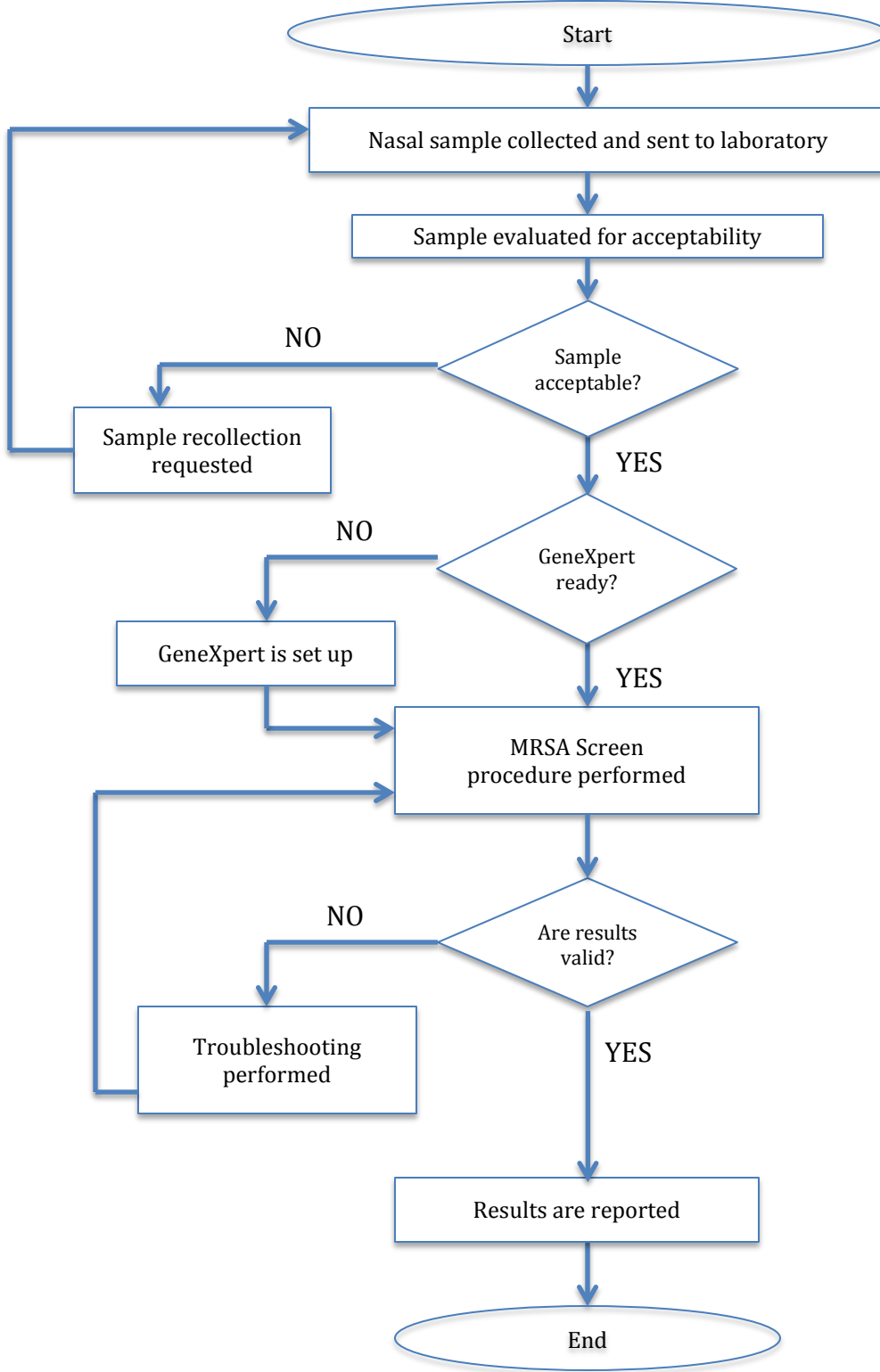


MRSA Screening Using the Cepheid GeneXpert



How to Collect Nasal Swabs for MRSA Screening by Cepheid GeneXpert

Purpose This procedure provides instructions for collecting a nasal swab suitable for molecular testing to detect the presence of Methicillin Resistant *Staphylococcus aureus* (MRSA)

Materials

Supplies	Equipment
<ul style="list-style-type: none"> BBL™ Culture Swab™ 	

Special safety precautions

None

Procedure:

Follow the activities in the table below to collect a nasal swab for MRSA screening.

