

Clinical Standard Operating Procedure (SOP)

BLOOD CULTURE SAMPLING

SETTING	Trust-wide
FOR STAFF	All staff who have been trained in the collection procedure and whose competence in blood culture collection has been assessed and maintained.
PATIENTS	Adults and Paediatrics.

STANDARD OPERATING PROCEDURE

Only take blood for culture when there is a clinical need to do so and not as routine

All blood cultures should be documented in the patient's notes, including date, time, site and indications.

In patients with suspected bacteraemia, **do not** use existing peripheral lines/cannula or sites immediately above peripheral lines. If a central line is present, blood **may** be taken from this **and** from a separate peripheral site when investigating potential infection related to the central line; the peripheral vein sample should be collected first. Identify a suitable venepuncture site before disinfecting the skin. Avoid femoral vein puncture because of the difficulty in adequate skin cleansing and disinfection.

Thoroughly cleanse the patient's skin before venepuncture. Use soap and water to clean visibly soiled skin and then clean your own hands using the correct hand hygiene technique as per Trust guidelines. Use 2% chlorhexidine in 70% isopropyl alcohol to disinfect the patient's skin for 15 seconds and allow to dry.

To avoid cross-contamination from the collector's fingers (even when gloved), it is vitally important not to palpate the site again once it has been disinfected.

Ideally, remove the plastic cover of blood culture bottle immediately before collecting the sample; the top of the bottle will be clean but not sterile. Disinfect the tops of the culture bottles with a 2% chlorhexidine in 70% isopropyl alcohol impregnated swab for 15 seconds. Allow the alcohol to fully evaporate until visibly dry before proceeding with bottle inoculation. If using a winged collection set inoculate the aerobic (blue) bottle first. If using a needle and syringe always inoculate the anaerobic (purple) bottle first with 10mls of blood, then the aerobic (blue) bottle.

If taking the sample from a central venous access device use a syringe with a blood transfer device and inoculate the anaerobic (purple) bottle first with 8 – 10mls of blood, then the aerobic bottle with 8 – 10mls of blood. No discard of blood is required.

Step 1: Skin Preparation.

Clean hands using correct hand hygiene technique (use of the World Health Organisation's '5 moments of hand hygiene' or the NPSA 'Clean your hands campaign' is recommended).

Clean any visibly soiled skin on the patient with soap and water then dry.

Apply a disposable tourniquet and palpate to identify vein.

Clean skin with 2% chlorhexidine in 70% isopropyl alcohol for 15 seconds and allow to dry.

Do not repalpate skin following cleaning.

If a culture is being collected from a central venous catheter, disinfect the access port with a 2% chlorhexidine in 70% isopropyl alcohol impregnated swab for 15 seconds and allow to dry.

Step 2: Kit Preparation

Have sharps disposal container available in immediate vicinity.

Clean the tops of culture bottles with a 2% chlorhexidine in 70% isopropyl alcohol impregnated swab for 15 seconds and allow to dry.

Step 3: Sample collection

Clean hands again using correct hand hygiene technique (use of the World Health Organisation's '5 moments of hand hygiene' or the NPSA 'Clean your hands campaign' is recommended) or use alcohol hand rub and apply clean examination gloves (sterile gloves are not necessary).

Gloves and apron are worn (in line with Trust policy)

Personal protective equipment (PPE) is disposed of correctly (in line with Trust policy) after use.

Attach winged blood collection set (sharps safety device) to blood collection holder.

Insert needle into prepared site. Do not palpate again after cleaning.

Place holder over blood collection bottle and pierce septum.

Hold bottle upright and use bottle graduation lines to accurately gauge sample volume and collect sample; inoculate aerobic culture first.

If blood is being collected for other tests, always collect the blood culture first.

Cover the site with an appropriate sterile dressing.

Discard winged blood collection set in a sharps container.

If obtaining blood cultures from a central venous catheter:

- Prepare and use PPE as above.
- Gather blood culture bottles, 1 x 20ml syringe, 1 x blood transfer device, 2 x alcowipes, 1 x 10mls NaCl flush.
- Clean the bung thoroughly with Trust approved 2% Chlorhexidine in 70% alcohol wipes for 15 seconds and allow to air dry. Clean the septum of the blood culture bottles with Trust approved 2% Chlorhexidine in 70% alcohol wipes for 15 seconds and allow to air dry.
- Connect empty 20ml syringe to extension tube and unclamp tube.
- Verify correct needle placement by aspiration.
- Connect the 20 ml syringe to the needle free device and withdraw 20mls of blood.
- Using the blood transfer device, transfer blood from 20ml syringe to blood culture bottles- inoculate anaerobic (purple) bottle first then aerobic (blue) bottle.
- Attach 10ml Normal saline 0.9% flush, using push/pause technique flush the line and clamp on a positive pressure.
- Clean bung for 15 seconds with Trust approved 2% Chlorhexidine in 70% alcohol wipes and allow to dry.

Clean hands using correct hand hygiene technique (use of the World Health Organisation's '5 moments of hand hygiene' or the NPSA 'Clean your hands campaign' is recommended) after removing gloves.

Document date, reason for sample, site of venepuncture, operator undertaking procedure and if procedure was high risk with signature.

References

Madeo, M. and Barlow, G. (2008) Reducing blood-culture contamination rates by the use of a 2% chlorhexadine solution applicator in acute admission units Journal of Hospital Infection 69, 207-309.

RELATED DOCUMENTS

Hand Hygiene <http://nww.avon.nhs.uk/dms/download.aspx?did=11406>

Infection Prevention And Control Policy

<http://nww.avon.nhs.uk/dms/download.aspx?did=10875>

Venepuncture Policy and Procedure

<http://nww.avon.nhs.uk/dms/download.aspx?did=12801>

NPSA clean your hands campaign <http://www.npsa.nhs.uk/cleanyourhands/>

QUERIES

Contact [REDACTED]

For Venepuncture training please go to the connect page and access the teaching and learning web page.