover slips. Apply gentle pressure when placing a cover slip to a microscope slide. For more information please refer to General Risk Assessment form 'Microscope slides CSL\_R01' (in the CSL)
- Make sure you are familiar with 'CSL\_I02 Lab Area Rules': wear a correctly fastened lab coat/scrub top, mop up any spills and spray work surface with 1% Virkon. Wash hands in the hand wash sink.

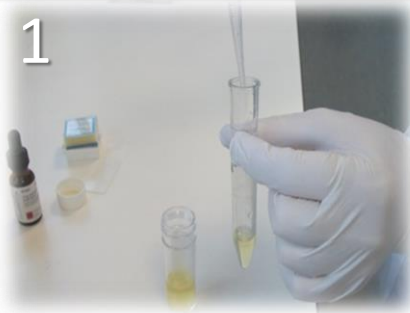
Anyone working in the Clinical Skills Lab must read the 'CSL\_I01 Induction' and agree to abide by the 'CSL\_I00 House Rules' & 'CSL\_I02 Lab Area Rules'

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



# Clinical Skills: Urine Sediment Preparation

1



Urine sediment preparation is undertaken to identify cells, casts, crystals, and/or microorganisms.

Mix the urine sample by gently inverting the container. Using a disposable plastic pipette, transfer 5 ml of urine to a conical tip centrifuge tube.

In practice, there may be 1ml or 5ml conical tubes to use.

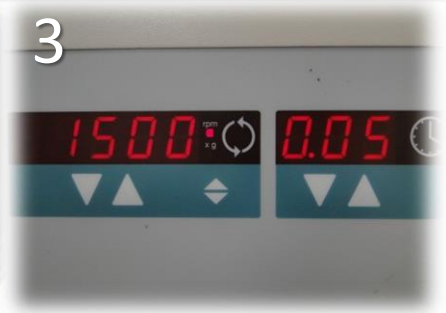
2



Place the tube into the centrifuge.

Whatever type and size of centrifuge, remember to balance it correctly and secure the lid.

3



Centrifuge the sample for 5 minutes at 450g (approximately equivalent to 1500-2000 rpm depending on the centrifuge used).

4



Once the centrifuge has stopped, remove the tube.

Remove the supernatant (free fluid at the top of the sample) with a plastic pipette or by decanting. Keep approximately 0.5 ml of supernatant in the tube.

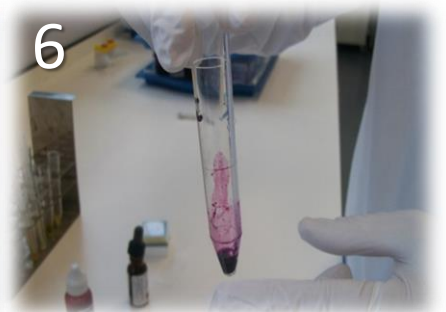
Take care not to disrupt the sediment "pellet" whilst removing the supernatant.

5



Add one drop of the stain to the tube, using a pipette.

6



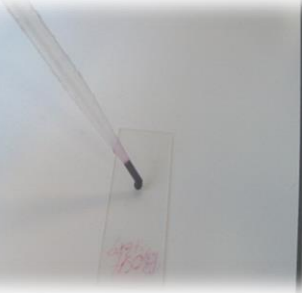
Re-suspend the sediment in the supernatant by gently swirling or "finger-flicking" the tube.





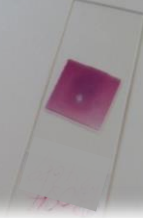
# Clinical Skills: Urine Sediment Preparation

7

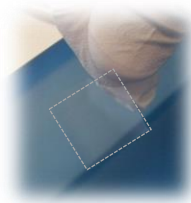


Use a pipette to transfer one drop of the reconstituted sediment to a microscope slide.

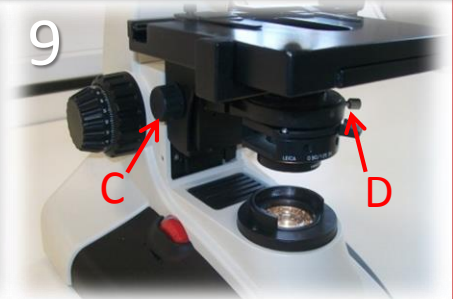
8



Place a coverslip over the sample. When handling a coverslip, hold it at one corner as shown below.



9



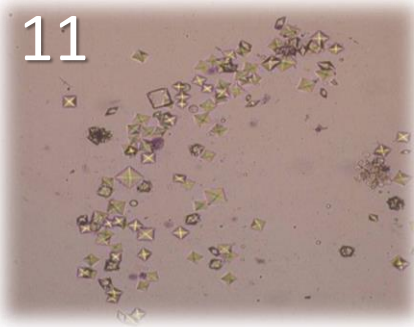
Decrease the intensity of the microscope light by lowering the condenser (dial C) and closing the iris diaphragm (D).

10



Place the covered slide on the stage of the microscope and perform examination using the low power (x10) first and then the high power (x40) lens.

11



Microscopic examination of urine sediment can reveal the presence of cells, casts, crystals, and/or organisms. The photograph above shows numerous calcium oxalate crystals.



# Resetting the station: Urine Sediment Preparation

1. Dispose of glass slides and coverslips in a sharps bin
2. Dispose of plastic pipettes in a clinical waste bin
3. If using glass centrifuge tubes dispose in a sharps bin; if using plastic centrifuge tubes dispose in a clinical waste bin
4. Securely close the urine pot
5. Wipe up any spills and leave the area clean and tidy
6. Anything contaminated with urine (e.g. tissue, paper towel, etc.) must also be disposed of in a clinical waste bin

*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:

Urine Sediment Preparation

- A urine sediment can be prepared for examination without the addition of a stain. Follow the instructions in this booklet but omit step 5.