## PORCINE BRUCELLOSIS (*Brucella suis*)

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<th>ANIMAL GROUP AFFECTED</th>
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<td>Feral and domestic swine (<em>B. suis</em> biovars 1, 2, 3); European brown hare (<em>B. suis</em> biovar 2); Arctic fox, Wolf, Bear, Reindeer, Moose, Rodents (<em>B. suis</em> biovars 4 and 5)</td>
<td>Spread of <em>B. suis</em> and <em>B. abortus</em> infection in similar way: by artificial insemination or natural mating, occasionally, by arthropods (<em>Oedemagena tarandi</em>)</td>
<td>Generally without any clinical sign; abortion in early and late gestation period can occur. Other symptoms: orchitis, epididymitis, bursitis, synovitis, metritis. General tendency for abscesses to form</td>
<td>No</td>
<td>No</td>
<td>In houses in zoos</td>
</tr>
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**Fact sheet compiled by**

Klaus Gunther Friedrich, Bioparco S.p.A., Rome Zoological Garden, Italy
Fabrizio Gamberale, Istituto Zooprofilattico delle Regioni Lazio e Toscana, Rome, Italy

**Fact sheet reviewed by**

R. Adone, Istituto Superiore di Sanità, Rome, Italy
P. Pasquali, Istituto Superiore di Sanità, Rome, Italy

**Susceptible animal groups**

Biovars 1, 2 and 3 infect feral and domestic swine.
Biovar 2 has been isolated in European brown hare.
Biovars 4 and 5 infect, in the arctic region, arctic fox, wolf, bear, reindeer and rodents.

**Causative organism**

*Brucella suis,* biovars 1, 2, 3, 4 and 5.

**Zoonotic potential**

Yes - Biovars 1 and 3 are highly pathogenic for humans. Biovar 2 is rarely pathogenic. Transmission to humans can occur by ingestion, mucosal contact and skin lesions.

**Distribution**

Biovar 1: South East Asia and Pacific Islands; Latin America.
Biovar 2: North East Europe.
Biovar 3: North America and China.
Biovar 4/5: Arctic Region.

**Transmission**

*B. suis* infection is transmitted by mucosal contact with contaminated materials such as faeces or uterine discharges and vaginal fluids. Transmission can also occur by venereal route or, occasionally, by arthropods (*Oedemagena tarandi*).

**Incubation period**

Variable.

**Clinical symptoms**

Generally without any clinical sign, or orchitis, epididymitis, bursitis, synovitis, metritis, abortion.

**Post mortem findings**

Depending on *B. suis* biovar involved. The most common findings are: nodular and miliar lesions in the uterus,
purulent metritis, endothelial sclerosis of uterine vessels, orchitis, epididymitis, arthritis, spondylitis, granulomatous lesions in skeleton and joints, vertebral osteomyelitis, abscesses.

**Diagnosis tests**
- Direct diagnosis: Polymerase chain reaction (PCR), Culture for isolation.
- Indirect diagnosis: Complement Fixation Test (CFT), Milk Ring Test, ELISA-s, Brucellin skin test

**Material required for laboratory analysis**
For indirect diagnosis: blood serum and/or milk.
For direct diagnosis: blood, vaginal swabs, foetal membranes, materials from aborted foetus such as spleen, stomach contents, encephalon and lung.

**EU Reference Laboratory**

**AFSSA, Nancy**
Laboratoire d’études sur la rage et la pathologie des animaux sauvages
Domaine de Pixérécourt, BP 9
F-54220 Malzéville
France

**OIE Reference Laboratories**

**Dr Henrich Neubauer**
Federal Research Centre for Virus Diseases of Animals (BFAV), Institute of Bacterial Infections and Zoonoses
Naumburger Str. 96a, 07743 Jena
GERMANY
Tel: (49.3641) 80.42.00 Fax: (49.3641) 80.42.28
Email: heinrich.neubauer@fli.bund.de

**Dr Ana Maria Nicola**
Gerencia de Laboratorios (GELAB), Servicio Nacional de Sanidad y Calidad Agroalimentaria (SENASA)
Av. Alexander Fleming 1653, 1640 Martinez, Pcia. de Buenos Aires
ARGENTINA
Tel: (54.11) 48.36.19.92 Fax: (54.11) 48.36.19.92
Email: anicola@senasa.gov.ar

**Dr J.A. Stack**
VLA Weybridge
New Haw, Addlestone, Surrey KT15 3NB
UNITED KINGDOM
Tel: (44.1932) 35.76.10. Fax: (44.1932) 35.72.16
Email: j.a.stack@vla.defra.gsi.gov.uk

**Dr B. Garin-Bastuji**
AFSSA Allfort, Unité Zoonoses Bactériennes, Lab. OIE/FAO de référence pour la brucellose animale, Laboratoire d’études et de recherches en pathologie animale et zoonoses
23 avenue du Général de Gaulle, 94706 Maisons-Allfort Cedex
FRANCE
Tel: (33 (0)1) 49.77.13.00 Fax: (33 (0)1) 49.77.13.44
Email: b.garin-bastuji@afssa.fr

**Dr K. Nielsen**
Canadian Food Inspection Agency, Animal Diseases Research Institute
P.O. Box 11300, Station H, Nepean, Ontario K2H 8P9
CANADA
Tel: (1.613) 228.66.98 ext. 48.04 Fax: (1.613) 228.66.69
Email: nielsenk@inspection.gc.ca

**Dr Massimo Scacchia**
CESME, Istituto Zooprofilattico Sperimentale dell’Abruzzo e del Molise ‘G. Caporale’, National Centre for Exotic Diseases
Via Campo Boario, 64100 Teramo
ITALY
### Treatment

No treatment.

### Prevention and control in zoos

See fact sheet for *B. abortus*.

### Suggested disinfectant for housing facilities

See fact sheet for *B. abortus*.

### Notification

Yes.

### Guarantees required under EU Legislation

- Directive 92/65/EEC
- Directive 64/432/EEC
- Directive 97/12/EEC
- Directive 64/432/EEC
- Directive 92/65/EEC
- Directive 90/425/EEC
- Directive 89/662/EEC
- Directive 1999/466/EEC
- Directive 1999/467/EEC

### Guarantees required by EAZA Zoos

Measures required under the Animal Disease Surveillance Plan

Measures required for introducing animals from non-approved sources

Measures to be taken in case of disease outbreak or positive laboratory findings

Conditions for restoring disease-free status after an outbreak

### Contacts for further information

Dr. Fabrizio Gamberane, Email fgamberale@rm.izs.it

### References