



SECTION 5: SPECIMEN COLLECTION

5.2 Urine

5.2.1 Urine Collection

Aims

1. To collect a urine specimen, via an appropriate collection method, for diagnostic purposes.
2. To ensure that urine specimens required for microscopy and culture are uncontaminated.

Key points

- Ward based urinalysis is for screening purposes only.^{1, 2}
- Where possible collect specimen prior to antibiotic therapy; medical staff may choose not to delay treatment if the specimen cannot be obtained and the patient is at high risk of serious illness.^{3, 4}
- Utilise a non-invasive method for urine specimen collection as outlined below.^{1, 4-8}
- Patients presenting with a high probability of urinary tract infection (UTI) or who are acutely unwell may warrant more invasive investigations as outlined below.^{1, 4-7}
- Use aseptic non touch technique for the collection of invasive urine specimens to minimise the risk of contamination.

Methods of Urine Collection

Preparation for all collection methods: Wash the perineum and genitalia thoroughly with soap and water, then dry prior to collecting the specimen to decrease the risk of contamination.^{3, 9-11}

Non-Invasive Techniques

Clean Specimen of Urine (Clean Catch)

- Is the preferred choice for infants.^{4, 9-12}
- Involves the collection of a sample into a clean foil container (then decanting into yellow topped specimen pot) or directly into the yellow topped specimen pot, once spontaneous urine flow has started.
- If a specimen is not obtained within 30 minutes consult with the patient's medical team, as a different method of collection may be required.
- This method is not advisable for patients with a high probability of UTI or who are ill enough to warrant immediate antimicrobial therapy.^{1, 3-7}

Midstream Urine (MSU)

- Is the preferred choice for children who can void spontaneously.^{2, 6, 7, 13}
- Discard the first few drops of urine before collecting the sample into a clean foil container or directly into the yellow topped specimen pot.

Plastic Urine Bag

- Do not use this method for microbiology specimens due to a high contamination risk.^{2, 3, 5, 8, 14, 15}

If used for other specimens:

- Check bag regularly to see if infant voided and remove as soon as possible.
- Do not leave a bag in situ for more than 2 hours.

24-hour urine collection

- Refer to [Pathology Handbook](#) book (page 22).
- Contact Biochemistry for appropriate container +/- 24 hour urine collection bag for infant. The type of specimen will require a specific preservative container which biochemistry will provide.

Invasive Techniques

Undertaking a bladder ultra sound prior to catheter specimen^{3, 13} or suprapubic aspiration (SPA)^{3, 7, 16} can assist in determining whether urine is present and therefore reduce the risk of an unsuccessful procedure.^{3, 4, 6, 7}

Note: Staff must be trained in the use of a bladder scanner.

Catheter Specimens

Indications

- Patients with a high probability of UTI.
- Patients who are unwell and warrant more invasive investigations.
- When a clean specimen of urine cannot be obtained via the non-invasive means.
- For catheter specimen collection refer to PNPM 3.5.3 [Urinary Catheterisation](#).

Supra – Pubic Aspiration (SPA)

Medical staff may also opt for SPA^{3, 4, 6, 12, 16} method of collection, if:

- other techniques have been unsuccessful and/or for patients with a high probability of UTI or
- patients who are ill enough to warrant immediate antimicrobial therapy.

Pathology

- If unsure about the specific requirements contact the appropriate laboratory, [Pathology Handbook](#) and/or the [Pathology Test Directory](#)

Pathology (cont.)

- Ensure specimen is in a yellow-top specimen container and correctly labelled; send to laboratory within 15 minutes in a biohazard bag with the completed request form. Refer to [Pathology Handbook](#) page (pg 41).
- Virology urine specimens do not require viral transport medium. Send the specimen in a yellow-topped container.
- Cytomegalovirus (CMV) – needs to be alkalised; collect 5-10 ml of urine in yellow top container. Add enough *sodium bicarbonate* to turn the urine to a pale pink colour. Refer to page 46 of the handbook.
- **After hours.** All urine samples are to be placed in the RMO fridge. Urgent cultures must be discussed with the on-call microbiologist.

Related policies, procedures, protocols and guidelines

[Urinary Tract Infection](#) (Emergency Department Clinical Guideline)


Useful resources

[Pathology Handbook](#)

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