



Common disease conditions diagnosed in smallholder and pet pigs

The veterinary care of commercial pigs is mostly carried out by specialist pig veterinarians, and non-specialist vets may see and treat pigs infrequently. Applying first principles can go a long way to making a diagnosis and this leaflet is a summary of common disease conditions diagnosed in smallholder or pet pigs at APHA and also provides links to sources of further advice and information.

Notifiable disease: When attending or discussing sick pigs, vets need to have an awareness of notifiable diseases, particularly the vesicular diseases and swine fevers (classical and African) and Defra and other websites have excellent information for vets to update their knowledge in advance:

- <https://www.gov.uk/government/collections/notifiable-diseases-in-animals>
- <http://www.oie.int/for-the-media/animal-diseases/animal-disease-information-summaries/>

Feeding kitchen waste or meat/meat products to pigs is illegal and risks introducing notifiable or other diseases. If sick pigs have clinical signs which make you suspect notifiable disease, report this suspicion promptly to APHA.

It is also a legal requirement to register pigs and report live pig movements to the relevant authorities:

- <https://www.gov.uk/government/collections/guidance-for-keepers-of-sheep-goats-and-pigs>
- <http://www.eaml2.org.uk/ami/home.eb>

Erysipelas: This is one of the commonest diagnoses in non-commercial pigs. It may present as a septicaemia causing sudden death or with pyrexia, lethargy and skin discolouration and/or classic “diamond” skin lesions. Abortion may occur in pregnant sows. If disease is more chronic, it may cause endocarditis and heart failure or arthritis. The organism is ubiquitous and vaccination is strongly recommended.

Streptococcal disease: Mainly due to *Streptococcus suis*, streptococcal disease is a common cause of septicaemia, meningitis and polyarthritis and presents as sudden death, nervous signs (ataxia, trembling, recumbency, paddling) and/or lameness with pyrexia. Like erysipelas, the organism is sensitive to penicillin treatment. Disease mainly affects growing pigs.

Water deprivation/salt poisoning: Pigs are particularly susceptible to this disease and it is an important differential for streptococcal meningitis. It causes sudden death and nervous signs and pigs are highly susceptible. Ample fresh drinking water should always be accessible in robust containers.

Toxicities: As smallholder pigs are often kept outdoors in less controlled situations than on commercial pig herds, with access to a range of wild plants in woodland or rough grazing, there is a higher risk of toxicity incidents. Incidents are also seen where owners have fewer stockmanship skills and unwittingly allow pigs access to toxic materials. Certain toxicities have food safety implications if the pigs are destined for the food chain and APHA reports these to the Food Standards Agency as potential food safety incidents. The more common toxicities are described below:

Coal tar poisoning causes severe liver necrosis and is regularly seen. Likely sources are clay pigeon fragments, roof asphalt and waste from road tar. Pigs become dull, inappetant and die.

Anticoagulant rodenticide toxicity should be considered if pigs are anaemic, non-pyrexial and weak, sometimes with haemorrhages and pigs may be poisoned by eating poisoned rats as well as through direct access to rodenticide.

Various plants poisonings have been identified including bracken (acute heart failure with lung oedema and body cavity effusions), hemlock (nervous signs or congenital deformities in piglets) and black nightshade (nervous signs). Certain *Umbellifera* plants (parsnips, parsley) can cause contact photosensitisation and outbreaks of skin lesions, especially in ventral areas contacting the plants, have occurred in sows placed on fields from which these plants were cropped earlier. Pigs are quite resistant to acorn and ragwort toxicity.

Lead toxicity should be borne in mind as a cause of neurological disease but is uncommon in pigs. Areas with known high lead content in soil should not be used for pigs.

Reproductive disease: Porcine infertility, abortion and stillbirth are not uncommonly due to climatic, environmental or managemental factors and these should be investigated as well as considering infectious causes. Porcine parvovirus infection can be a major cause of SMEDI (stillbirth, mummification, embryonic death and infertility) but not usually abortion and, as for erysipelas, vaccination is advised for breeding pigs. Other important causes include porcine reproductive and

respiratory syndrome virus (PRRSv) and leptospirosis, however whether to vaccinate for these depends on the health status of purchased pigs, biosecurity and geographical area. Several serogroups of *Leptospira* are capable of causing abortion and stillbirths, sometimes with concomitant signs of illness in the sows. Rodent control is vital in control of leptospirosis which is also zoonotic.

