



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>

<p>Fact sheet compiled by Manfred Brack, formerly German Primate Center, Göttingen / Germany.</p>	<p>Last update November 2003</p>
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<p>Susceptible animal groups Depending on the oxyurid-species.</p>	
<p>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.</p>	
<p>Zoonotic potential Only with <i>Enterobius vermicularis</i>.</p>	
<p>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.</p>	
<p>Transmission Perorally.</p>	
<p>Incubation period</p>	
<p>Clinical symptoms Perianal itching, anorexia, restlessness, weight loss, death.</p>	
<p>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.</p>	
<p>Diagnosis Ovodiagnosis (Anal impression!).</p>	
<p>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)</p>	
<p>Relevant diagnostic laboratories</p>	
<p>Treatment 1. Fenbendazole (10 mg / kg). In man 85% cure rate with 50 – 150 mg Ivermectin.</p>	
<p>Prevention and control in zoos</p>	
<p>Suggested disinfectant for housing facilities</p>	
<p>Notification</p>	



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.