



Pertussis Toxin post exposure guidance

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Revised: / /

<https://research.columbia.edu/sites/default/files/content/EHS/Homepage/pertussisPrintAndGo.pdf>

What are print and go sheets?

Following an occupational exposure to the agent identified above, this information sheet identifies the immediate “first aid” actions that should be taken. A medical evaluation should be sought immediately following the exposure. The guidance sheet provides information that medical personnel can reference but does not provide individualized medical care or treatment. This sheet should be printed and taken to the medical provider. Also, display your Columbia University ID card while visiting the medical provider.

Background

Pertussis toxin (PT) is a biological toxin that is secreted from the bacterium *Bordetella pertussis*, which is the causative agent of whooping cough. The lethal dose (LD50) for PT is 18ug/kg i.p. body weight for mice and is unknown for humans. In the laboratory setting, typical routes of exposure are through inhalation, mucous membrane contact, sharps injuries with contaminated materials, and ingestion of trace amounts of the material if hands are not washed prior to eating or smoking.

Medical surveillance:

If exposure occurs Mon. to Fri., 8:00 am - 4:00 pm: Employees from CUMC, Morningside and Manhattanville campuses go to the Workforce Health and Safety (WHS) clinic located at Harkness Pavilion 1 South 176 Fort Washington Ave (212-305-7590). CUMC students go to Student Health Services at 60 Haven Avenue (212-305-3400). Morningside students go to Columbia Health in the John Jay Building (212-854-7426). For after-hours exposure, go to the New York Presbyterian Hospital or Mount Sinai St. Luke's Hospital (212-523-3335) Emergency Room (ER). Give this sheet to the physician so they understand that you may have just been exposed to pertussis toxin, and this is a medical emergency.

Pre-exposures:

The pertussis booster for adults is combined with a tetanus vaccine and diphtheria vaccine booster; this combination is abbreviated "Tdap" (Tetanus, diphtheria, acellular pertussis). It is similar to the childhood vaccine called "DTaP" (Diphtheria, Tetanus, acellular Pertussis). Documented Tdap vaccination within prior 10 years (or written declination) is recommended prior to working with Pertussis Toxin (PT).

Post-exposures:

SUBCUTANEOUS EXPOSURE

If injected, remove gloves. Wash with soap for 10 min. and express the wound under running water.

ORAL EXPOSURE

If swallowed, wash out mouth with water, provided person is conscious.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult call 911.

DERMAL EXPOSURE

In case of skin contact, wash the skin thoroughly with soap and water for 10 min. Rinse with copious amounts of water. Remove contaminated clothing and shoes.

EYE EXPOSURE



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In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers.

All PT exposures should receive immediate medical evaluation. An estimate of the amount of PT exposure (milligram, microgram, nanogram) should be made. Hyperimmune globulin is the only antidote, and is maintained by the CDC. Note that CDC is unlikely to make this therapy available for investigators performing laboratory research. However, persons immunized with Pertussis (whooping cough) vaccine will unlikely have long term adversary effects.

Next steps:

If evaluated at the ER, follow up with respective campus provider next business day. Complete an Accident Report Form there. Notify supervisor of incident.

Contact information:

Environmental Health & Safety (EH&S) - Ask for a Biosafety Officer

Monday - Friday: 9 am - 5 pm

Medical Center - (212) 305-6780

Public Safety

Public Safety can contact an EH&S Biosafety Officer after business hours:

Medical Center - (212) 305-7979

Morningside - (212) 854-5555