

## RHEUMATIC FEVER

### REPORTING INFORMATION

Rheumatic fever is not individually reportable in Ohio. Outbreaks are required to be reported as discussed in Section 3.

### AGENT

Delayed reaction to inadequately treated Group A beta-hemolytic streptococcal (GAS) infection of the upper respiratory tract.

### CASE DEFINITION

Rheumatic Fever is not reportable in Ohio. The Centers for Disease Control and Prevention (CDC) case definition is presented here only as a reference tool and does not imply that Rheumatic Fever is required to be reported to the Ohio Department of Health (ODH) or that ODH will maintain a database of reported Rheumatic Fever cases or provide statistics on Rheumatic Fever.

#### Clinical Description

An inflammatory illness that occurs as a delayed sequela of Group A streptococcal (GAS) infection.

- Major criteria: carditis, polyarthritis, chorea, subcutaneous nodules and erythema marginatum.
- Minor criteria: previous rheumatic fever or rheumatic heart disease; arthralgia; fever; elevated erythrocyte sedimentation rate, positive C-reactive protein, or leukocytosis; and prolonged PR interval on an electrocardiogram.

#### Laboratory Criteria for Diagnosis

No specific laboratory test exists for the diagnosis of rheumatic fever.

#### Case Classification

Confirmed: An illness characterized by:

- Two major criteria or one major and two minor criteria (as described in **Clinical Description**) and
- Supporting evidence of preceding group A streptococcal infection.

#### Comments

Supporting evidence to confirm streptococcal infection includes increased antistreptolysin-O or other streptococcal antibodies, throat culture positive for group A streptococcus or recent scarlet fever. The absence of supporting evidence of preceding streptococcal infection should make diagnosis doubtful, except in Sydenham chorea or low-grade carditis where rheumatic fever is first discovered after a long latent period from the antecedent infection.

### SIGNS AND SYMPTOMS

Onset may be sudden, occurring one to five symptom-free weeks after streptococcal sore throat or scarlet fever. Early symptoms usually include: fever, joint pain, nose bleeds, abdominal pain and vomiting.

### DIAGNOSIS

See Case Definition.

Sources other than the MMWR Case Definitions for Infectious Conditions under Public

Health Surveillance use different terminology when describing clinical diagnosis of rheumatic fever. These are:

- **Major manifestations:** carditis, polyarthrits, chorea, subcutaneous nodules and erythema marginatum.
- **Minor manifestations:**
  - Clinical findings: arthralgia, fever
  - Laboratory findings: elevated acute phase reactants (ESR, C-reactive protein) and prolonged P-R interval in EKG
  - Supporting evidence of antecedent group A streptococcal infection: positive throat culture and elevated or rising streptococcal antibody titer.

## **EPIDEMIOLOGY**

### **Source**

Individuals who have had streptococcal pharyngitis. Fomites and household pets have been rarely implicated as vectors of streptococcal infection.

### **Mode of Transmission**

Transmission of GAS occurs through close contact with an infected individual or carrier via the respiratory route.

### **Occurrence**

Very few individuals (1%-3%) who become infected with GAS will develop rheumatic fever. Results of studies suggest a possible association between a genetic marker and rheumatic fever. Rheumatic fever affects both sexes equally and most commonly occurs in children and teenagers 5 to 15 years of age. In the past, conditions contributing to higher incidence and more severe cases were overcrowding, poverty and diminished access to health care. However, in the United States today, where rheumatic fever cases have been increasing, the lack of recognition of antecedent streptococcal pharyngitis and/or inadequate primary treatment are probable contributing factors.

### **Period of Communicability**

Rheumatic fever is not communicable. Persons who have had acute rheumatic fever are susceptible to recurrences.

Communicability of GAS varies depending upon several factors:

- 24-48 hours with adequate penicillin therapy.
- 10-21 days in untreated uncomplicated cases.
- Weeks or months in untreated conditions, with purulent discharges.

### **Incubation Period**

Symptoms of GAS usually occur 1-3 days after exposure, rarely longer. Rheumatic Fever symptoms occur 1-5 weeks after GAS infection.

## **PUBLIC HEALTH MANAGEMENT**

### **Case**

There is no public health follow-up for individual cases of rheumatic fever. In well-documented clusters or epidemics of GAS pharyngitis and in high-risk situations (e.g. evidence of GAS infection in a rheumatic family), search for and treat carriers.

### **Treatment**

The objectives of therapy in rheumatic fever are to quiet inflammation, decrease

fever and toxicity and control cardiac failure. Salicylates and corticosteroids are suggested.

#### Isolation

Rheumatic fever is not an infection; therefore, isolation is not necessary. However, it is possible that the patient is still infected with GAS or has been re-infected with GAS.

In such a case, contact precautions should be taken. These may be discontinued after 24 hours of appropriate antibiotic treatment.

#### Prophylaxis

Continuous prophylaxis with Penicillin is recommended for those persons who have been accurately diagnosed with rheumatic fever. The preferred regimen of prophylaxis is injectable benzathine penicillin G. Alternative oral regimens include penicillin V, erythromycin and sulfadiazine.