



Card 2: Biological Agents

Date:

Emergency Response

If you see any of the following:

- New or unusual clusters of infections (number of ill people presenting about the same time)
- Cluster of patients with:
 - a similar syndrome with unusual characteristics, *or* unusually high morbidity and mortality, *or* groups of healthcare workers suffering a similar illness
- Unexplained increase in the incidence of a common syndrome:
 - above seasonally expected levels, *or* occurring in an unusual setting or key sector of the community
- Single case of disease with unusual or unusually severe symptoms and no history suggesting an explanation for illness

Stop / Think / Act !

Has a Major Incident been declared? Yes No Standby

HPA Cfl 24-hour Duty Doctor contact number: 020 8200 4400 / 6868

| Ensure the following have been alerted | | | | | |
|--|--------------------------|--|--------------------------|-------------------|--------------------------|
| HPA | | NHS | | OTHER | |
| Local HPU (out-of-hours relevant public health on-call) – request internal cascade to: | <input type="checkbox"/> | Medical Microbiologist and/or Infectious Disease Consultant | <input type="checkbox"/> | Police | <input type="checkbox"/> |
| ERD | <input type="checkbox"/> | Director of Infection Prevention and Control/Infection Control Team | <input type="checkbox"/> | Fire & Rescue | <input type="checkbox"/> |
| Cfl | <input type="checkbox"/> | Hospital Emergency Department | <input type="checkbox"/> | Ambulance Service | <input type="checkbox"/> |
| Regional Microbiology Network | <input type="checkbox"/> | Director of Public Health | <input type="checkbox"/> | | |
| Regional HEPA | <input type="checkbox"/> | Emergency Planner | <input type="checkbox"/> | | |
| Communications | <input type="checkbox"/> | | | | |

| Incident | Details |
|-------------------------------|----------------------|
| Location (including postcode) | <input type="text"/> |
| Date and time | <input type="text"/> |
| Population affected: places | <input type="text"/> |
| Population affected: groups | <input type="text"/> |
| Wind direction and speed | <input type="text"/> |
| CHEMET requested | <input type="text"/> |
| Topography | <input type="text"/> |

Do Police, Fire & Rescue, or Ambulance Service have information or evidence implicating a biological release? Yes No

If Yes, please give further information (e.g. suspect biological agent):

Emergency plans Follow advice from applicable specific plans if available. Advice may include ‘No need to take precautions/ protection’. If airborne hazard is suspected, the Police/Fire Services should use FireMet/CHEMET to identify downwind hazard sector. If an extended or dispersed hazard is suspected the default public health message is **‘Go In, Stay In, Tune In’**

Health Protection

In an *unknown* situation use **Complete Universal Precautions**. Always consider the risk to yourself/others. **Do Not** attempt emergency treatment/rescue in a dangerous situation.

| Infection control – protection and personal protective equipment (PPE) for healthcare workers caring for patients | |
|--|---|
| If in doubt: use full PPE/Complete Universal Precautions | |
| No person-to-person transmission: Anthrax (inhalational), Botulism | No Special Precautions Always use appropriate infection control procedures according to local policy |
| Rarely transmissible person-to-person: Tularemia, Glanders, Melioidosis, Q-fever, Brucellosis | Standard Universal Precautions Simple barrier and droplet precautions: PPE includes disposable gown, apron, gloves, surgical or FFP2 mask, eye protection for taking blood and splash hazards |
| Transmissible from person-to-person and from contaminated fomites: Smallpox, Pneumonic Plague, Viral Haemorrhagic Fevers | Complete Universal Precautions With respiratory protection: full PPE includes gown, gloves, boots, head cover, dust-mist (FFP3) respirator mask, eye protection |
| Decontamination of surfaces and/or spills | As per local protocol – autoclave or incinerate clinical waste |

Diseases caused by Key Biological Agents and their Possible Presenting Symptoms

| Disease | Incubation period | Symptoms/features |
|----------------------------------|---------------------------------------|--|
| Anthrax (inhalational) | 1–6 days (up to 60 days) | Initially flu-like. Abrupt onset respiratory failure. Nausea, vomiting, cyanosis, sweating, altered mental status, raised red cell count. Chest X-ray: widened mediastinum supports the diagnosis |
| Botulism | Hours – 8 days | Symmetrical descending flaccid paralysis , afebrile, no change in sensory awareness, double/blurred vision and speech difficulties common. Sudden respiratory paralysis possible if toxin inhaled. Nausea, vomiting, diarrhoea |
| Brucellosis | 5–30 days (up to 6 months) | Variable, may be acute or insidious. Prolonged fever, debilitation, weight loss, general malaise, muscle and joint pain, sweating |
| Melioidosis/ Glanders | 1–21 days (but long latent intervals) | Fever, variable may be acute with rapid progression. Pneumonia, skin or soft tissue infection with multiple abscesses possible, sepsis syndrome |
| Pneumonic Plague | 1–4 days | Sudden onset severe febrile respiratory illness. Fulminant pneumonia often with haemoptysis. Chest X-ray: pneumonic consolidation. Complications include septicaemia and meningitis |
| Q-fever | 7–30 days | Flu-like illness, cough. Chronic malaise and fatigue. Pneumonia, possibly hepatitis, neurological symptoms, thyroiditis, anaemia, rash, gastroenteritis, glomerulonephritis |
| Smallpox | 7–17 days | Sudden onset high fever , 2–3 days later rash – more prominent on face and extremities, lesions cropping simultaneously in affected sites |
| Tularemia | 1–21 days | Flu-like disease if pneumonic, systemic symptoms follow 3–5 days later, may be pneumonic, typhoidal or septicaemic |
| Viral Haemorrhagic Fevers | Varies with cause (1–21 days) | Acute febrile illness, prostration and signs of increased vascular permeability and circulatory failure. Clinical features vary with infecting agent. Haemorrhage is often a late feature |

Further Information

| Topic | Website | Search terms |
|---|--|--|
| DH emergency planning guidance | www.dh.gov.uk | Emergency planning, major incidents |
| Accessing stocks or pods for immediate response in a major incident | www.dh.gov.uk | UK reserve |
| CBRN incidents | www.hpa.org.uk | Emergency response, CBRN |
| Deliberate and accidental releases | www.hpa.org.uk | Deliberate releases, biological releases, unusual illness, emergency clinical situations, suspect packages |