



OXYURIASIS

ANIMAL GROUP AFFECTED	TRANSMISSION	CLINICAL SIGNS	FATAL DISEASE ?	TREATMENT	PREVENTION & CONTROL
All primate genera	Perorally	Perianal itching, anorexia, weight loss	Yes	Fenbendazole	<i>In houses</i> <i>in zoos</i>

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Susceptible animal groups Depending on the oxyurid-species.	
Causative organism <i>Enterobius</i> spp. – Cercopithecoidea, Pongidae, Hylobatidae, man, <i>Colobenterobius</i> spp. – Colobinae, <i>Probstmayria</i> spp. – Pongidae, Macaques, <i>Lemuricola</i> spp. -Prosimiae, <i>Trypanoxyuris</i> spp. - New World monkeys.	
Zoonotic potential Only with <i>Enterobius vermicularis</i> .	
Distribution <i>Enterobius</i> spp.- World- wide , more common in temperate climates. <i>Colobenterobius</i> spp. - Asia, Africa, <i>Probstmayria</i> spp. – Africa, India, <i>Lemuricola</i> sp. – Madagascar, <i>Trypanoxyuris</i> spp. – South- and Central America.	
Transmission Perorally.	
Incubation period	
Clinical symptoms Perianal itching, anorexia, restlessness, weight loss, death.	
Post mortem findings Caecal/ colonic/ rectal mucosal hyperaemia, oedematous thickening or fibrosis of the large intestinal wall, nodular lesions and focal necroses in the intestinal wall, enterocolitis.	
Diagnosis Ovodiagnosis (Anal impression!).	
Material required for laboratory analysis Anal swabs, faeces, spontaneously eliminated worms (Preservation in Raillet & Henry solution: 920 ml 0.8% NaCl, 30 ml 40% formalin, 50 ml glacial acetic acid)	
Relevant diagnostic laboratories	
Treatment 1. Fenbendazole (10 mg / kg). In man 85% cure rate with 50 – 150 mg Ivermectin.	
Prevention and control in zoos	
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 <ol style="list-style-type: none">1. deMelo, A. L., and L. H. Pereira. 1985. Sobre o parasitismo por <i>Primasubulura jacchi</i> em <i>Callithrix penicillata</i> (Primates, Callitrichidae). <i>Primatol. Bras</i> 2: 483-485.2. Düwel, D., and K. Brech. 1981. Control of oxyuriasis in rabbits by fenbendazole. <i>Lab. Anim.</i> 15: 101-105.3. Düwel, D., R. Kirsch, und E. Weinmann. 1979. Zur anthelminthischen Behandlung von Javaneraffen (<i>Macaca irus</i>) mit Panacur. <i>Verh. ber. Erkr. Zootiere</i> 21: 305-309.4. Holmes, D. D., S. D. Kosanke, G. L. White, and W. B. White. 1980. Fatal enterobiasis in a chimpanzee. <i>J. Am. Vet. Med. Assoc.</i> 177: n911-913.5. Hugot, J. P. 1999. Primates and their pinworm parasites: The Cameron hypothesis revisited. <i>Syst. Biol.</i> 48: 523-554.6. Hugot, J. P., S. L. Gardner, and S. Morand. 1996. The enterobiinae subfam. nov. (Nematoda, Oxyurida) pinworm parasites of primates and rodents. <i>Int. J. Parasitol.</i> 26: 147-159.7. Keeling, M. E., and H. M. McClure. 1974. Pneumococcal meningitis and fatal enterobiasis in a chimpanzee. <i>Lab. Anim. Sci.</i> 24: 92-95.8. Murata, K., H. Hasegawa, T. Nakano, A. Noda, and T. Yanai. 2002. Fatal infection with human pinworm, <i>Enterobius vermicularis</i>, in a captive chimpanzee. <i>J. Med. Primatol.</i> 31: 104-108.9. Naquira, C., G Jimenez, J. G. Guerra, R. Bernal, D. R. Nalin, D. Neu, and M. Aziz. 1989. Ivermectin for human strongyloidiasis and other intestinal helminths. <i>Am. J. Trop. Med. Hyg.</i> 40: 304 – 309.10. Prieto, O. H., A. M. Santa Cruz, N. Scheibler, J. T. Borda, and L. G. Gomez. 2002. Incidence and external morphology of the nematode <i>Trypanoxyuris (Hapaloxuyris) callithricis</i> , isolated from black- and gold howler monkeys (<i>Alouatta caraya</i>) in Corrientes, Argentina. <i>Lab. Primate Newsl.</i> 41 (3): 12 – 14.11. Zhang, G.-W., X.-R. Ji, and D. P. McManus. 1994. The presence of pinworm (<i>Enterobius</i> sp.) in the mesenteric lymph nodes, liver and lungs of a chimpanzee, <i>Pan troglodytes</i>. <i>J. Helminthol.</i> 64: 29-34.