

REDUCING CATHETER ASSOCIATED URINARY TRACT INFECTIONS

QUICK GUIDE ON URINE CULTURE DURING CATHETERISATION

Sending a patient's urine specimen for culture is one of the most common clinical investigations undertaken in hospitals. Culturing a urine specimen is an effective way of identifying whether a symptomatic patient has a urinary tract infection and guide subsequent direct antibiotic therapy.

Sometimes urine specimens for culture are collected from catheterised patients for the wrong reasons. As a result, subsequent culture results may be of little benefit to the patient and may encourage clinicians to initiate unnecessary antimicrobial therapy¹.

If not handled aseptically, the collection of a urine specimen from a catheterised patient also may be an opportunity for microorganisms to enter into drainage system and cause infection.

This information sheet provides general advice about collecting urine specimens for culture from catheterised patients.

When should a urine specimen for culture be collected from a catheterised patient?

A urine culture should be collect from an adult who has a catheter if:

- a septic work up is needed, or
- if the patient has UTI signs and symptoms.

Unless otherwise clinically indicated, the following factors on their own should not prompt the collection of a urine specimen:

- urine is malodorous or cloudy
- there is haematuria
- dipstick urinalysis is positive for leukocytes, protein, blood or nitrite.

For most patients, routine urine specimen screening should be avoided unless otherwise clinically indicated. Exceptions to this are: immunocompromised patients, pregnant women, and surgical patients where there is a risk of trauma to the urinary tract².

Do I need to collect a CSU if I am inserting a new catheter?

Collection of a CSU from a newly inserted catheter is only required if a UTI is suspected (i.e. UTI signs and symptoms are present) or if a septic work up is required.

Why is it important to use aseptic technique when I collect a specimen?

Using aseptic technique to collect a specimen will minimise contamination of the closed catheter system and as a result, minimise the risk of the patient getting an infection. Aseptic technique will also minimise the risk of the urine specimen being contaminated and in turn, reduce the risk of the false positive culture

What type of specimen should be collected from a patient with a urinary catheter?

- Firstly, determine if catheterisation is still required and whether the patient could produce a clean **mid stream urine specimen** (MSU). If so, remove the catheter and collect a MSU.
- If catheterisation is still required or the collection of clean MSU is not possible, collect a **catheter specimen of urine** (CSU) from the existing catheter. Use the sampling port if the catheter has not been newly inserted.
- If a catheter has been in place for 48 hours or longer, change the catheter and collect a CSU when inserting the new catheter.

If a catheter has been in place for over **48 hours**, it is likely that the specimen will be positive for bacteriuria. This positive result will be difficult for the laboratory to interpret, as bacteriuria may be due to symptomatic infection (which will require treatment) or may be due asymptomatic biofilm colonisation (which may not require treatment). Always assess the patient for UTI signs and symptoms before commencing any recommended antimicrobial therapy.

Tips for better CSU culture results

- Whether collecting at the time of insertion or via a sampling port, CSU collection is an aseptic procedure.
- Perform hand hygiene before and after specimen collection.
- The sterile specimen container should be included in the aseptic field set up. Loosen the container lid before any manipulation of the drainage device.
- Be sure to identify and protect key parts.
- Document the specimen type (MSU or CSU) on the specimen, on the pathology order and in the patient's healthcare record.
- Ensure the collected specimen is packaged in accordance with local protocols. Consider whether double or triple packaging is necessary.
- Transport specimen to laboratory within 2 hours or refrigerate (4-10°C) until transported.

References

1. Silver, S.A., L. Baillie, and A.E. Simor, *Positive urine culture: a major cause of inappropriate antimicrobial use in hospitals*. *Can J Infect Dis Med Microbiol*, 2009, **20**(4): p. 107-111.
2. *Therapeutic Guidelines: Antibiotic [Internet]* 2014, Melbourne: Therapeutic Guidelines Limited.

About this Project

This project is being undertaken by the CEC's HAI program. The HAI program assists local health districts and speciality health networks to improve systems to manage and monitor the prevention and control of HAIs. For further information on the HAI program, please visit <http://www.cec.health.nsw.gov.au/programs/hai>

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