

Health Advisory

Special Events in Summer 2026 – Public Health Preparedness Recommendations June 4, 2026

SUMMARY POINTS

- Healthcare facilities should review their emergency response and disaster preparedness plans before the upcoming FIFA World Cup and other summer special events.
- There will be more travelers than usual in the city. Consider travel-related infections when people present for care.
- Clinicians should report conditions requiring immediate notification to PDPH, including any outbreaks, unusual presentations, or clusters of disease.

The City of Philadelphia is preparing to host a series of FIFA World Cup games and other special events, including the MLB All-Star Game and America 250 celebrations, from June 11, 2026, through July 14, 2026. While the City has received no information regarding any threats specific to these events, healthcare facilities should be prepared for both naturally occurring events that might result in increased illness, as well as the possibility of terrorism resulting in civilian casualties. The Philadelphia Department of Public Health (PDPH) recommends that healthcare facilities review their emergency response and disaster preparedness plans before the upcoming FIFA events. [A comprehensive checklist is available here](#), and specific recommendations include:

- Evaluate facilities and personnel to ensure the safety and security of both.
- Ensure appropriate staff understand their roles in an emergency and communications protocols.
- Update clinical providers on biological, chemical, and radiological agents.
 - Information on these threats is available online at <https://hip.phila.gov>.
- Review procedures that address medical treatment of mass casualties, including decontamination, personal protective equipment (PPE) use, and triage protocols.
- Review procedures that address medical treatment for blast and bombing injuries.
- Remind clinicians to ask about travel history.
- Prepare to treat individuals suffering from heat-related illness.

Disease Reporting

Due to an increase in both national and international travelers, importation of non-endemic and other communicable diseases and increased healthcare utilization may occur. PDPH reviews data daily from multiple sources to facilitate the recognition of disease outbreaks; however, PDPH relies on clinicians to report, **by telephone**, conditions that require immediate notification, including any outbreaks, unusual presentations, suspected high-consequence infections, or clusters of disease. Indicators of naturally occurring outbreaks or possible biological terrorism are:

- An unusual temporal or geographic clustering of illness (e.g., people who attended the same public event or gathering).
- Increase in serious lower respiratory illness with negative tests for common bacteria and viruses.
- Patients presenting with clinical signs and symptoms that suggest an infectious disease outbreak (e.g., >2 persons presenting with an unexplained febrile illness associated with sepsis, pneumonia, respiratory failure, rash, or botulism-like syndrome with flaccid muscle paralysis, especially if occurring in otherwise healthy persons).

- An unusual age distribution for common diseases (e.g., an increase in chickenpox-like illness in adult patients).
- Single cases of disease due to uncommon, non-indigenous agents (e.g., anthrax, plague, tularemia) in patients with no history suggesting an explanation for illness.
- Large number of cases of acute flaccid paralysis with prominent bulbar palsies, suggestive of a release of *botulinum* toxin.

Report conditions that require immediate notification to PDPH by calling 215-685-6741 during normal business hours (Monday-Friday, 8:30AM-5:00PM). Call 215-686-4514 (press 1 for Unified Dispatch, then ask for the Division of Disease Control On-Call Staff) after hours, on weekends, and on holidays. PDPH will provide public health consultation and facilitate diagnostic testing that requires public health laboratory services. A list of reportable conditions and a fillable reporting form are available at <https://hip.phila.gov/report-a-disease>.

In addition to providing routine information on the patient's contact information, demographics, clinical details, and relevant exposures when reporting to PDPH, please also obtain the following additional information to assist with identifying connections to major event attendance and to help facilitate contact with visitors:

- Address for any local hotel stay(s) or other lodging accommodations
- Other communication methods in addition to telephone (e.g., WhatsApp)
- Preferred language
- Details on major events attended (event name, date/time, and location) during the exposure and contagious period
- Travel itinerary, including cities/states being visited, arrival and departure dates, accommodations, and flights or other transportation

Tools for Healthcare Providers

PDPH has developed several tools to guide clinicians in identifying and appropriately evaluating communicable diseases and other threats. These tools are attached to this health advisory and include:

- [Diseases of Concern by Travel History: June – July 2026](#)
- [Public Health Screening Tool for High-Consequence Pathogens of Concern](#)
- Summaries of Biological, Chemical, and Radiological Threats
 - [Biological](#)
 - [Chemical](#)
 - [Radiological](#)
- Specimen collection guidance
 - [Pennsylvania Department of Health Bureau of Laboratories Test Menu](#)

2026 Philadelphia Summer Events Public Health Preparedness Recommendations

2026 Special Events Overview

Summary

- The FIFA World Cup will run June 11-July 19, 2026
- 16 host cities across Mexico, Canada, and the US
- [Match schedule](#) announced¹
 - 48 teams will participate from Asia, Africa, Europe, North and South America, and Oceania
- Estimated high of 6 million attendees in the US
- Philadelphia will host several special events for America’s 250th Anniversary, including the Wawa Welcome America festival from 6/28-7/4
- Philadelphia will host the MLB All-Star Game, with high-profile events on 7/13 and 7/14

Local Event Details

- [6 matches](#) at Lincoln Financial Field
 - Lincoln Financial Field Capacity: 68,000
 - Round of 16 match July 4
- FIFA Fan Festival at Lemon Hill
 - Open daily from June 11-July 19
 - Schedule available [here](#)
 - Estimated 15,000 people on peak days
- The Cote D’Ivoire team’s basecamp will be at Subaru Park in Chester, PA
 - Team hotel in Wilmington, DE
- 8 matches at MetLife Stadium in Northern NJ, including the final match on July 19

Public Health Risks²

Special Event Characteristics	Potential Public Health Risks
Sporting events	<ul style="list-style-type: none"> • Energetic, potentially aggressive mood • Injuries, violence, crowd surges • Alcohol and drug use/overdose emergencies
On-going events	<ul style="list-style-type: none"> • Higher risk of communicable disease spread • Extended strain on public health systems • Extended strain on hospital and other healthcare systems
Summer activities	<ul style="list-style-type: none"> • Dehydration • Heat stroke and other heat-related illnesses • Poor air quality (e.g., smog, wildfires) and allergies • Mosquito, tick, other insect, and animal exposures
International attendees	<ul style="list-style-type: none"> • Delayed access to healthcare due to: <ul style="list-style-type: none"> ○ Unfamiliarity with healthcare system ○ Challenges contacting and communicating with international visitors ○ Delayed reporting and communicable disease intervention due to travel/residency • Communicable disease spread among unvaccinated or vulnerable travelers • Possibility of non-endemic communicable diseases unfamiliar to healthcare systems • Unknown immunity to vaccine-preventable diseases • Difficulty adhering to recommended isolation and/or quarantine recommendations for communicable diseases
Informal food vendors	<ul style="list-style-type: none"> • Increased risk of food-borne illness
Other threats at mass gatherings	<ul style="list-style-type: none"> • Infectious disease outbreak or pandemic • Mass casualty incidents • Terrorism (e.g., biological, chemical, or radiological attacks) • Human trafficking • Multiple or overlapping public health emergencies happening at once

¹ Monitor FIFA websites for updates regarding [match schedules](#), [team base camps](#), and [fan events](#).

² World Health Organization (WHO). [Public Health for Mass Gatherings: Key Considerations](#).

Planning Checklist

Healthcare and EMS providers should apply an all-hazards planning approach and ensure existing plans and response protocols are reviewed and updated, as needed.

