

Gonorrhoea is caused by *Neisseria gonorrhoeae*, a bacterium that can grow and multiply easily in warm, moist areas. The bacterium can also grow in the mouth, throat or eyes.

Transmission

	Transmission
Skin Exposure (Needlestick, bite, or scratch)	Direct skin contact with <i>Neisseria gonorrhoeae</i> .
Mucous membrane Splash to Eye(s), Nose or Mouth	Direct Contact
Inhalation	Unlikely

The incubation period for the infection ranges from 2 -10 days, most frequently 3-4 days.

Symptoms

Laboratory acquired gonorrhoeae would produce localized symptoms.

Vaccination

None.

First Aid

1. Perform one of the following actions:

Skin Exposure (Needlestick or scratch)	Immediately go to the sink and thoroughly wash the wound with soap and water. Decontaminate any exposed skin surfaces with an antiseptic scrub solution.
Mucous membrane Splash to Eye(s), Nose or Mouth	Exposure should be irrigated vigorously.
Splash Affecting Garments:	Remove garments that may have become soiled or contaminated and place them in a double red plastic bag.

2. **Immediately call the 24/7 hour number (1-617-414-NONAME (7647)); or, 4-NONAME (7647) if calling from on-campus location** to be connected with the Research Occupational Health Program (NONAME) medical officer.
3. For unexplained symptoms or illness proceed immediately to be seen by a health care provider.
 - a. If at work on the Medical Campus, proceed to the BMC OEM (7:30 to 4:00 p.m.)
 - b. If at home or off-hours, go to the nearest ED or your physician and notify NONAME
 - c. If travelling, go to the nearest ED and notify NONAME.
4. Inform the physician of your work in the laboratory and the agent that you handle.
5. Provide the wallet-size agent ID card to the physician.

Diagnosis

Several laboratory tests are available to diagnose gonorrhoea. A doctor or nurse can obtain a sample for testing from the parts of the body likely to be infected (wound, bite, cervix, or throat) and send the sample to a laboratory for analysis. A Gram stain could be done if infectious material is available.

Post Exposure Treatment

Treatment Guidelines for Uncomplicated Gonococcal Infections

Cefixime (Suprax), 400 mg orally

Ceftriaxone (Rocephin), 125 mg intramuscularly

Ciprofloxacin (Cipro), 500 mg orally†

Levofloxacin (Levaquin), 250 mg orally†

Ofloxacin (Floxin), 400 mg orally†

NOTE: All medications are administered for appropriate duration..

†—Resistance throughout world – not recommended

Post Exposure Prophylaxis

Post exposure prophylaxis is recommended only for those individuals who have had direct contact with *N. gonorrhoeae* agent. The same post exposure treatment antibiotic would be used.

- Lab report of positive *N. gonorrhoea* culture from an invasive site
- Lab report of gram negative diplococci (or cocci) from an invasive site
- Lab report of positive *N. gonorrhoea* result from validated PCR

Laboratory Tests

A **Presumptive** diagnosis of gonorrhoea is made on the basis of **one of the following three** criteria:

- Typical gram-negative intracellular diplococci on microscopic examination of a smear of exposed lesion.
- Detection of *N. Gonorrhoeae* by a nonculture laboratory test (antigen detection test (e.g., gonozyme [Abbott]), direct specimen nucleic acid probe test (e.g., Pace II [GenProbe]), nucleic acid amplification test (e.g., PCR [Abbott])).

A **Definitive** diagnosis of gonorrhoea requires:

- Isolation of *N. Gonorrhoeae* from sites of exposure by culture (usually a selective medium) and demonstrating typical colonial morphology, positive oxidase reaction, and typical gram-negative morphology **and**
- Confirmation of isolates by biochemical, enzymatic, serologic, or nucleic acid testing e.g., carbohydrate utilization, rapid enzyme substrate tests, serologic methods such as coagglutination or fluorescent antibody tests supplemented with additional tests that will ensure accurate identification of isolates, or a DNA probe culture confirmation technique.

Disease/s Caused by Agent

The following diseases can be associated with *N. gonorrhoeae* in laboratory exposures: conjunctivitis, pharyngitis, cellulitis, and rare disseminated infection.

Safety Precautions and Personal Protective Equipment for Lab Workers

Research should be conducted using Biosafety Level **2** practices, equipment, and facility design. Gloves should be worn when handling infected laboratory animals and when there is the likelihood of direct skin contact with infectious materials. Additional primary containment and personnel precautions such as those described for BSL- 3 may be indicated when there is high risk of aerosol or droplet production, and for activities involving production quantities or high concentrations of infectious materials. Animal studies may be performed at ABSL-2.

Safety Precautions for Personnel Who Work in a Lab Using the Agent, But Do Not Handle It Directly

Accidental parenteral inoculation and direct or indirect contact of mucous membranes with infectious clinical materials are known primary laboratory hazards. Laboratory-acquired illness due to aerosol transmission has not been documented.

Surveillance

All cases must be reported to MDPH and BPHC. For more information: www.mass.gov/dph/aids.

References

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Characteristics of *N. gonorrhoeae* and Related Species of Human Origin; <http://www.cdc.gov/std/gonorrhoea/lab/Ngon.htm>

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