Illthrift: The causes of poor growth or wasting are manifold and include:

- Incorrect/inadequate food
- Iron deficiency anaemia in young pigs
- Endoparasitism
- Chronic enteric or respiratory disease
- Porcine circovirus-2 associated disease (PCVD)
- Porcine respiratory and reproductive syndrome

Affected pigs may present with a whole spectrum of disease signs, including wasting. PRRSv can produce the signs that the name suggests, or may, in common with PCVD be associated with concurrent, often life-threatening, infections. These include salmonellosis or streptococcal disease, both of which have zoonotic implications.

Enteric diseases: These vary with age and predisposing factors include moving and mixing, feed changes, weaning, and antimicrobial treatment. Presenting signs include sudden death, dehydration, diarrhoea, wasting and, sometimes, anaemia. Some examples are given below:

- **Preweaned pigs** - Clostridial enterotoxaemia, colibacillosis, rotavirus, and coccidiosis
- **Postweaned and adult** - Salmonellosis, PCVD, endoparasitism, ileitis due to *Lawsonia intracellularis*, *Brachyspira hyodysenteriae* (swine dysentery) or *pilosicoli*, gastric ulceration, and intestinal torsion.

Neonatal enteric disease may reflect poor hygiene in the environment and/or poor colostral antibody transfer or lack of maternal immunity and vaccines are available for *E.coli* and clostridial disease. Coccidiosis due to *Isospora* sp. is seen much earlier (especially 1-3 weeks-old) than in other species. Weaning later on smallholder units can help reduce the risk of periweaning colibacillosis. Laboratory diagnosis of enteric disease is useful to determine treatment and prevention measures.

Respiratory disease: Respiratory diseases are often multifactorial, with a range of viral, bacterial, mycoplasmal and parasitic aetiologies, including swine influenza, PRRS, PCVD, *Haemophilus parasuis*, *Actinobacillus pleuropneumoniae*, *Pasteurella multocida* and lungworm. Primary viral or *Mycoplasma*-associated disease may be followed by secondary bacterial infection, although the

bacterial pathogens are capable of causing severe disease in their own right. It is important to establish an accurate diagnosis through laboratory testing in order to advise on treatment and, if appropriate, vaccination.

Parasites: Pigs suffer from a range of internal and external parasites such as:

- **Ectoparasites** – lice and mange (*Sarcoptes*). Mange lesions can be severe and become a significant welfare issue if not controlled.
- **Endoparasites** – *Ascaris suum* can cause illthrift in younger pigs and also “milk-spot” liver lesions seen at slaughter. Other intestinal parasites such as *Trichuris* sp. (whipworm), *Hyostromylus* sp. (anaemia also) and *Oesophagostomum* sp. can cause illthrift in growing and adult pigs. Lungworm (*Metastrongylus* sp.) can cause coughing and pneumonia; earthworms are intermediate hosts.

Sunburn can also become an issue in white-skinned pigs and provision of adequate shade and/or wallow is important in prevention.

Vaccination: The NADIS website has useful advice on vaccination of smallholder pigs:

- <http://www.nadis.org.uk/livestock/pigs.aspx>

Zoonotic risks: As healthy pigs, like other livestock species, harbour potentially zoonotic agents (e.g. *Salmonella*, *Leptospira* and *Erysipelothrix* spp., *S.suis*) people looking after pigs should wear outer clothing and boots dedicated to the pigs and practise good personal hygiene. Gloves should be used to handle afterbirths, aborted and stillborn piglets, and when assisting at farrowings and are also recommended for assisted matings.

Diagnosis of disease: The Veterinary Investigation Officers (VIOs) in APHA’s Veterinary Investigation Centres are happy to discuss individual cases and provide advice on disease investigation and diagnostic sampling of pigs. They and partner post-mortem providers can also undertake post-mortem examination on pigs; cases can only be submitted after discussion with the VIO. Information on the APHA surveillance network and advice is available with webpages on pig disease surveillance:

- <http://apha.defra.gov.uk/vet-gateway/surveillance/diagnostic-support.htm>

Further information:

- AHDB Pork <http://pork.ahdb.org.uk/pig-production/smallholders>
- Pig Veterinary Society <http://www.pigvetsoc.org.uk>
- British Pig Association <http://www.britishtpigs.org>
- National Pig Association <http://www.npa-uk.org.uk>