PLANNING & PREPAREDNESS FOR HEALTHCARE INSTITUTIONS

- Review all-hazards and disease-specific response plans
- Establish or update emergency roles and responsibilities for all staff
- Develop surge staffing plans for potential incidents (e.g., communicable disease outbreak, mass casualty incident)
- Refresh staff training on Incident Command System structure and activation
- Update emergency contact lists and review notification procedures for weekend and after-hours emergencies
- Review PPE needs for staff and refresh staff training on appropriate PPE use
- Review inventory and maintain stockpile supplies
- Review and update plans for staff monitoring in the event of an exposure to a communicable disease or chemical agent
- Ensure knowledge of the proper reporting mechanisms, including phone numbers for local and state health departments
- Ensure access to and familiarity with Healthcare Coalition data sharing systems
- Review and update your closed point of dispensing plan to ensure readiness to dispense medical countermeasures to your agency's population. For assistance with planning, visit the [Health Information Portal](#) or contact ClosedPOD@phila.gov.
- Ensure patient transport plans are in place, including plans for surge and highly pathogenic infectious disease
- Review [downtime procedures](#) and continuity plans
- Review and update mass fatality and decedent management procedures
- Determine spaces to absorb additional patient surge
- Test plans, procedures, and protocols, including triage drills and exercises

COMMUNICATION

- Review and update your Communications Plan and establish procedures to address rumors
- Ensure availability of and staff familiarity with interpretation services
- Encourage staff and patients to enroll in [ReadyPhiladelphia](#) for emergency and weather alerts
- Report incidents at your facility to the Southeast PA Healthcare Coordination Desk: 267-546-4839

HIGH CONSEQUENCE INFECTIOUS DISEASES

- Remind clinical staff to assess for recent travel – both international and domestic – when evaluating patients, including asking about and documenting attendance at World Cup events
- Apply the [Identify, Isolate, and Inform Framework](#) to manage patients with potential HCIDs
- Review infection prevention and control (IPC) plans and protocols for clinical and laboratory settings
 - Ensure healthcare personnel, lab workers, and staff are up to date with [IPC guidance](#) and training at the appropriate level.
 - Review [Standard Precautions](#) and [Healthcare Respiratory Protection](#) resources.
- Review [CDC travel health notices](#) as well as state and local health alerts
 - Ensure staff sign up for the [Philadelphia Health Alert Network](#)
- Ensure relevant staff are familiar with disease reporting processes, including when it is necessary to immediately [report a suspected pathogen](#).
- Review specimen collection and transport protocols, including updated [open acceptance hours](#) for the PADOH Bureau of Laboratories
- Prepare to rapidly identify and respond to measles cases among travelers
 - Review the [PDPH Health Advisory](#) from February 2026 for local reporting and testing information
 - Review the [CDC's Checklist for Preparing and Responding to Measles](#)
- Prepare to rapidly identify and respond to mpox cases
 - Review the [PDPH Health Advisory](#) for testing, vaccination, and treatment information

Health Department Contact List

For non-urgent special event preparedness or general planning questions, reach out to publichealthpreparedness@phila.gov or your primary PDPH contact.

PDPH Acute Communicable Diseases	Phone: Business hours (M–F, 8:30am–5pm): 215-685-6741 After hours, weekends, and holidays: 215-686-4514, dial 1 and ask for the Division of Disease Control staffer on call for immediately reportable diseases or event-related communicable disease concerns
PA Department of Health	877-PA-HEALTH 717-787-3350
Bucks County Department of Health	Phone: 215-345-3318
Chester County Health Department	Phone: 610-344-6225 Email: healthoperationscenter@chesco.org
Delaware County Health Department	Phone: 484-276-2100 Email: DelcoWellness@co.delaware.pa.us
Montgomery County Office of Public Health	Phone: 610-278-5117 After hours: 610-635-4300 Email: MCOPHCommunicable@montgomerycountypa.gov
Delaware Department of Health and Social Services	Phone: 1-888-295-5156 Email: reportdisease@delaware.gov
NJ Department of Health Communicable Disease Services	Phone: 609-826-5964 (M-F, 8a-5p) After hours: 609-392-2020

Helpful Resources

Special Event Information	<ul style="list-style-type: none"> • FIFA World Cup: Philadelphia • 2026 Philadelphia Resource Hub • Hospital Preparedness Checklist (NW Healthcare Response Network)
Heat Health Emergencies	<ul style="list-style-type: none"> • Philadelphia Extreme Heat Guide • Educational materials and resources in multiple languages • Heat Health Emergency information <ul style="list-style-type: none"> ○ Philadelphia Corporation for Aging Heatline: 215-765-9040 ○ Cooling center locations: 3-1-1 • Philadelphia homeless outreach team: 215-232-1984
Screening and Investigation Tools	<ul style="list-style-type: none"> • Biological and Chemical Agents of Concern Fact Sheets (Johns Hopkins) • Radiation Emergencies resources for clinicians (CDC) • Travelers' Health (CDC) • CareRef Clinical Assessment Tool (Minnesota Department of Health)
EMS Providers/First Responder Guidance	<ul style="list-style-type: none"> • Viral Hemorrhagic Fevers (VHFs) Interim Guidance for EMS Systems and 9-1-1 Answering Points (CDC) • Mental Health Toolkit (PADOH) • EMS Education, Information, and Resources (PADOH)
Human Trafficking	<ul style="list-style-type: none"> • Human Trafficking Webinar Series and Resources (American Hospital Association)
Substance Use Prevention and Harm Reduction	<ul style="list-style-type: none"> • Poison Control Center at Children's Hospital of Philadelphia: 1-800-222-1222 • Naloxone resources • Treatment options

Priority Infections

This is a list of infections that are most likely to be seen in higher than usual numbers this summer. It is important to keep broad differentials and obtain detailed travel histories on every patient.

- Measles
- Mpox
- Invasive meningococcal disease
- Seasonal influenza
- COVID-19
- Sexually transmitted infections
- Malaria
- Legionellosis
- Food and waterborne diseases (including food poisoning, norovirus, Salmonellosis, and shiga toxin-producing E. coli)
- Hepatitis A
- Vector-borne diseases (including West Nile virus, Lyme disease, Anaplasmosis, Babesiosis, Powassan virus, Dengue)
- Mumps
- Pertussis

Diseases of Concern by Country

Country	Diseases of Concern	Sources
Curaçao	Chikungunya Dengue Hantavirus Leptospirosis Measles Tuberculosis Typhoid Zika	Curaçao - Traveler view Travelers' Health CDC Curaçao - Profile Health in the Americas Travel advice and advisories for Curaçao
Côte d'Ivoire* (Ivory Coast)	African tick-bite fever African trypanosomiasis Chikungunya Cholera Dengue	Côte d'Ivoire (Ivory Coast) - Traveler view Travelers' Health CDC CIV.pdf Travel advice and advisories for Côte d'Ivoire (Ivory Coast)

*Single asterisk delineates countries with a current U.S. partial travel ban

**Double asterisks delineate countries with a current U.S. full travel ban

Highlighted diseases delineates CDC Travel Health Notices present as of 4/16/26 which include Level 1- Practice Usual Precautions and Level 2- Practice Enhanced Precautions- [Travel Health Notices | Travelers' Health | CDC](#)

