

Division of Laboratory Medicine

Bacteriology

Urines

Urinary tract infection (UTI) results from the presence and multiplication of microorganisms in one or more structures of the urinary tract with associated tissue invasion. This can give rise to a wide variety of clinical syndromes. These include acute and chronic pyelonephritis (kidney and renal pelvis), cystitis (bladder), urethritis (urethra), epididymitis (epididymis) and prostatitis (prostate gland). Infection may spread to surrounding tissues (eg perinephric abscess) or to the bloodstream.

The microscopical presence of White Blood Cells (WBC) is quantified and correlated to bacterial growth to diagnose a urinary tract infection. The presence of Red Blood Cells (RBC) and epithelial cells is also reported.

General information

Collection container (including preservatives): Collect specimens in appropriate CE marked leak proof containers and transport specimens in sealed plastic bags,

10ml Sarstedt urine Monovette tubes



Specimen type: Urine: Clean catch urine (CCU) Mid stream urine (MSU) Supra pubic aspirate (SPA) Bladder urine & Catheter urine

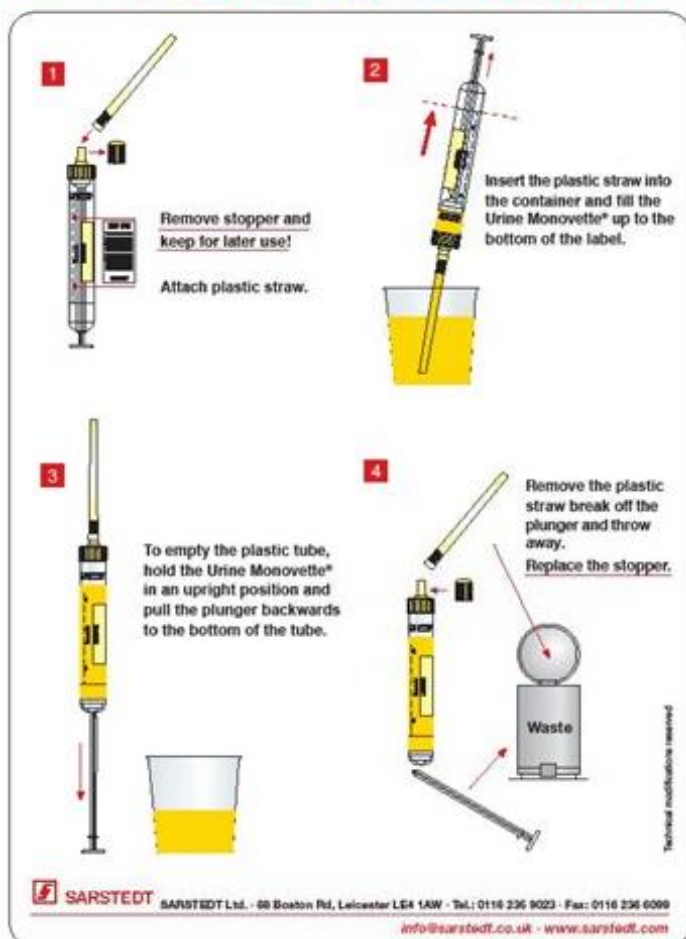
Collection:

(see diagram on next page)

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Urine Monovette® User Guide



Before sending to the laboratory urines should be screened in the clinical setting using dipsticks that are able to detect both leucocyte esterase and nitrites. This will give an almost immediate indication as to whether UTI is likely and for the need to culture in all but a few patient groups. There is a strict rejection policy in place for urine samples that are submitted without the relevant information or screening. Urine catheter tips will not be processed. There is no such thing as a routine MSU or CSU. Specimens should be sent only on clinical grounds. MSU and clean catch urines are the most commonly collected specimens and are recommended for routine use.

Suprapubic aspirate (SPA) is seen as the "gold standard" but is usually reserved for clarification of equivocal results from voided urine in infants and small children. Before SPA is attempted it is preferable to use ultrasound guidance to determine the presence of urine in the bladder.

Specimen transport: Delays and storage at room temperature allow organisms to multiply which generates results that do not reflect the true clinical situation. Where delays in processing are unavoidable, refrigeration at 4°C is essential.

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Samples >48 hours old are not suitable for testing and a repeat sample should be collected.

Minimum volume of sample: A minimum volume of 1mL

For Mycobacteria culture collect 3 consecutive early morning urine samples in 200mL containers

Special precautions: Specimens should be transported and processed within 4 hr

Laboratory information

Measurement units: X10⁶/L (WBC/RBC)

Urine culture is quantified (cfu)

Biological reference units: Not applicable

Turnaround time: 30 – 60 mins for cell count if laboratory contacted prior to sending
1-3 working days for culture

Clinical information

Clinical decision points: Not applicable

Factors known to significantly affect the results: Collect specimens before antimicrobial therapy where possible.

(Last updated August 2019)