

Detection of Deliberate Releases - Cardinal Signs for Case Detection

In a previously healthy person any of the following four clinical pictures requires urgent attention

1. Inhalational (Pulmonary) Anthrax and Plague

- Rapid onset severe sepsis with respiratory failure, not due to a predisposing illness
- Sudden, severe, unexplained febrile illness or febrile death

Note: the cardinal sign for anthrax is mediastinal widening on Chest X-Ray ([click here](#) to see X-Ray)

2. Cutaneous Anthrax ([click here](#) to see pictures)

- Commonly affects hands, forearms and head
- Cardinal feature is painless swelling of skin
- Originally a small bump which then ulcerates and becomes weepy
- Pronounced swelling (oedema of skin) frequently surrounds the lesion
- Ulcer develops a black centre in 2-6 days

For Microbiologists, the unexpected finding of non-motile Gram positive bacilli in normally sterile fluids or from a wound, requires urgent consideration of the possibility of *B. anthracis*.

3. Botulism

- Acute onset of bilateral cranial nerve involvement.
- Descending weakness or paralysis which may extend to complete flaccid paralysis, but the **patient remains alert**.
- Fever is unusual, as is loss of sensation.

4. Smallpox

In the event of a deliberate release in the UK population (mostly non-immune), it is extremely unlikely that single, mild cases of feverish, pox-like illnesses will occur - it is much more likely that clusters of moderate to severe disease would be seen - ie. clusters of cases of:

- An abrupt onset moderate fever (up to 39C), with extreme prostration.
- A characteristic vesicular rash most dense on the extremities and face begins on the third to fourth day of illness. ([click here](#) to see pictures)
- Skin lesions over one area of body are generally of the same stage of development. New and enlarging vesicles coalesce to form soft, flaccid bullae covered by skin, which easily rubs off.
- Less commonly, an erythematous or purpuric rash may appear earlier in the illness and is associated with a poorer prognosis.

If a patient is seen with any of these four pictures, expert clinical opinion should be sought urgently. In addition in England, Wales and Northern Ireland the local Consultant in Communicable Disease Control (or their counterpart in Scotland) and the CDSC Duty Doctor (020-8200-6868) should also be contacted urgently and given details. In Scotland the Scottish Centre for Infection and Environmental Health (0141 300 1100) should be contacted.

More detailed descriptions and pictures are available via the PHLS Website at:-
http://www.phls.org.uk/topics_az/deliberate_release/menu.htm