# Leprosy

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<th>Animal Group Affected</th>
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<td><em>Pan troglodytes</em>, <em>Cercocebus atys</em>, <em>Macaca fascicularis</em></td>
<td>Aerogenously, contact</td>
<td>Crusted maculopapular rash, nodular lesions, paralytic deformities of hand and feet</td>
<td>No</td>
<td>Multidrug therapy: Rifampicin-Dapson-Clofazimin (human infections!)</td>
<td>In houses: None in zoos: none</td>
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## Fact Sheet

**Fact sheet compiled by**
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**Fact sheet reviewed by**
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## Susceptible Animal Groups

*Pan troglodytes*, *Cercocebus atys*, *Macaca fascicularis*.

## Causative Organism

*Mycobacterium leprae*.

## Zoonotic Potential

Yes.

## Distribution

Asia, Africa, Latin America.

## Transmission

Aerogenously via nasal excretions, probably also contact.

## Incubation Period

Varying from 10 days to 25 months in experimentally infected monkeys and from 9 months to 20 years in man.

## Clinical Symptoms

Crusted maculopapular rash (trunk, limbs), followed by nodular lesions on lips, nostrils, nasal septum, eyebrows, ears, carpus, forearms, scrotum (cooler parts of the body!), sometimes accompanied by ulcerations and depigmentations. Paralytic deformities of hands and feet.

## Post Mortem Findings

In natural infections of nonhuman primates only the lepromatous form (Type 2: cell-mediated anergy with heavy bacterial load) resulted. Diffuse dermal infiltration by pale, foamy histiocytes, lymphocytes, plasma cells, and neutrophils with loss of dermal collagen, dermal papillae and rete pegs. In the lepromatous form numerous acid fast bacteria are crowded within the histiocytes. In the peripheral nervous system focal histiocytic invasion of the perineurium and polymyelitis were reported.

## Diagnosis

*M. leprae* does not grow in vitro, diagnosis therefore depends entirely on indirect methods: Immunoperoxidase labeled antibodies against *M. leprae* proteins or carbohydrates, Fite-Faraco-staining of acid fast bacteria within histiocytes of the lesions and in the nasal mucus, cutaneous lepromin-tests (in nonhuman primates higher concentrations of the antigen required!), ELISA-tests using specific phenolic glycolipid I antigen.

## Material Required for Laboratory Analysis

Nasal secretions, tissues from the lesions.

## Relevant Diagnostic Laboratories

1. Nationales Referenzzentrum für tropische Infektionserreger am Bernhard-Nocht-Institut für Tropenmedizin
   Robert-Koch-Str. 17
   D 20359 Hamburg, Germany
   Phone: 040 – 42818-401
   Fax: " " "
   e-mail: MZD@bni-hamburg.de
Treatment

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

1. Prof. Dr. B. Fleischer, NRZ, Hamburg,
2. Prof. Dr. H. Schmitz

References