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**NATIONAL OCCUPATIONAL HEALTH STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA**

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**Diagnosis of occupational lyme disease**

职业性莱姆病的诊断

**(English Translation)**

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### Foreword

Chapters 5 and 6 of this standard are mandatory and the rest are recommended.

This standard is formulated in accordance with the Law of the People's Republic this standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard was drafted. Heilongjiang Provincial Second Hospital, Heilongjiang Mudanjiang Forestry Center Hospital, Liaoning Provincial Occupational Disease Prevention and Treatment Institute, Jilin Province Occupational Disease Prevention and Treatment Institute.

### 1 Scope

This standard specifies the principles of diagnosis and treatment of occupational Lyme disease.

This standard applies to the diagnosis and treatment of occupational Lyme disease.

## 2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply.

This document. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 16180 Labor ability appraisal employee injury and occupational disease disability level

## 3 Terms and definitions

The following terms and definitions apply to this document.

Occupational Lyme disease occupational lyme disease in the forest area and in the field, the workers are infected by the blood-sucking arthropods such as cockroaches.

Epidemic disease.

## 4 Diagnostic principles

According to the history of biting arthropods in the habitats of cockroaches, there are many skin, nerves, heart and joints.

Clinical manifestations of organ and multiple system damage, combined with specific laboratory test results, comprehensive analysis, exclusion of other causes Only after the disease can be diagnosed.

## 5 Diagnosis

### 5.1

Engaged in forest areas, field operations, and the history of blood-sucking arthropod bites.

### 5.2

Have at least one of the following clinical manifestations.

- a) erythema, papules, blistering or necrosis in the central part of the erythema or bite.
- b) fever, headache, sore throat, muscle pain and other similar cold-like symptoms.
- c) central or peripheral nervous system damage such as meningitis, cranial neuritis, spinal radiculitis, encephalomyelitis; and/or room Heart damage such as ventricular block, myocarditis, pericarditis.
- d) bone and joint damage, such as arthritis; and/or skin sclerosis and chronic atrophic dermatitis.

### 5.3

Have at least one of the following laboratory results.

- a) High titer *Borrelia burgdorferi*-specific antibody IgM and serum are detected in serum or body fluids (cerebrospinal fluid, joint fluid, urine) (or) IgG.
- b) Two-fold serum *Borrelia burgdorferi*-specific antibody IgM and/or IgG titers increased by a factor of 2 or more.
- c) Direct detection of damaged sections of the damaged tissue or *Borrelia burgdorferi* in blood and body fluid smears.
- d) PCR positive for DNA detection in *Borrelia burgdorferi* in tissues or body fluids.

### 5.4

The diagnosis of occupational Lyme disease needs to meet the requirements of 5.1, 5.2 and 5.3 at the same time.

## 6.1 Stage (local skin damage period)

Infected with *Borrelia burgdorferi* 3d ~ 14d around any clinical manifestation of 5.2a) or b), in line with 5.3 laboratory tests at least one.

## 6.2 Flood season (broadcast infection period)

5.2c) clinical manifestations of infection with *Borrelia burgdorferi* for weeks or months, and at least one of the 5.3 laboratory tests.

## 6.3 Flood season (continuous infection period)

Infected with *Borrelia burgdorferi* for 5.2d) clinical manifestations or 5.2c) clinical manifestations for several months or 2 years, in line with 5.3 laboratory tests at least one of them.

## 7.1 Principles of treatment

### 7.1.1

Pathogen treatment. Apply sensitive antibiotics according to different stages of the disease.

### 7.1.2

Symptomatic treatment. Eliminate or reduce the pathological damage caused by pathogens, maintain the stability of the body environment, and alleviate the suffering of patients.

### 7.1.3

Supportive treatment. improve the body's resistance, give psychotherapy, rehabilitation and so on.

## 7.2 Other treatment

If labor capacity is required, it shall be handled in accordance with GB/T 16180.

## 8 Instructions for the correct use of this standard

See Appendix A.

### Appendix A

(informative appendix) Instructions for the correct use of this standard A.1 Epidemiological characteristics of Lyme disease A.1.1 Sources of infection and host. Rodents are the main source of infection and host of this disease. The murines reported in China include *Apodemus agrarius*, *Dalin Apodemus*, and yellow.

Rat, brown rat and white-footed rat. In addition, more than 30 species of wild animals (rats, deer, rabbits, foxes, wolves, etc.), more than 40 species of birds and a variety of livestock were found.

(dogs, cattle, horses, etc.) can be used as a host for this disease.

A.1.2 Routes of transmission. caused by bites and bloodsucking in arthropods, between host animals, between host animals and humans.

Communication, there is no report of human infection. The types of media sputum vary from region to region, and the northern forest regions of China are mainly hard rafts.

The southern forest area is mainly composed of granular hard palate and two-spine blood stasis. The disease-causing spiral is mainly developed in the midgut of the sputum. When biting the host, the pathogen can pass the intestinal contents of the bacteria are spread, saliva or feces. In addition to sputum, the disease can also be caused by other arthropods or insects, such as mosquitoes and horses.

And spreads such as deer flies.

A.1.3 Susceptible population. The population is generally susceptible, especially for outdoor workers in infected areas.

A.1.4 Incubation period. Generally, the disease-causing spiral is infected from 3d to 32d, and most of them are affected from 7d to 9d.

A.1.5 Distribution

A.1.5.1 Occupation. forest areas, field workers, such as lumberjacks, forest police or