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Duke Criteria for Infective Endocarditis (IE) - (An infection of the heart)

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01-02-2009, 01:53 PM

#1

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[Duke Criteria for Infective Endocarditis \(IE\) - \(An infection of the heart\)](#)

## Duke Criteria for Infective Endocarditis (IE)

### Major criteria:

#### A. Positive blood culture for Infective Endocarditis

Quote:

1- Typical microorganism consistent with IE from 2 separate blood cultures, as noted below:

- viridans streptococci, Streptococcus bovis, or HACEK\* group, or
- community-acquired Staphylococcus aureus or enterococci, in the absence of a primary focus

OR

2- Microorganisms consistent with IE from persistently positive blood cultures defined as:

- 2 positive cultures of blood samples drawn >12 hours apart, or
- all of 3 or a majority of 4 separate cultures of blood (with first and last sample drawn 1 hour apart)

#### B. Evidence of endocardial involvement

Quote:

1- Positive echocardiogram for IE defined as :

- oscillating intracardiac mass on valve or supporting structures, in the path of regurgitant jets, or on implanted material in the absence of an alternative anatomic explanation, or
- abscess, or

- new partial dehiscence of prosthetic valve

OR

2- New valvular regurgitation (worsening or changing of preexisting murmur not sufficient)

### Minor criteria:

Quote:

- **Predisposition:** predisposing heart condition or intravenous drug use
- **Fever:** temperature > 38.0° C (100.4° F)
- **Vascular phenomena:** major arterial emboli, septic pulmonary infarcts, mycotic aneurysm, intracranial hemorrhage, conjunctival hemorrhages, and Janeway lesions
- **Immunologic phenomena:** glomerulonephritis, Osler's nodes, Roth spots, and rheumatoid factor
- **Microbiological evidence:** positive blood culture but does not meet a major criterion as noted above<sup>1</sup> or serological evidence of active infection with organism consistent with IE
- **Echocardiographic findings:** consistent with IE but do not meet a major criterion as noted above

### Clinical criteria for infective endocarditis requires:

Quote:

- Two major criteria, or
- One major and three minor criteria, or
- Five minor criteria

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### Reference:

## Infective Endocarditis (An infection of the heart) - Overview

### Infective Endocarditis -

Quote:

Infective endocarditis is an infection of the heart -- either the lining, called the endocardium, or the valves -- caused by bacteria. It is normal for bacteria in the mouth, intestinal tract or urinary tract to travel to the heart via the bloodstream and this usually does not cause a problem. However, hearts that have defects, often even if the defects have been repaired, are vulnerable to infection. Once infection occurs, the bacteria continue to grow and may seriously damage the heart.

### Signs and Symptoms

A number of preexisting conditions increase a child's risk of developing endocarditis, including:

Quote:

- Congenital heart disease, such as aortic coarctation, Tetralogy of Fallot and transposition of the great arteries
- Rheumatic heart disease
- Cardiac valve anomalies

The usual signs of endocarditis are prolonged fever for several days (occasionally up to 30 days) in a child with congenital heart disease that occurs after a procedure in the mouth, intestinal tract or urinary tract. However, the infection may occur without a previous procedure.

Symptoms of endocarditis may either develop slowly or come on suddenly. These include:

Quote:

- Fatigue
- Fever
- Headache
- Joint inflammation or pain
- Night sweats
- Poor appetite and/or weight loss
- Rash

Signs of endocarditis may include the following:

Quote:

- Anemia
  - An enlarged spleen
  - Bleeding that causes small dark lines under the fingernails or small dark spots on the skin
  - New heart murmurs
- Prevention

The risk of infective endocarditis can be decreased if your child takes antibiotics immediately before procedures in which bacteria may be released into the bloodstream, such as:

Quote:

- Dental work (any kind)
- Tonsillectomy and adenoidectomy
- Bronchoscopy
- Some surgeries in the respiratory passageways, or the gastrointestinal or urinary tracts
- Gallbladder or prostate surgery

Although many bacteria can cause endocarditis, one type that lives in the mouth, called *Streptococcus viridans*, is responsible for half of all cases, which is why dental procedures are the most common cause of endocarditis. Therefore children with congenital heart disease should take antibiotics before undergoing dental procedures.

However, this should not be misinterpreted to mean that children with preexisting conditions that put them at risk for endocarditis should not go to the dentist. It is important that these children practice good oral hygiene and see a dentist regularly to ensure their teeth and gums stay healthy, for this is the first step in reducing the need for procedures where bacteria could be released into the bloodstream.

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 Last edited by trimurtulu; 01-02-2009 at 01:56 PM.



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