FIFA World Cup

Diseases of Concern by Travel History: June-July 2026



	<p>Ebola Hantavirus Lassa fever Leishmaniasis Leptospirosis Malaria Measles Meningococcal disease Mpox Polio Schistosomiasis Tuberculosis Typhoid Yellow fever Zika</p>	<p>Disease Events - BEACON</p> <p>Rickettsial Diseases Yellow Book CDC</p>
Croatia	<p>Crimean-Congo hemorrhagic fever Hantavirus Leishmaniasis Leptospirosis Measles Tick-borne encephalitis Tuberculosis West Nile Virus</p>	<p>Croatia - Traveler view Travelers' Health CDC</p> <p>Travel advice and advisories for Croatia</p> <p>Disease Events - BEACON</p> <p>Weekly updates: Seasonal surveillance in humans in 2025 for West Nile virus</p>
Ghana	<p>African tick-bite fever Chikungunya Cholera Dengue Hantavirus Lassa fever Leishmaniasis Leptospirosis</p>	<p>Ghana - Traveler view Travelers' Health CDC</p> <p>Travel advice and advisories for Ghana</p> <p>Marburg virus disease - Ghana</p> <p>Disease Events - BEACON</p>

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FIFA World Cup

Diseases of Concern by Travel History: June-July 2026



	<p>Malaria Marburg Measles Melioidosis Meningococcal disease Mpox Polio Schistosomiasis Tuberculosis Typhoid Yellow fever</p>	<p>Ghana.pdf</p>
Brazil	<p>Brazilian spotted fever Chagas disease Chikungunya Dengue Hantavirus Leishmaniasis Leptospirosis Malaria Measles Melioidosis New World screwworm myiasis Oropouche Schistosomiasis Tuberculosis Typhoid Venezuelan equine encephalitis Western equine encephalitis Yellow fever Zika</p>	<p>Brazil - Traveler view Travelers' Health CDC</p> <p>Travel advice and advisories for Brazil</p> <p>Brazil - Country Profile Health in the Americas</p> <p>Brazil Yellow Book CDC</p> <p>Disease Events - BEACON</p> <p>Venezuelan equine encephalitis, Brazil - BEACON</p> <p>Molecular Epidemiology of Western Equine Encephalitis Virus, South America, 2023–2024 - Volume 30, Number 9—September 2024 - Emerging Infectious Diseases journal - CDC</p> <p>Rickettsial Diseases Yellow Book CDC</p>
Haiti**	<p>Chikungunya</p>	<p>Haiti - Traveler view Travelers' Health CDC</p>

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FIFA World Cup

Diseases of Concern by Travel History: June-July 2026



	<p>Cholera Dengue Hantavirus Leptospirosis Malaria Measles Melioidosis New World screwworm myiasis Oropouche Tuberculosis Typhoid Zika</p>	<p>Travel advice and advisories for Haiti</p> <p>Haiti - Country Profile Health in the Americas</p> <p>Disease Events - BEACON</p>
Ecuador	<p>Chagas disease Chikungunya Dengue Hantavirus Leishmaniasis Leptospirosis Malaria Measles Melioidosis New World Screwworm myiasis Oropouche Tuberculosis Typhoid Yellow fever Zika</p>	<p>Ecuador, including the Galápagos Islands - Traveler view Travelers' Health CDC</p> <p>Travel advice and advisories for Ecuador</p> <p>Ecuador - Country Profile Health in the Americas</p> <p>Disease Events - BEACON</p>
France	<p>Chikungunya Dengue Hantavirus Leishmaniasis</p>	<p>France - Traveler view Travelers' Health CDC</p> <p>Travel advice and advisories for France</p>

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FIFA World Cup

Diseases of Concern by Travel History: June-July 2026



	Leptospirosis Measles Parvovirus B19 Tick-borne encephalitis Tuberculosis West Nile virus Zika	Two Cases of Autochthonous West Nile Virus Encephalitis, Paris, France, 2025 - Volume 31, Number 11—November 2025 - Emerging Infectious Diseases journal - CDC Disease Events - BEACON
Iraq	Cholera Crimean-Congo hemorrhagic fever Hantavirus Leishmaniasis Leptospirosis Measles Middle East Respiratory Syndrome (MERS) Schistosomiasis Tuberculosis Typhoid	Iraq - Traveler view Travelers' Health CDC WHO EMRO - Communicable diseases surveillance and outbreak response Travel advice and advisories for Iraq Disease Events - BEACON

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Highlighted diseases delineates CDC Travel Health Notices present as of 4/16/26 which include Level 1- Practice Usual Precautions and Level 2- Practice Enhanced Precautions- [Travel Health Notices | Travelers' Health | CDC](#)

2026 FIFA World Cup

Public Health Screening Tool for High-Consequence Pathogens of Concern: June-July 2026



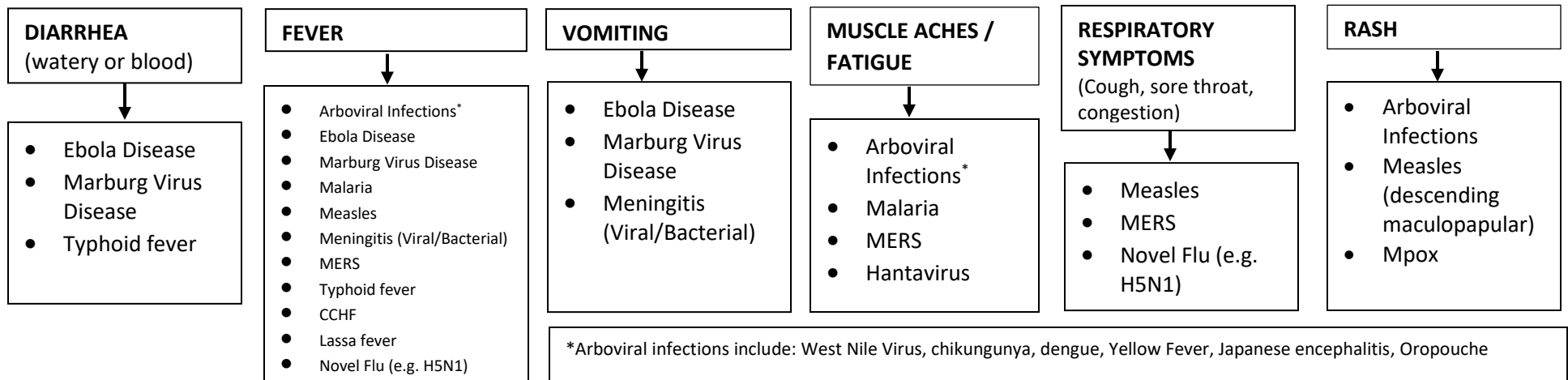
Philadelphia will be one of 16 cities to host the 2026 FIFA World Cup. Though domestic fans are expected to make up the largest number of attendees, the potential increase in tourism from different parts of the world will allow for the opportunity of disease importation to the Philadelphia area as well as the potential increase of healthcare utilization. This document aids healthcare providers in evaluating patients for potential infectious diseases of concern and provides them with appropriate steps to control transmission in healthcare settings. **All suspected and confirmed cases of reportable diseases, including those not on this list, should be reported to the Philadelphia Department of Public Health (PDPH) Division of Disease Control (DDC) at 215-685-6741 from 8:30am-5pm (Mon-Fri) and 215-686-4514 after hours, weekends, and holidays (press 1 for Unified Dispatch, ask for DDC On-Call staff). A list of reportable conditions and a fillable reporting form are available at <https://hip.phila.gov/ReportDisease>.**

Recommended Screening Procedures

- As part of a complete health history and physical examination, all patients should be asked about domestic and international travel history and animal exposure in addition to participation in FIFA World Cup events.
- CareRef is a tool that can be used to find recommended screening tests and other preventative care for patients with an international travel history. This tool can be accessed at: <https://careref.web.health.state.mn.us/>
- If a vaccine-preventable disease is suspected, immunization history should also be ascertained particularly for the following conditions: measles, varicella, hepatitis A, typhoid, and tetanus.
- Suspected cases of infectious diseases detailed below, unusual disease clusters or outbreaks, and/or illnesses associated with the FIFA World Cup should be immediately reported to Philadelphia Department of Public Health (PDPH) Division of Disease Control (DDC) at 215-685-6741 from 8:30am-5pm and 215-686-4514 after hours.

