Microbiology User Information: Urine Specimens

Indications for Laboratory Urine Samples:

Hospital UTI guidelines: Urinary Tract Infections (formularywkccgmtv.co.uk)

Primary Care antimicrobial guidelines: Antimicrobial prescribing table (formularywkccgmtv.co.uk)

Request form requirements:

Providing adequate clinical details to microbiology request forms is vital for the safety of laboratory staff and ensuring patient tests are correctly interpreted. Please include details of relevant clinical information, current, just finished or intended antibiotic therapy.

Urine minimum volume:

Boric Acid Container: 10 ml- **Fill to line**. *A volume of < 10ml may inhibit the growth of some bacteria*
Plain Container: **Minimum 1 ml**
Terminal Urine: Minimum 10ml
C. trachomatis & N. gonorrhoeae PCR: Fill to line

Time to laboratory:

The specimen should ideally reach the laboratory within 4 hours of collection.
Where delays in processing are unavoidable, refrigerate at 4°C.
Specimens received for MC&S > 72 hours after collection will not produce results which reflect the true clinical situation, and will be rejected by the laboratory.

For information on transport, including days and times, please see Pathology Transport Services

Laboratory Testing:

All Microbiology laboratory investigations are based on UK Standards for Microbiology Investigations which can be found HERE. If further advice is required, please contact the laboratory.

Laboratory Turn Around Time (from Date/Time of Receipt in Laboratory):

MC&S: Microscopy available same day. Culture results within 2 days
Legionella and Pneumococcal Urinary Antigen: 1 day
Schistosomiasis: Same day
AAFB Culture: Normally up to 42 days, but may take up to nine weeks
C. trachomatis & N. gonorrhoeae PCR: 7 days

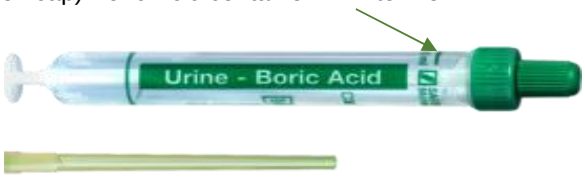
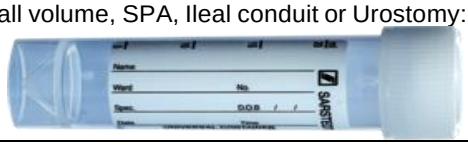
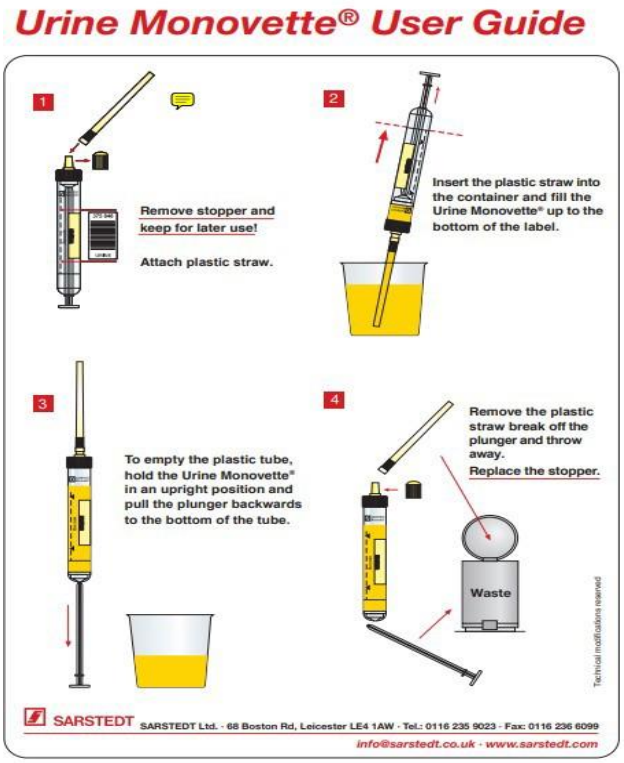
Time limit for requesting additional investigations:
24 hours

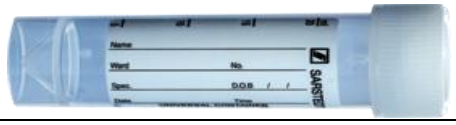
Adverse factors affecting the interpretation of urine culture results:

