# STRONGYLOIDOSIS

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<td>Cutaneous itching, urticaria At pulmonary passage: dyspnoea, cough , at intestinal parasitism diarrhea, vomitus, anorexia, weight loss, depression</td>
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**Susceptible animal groups**
Mainly Old World nonhuman primates, man.

**Causative organism**
*Strongyloides stercoralis*, *S. fülleborni*, *S. cebus*.

**Zoonotic potential**
Yes.

**Distribution**
World-wide, preferentially in subtropical and tropical regions.

**Transmission**
Percutaneously. The adult *Strongyloides* females live in the large intestines of the host animals (or man!), produce embryonated eggs, which in *S. fülleborni* and *S. cebus* are faecally excreted as such, whereas in *S. stercoralis* the larvae may hatch already in the original hosts large intestine, thus causing autoinfections. In the other *Strongyloides* spp. the larvae hatch in the environment, proceed through 2 molts to reach the infective filariform larval stage or to develop into free-living male and female adults, which start one or more new external larval cycles. Both the directly and the indirectly generated filariform larvae penetrate the skin, or at being swallowed, the epithelia of the upper digestive tract. Subsequently they migrate via the circulation to the lung, burrow through the alveolar capillaries and alveolar walls, migrate actively up to the larynx and pharynx, are swallowed and ,on reaching the small intestine of the new host become again adult embryonated eggs producing females. Migrating larvae may cross the placental tissues, thus leading to infections already od newborn apes. That migration stage, regardless of the *Strongyloides*-species involved, applies to only a precentage of infecting larvae. The others convert to a resting stage somewhere in the new hosts tissues after epithelial penetration, surviving there for decades and eventually becoming reactivated after stress (pregnancy, social stress etc.).

**Incubation period**
Prepatent period: 11 – 18 days.

**Clinical symptoms**
The skin-penetrating larvae cause itching sensations, and eventually urticaria, those burrowing through the lung dyspnea, cough or even pneumonia. The adults living in the small intestine cause haemorrhagic-mucoid diarrhea, anorexia, vomitus, depression, weight loss and occasionally paralytic ileus.

**Post mortem findings**
Multifocal or diffuse pulmonary haemorrhages, catarrhal to haemorrhagic- necrotic enterocolitis. In hyperinfections subacute eosinophilic interstitial pneumonia, eosinophilic vasculitis and perivasculitis.

**Diagnosis**
Repeated ovodiagnosis in *S. fülleborni/S. cebus* infestations, repeated larval demonstrations in *S. stercoralis* – infestations of great apes and man, using Baerman Wetzel funnels. In necropsies of great apes larval emigration tests from the duodenal tissues and histological examination of the duodenum are advisable.
### Material required for laboratory analysis

Faecal samples.

### Relevant diagnostic laboratories

Local veterinary laboratories.

### Treatment

- Thiabendazole (50 – 100 mg/kg/day for several days)
- Mebendazole (50 mg/Kg)
- Albendazole (16 mg/kg/day for 3 days)
- combination with Ivermectin (200 mg/kg).
- Ivermectin (2 x 100 mg)- in man.
- Moxidectin (0.5 mg/kg)

### Prevention and control in zoos

- Drainage and steam-desinfection of outdoor-housing and floor-beddings.

### Suggested disinfectant for housing facilities

- Notification

### Guarantees required under EU Legislation

### 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

### Experts who may be consulted

### References