

## Procedural Checklist to follow after a laboratory exposure to *Brucella spp.*

### 1. *Brucella* identification

The following table may be helpful in the preliminary distinction of *Brucella spp* from similar organisms

	<i>Brucella spp</i>	<i>Bordetella bronchiseptica</i>	<i>Acinetobacter spp</i>	<i>Psychrobacter phenylpyruvicus</i> <sup>1</sup>	<i>Oligella urealytica</i>	<i>Haemophilus influenzae</i>
Oxidase	+	+	-	+	+	V
Urea hydrolysis	+	+	v	+	+	V
Gram stain	Tiny CCB Stains faintly	Small CCB Rods	Broad CCB	Broad CCB	Tiny CCB	Small CCB
Specimen source	Blood, bone marrow	Respiratory	Various	Various	Urinary tract	Respiratory, blood

<sup>1</sup> Formerly *Moraxella phenylpyruvica*

CCB = Coccobacillus

See <http://emergency.cdc.gov/documents/PPTResponse/table5brucellaid.pdf>

In all cases where there is a suspicion that a Gram-negative cocco-bacillus may be a *Brucella sp*, please contact the Brucellosis Reference Laboratory of the Veterinary Laboratories Agency see [http://www.defra.gov.uk/vla/science/sci\\_brucell\\_reflab.htm](http://www.defra.gov.uk/vla/science/sci_brucell_reflab.htm)

Tel: 01932 357 350

### 2. Review laboratory containment procedures used

*Brucella spp* are Hazard Group 3 pathogens and therefore must be handled in a containment level 3 facility. For laboratory procedures with a high likelihood of producing droplets, splashes or aerosols, primary barrier precautions should be used (e.g. personal protective equipment and a biological safety cabinet). If inadequate safety measures are in place, then the need to evaluate the risk of exposure to laboratory staff will be required.

### 3. Determining who is at risk for developing brucellosis in the laboratory setting

High risk exposures can be defined as follows

- Individuals who have performed a specifically implicated practice (e.g. sniffing bacteriological cultures, direct skin contact, present when aerosols have been generated).
- Individuals who were near (<5 feet) if work was performed with *Brucella spp* on an open bench.
- Individuals present in the laboratory during a *Brucella* aerosol generating event.

Low risk exposures can be defined as: other staff in the laboratory at the time of manipulation on an open bench but who do not have high-risk exposures as defined above.

For more guidance see: [www.cdc.gov/ncidod/dbmd/diseaseinfo/brucellosis\\_g.htm#recommendations](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/brucellosis_g.htm#recommendations)

### 4. Contact local Occupational Health Department

Contact Occupational Health Department to ensure laboratory staff who have a high-risk exposure are followed up. Staff who have had a low risk exposure should have this noted in their occupational health records.

### 5. Complete a local "Clinical incident report" and report incident to Health and Safety Executive using RIDDOR form

See [www.hse.gov.uk/riddor/guidance.htm](http://www.hse.gov.uk/riddor/guidance.htm)

HSE Incidence Contact Centre telephone number 0845 300 9923

“Reportable dangerous occurrences” (near misses) include “accidental release of any substance which may damage health”.

## **6. Contact Brucella Reference Unit (BRU)**

See

<http://www.hpa.org.uk/HPA/ProductsServices/InfectiousDiseases/LaboratoriesAndReferenceFacilities/1200660021750/>

Telephone number – 0151 529 4900

Serological testing will be required on all laboratory staff who have had high-risk exposures. Baseline serum samples with follow up serum samples at 0, 6 and 24 weeks are recommended.

BRU will provide a specific ‘ILOG’ reference number which should be included on the request form for all serum sent following the exposure.

## **7. Post exposure prophylaxis (PEP) to prevent brucellosis**

This should be undertaken by the local occupational health department and should be offered to all laboratory staff classified as high risk.

Doxycycline 100mg bd for 21 days is recommended. A review of the literature suggests that combination therapy with additional rifampicin 600mg daily is unnecessary.

PEP for individual cases can be discussed with either Dr Nick Beeching (tel: 0151 706 3835) or Dr Richard Cooke (0151 520 4916) at the BRU.

For women who are pregnant see treatment notes above. Treatment should be also in consultation with the obstetrician in charge.

## **8. Follow up of exposure laboratory staff**

Active surveillance for febrile illness amongst all laboratory staff who have had high or low risk exposures should be continued for 6 months after the last exposure.