Common Signs & Symptoms and Associated Disease

Some diseases of public health concern associated with these syndromes are listed below. These lists are not exhaustive, and most symptoms will be caused by common pathogens.



Contact the Division of Disease Control at 215-685-6741 M-F, 8:30a.m. – 5:00p.m. (215-686-4514 after hours and on weekends and holidays) to report suspected cases, access diagnostic testing or obtain more information.

2026 FIFA World Cup

Summary of Biological Threats: June-July 2026



Clues to a possible bioterrorist attack:

- Single cases of disease due to uncommon, non-indigenous agents in patients with no history suggesting an explanation for illness
- Clusters of patients with similar syndrome with unusual characteristics (e.g., unusual age distribution) or unusually high morbidity and mortality
- Unexplained increase in the incidence of a common syndrome above seasonally expected levels (e.g., increase in influenza-like illness during summer, or with negative tests for influenza and other respiratory viruses).

To report suspected cases, access diagnostic testing, or to obtain more information contact the Division of Disease Control at 215-685-6741 during business hours (8:30am-5:00pm). After hours and on weekends and holidays call 215-686-4514, press 1 for Unified Dispatch, and ask for DDC On-Call staff.

Disease	Clinical Syndrome	Incubation Period	Diagnostic Samples	Diagnostic Assay	Patient Isolation Precautions	Treatment	Post-Exposure Prophylaxis	Comments
Anthrax	<ul style="list-style-type: none"> • Inhalational: febrile prodrome, respiratory distress, bacteremia, meningitis. • CXR: wide mediastinum • Cutaneous: ulcer • GI syndrome: less likely 	1-5 days (up to 42 days described)	Sputum, blood, CSF; stool, ulcer swab or biopsy (BSL-2)	Gram stain, culture, PCR	Standard (no person-to-person transmission).	Cipro 400 mg IV q 8-12 or doxycycline 100 mg IV q 12; plus 1 or 2 additional abx (e.g., rifampin, vancomycin, penicillin, chloramphenicol, clindamycin, imipenem, clarithromycin); switch to po to complete 60 days (1 agent)	Cipro 500 BID or doxycycline 100 mg BID for 60 days, plus 3-dose regimen of anthrax vaccine (available through CDC, IND protocol)	If organism susceptible to penicillin, PEP for pregnant women and children can be changed to oral amoxicillin
Brucellosis	<ul style="list-style-type: none"> • Febrile prodrome • Osteoarticular disease, • Genitourinary infection • Hepatitis • Endocarditis and CNS involvement rarely 	5-60 days, occasionally months	Serum; blood, bone marrow (BSL-2)	Serology; culture	Standard precautions; contact isolation if draining lesions	Doxycycline 200 mg/d po plus rifampin 600-900 mg/d po x 6wk	Doxycycline and rifampin for 3 wks. if inadvertently inoculated	Trimethoprim-sulfamethoxazole can be substituted for rifampin, although 30% relapse rate

Contact the Division of Disease Control at 215-685-6741 M-F, 8:30a.m. – 5:00p.m. (215-686-4514 after hours and on weekends and holidays) to report suspected cases, access diagnostic testing or obtain more information.

Plague	<ul style="list-style-type: none"> Pneumonic: fulminant pneumonia, septicemia Bubonic less likely 	2-3 days	Blood, sputum, lymph node aspirate; serum (BSL-2/3)	Gram, Wright, Giemsa or FA stain; culture; Serology	Pneumonic: droplet precautions until patient treated for 3 days	Streptomycin 1gIM twice daily x 10 days, or gentamicin, doxycycline, ciprofloxacin, chloramphenicol	Doxycycline 100 mg po q 12 h x 7 days; ciprofloxacin 500 mg po BID x 7 days	Vaccine not protective against pneumonic infection
Q Fever	<ul style="list-style-type: none"> Fever, Systemic symptoms Pneumonia Hepatosplenomegaly 	10-40 days	Serum (BSL-2)	Serology	Standard	Tetracycline 500 mg po QID x 5-7 days; doxycycline 100 mg po BID x 5-7 days	Doxycycline or tetracycline: start 8-12 d postexposure x 5 days	Vaccine available - investigational
Tularemia	<ul style="list-style-type: none"> Ulceroglandular Typhoidal (septicemic): fever, weight loss, pneumonia 	2-10 days	Serum; Blood, sputum, ulcer swab, lymph node aspirate (BSL-2/3)	Serology; Gram stain, culture (PCR and DFA if available)	Standard	Streptomycin 1g IM twice daily, or gentamicin 5 mg/kg IM or IV daily or ciprofloxacin x 10 days; OR doxycycline or chloramphenicol x 14 days	Doxycycline 100 mg po q 12hrs x 14 days; Ciprofloxacin 500 mg po twice daily X 14 days	Transfer culture to BSL-3 after initial isolation of organism
Smallpox	<ul style="list-style-type: none"> Fever Systemic toxicity Vesicular rash with centrifugal distribution Lesions synchronous in stage of development 	7-17 days	Pharyngeal swab, vesicular fluid, scab material (BSL-4)	ELISA, PCR, viral isolation	Airborne	None (cidofovir effective in vitro)	Vaccine within 4 days of exposure, VIG (0.6 ml/kg IM within 3 days) if vaccine contraindicated	Preexposure and post-exposure vaccination recommended if > 3 yrs since last vaccination
Viral encephalitis	<ul style="list-style-type: none"> VEE: fever, headache, malaise, photophobia, vomiting WEE/EEE: febrile prodrome, somnolence, delirium 	<ul style="list-style-type: none"> VEE 2-6 days WEE/EEE 7-14 days 	Serum; CSF (BSL-2)	Serology; Viral isolation	Standard	Supportive	None	Vaccines available, although poorly immunogenic
Viral hemorrhagic fevers	<ul style="list-style-type: none"> Fever, myalgia, hypotension, hemorrhagic features 	4-21 days	Serum; blood, formalin-fixed tissue biopsy (BSL-4)	Serology; Viral isolation, PCR, immunobiological detection of antigen in tissue	Contact precautions (consider additional precautions if massive hemorrhage)	Supportive; ribavirin for CCHF/arenaviruses; antibody passive for AHF, BHF, Lassa, CCHF	None	Aggressive management of hypotension, secondary infections

Contact the Division of Disease Control at 215-685-6741 M-F, 8:30a.m. – 5:00p.m. (215-686-4514 after hours and on weekends and holidays) to report suspected cases, access diagnostic testing or obtain more information.

