



Information sheet

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Microbiology Specimen Collection, Transport and Rejection

Quality specimens collected when indicated ensure quality microbiological analysis & results

- Follow the nationally accepted indications for microbiological specimen collection (refer to FFCG Adult and Paediatric ACORN Specimen Collection posters)
- Microbiology specimens must be of good quality for the laboratory to grow and identify pathogenic organisms causing disease in patients.
- Poor or contaminated specimens can lead to poor patient outcomes, including delays in reporting test results, unnecessary recollection, decreased clinician satisfaction, increased cost, incorrect diagnosis or treatment, injury, or death.
- Unsuitable specimens are rejected to prevent reporting of misleading results.

Collection principles

- Standard precautions (hand hygiene, gloves, eye protection) and an aseptic collection technique required to minimise contamination with resident patient flora
- Collect specimens before antimicrobial treatment when possible
- Use an appropriate sterile tube/container, transport medium swab or blood culture bottle(s). Collect sufficient blood volume for blood cultures to maximise sensitivity. Ensure that the containers are closed to avoid leakage or contamination during transport.
- Complete the standard request form for every specimen and include essential details of the patient, their history, the specimen, the tests required and the requesting clinician
- Label the specimen with at least two patient identifiers – name, date of birth and/or medical record number and the request form must match these details exactly
- There is a separate blood culture instruction sheet G_90_Info_3_A BACTEC Blood Culture Collection

Transport to the laboratory: *delay or temperature stress diminishes specimen value*

- All samples must be sent promptly to the laboratory with an attached request form (see below)
- All samples to be transported at room temperature to laboratory within 1 hr of collection
- Sputum, stool, urine- refrigerate before transport to laboratory if delays of > 1 hr after collection
- **Do NOT refrigerate other sample types, including blood cultures, fluid and genital samples.**

Specimen rejection criteria

- Unlabelled specimen, or labelling of request and specimen does NOT match
- Insufficient specimen
- Inappropriate specimen - urinary catheter, endotracheal tube, NGT or wound drain tips- culture of these is an unreliable indicator of bacteria causing infection
- Leaking specimen – reject to prevent risk of infection to all staff in contact with the specimen
- Specimen transport delayed or incorrect temperature storage - may compromise patient results

Note: lab staff always record the reason for rejection in the Lab. Information Management System or equivalent (logbook) and notify the clinician/ward/collector.

Sample types (indications for collection)	Acceptable sample	Unacceptable sample / rejection criteria
Blood culture (see Adult and Paediatric ACORN flowchart posters for indications)	Adequate volume inoculated (see G_90_Info_3_A Blood culture collection instruction) & properly labelled. Asepsis during collection	n/a
Cerebrospinal fluid (suspected meningitis)	Sterile specimen jar/tube- three tubes; allows for more reliable cell count on the third tube	n/a
Faeces (suspected bacterial enteritis, cholera, <i>Salmonella</i> Typhi, dysentery)	Faeces preferred Rectal swab	Soft / formed stool Repeat culture within 7 days
Fluids – pleural, pericardial, peritoneal, joint (suspected fluid/space infection)	Sterile specimen jar	Leaking specimen Inadequate identification
Pus/wound swab (skin/soft tissue/wound infection)	Pus or tissue preferred	Swab from chronic skin ulcer without surrounding cellulitis Swab from chronic skin sinus
Sputum/ ET aspirate (suspected pneumonia)	Purulent sample preferred	Salivary sample ET tube
Urine (suspected UTI, sepsis with uncertain focus or pregnancy antenatal screen) <i>Smelly or cloudy urine and/or positive u/a are NOT sufficient indications for culture- must have symptoms (exception pregnancy screen)</i>	Identify the type of urine sample: <ul style="list-style-type: none"> • Mid-stream (no perineal cleaning required) • In/out catheter • IDC (via new catheter) • Bag urine (children only) • Bladder aspirate 	Urine collected via IDC that has remained in place > 24 hrs (biofilm in catheter contaminates sample) Samples more than 48 hrs old Indwelling catheter tip
Certain labs only: genital samples (suspected gonococcal or trichomonas infection)	Cervix swab Urethral swab (male)	n/a
Central IV line tip (suspected device-associated infection)	Central line tip must be aseptically cut and submitted in a sterile container.	Entire line submitted Peripheral line tips not acceptable
Environmental samples – e.g. surface swabs, water, solutions (hospital infection outbreak)	Must be approved by microbiologist and/or infection control nurse who will do the specimen collection	Specimen without approval

Related documents – access via <https://path-png.org/microbiology-sops-fleming-fund/>

Acorn Specimen Collection Poster- adults	G_90_Info_1
Acorn Specimen Collection Poster- paediatrics	G_90_Info_2
BACTEC Blood Culture Collection Procedure	G_90_Info_3
Standard microbiology request form	G_10_LQM_Ap_8

References

- WHO Laboratory Quality Management Handbook <https://extranet.who.int/lqsi/node/91>
- Diagnostic Microbiology Development Program (DMDP): Specimen collection, transport & rejection criteria - SOP document code 102, version 1, 2012