- contamination of the sample at the point of collection
- delay >4 hours in arrival at laboratory
- excessive temperature
- incorrect sample type (for example bag urine)
- incorrect sample volume (if boric acid containers are used)

Note: rapid transport to the laboratory is the best way to minimise uncertainty of results

Specimen Collection:

Urine Microscopy and Culture	
Collection Container	10 ml Monovette (green cap) Boric Acid container: Fill to line  Paediatrics in cases of small volume, SPA, Ileal conduit or Urostomy: Plain Universal (white): 
Specimen Type	Urine: Clean catch urine (CCU), Mid-stream urine (MSU), Catheter urine (CSU), Ileal Conduit or Urostomy Urine, Supra pubic aspirate (SPA), Pad urine.
Collection Method	 **Mid-stream urine (MSU)** MSU is the recommended routine collection method. MSU samples are prone to contamination and the patient has to be instructed to cleanse the area of the urethra thoroughly with soap and water before collecting after voiding the initial portion of urine. This reduces the contamination rate greatly. The first part of voided urine is discarded and, without interrupting the flow, approximately 10mL is collected into a container. The remaining urine is discarded. If boric acid preservative is used, the container is filled up to the mark in a similar manner and the contents mixed well. **Clean-catch urine (CCU)** A reasonable alternative to MSU. Periurethral cleaning is recommended. The whole specimen is collected and then an aliquot sent for examination in a CE marked leak proof container.

	Catheter urine (CSU) The sample may be obtained either from a transient ('in and out') catheterisation or from an indwelling catheter. In the latter case, the specimen is obtained aseptically from a sample port in the catheter tubing or by aseptic aspiration of the tubing. The specimen should not be obtained from the collection bag. **Bag urine** Used commonly for infants and young children. The sterile bags are taped over the freshly cleaned and dried genitalia, and the collected urine is transferred to a CE marked leak proof container. There are frequent problems of contamination with this method of collection. **Pad urine** An alternative to collecting bag urine from infants and young children. After washing the nappy area thoroughly, a pad is placed inside the nappy. As soon as the pad is wet with urine (but no faecal soiling), push the tip of a syringe into the pad and draw urine into the syringe. Transfer specimen to a CE marked leak proof container. If difficulty is experienced in withdrawing urine, the wet fibres may be inserted into the syringe barrel and the urine squeezed directly into the container with the syringe plunger. **Ileal Conduit or Urostomy Urine** Open the dressing pack and remove the stoma appliance. Clean the area around the stoma. Dry thoroughly. Gently insert a urinary catheter into the stoma to a depth of 2.5-5cm. Drain sufficient urine into a receiver. Remove the catheter and pour urine into a sterile universal container. Attend to the stoma. Results from this type of specimen may be difficult to interpret. **Supra-Pubic Aspirate** Samples should be collected aseptically, directly from the bladder by aspiration with a needle and syringe and transferred into a sterile universal container. Ultrasound guidance should be used to show the presence of urine in the bladder before carrying out SPA collection. The use of this invasive procedure is usually reserved for clarification of equivocal results from voided urines in infants and small children
Urine bacterial antigen detection(*Legionella* & *Streptococcus pneumoniae*)	
Collection Container	Plain Universal (white): 
Specimen Type	MSU
Collection Method	As MSU
Terminal urine for investigation of Schistosomiasis	
Collection Container	Plain (Silver top) 
Specimen Type	Terminal urine
Collection Method	Terminal urine for Schistosomiasis must be sent no sooner that four weeks after exposure. Samples should be collected between 10am and 2pm as this is the period of maximum activity. It is preferable to have the total urine output between these times, as this is when the most eggs are excreted. Alternatively, a 24h collection of terminal samples of urine can be obtained. A minimum of 10mls is required.
AAFB (Early Morning Urine- EMU)	

Collection Container	Plain (Silver top) 
Specimen Type	Early morning urine x3
Collection Method	As the excretion of acid alcohol fast bacilli (AAFB) in the urine may be intermittent a larger sample is required. This sample MUST be the first urine of the day The complete early morning urine (EMU) should be collected on **three consecutive** days.
Urine for C. trachomatis & N. gonorrhoeae PCR	
Collection Container	COBAS PCR collection device
Specimen Type	First catch urine
Collection Method	Patient must **not** have voided within the previous 1 hour. Urinate into either white top universal or plastic cup or similar. Decant or pipette into yellow top tube (provided) between the indicated lines