Botulinum	<ul style="list-style-type: none"> Ocular symptoms Skeletal muscle paralysis – symmetric, descending Respiratory failure 	1-5 days	Serum, stool (BSL-2), gastric aspirate, vomitus	Mouse bioassay for toxin detection; culture	Standard	DOD heptavalent antitoxin serotypes A-G; CDC trivalent equine antitoxin serotypes A, B, E	None	Skin testing for hypersensitivity before equine antitoxin administration
Staphylococcal enterotoxin B	<ul style="list-style-type: none"> Fever Headache Cough Respiratory distress GI symptoms 	1-6 hours	Nasal swab, serum, urine (BSL-2)	Antigen detection (toxin) – ELISA; serology	Standard precautions	Supportive	None	Vomiting and diarrhea may occur if toxin is swallowed

Important contact information:

Philadelphia Department of Public Health.....215-685-6741; After-hours on-call: 215-686-4514

Philadelphia Police/Fire/Emergency.....911

Poison Control Center.....800-222-1222

Pennsylvania Department of Health.....1-877-PA-HEALTH

Contact the Division of Disease Control at 215-685-6741 M-F, 8:30a.m. – 5:00p.m. (215-686-4514 after hours and on weekends and holidays) to report suspected cases, access diagnostic testing or obtain more information.

This document aids healthcare providers in evaluating patients for potential exposure to toxic chemicals and provides them with appropriate steps to identify and treat patients in healthcare settings. **To report suspected cases, access diagnostic testing, or to obtain more information contact the Division of Disease Control at 215-685-6741, M-F, 8:30am – 5:00pm. After hours and on weekends and holidays call 215-686-4514 and press 1 for Unified Dispatch, ask for DDC On-Call staff. More information concerning treatment of chemical exposure can be found on the Centers for Disease Control and Prevention’s website at <https://centerforhealthsecurity.org/resources/fact-sheets-by-the-center-for-health-security>**

Potential incidents that could lead to an influx of patients exposed to toxic chemicals:

- Chemical terrorism
- Transportation Accidents (e.g. freight train accident/fire, truck carrying hazardous materials accident/fire)
- Industrial/Refinery fire, explosion, or disruption
- Chemical spill/Water contamination emergency
- Secondary emergency caused by a natural disaster/severe flooding

Common Signs & Symptoms and Associated Chemical Agents

Some chemical agents of concern associated with these toxic syndromes are listed below. These lists are not exhaustive, and most symptoms will be caused by common agents. Additional information on selected agents is provided on pages 2-8.

Seizures/Convulsions	Loss of Consciousness	Respiratory Symptoms (cough, difficulty breathing, drooling, etc.)	Eye Irritations (lacrimation, redness, etc.)	Irritated or Burning Skin (redness, rash, blistering, etc.)	Abdominal Symptoms (nausea, vomiting, diarrhea, etc.)
<ul style="list-style-type: none"> •Asphyxiant metabolic agents •Convulsant agents •Nerve agents •Organic solvents 	<ul style="list-style-type: none"> •Asphyxiant metabolic agents •Asphyxiant simple agents •Incapacitating agents •Nerve agents •Organic solvents 	<ul style="list-style-type: none"> •Asphyxiant metabolic agents •Asphyxiant simple agents •Biotoxins •Blister agents •Corrosive agents (inhaled) •Choking agents •Nerve agents •Organic solvents •Riot agents 	<ul style="list-style-type: none"> •Asphyxiant metabolic agents •Blister agents •Corrosive agents (inhaled, dermal, eye exposure) •Incapacitating agents (QNB) •Choking agents •Nerve agents •Riot agents 	<ul style="list-style-type: none"> •Blister agents •Corrosive agents (dermal, eye exposure) •Organic solvents •Riot agents 	<ul style="list-style-type: none"> •Asphyxiant metabolic agents •Biotoxins •Corrosive agents (ingested)

Agent	Signs	Symptoms	Route/Onset	Diagnostic Testing	Treatment
Asphyxiants Metabolic/Blood Agents <ul style="list-style-type: none"> • Cyanides (CN) • Hydrogen Sulfide (HS) • Carbon Monoxide (CO) • Methylene chloride (metabolized to CO in the body) • Sodium azide • Arsine • Aniline 	<p>Chemicals interfere with oxygen transport or with intracellular oxygen. Also known as “Knockdown Syndrome” as severe exposures of these agents can cause rapid loss of consciousness.</p> <ul style="list-style-type: none"> • Unreliable SpO₂ • Low EtCO₂ • Metabolic acidosis • Elevated lactate • Venous blood O₂ above normal • Patients have a bitter almond odor for CN • “Cherry red” skin and lips for CN and CO • Red eyes for HS • Signs of pulmonary edema (for HS) 	<p>Moderate Exposure</p> <ul style="list-style-type: none"> • Flushing of skin • Fatigue • Lightheadedness • Nausea and Vomiting • Abdominal pain • Shortness of Breath <p>High Exposure</p> <ul style="list-style-type: none"> • Same as above • Respiratory distress • Loss of Consciousness • Seizures/Convulsions 	<p>Route: Inhalation or Ingestion</p> <p>Onset: Can take seconds to minutes but overall is dependent on the chemical, route and level of exposure</p>	<p>Urine test; blood test</p>	<p>Manage airway; oxygen therapy; supportive care</p> <p>Available antidotes:</p> <p>Carbon monoxide: Hyperbaric oxygen</p> <p>Cyanide: Nithiodote (adult) – Sodium Nitrite 300mg/10mL IV over 5-10 minutes + Sodium Thiosulfate 12.5g/50 mL IV immediately after dose of Sodium Nitrite</p> <p>Nithiodote (pediatric) – Sodium Nitrite 0.2 mL/kg (max 10 mL) IV over 5-10 minutes + Sodium Thiosulfate 1.6 mg/kg of 25% preparation immediately after dose of Sodium Nitrite</p> <p>OR</p> <p>Cyanokit (adult): Hydroxocobalamin 70mg/kg to max 5 grams IV over 15 minutes; additional dose based on severity</p> <p>Aniline: Methylene Blue (adult): 1-2 mg/kg of a 1% solution IV over 5 minutes; additional doses dependent on severity</p> <p>Methylene Blue (neonatal): 0.3-1 mg/kg IV over 5 minutes; additional doses dependent on severity</p>

