# Aim

To describe the processing of clinical specimens collected for investigation of potential sexually transmitted infection of the male genital tract in a paediatric hospital setting.

# Principle

Swab specimens are collected from the penis/urethra and/or rectum to determine the presence of organisms associated with sexually transmitted infection. *Neisseria gonorrhoeae* infection may be characterised by pain, irritation, and discharge.

# Method

## Specimen collection

Specimens should be collected using sterile swabs and placed into Amies transport medium (+/- charcoal).

## Specimen transport and storage

Specimens should ideally be stored and transported in sealed plastic bags. Laboratory processing should occur as soon as possible after specimen collection. Specimens should be refrigerated if delays in processing over two hours are unavoidable.

## Specimen processing

### Reception

Log the specimen in the appropriate specimen book and assign a specimen number.

### Microscopic examination

Prepare a smear for Gram stain.

Look carefully for intracellular Gram negative diplococci.

### Culture

Inoculate swabs onto a GC plate only.

Incubate for up to 48 hours, inspecting daily, at 35-37°C in 5-10% CO2.

# Interpretation

Record the semi-quantitative growth of suspected *N. gonorrhoeae* colonies (i.e. +/- to ++++).

## Minimum level of identification in the laboratory

Identify *N. gonorrhoeae* by colonial morphology, Gram stain (GNDC), API NH (SOP MID-002) and confirm using Phadebact GC (MID-003).

## Antimicrobial susceptibility testing

All *N. gonorrhoeae* isolates should have antimicrobial susceptibilities determined according to SOP MIC-001.

## Reporting

Gram stain results: WBC and organisms detected. The presence of intra-cellular Gram negative diplococci should be communicated to the clinician urgently.

Culture results: Presence or absence of *N. gonorrhoeae*.

# Quality assurance

Media and identification tests should be quality controlled according to SOP MED-001.

# Limitations

Prior antimicrobial use may result in negative cultures.

# References

1. Health Protection Agency, UK SOP B24: Investigation of Genital Tract and Associated Specimens (Issue 4.3; December 2012).
2. Hawkey, P and Lewis, D. Medical Bacteriology. 2nd Edition (2004). Oxford University Press.

# Synopsis / Bench aid



# Risk assessment

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| **COSHH risk assessment - University of Oxford COSHH Assessment Form** | |
| **Description of procedure**  Culture of penile/urethral or rectal swabs | **Substances used**  Variable, depending on organism cultured (may include Gram stain reagents; 3% hydrogen peroxide (catalase test); N,N,N',N'-tetramethyl-1,4-phenylenediamine (oxidase test); sodium deoxycholate (bile solubility test); bioMerieux API reagents) |
| **Quantities of chemicals used**  Small | **Frequency of SOP use**  Daily |
| **Hazards identified**  1. Autoclaved liquid  2. Potentially infectious material in sample  3. Potentially pathogenic bacteria  4. Chemical exposure form bacterial identification tests | **Could a less hazardous substance be used instead?**  No |
| **What measures have you taken to control risk?**  1. Training in good laboratory practices (GLP)  2. Appropriate PPE (lab coat, gloves, eye protection) | |
| **Checks on control measures**  Observation and supervision by senior staff | |
| **Is health surveillance required?**  No | **Training requirements:**  GLP |
| **Emergency procedures**:  1. Report all incidents to Safety Adviser  2. Use eyewash for splashes  3. Clean up spills using 1% Virkon or chemical spill kit | **Waste disposal procedures**:  1. Sharps discarded into appropriate rigid containers for incineration  2. Infectious waste discarded into autoclave bags or 1% Virkon solution prior to autoclaving and subsequent incineration  3. Chemical waste disposed of according to manufacturer’s instructions |