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## Ascaris suum

The large roundworm is the most commonly found worm in pigs (despite decades of treatment with various anthelmintics). Females can be as long as 40cm, but the male rarely exceeds 25cm. It resides in the jejunal lumen – unattached and swimming against the peristaltic forces.

Each female worm lays hundreds, often thousands, of eggs which are resilient and can survive in the environment for many years. Thus, most environments in which pigs are kept are likely to be significantly contaminated.

## Life cycle

The life cycle of *Ascaris suum* is direct. Eggs passed out of one pig infect other pigs without passing through an intermediate host.

Eggs in faeces take up to a month to develop their infectivity, but the larva thus produced stays in the egg until the egg is ingested and this protects the larval stage against adversities in the external environment.

After ingestion these infective larvae hatch and penetrate the jejunal wall. Most are carried via the blood to the liver and some go to the lungs. Those going to the lungs are coughed up, swallowed and ultimately become adults in the jejunal section of the small intestine. While in the liver the larvae cause damage (milk spot livers).

Ascarid infections typically occur in young pigs because by the time pigs are 5-6 months old they have built up a resistance from previous exposures to the parasite.

The eggs of *Ascaris suum* have a sticky outer surface and this means that they can easily be moved around the farm or between farms on fomites such as boots, insects and equipment.

## Pathology

Adult ascarid worms compete with their porcine hosts for nutrients. They damage the tips of intestinal villi and this also interferes with nutrient absorption.

Sometimes worm(s) can block the bile duct causing jaundice.

Larval ascarids can cause serious liver and lung damage. In the liver they induce severe eosinophilic immigration and a marked fibrosis which manifests as 'milk spots'. If no repeat larval migrations occur the 'milk spots' can regress in 3-4 weeks.

Larval invasion in the lungs ultimately results in an interstitial pneumonia, which can be accompanied by a bronchiolitis and alveolar oedema.

Clinical signs reflect the organs damaged and the amount of damage induced by the invading larvae. In some instances the clinical signs resemble those seen in various respiratory diseases.

## Diagnosis

Diagnosis is based on clinical signs, post mortem findings and demonstrating worm and/or worm egg presence.