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					No antidote available for Arsine, Hydrogen sulfide, Methylene chloride, Sodium azide
Asphyxiants Simple/Blood Agents: <ul style="list-style-type: none"> • Nitrogen • Carbon dioxide • Propane • Methane • Noble gas (e.g. Argon) 	Chemicals that cause hypoxemia due to oxygen displacement in an enclosed environment. <ul style="list-style-type: none"> • Tachycardia • Tachypnea • Anxiety 	<ul style="list-style-type: none"> • Fatigue • Altered Mental Status • Respiratory distress • Loss of consciousness 	Route: Inhalation Onset: dependent on the chemical, route and level of exposure	Use history to identify source (e.g. were they found in a confined space or fire, did they improve upon removal from their environment)	Manage airway; oxygen therapy; supportive care No antidotes available
Biotoxins <ul style="list-style-type: none"> • Abrin • Colchicine • Ricin • Strychnine • Tetrodotoxin 	Substances that are both toxic and have a biological origin, such as fungi, animals, and plants. <ul style="list-style-type: none"> • Clusters of acute lung or GI injury • Circulatory collapse and shock • Tracheobronchitis, • Pulmonary edema • Necrotizing pneumonia • Dehydration 	<ul style="list-style-type: none"> • Nausea, Vomiting, Diarrhea • Fever • Abdominal pain • Chest tightness • Coughing • Weakness 	Route: Inhalation or ingestion Onset: hours	ELISA using respiratory secretions, serum, and direct tissue	Supportive care Available antidotes: Charcoal Lavage (if ingested)
Blister/Vesicant Agents <ul style="list-style-type: none"> • Sulfur Mustard • Lewisite • Mustard-Lewisite • Nitrogen Mustard • Phosgene Oxime • T2 Mycotoxins 	Chemicals that severely blister the eyes, respiratory tract, gastrointestinal (GI) tract, and skin on contact. <ul style="list-style-type: none"> • Skin erythema and blistering • Red, watery and swollen eyes 	<ul style="list-style-type: none"> • Burning, itching, red skin • Eye irritation • Difficulty breathing • Nausea and vomiting • Cough • Chest tightness • Sore throat 	Route: Inhalation or dermal Onset: Sulfur mustard: hours to days Lewisite: minutes	Urine test; Tissue biopsy* (*US Army Medical Research Institute of Chemical Defense)	Quick decontamination; manage airway; oxygen therapy; supportive care Available antidotes: Lewisite and lewisite mustard: British Anti-Lewisite (BAL or Dimercaprol) IM (rarely available)

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	<ul style="list-style-type: none"> Upper airways sloughing with pulmonary edema Metabolic failure Body smells of garlic, horseradish or mustard; Oily droplets on skin from ambient sources Bone marrow suppression with neutropenia and sepsis (especially sulfur mustard late) 				<p>No antidote available for Mustard, Sulfur Mustard, Nitrogen Mustard, Phosgene Oxime, and T2 Mycotoxins</p>
<p>Convulsant Agents</p> <ul style="list-style-type: none"> Hydrazine TETS (Tetramethylenedisulfotramine) Picrotoxin Strychnine 	<p>Chemicals that cause central nervous system disinhibition or excitation, leading to generalized convulsions.</p>	<ul style="list-style-type: none"> Seizures/Convulsions Rapidly fatal if not treated 	<p>Route: Inhalation, ingestion, and dermal</p> <p>Onset: dependent on the chemical, route and level of exposure</p>	<p>Urine test, Blood test, Gas Chromatography</p> <p>Test dependent on the chemical. Use history to help identify source and exposure characteristics.</p>	<p>Manage airway; supportive care.</p> <p>Available antidotes:</p> <p>Hydrazine:</p> <p>Pyridoxine (adult): 5 grams IV; additional doses based on severity</p> <p>Pyridoxine (pediatric): 70 mg/kg IV (max 5g); additional doses based on severity</p> <p>No antidote available for TETS, picrotoxin and strychnine</p>
<p>Corrosive Agents</p> <ul style="list-style-type: none"> Hydrochloric acid Nitric acid Sulfuric acid Hydrofluoric acid Sodium hydroxide Potassium hydroxide 	<p>Substances with significant irritant and corrosive properties. Symptoms depend on route of exposure.</p> <p>Ingested:</p> <ul style="list-style-type: none"> Burns in the lips, mouth, esophagus, GI tract Drooling 	<p>Signs depend on route of exposure.</p> <p>Ingested</p> <ul style="list-style-type: none"> Burns Nausea Vomiting (with blood) Diarrhea (with blood) Belly pain 	<p>Route: Inhalation, ingestion, dermal, and eye contact</p> <p>Onset: dependent on the chemical, route and level of exposure</p>	<p>Use history to help identify source and exposure characteristics.</p> <p>Radiological studies to assess internal damage.</p>	<p>Decontamination; Manage airway; Supportive care</p> <p>No antidotes available</p>

	<ul style="list-style-type: none"> Potential inhalation effects <p>Inhaled:</p> <ul style="list-style-type: none"> Nasal and oral secretions Lacrimation Wheezing/Stridor Excessive lacrimation <p>Dermal/Eye routes:</p> <ul style="list-style-type: none"> Skin erythema and blistering 	<p>Inhaled:</p> <ul style="list-style-type: none"> Respiratory distress Coughing Watery eyes <p>Dermal/Eye routes:</p> <ul style="list-style-type: none"> Burning, red skin Red, watery eyes 			
<p>Incapacitating Agents</p> <ul style="list-style-type: none"> Fentanyl QNB (BZ) 	<p>Substances that make people unable to think clearly or that cause an altered state of consciousness.</p> <p>Fentanyl</p> <ul style="list-style-type: none"> Acidosis Hypotension Bradycardia Shock Gastric hypomotility Pulmonary edema <p>QNB</p> <ul style="list-style-type: none"> Hyperthermia Low urine output Flushed skin Cardiac arrhythmias Electrolyte disturbances 	<ul style="list-style-type: none"> Pinpoint or dilated pupils Altered level of consciousness <p>Fentanyl</p> <ul style="list-style-type: none"> Above symptoms Respiratory depression Respiratory arrest <p>QNB</p> <ul style="list-style-type: none"> Above symptoms Dry mouth Delusions/hallucinations Eye irritation 	<p>Route: Inhalation, ingestion, dermal, or eye contact (QNB)</p> <p>Onset: Minutes to hours</p>	Urine test; blood test	<p>Supportive care</p> <p>Available antidotes</p> <p>Fentanyl: Narcan 0.4 to 2 mg IV, repeat doses as needed</p> <p>QNB: Physostigmine (adult): 0.5 – 2 mg IV over 5 minutes; repeat every 5 minutes PRN (max 2 mg)</p> <p>Physostigmine (pediatric): 0.02 mg/kg IV (max 0.5 mg dose) over 5 minutes; repeat every 5 minutes PRN (max 2 mg)</p>
<p>Choking/Pulmonary Agents</p> <ul style="list-style-type: none"> Ammonia Chlorine (Cl) Phosgene (CG) Phosphine Sulfur dioxide 	<p>Substances that cause pulmonary edema with some mucosal irritation leading to acute respiratory distress syndrome or non-cardiogenic</p>	<ul style="list-style-type: none"> Respiratory distress Coughing Chest tightness Burning sensation of eyes and throat 	<p>Route: Inhalation, ingestion, dermal, or eye contact</p> <p>Primarily inhalation for Cl,</p>	No tests available. Use history to help identify source and exposure characteristics.	<p>Manage secretions and airway; Oxygen therapy; Treat pulmonary edema with PEEP to maintain PO₂ above 60 mmHg.</p> <p>Available Antidote:</p>

