# BLOOD CULTURE POLICY FOR ADULTS

## Amendments

<table>
<thead>
<tr>
<th>Date</th>
<th>Page(s)</th>
<th>Comments</th>
<th>Approved by</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 2010</td>
<td></td>
<td>Updated in line with the Trust’s Policy Writing &amp; Ratification Policy.</td>
<td>Caroline Becher, Chief Nurse, Mike Baxter, Medical Director</td>
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<tr>
<td>June 2010</td>
<td></td>
<td>Updated in accordance with revised procedures following MRSA bacteraemia RCA’s and DoH draft update Taking Blood Cultures, a summary of best practice.</td>
<td>Caroline Becher, Chief Nurse</td>
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<tr>
<td>July 2012</td>
<td></td>
<td>Expiry of review date.</td>
<td>Suzanne Rankin, Chief Nurse</td>
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<tr>
<td>September 2014</td>
<td></td>
<td>Expiry of review date.</td>
<td>Heather Caudle, Chief Nurse</td>
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<tr>
<td>February 2016</td>
<td></td>
<td>Two signatures on blood culture request form no longer required</td>
<td>Heather Caudle, Chief Nurse</td>
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<tr>
<td>June 2016</td>
<td></td>
<td>Review of the policy and updated assessment form (appendix A) to facilitate better diagnosis of sepsis</td>
<td>Russell Wernham, Deputy Chief Nurse, Associate, Director of Quality</td>
</tr>
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### Compiled by:
The Infection Control Team

### In consultation with:
Control of Infection Committee

### Ratified by:
Clinical Governance Committee

### Date ratified:
March 2008

### 1st Review:
May 2010

### 2nd Review:
June 2010

### 3rd Review:
July 2012
1. INTRODUCTION

Blood culture to detect bacteraemia is an important investigation with major implications on the diagnosis of infections in patients and selection of appropriate antimicrobial therapy (Department of Health 2007).

2. PURPOSE

This policy aims to promote good practice in the collection of blood for culture and thus reduce the number of false positive results (contamination) and resulting complications for patient safety, quality and associated cost of care. The policy also aims to reduce inappropriate sampling of blood for culture. (Department of Health 2010).

Early positive results provide information on which appropriate treatment can commence. These recommendations aim to ensure that blood cultures are taken:
- for the correct indications
- at the correct time
- using correct technique in order to prevent contamination of the sample and minimise risk to patients and staff

3. TAKING A BLOOD CULTURE

ONLY TAKE BLOOD FOR CULTURE WHEN THERE IS A CLINICAL NEED TO DO SO AND NOT AS ROUTINE

Blood cultures are taken to identify patients with bacteraemia. There are many signs and symptoms in a patient which may suggest bacteraemia and clinical judgement is required, but the following indicators should be taken into account when assessing a patient for signs of bacteraemia or sepsis:
- core temperature outside normal range (<35.5 or >38);
- focal signs of infection;
- abnormal heart rate (raised), blood pressure (low or raised) or respiratory rate (raised);
- chills or rigors;
- raised or very low white blood cell count (<4 or >12);
- new or worsening confusion.

NB: Signs of sepsis may be minimal or absent in the very young and the elderly. It is not essential for the patient to be pyrexial when a blood culture is taken if sepsis is suspected.

Blood cultures should be taken after clinical suspicion of possible bacteraemia or sepsis and before the administration of antibiotics. If a patient is on antibiotics, blood cultures should ideally be taken immediately before the next dose.

All blood cultures taken should be documented in the patient’s notes, including date, time, site and indications.
Dedicated Blood Culture Pathology Request forms to be used (excluding Paediatrics).

4. COMPETENCE/ASSESSMENT

Blood cultures should only be collected by members of staff (medical, nursing, phlebotomist or technician) who have been trained in the collection procedure and whose competence in blood collection has been assessed and maintained (see Appendix A).

5. ALWAYS MAKE A FRESH STAB

In patients with suspected bacteraemia, it is generally recommended that two sets of cultures be taken at separate times from separate sites (or at least three sets if endocarditis suspected). Do not use existing peripheral lines/cannulae 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 if possible because of the difficulty in adequate skin cleansing and disinfection.

6. PROCEDURE

KIT PREPARATION
- Wash and dry hands or use hand sanitiser.
- Prepare the blood culture bottles.
- Mark off 10 ml using the graduation marks on the Bactec bottle label.
- The top of the bottle will be clean but not sterile. Remove flip-off caps from the bottles and disinfect the tops of the culture bottles with a 2% chlorhexidine gluconate/70% isopropyl alcohol impregnated swab. (It is the drying of the alcohol which disinfects the caps. Leave for at least 30 seconds.)

Have a transfer device available if inserting a cannula

SKIN PREPARATION
- Wash your hands with soap and water then dry your hands.
- Clean any visibly soiled skin on the patient with soap and water then dry.
- Apply a disposable tourniquet (if applicable) and palpate to identify vein.
- Clean skin with a 2% chlorhexidine gluconate/70% isopropyl alcohol applicator (FREPP) and allow to dry.
- If a culture is being collected from a central venous catheter, disinfect the access port with a 2% chlorhexidine gluconate/70% isopropyl alcohol impregnated swab.
- To avoid cross-contamination from the collector’s fingers (even when gloved), it is vitally important not to palpate the site once it has been disinfected.