Step	Action
1	Peel open the BBL™ Culture Swab™ sterile pouch at the point indicated by the diagram on the outside of the package.
2	Twist to remove the cap from the transport tube, and remove the swab.
3	Insert the swab approximately 2 cm (approx. ¾ inches) into the naris, and rotate the swab against the anterior nasal mucosa for 3 seconds.
4	Using the same swab, repeat for other naris, and place swab back into the transport tube.
5	Push the end of the swab firmly to ensure that the swab is inserted into the end of the transport tube. Ensure that the swab tip is in contact with the moistened pledget. Secure the transport cap.
6	Label the swab with a preprinted or handwritten label which includes at least two patient identifiers (patient name and date or birth or patient name and medical record number).
7	Transport the labeled specimen to the laboratory. Specimens should be kept between 2 – 30° C during transport. Specimens that can be tested within 36 hours can be kept at room temperature (15–30° C).

References

Clinical Microbiology Procedures Handbook, ASM Publications, 3rd Edition

Related procedures

101: How to Evaluate a MRSA Nasal Swab for Acceptability, 102: How to Set Up the Cepheid GeneXpert, 103: How to Perform MRSA Screening on Cepheid GeneXpert, 104: How to Report Results of MRSA Screening Obtained with the Cepheid GeneXpert

End

How to Evaluate a MRSA Nasal Swab for Acceptability

Purpose This procedure provides instructions for evaluating a nasal swab to determine acceptability for molecular testing to detect the presence of Methicillin Resistant *Staphylococcus aureus* (MRSA)

Materials

Supplies	Equipment

Special safety precautions

None

Procedure:

Follow the activities in the table below to evaluate a nasal swab for acceptability for MRSA screening.

Step	Action
1	Check the specimen for proper labeling (including the presence of two identifiers), transport time and transport conditions.
2	Reject any specimens that: <ul style="list-style-type: none">• Are not properly labeled• Have been frozen• Have been exposed to excessive heat• Have been in transit greater than 36 hours and not refrigerated.• Have been in transit greater than 5 days
3	Contact the submitter when a specimen has been rejected and request a recollection. Document in LIS.

References

Clinical Microbiology Procedures Handbook, ASM Publications, 3rd Edition

Related procedures

100: How to Collect Nasal Swabs for MRSA Screening, 102: How to Set Up the Cepheid GeneXpert, 103: How to Perform MRSA Screening on Cepheid GeneXpert, 104: How to Report Results of MRSA Screening Obtained with the Cepheid GeneXpert

End

How to Set Up and Maintain the Cepheid GeneXpert for Testing

Purpose This procedure provides instructions for setting up and maintaining the Cepheid GeneXpert for MRSA testing.

Materials

Supplies	Equipment
<ul style="list-style-type: none">• 10% bleach• Kim Wipes	<ul style="list-style-type: none">• Cepheid GeneXpert System

Special safety precautions

None

Procedure:

Follow the activities in the table below to set up and maintain the Cepheid GeneXpert system.

Step	Action
1	Check that the computer is on. The computer is left on and rebooted once per week. Cleaning is performed around the instrument on a daily basis.
2	Initiate the software program by clicking on the appropriate icon.
3	Clean plungers on a monthly basis. Print out reports, including error reports.
4	Perform Calibration on a yearly basis.