<ul style="list-style-type: none"> • Bromine • Chloropicrin • Mercury (Hg) 	<p>pulmonary edema; Pulmonary infiltrate</p> <ul style="list-style-type: none"> • Wheezing/Stridor/Rales • Laryngeal spasm • Nasal and oral secretions (drooling and mucus) • Mucosal and dermal irritation and redness 	<ul style="list-style-type: none"> • Blurred vision, watery eyes 	<p>Hg, CG and Phosphine</p> <p>Onset: Seconds to hours; 1-24 hours (rarely up to 72 hours); may be asymptomatic period of hours</p>		<p>Mercury: DMSA (chelating agent) such as Succimer or Chemet</p> <p>No other antidotes available</p>
<p>Nerve Agents</p> <ul style="list-style-type: none"> • Tabun • Sarin • Soman • Cyclosarin • Venomous Agent X • Novichok • Organophosphates (pesticides) <ul style="list-style-type: none"> ○ Malathion ○ Parathion ○ Chlorpyrifos • Carbamates (pesticides): <ul style="list-style-type: none"> ○ Aldicarb ○ Methomyl 	<p>Chemicals that cause overstimulation of cholinergic receptors leading to first activation and then fatigue of target organs.</p> <ul style="list-style-type: none"> • Pinpoint pupils • Bronchoconstriction • Bradycardia • Respiratory arrest • Hypersalivation • Increased secretions • Urination • Decreased memory/concentration/confusion 	<p>Moderate exposure:</p> <ul style="list-style-type: none"> • Diffuse muscle cramping • Muscle tremors • Runny nose • Difficulty breathing • Eye pain, dimming of vision, watery eyes, blurred vision • Sweating • Cough • Chest tightness • Headache • Vomiting • Diarrhea <p>High exposure:</p> <ul style="list-style-type: none"> • Same as above • Sudden loss of consciousness • Seizures • Flaccid paralysis (late sign) 	<p>Route: Inhalation, ingestion, dermal, eye contact</p> <p>Onset: Liquids: minutes to hours</p> <p>Aerosols: seconds to minutes</p>	<p>Red blood cell or serum cholinesterase (whole blood)</p> <p>Treat based on signs and symptoms; lab tests only for later confirmation</p>	<p>Manage airway; oxygen therapy</p> <p>Available antidotes:</p> <p>Atropine 2mg IV; repeat q 5 minutes, titrate until effective, average dose 6 to > 15mg (use IM in the field before IV access)</p> <p>Pralidoxime chloride (2-PAMCl) 600-1800mg IM or 1.0g IV over 20-30 minutes (max. 2g IM or IV per hour)</p> <p>Additional doses of atropine and 2-PAMCl depending on severity</p> <p>Diazepam or lorazepam to prevent seizures if >4mg atropine given</p>

<p>Organic Solvents/Hydrocarbons/ Halogenated hydrocarbons</p> <ul style="list-style-type: none"> • Gasoline • Kerosene • Paraffin • Benzene • Toluene • Xylene • Carbon tetrachloride • Methylene chloride • Freon • Nitrous oxide • Halothane • Isoflurane • Chloral hydrate • Methaqualone • Etomidate • Propofol • Benzodiazepines <ul style="list-style-type: none"> ○ Diazepam ○ Alprazolam ○ Midazolam • Barbiturates <ul style="list-style-type: none"> ○ Phenobarbital ○ Pentobarbital 	<p>Substances that cause a decreased level of consciousness, depressed respirations, and in some cases, ataxia from acute exposures to solvents, inhalational anesthetics, or sedative-hypnotic compounds. Does not consider the delayed effects of solvent exposures.</p> <ul style="list-style-type: none"> • Chemical dermatitis • Depression • Behavioral changes • Cardiac dysrhythmias 	<ul style="list-style-type: none"> • Slurred speech • Abnormal eye movements • Difficulty walking and balancing • Confusion • Loss of consciousness • Seizures/convulsions • Respiratory arrest • Cardiac arrest 	<p>Route: Inhalation, ingestion or dermal</p> <p>Onset: dependent on the chemical, route and level of exposure</p>		<p>Manage airway; supportive care</p> <p>Available antidotes:</p> <p>Benzodiazepines</p> <p>Flumazenil (adult): 0.2 mg IV over 30 seconds; repeat doses of 0.5 mg at 1 minute intervals PRN (max 3 mg)</p> <p>Flumazenil (pediatric): 0.01 mg/kg IV over 15 seconds; repeat 0.01 mg/kg at 1 minute intervals PRN (max: 0.05 mg/kg or 1 mg, whichever is lower)</p> <p>No other antidotes available.</p>
<p>Riot Agents</p> <ul style="list-style-type: none"> • Chloroacetophenone • Chlorobenzylidene malononitrile (CS) • Chloropicrin (PS) • Dibenzoxazepine (CR) • Bromobenzylcyanide (CA) 	<p>Chemical compounds that temporarily make people unable to function by causing irritation to the eyes, mouth, lungs, and skin.</p> <ul style="list-style-type: none"> • Ocular signs: Lacrimation, erythema, corneal injury, blepharospasm. 	<ul style="list-style-type: none"> • Eye irritation, redness, blurred vision • Cough • Hoarseness • Difficulty breathing • Sore throat • Dysphagia • Salivation • Oropharyngeal and nasal burning 	<p>Seconds to minutes, delayed onset dermatitis (8 hours) rarely</p>	<p>No tests available. Use history to identify source and exposure characteristics.</p>	<p>Respiratory support with supplemental oxygen, bronchodilators if severe respiratory injury; clothing removal; eye irrigation</p> <p>Effects usually short-lived.</p> <p>No antidotes available</p>

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	<ul style="list-style-type: none">• Respiratory signs: Rhinorrhea, cough, dyspnea, tachypnea, wheezing or rales, hypoxemia, pulmonary edema.• Skin: Erythema, blistering				
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Sources:

<https://chemm.hhs.gov/agentcategories.htm>

<https://www.mdpoison.com/healthcareprofessionals/antidotes.html>

<https://mdpoison.com/media/SOP/mdpoisoncom/ToxTidbits/2016/June%202016%20ToxTidbits.pdf>

<https://mdpoison.com/media/SOP/mdpoisoncom/ToxTidbits/2015/February%202015%20ToxTidbits.pdf>

<https://www.cdc.gov/niosh/ershdb/agentlistcategory.html>

[https://nrt.org/Main/Resources.aspx?ResourceType=Hazards%20\(Oil,%20Chemical,%20Radiological,%20etc\)&&ResourceSection=2&Category=Chemical](https://nrt.org/Main/Resources.aspx?ResourceType=Hazards%20(Oil,%20Chemical,%20Radiological,%20etc)&&ResourceSection=2&Category=Chemical)

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Summary of Acute Medical Management for Radiation Exposure: June-July 2026

General Guidelines

Healthcare workers should wear a gown, double gloves, shoe covers, mask (N95 preferred), and cap as adequate protection when treating patients contaminated with radioactive material. Reassign pregnant staff to non-radiation areas.

1. Stabilize the patient first, followed by definitive treatment of serious injuries.
2. Assess external contamination by use of a handheld detection meter and decontaminate as appropriate.
3. Assess internal contamination and administer specific chelator/excretion enhancing agent.
4. Consider if high survey readings persist following decontamination. High readings around the nose and mouth may reflect inhalation or ingestion of radionuclides.
5. Obtain a complete blood count (CBC) with differential as soon as possible and repeat every 8 hours.
6. Approximate dose exposed and manage acute radiation syndrome (ARS).