7. SAMPLE COLLECTION
METHOD A: WINGED BLOOD COLLECTION METHOD

- Wash and dry your hands again or use hand sanitiser and apply clean examination gloves (sterile gloves are not necessary).
- Attach winged blood collection set to blood collection adapter cap.
- Insert needle into prepared site. **Do not palpate again after cleaning.**
- Place adapter cap 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 (due to air being in line).**
- If blood is being collected for other tests, always collect the blood culture first.
- Ensure tourniquet is released.
- Remove the needle from the vein using the in-vein activator on the collection set.
- Only apply pressure for venestasis after the needle has been removed from the patient.
- Cover the puncture site with an appropriate dressing.
- Discard winged blood collection set into a sharps container.
- Wash hands after removing gloves.
- Record the procedure with indication for culture, time, site of venepuncture and any complication in the patient’s record.

IMPORTANT – The vacuum in the bottles will exceed 10 ml. DO NOT OVERFILL.

**Taking blood through iv lines:**
- Shut off any iv fluids going through port
- Clean hub with 2% chlorhexidine/70% alcohol, then draw 20mls for culture with syringe. Follow paragraphs 7 to 9
- **Only** take through existing line if taking to exclude iv line sepsis (unless peripheral access unobtainable). Peripheral stab should be taken first if iv line sepsis suspected.

**New blood cultures may only be taken from cannulas on insertion. A transfer device should be used to distribute 10mls of blood into each bottle. When using this method the anaerobic (purple) top should be filled prior to the Aerobic (as there is no air in line).**

8. **LABELLING OF BOTTLES**
- Clearly label the bottles with appropriate patient information after the blood has been taken and prior to leaving the patient’s bedside.
- Ensure that barcodes on the bottles are not covered by additional labels and that any tear-off bar-code labels are not removed.

9. **TRANSPORTATION TO THE LABORATORY**
- Send the inoculated bottles to the laboratory immediately. The bottles must not be refrigerated. DO NOT use the pod system for transporting blood cultures to the laboratory.
● Include information on recent/proposed antibiotic therapy and all relevant clinical details on the dedicated Pathology Blood Culture Request Form (adults only).

10. BLOOD CULTURE RESULTS
All significant positive blood culture results will be telephoned as soon as they are available. It is **NOT** necessary to phone the Laboratory to request blood culture results.

11. DISSEMINATION AND IMPLEMENTATION
The policy has been written by the Infection Control Team, agreed by the Control of Infection Committee and ratified by the Clinical Governance Committee. The policy will be available on TrustNet.

All healthcare practitioners who undertake this practice shall undergo training via practical demonstration.

12. PROCESS FOR MONITORING COMPLIANCE WITH THE EFFECTIVENESS OF POLICIES
All staff who undertake blood culture taking must be competent and have completed competency training for this procedure.

13. EQUALITY IMPACT ASSESSMENT
The Trust has a statutory duty to carry out an Equality Impact Assessment (EIA) and an overarching assessment has been undertaken for all infection control policies.

14. ARCHIVING ARRANGEMENTS
This is a Trust-wide document and archiving arrangements are managed by the Quality Dept. who can be contacted to request master/archived copies.

15. REFERENCES

**APPENDIX A**
This assessment ensures that the candidate is fully aware of the procedures for requesting and collecting blood culture samples within Ashford and St Peters NHS Foundation Trust.

**Assessment for taking Blood Cultures**

Name of the candidate: ___________________________  Area/ward: ___________________________

Position held: ________________________________

Name & designation of the assessor: ________________________________

<table>
<thead>
<tr>
<th>Candidate:</th>
<th>Assessment method</th>
<th>Assessor signature</th>
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<tbody>
<tr>
<td>Demonstrates an understanding of Trust's Blood Culture Policy</td>
<td>Discussion</td>
<td></td>
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<tr>
<td>Understands rationale for aseptic technique whilst taking blood culture</td>
<td>Discussion</td>
<td></td>
</tr>
<tr>
<td>Explains procedure and rationale to the patient and obtains consent</td>
<td>Discussion</td>
<td></td>
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<tr>
<td>Identifies and prepares appropriate equipment</td>
<td>Observation</td>
<td></td>
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<tr>
<td>Demonstrates aseptic technique and an acceptable blood culture taking technique</td>
<td>Observation</td>
<td></td>
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<tr>
<td>Demonstrates correct disposal of equipment used for procedure</td>
<td>Observation</td>
<td></td>
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<tr>
<td>Ensures documentation including label of bottles and correct completion of microbiology form is completed</td>
<td>Observation</td>
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Signature of candidate: .....................  Signature of Assessor: .....................

Date: .....................  Date: ..........................

*(Signature of candidate and assessor added to facilitate documentation of competency of blood culture taking technique)*

**Once completed Medical Staff to send the completed form to Directorate Lead/Clinical Governance Nursing and Support Staff to send to Line Manager**