References

Cepheid GeneXpert Instrumentation Manual

Related procedures

100: How to Collect Nasal Swabs for MRSA Screening, 101: How to Evaluate MRSA Nasal Swabs for Acceptability, 103: How to Perform MRSA Screening on Cepheid GeneXpert, 104: How to Report Results of MRSA Screening Obtained with the Cepheid GeneXpert

End

How to Perform MRSA Screening of Nasal Swabs on the Cepheid GeneXpert

Purpose This procedure provides instructions for performing MRSA screening of nasal swabs on the Cepheid GeneXpert.

Materials	Reagents	Supplies	Equipment
	<ul style="list-style-type: none"> • Sample Reagent Vial • MRSA Cartridge 	<ul style="list-style-type: none"> • Disposable Pipette 	<ul style="list-style-type: none"> • Cepheid GeneXpert

Sample Properly labeled nasal swab collected in Cultiurette, transported at 2 – 30 °C within 5 days of collection.

Special safety precautions None

Quality control Known positive and negative controls are run with each lot or each shipment of kits. Each cartridge contains an internal control (Specimen Probe) which must be positive for a valid test.

Procedure: Follow the activities in the table below to perform MRSA screening of nasal swabs on the Cepheid GeneXpert.

Step	Action
1	Insert swab into Sample Reagent Vial and break off.
2	Vortex and dispense Sample into Specimen Port of Cartridge using disposable pipette.
3	Create a test in the software program. Scan specimen number.
3	Scan bar code of Cartridge. Press Start. A blinking light will come on designating which port to use.
4	Insert the cartridge into the blinking GeneXpert port and shut the door. The assay will start automatically.
5	When assay is complete, remove Cartridge and discard into biohazard waste.
6	Check results for validity.

Calculations All calculations are performed within the software program.

Interpretation/ Results/Alertvalues Software printout will report whether results are valid and whether the reportable result is **Not Detected**, **Detected** or an **Invalid Test**. Reactive test results are Critical Values, and are reported per critical value policy. If results are not valid, repeat the test with a new cartridge. Invalid tests can occur if the Specimen Probe (internal control) is inhibited or for other errors

Continued on next page

Reference intervals	Patients that are MRSA carriers will test DETECTED. Patients that are not carriers of MRSA will test Not Detected.
Result reporting	Valid results are reported in the Laboratory Information System. See procedure 103: How to Report Results of MRSA Screening Obtained with the Cepheid GeneXpert
References	Cepheid MRSA Screening Kit Product Insert
Related procedures	100: How to Collect a Nasal Swab for MRSA Screening, 101: How to Evaluate a MRSA Nasal Swab for Acceptability, 102: How to Set Up the Cepheid GeneXpert, 104: How to Report Results of MRSA Screening Obtained with the Cepheid GeneXpert
Appendixes	None

EXAMPLE

How to Report MRSA Screening Results Obtained from the Cepheid GeneXpert

Purpose This procedure provides instructions for reporting Cepheid GeneXpert MRSA screening results

Materials

Supplies	Equipment
•	• Cepheid GeneXpert

Special safety precautions

No special safety precautions are necessary

Procedure:

Follow the activities in the table below to report results of MRSA screening obtained from the Cepheid GeneXpert.

Step	Action
1	Double Check the GeneXpert instrument printout to ensure that results are valid.
2	Select the appropriate option from the LIS pick list: Not Detected, Detected, or Invalid Test.
3	Call the Detected result to the hospital floor, since this is a Critical Result, noting the person who took the result and having them correctly read/back the result to you.
4	Document the called report in the LIS.

References

Cepheid MRSA Screening Kit Product Insert

Related procedures

100: How to Collect a Nasal Swab for MRSA Screening, 101: How to Evaluate a MRSA Nasal Swab for Acceptability, 102: How to Set Up the Cepheid GeneXpert, 103: How to Perform MRSA Screening on Cepheid GeneXpert

Appendixes

None

End