Assessment of Radiation Exposure and Contamination	
Types of Radiation Exposure	Actions
External Exposure: All or part of the body is exposed to an external radiation source.	Approximate the absorbed dose and follow ARS management guidelines (see below). Decontamination not indicated. Chelation/excretion enhancing/uptake blocking therapy not indicated.
External Contamination: Radioactive particles present on skin or clothing, resulting in a continuing external exposure	Decontaminate by removing external layer of clothing by cutting and rolling clothes away from face and place in a double bag and save. Wash skin and hair with soap and water and avoid splashing. Approximate the absorbed dose and follow ARS management guidelines (see below). Chelation/excretion enhancing/uptake blocking therapy not indicated.
Internal Contamination: Radioactive particles are inhaled, ingested, or absorbed through open wound contamination.	Identify isotope and administer appropriate chelation/excretion enhancing treatment (see right). Perform external decontamination as outlined above if appropriate. Approximate the absorbed dose and follow ARS management guidelines (see below).

Management of Acute Radiation Syndrome (ARS)

Acute Radiation Syndrome: A combination of clinical signs and symptoms developing over a period of hours to weeks due to a whole or partial body exposure to ionizing radiation > 1 Gray.

Tissues and organs most sensitive to damage include bone marrow, skin, intestinal crypt cells, spermatocytes

- Estimate radiation exposure dose to assess prognosis and guide medical management
- Obtain a complete blood count (CBC) with differential immediately. Document time of exposure and onset of vomiting

Dose approximation	<2 Gray	2-4 Gray	4-6 Gray	6-8 Gray	>8 Gray
Onset of vomiting after exposure	>2 hours	1-2 hours	30 minutes -1 hour	10-30 minutes	<10 minutes
% Lymphocyte decrease after exposure (may discontinue Q8H CBCs after 48 hours if no decrease observed)					
After 24 hours	0-20%	20-38%	38-60%	60-78%	>78%
After 48 hours	0-33%	33-56%	56-78%	78-96%	>96%
Degree of ARS	Mild	Moderate	Severe	Very Severe	Lethal
Treatment Recommendations*	Supportive Care** No antibiotics No cytokine therapy	Supportive Care, Quinolone, Initiate cytokine therapy (G-CSF or GM-CSF or pegylated G-CSF)***	Supportive Care, Quinolone, Initiate cytokine therapy (G-CSF or GM-CSF or pegylated G-CSF)	Supportive Care, Quinolone, Initiate cytokine therapy (G-CSF or GM-CSF or pegylated G-CSF)	Supportive care, No quinolone, No cytokines

Follow Infectious Diseases Society of America guidelines for febrile neutropenia (ANC <500 x 10⁹ cells/L)

**Supportive care: 1) Maintenance of vascular and hemodynamic stability through IV fluids & blood products (leukoreduced and irradiated)

2) Keeping a clean patient environment through strict hand washing, scrub attire, gloves, gowns and masks for staff and visitors

3) Encourage early enteral feeding to maintain gut mucosal barrier 4) Consider anti-emetics and anti-diarrheal agents

***Use doses recommended by Strategic National Stockpile Radiation Emergency Medical Management https://remm.hhs.gov/int_contamination.htm#blockingagents All cytokines are not FDA approved to treat radiation exposures, and require an FDA Emergency Use Authorization (EUA)

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Summary of Acute Medical Management for Radiation Exposure: June-July 2026

Agent Specific Treatment Guidelines for Internal Radiation Contamination

The following agents are to be used after internal radiation contamination has been confirmed, and the specific isotope identified. Avoid breastfeeding after any internal contamination

Isotope	Agent	Dose/Route/Schedule	Contraindications/Side effects/Comments
Americium Curium Plutonium	Ca-DTPA ** (Calcium diethylenetriamine Penta acetate)	Adults: 1g IV once, Children <12 years: 14mg/kg not to exceed 1g IV once. Continued chelation based on contamination assessment, switch to Zn-DTPA for additional chelation therapy (see below).	No known contraindications. Pregnancy category C (use Zn-DTPA). More effective than Zn-DTPA during the first 24 hours after exposure. Causes mineral deficiency, monitor serum electrolytes including zinc and magnesium. Use with caution in patients with hemochromatosis. Avoid breastfeeding during treatment.
Americium Curium Plutonium	Zn-DTPA ** (Zinc diethylenetriamine Penta acetate)	Adults: 1g IV QD, Children <12 years: 14mg/kg not to exceed 1g IV QD. Continued chelation based on contamination assessment	No known contraindications. Use for continued therapy after Ca-DTPA used during first 24 hours after exposure, or as first line for pregnant patients and when Ca-DTPA is unavailable. Avoid breastfeeding during treatment.
Cesium Thallium	Prussian Blue [ferric hexacyanoferrate (II)], (Radiogardase)**	Adults: 3g PO TID, Children ages 2-12: 1g PO TID. Treat for a minimum of 30 days then re-assess contamination	No known contraindications. Side effects may include constipation and electrolyte abnormalities (monitor serum electrolytes). May color feces blue. Taken with food will stimulate biliary secretion and enhance isotope elimination. No data on safety among neonates and infants. Avoid breastfeeding during treatment.
Cobalt	GI lavage and purgatives (charcoal, laxatives). Consider penicillamine* for high dose/potentially fatal exposures.	See footnote	Penicillamine as a cobalt chelator is not FDA approved but could be considered in high dose exposure cases (>5Gy). Consult with a health physicist and Physician's Desk Reference (PDR) for indications and dosing. Side effects include leukopenia, thrombocytopenia, nephrotic syndrome. Contraindicated in pregnancy (category D). Avoid breastfeeding during treatment.
Iodine	Potassium Iodide (KI)**	Age 12-40 years: 130mg PO QD, 3-12 years: 65 mg PO QD, 1 month-3 years: 32 mg PO QD, <1 month: 16 mg PO QD. Treat daily until exposure risk no longer exists.	Used to prevent thyroid cancer. Contraindicated for iodine hypersensitivity. May cause thyrotoxicosis in overdose. Follow TSH in neonates to avoid transient hypothyroidism. Repeat dosing is not recommended for infants unless exposure persists. Treatment not recommended for patients older than 40 unless very high levels of exposure (>5 Gy). Pregnant and breastfeeding women are to receive only one dose.
Strontium	Aluminum Phosphate* Magnesium Sulfate * Calcium IV*	See footnote	
Tritium	Oral fluids (water)	Oral water to tolerance all patients	Administer oral water to tolerance and avoid water intoxication. Follow serum electrolytes.
Uranium	Sodium Bicarbonate* (NaHCO3)	Adults: 4g PO initially, followed by 2g PO Q4H until urine pH between 8 and 9. Pediatric doses: 84-840 mg/kg PO in divided doses Q4-6H until urine pH in desired range. IV: 2 ampules (44.3meq each; 7.5%) in 1000cc normal saline @125cc/hr until desired urine pH obtained.	Maintain urine pH between 8 and 9. Follow serum BUN/creatinine for signs of renal toxicity.

*Agent not FDA approved for treatment of internal radiation contamination. For non-FDA approved agents, clinicians are advised to consult with health physicist and hospital pharmacist for dosing and schedule recommendations.

**Agent included in the managed inventory of the Strategic National Stockpile (SNS)

Report suspect cases of internal contamination to PDPH at 215 685 6741, after hours, weekends, holidays: 215 686 4514. PDPH can coordinate ordering of SNS medications through Emergency Management and PA DOH

- For more information on additional isotopes see: <https://afrrri.usuhs.edu/publications>
- For more general information see: <https://www.cdc.gov/radiation-emergencies/index.html> or call the Armed Forces Radiobiology Research Institute (AFRRI) Emergency Medical Radiobiology Advisory Team (MRAT) at 301 295 0316.