



## Foci of Infection

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### Introduction

Disease in the various parts of the body can be caused by multitude of etiologies. Mouth reflects the signs of systemic diseases clearly and early too. Vice-versa, systemic diseases in different organs are caused by sepsis in the mouth. The oral cavity may act as a site of origin for dissemination of pathogenic organisms to distant body sites, especially in immunocompromised hosts.

### Definitions

- **Infection:** The lodgement and multiplication of a parasite in or on the tissues of a host constitute infection.
- **Focus of infection:** It refers to circumscribed area of tissue which is infected with exogenous pathogenic micro-organisms and which is usually located near a mucous or cutaneous surface.
- **Focal infection:** It refers to distant spread from the focus of infection of organisms or their products that are capable of injuring tissues.
- **Oral foci of infection:** Localized area of persistence infection containing microorganisms and septic materials in any part of the oral cavity, which on stimulation disseminates to other parts of the body causing diseases in remote parts.
- **Metastatic or secondary infection:** An infection initiated at another site by microorganisms that have traveled through the bloodstream from a focus of infection.
- **Bacteremia:** The presence of bacteria in the bloodstream.

### Mechanism of focal infection

There are 2 generally accepted mechanisms in the possible production of focal infection.

In one instance there may be a metastasis of microorganisms from an infected focus by either hematogenous or lymphogenous spread.

Secondly, toxins or toxic products may be carried through the blood stream or lymphatic channels from a focus to a distant site where they may incite a hypersensitive reaction in the tissues.

The circulatory blood not only transports oxygen and nutrition to various parts of the body, but also eliminates the metabolic waste products from the tissues.

In any parts of the body if septic materials are present, these materials are also carried by blood, thus bacteremia, septicemia will occur in body.

In cases of improper oral hygiene and various disease processes the microorganisms and their toxins starts to accumulate in localized areas of different parts of the tooth, such as root canal, carious cavity and also different parts of the oral mucosa such as periodontal pocket and pericoronal flap.

On stimulation of this site these oral pathogens and their toxins enter the circulation and reactivates remote areas of the body, where they initiate the disease process by immunological injury and subsequent metastatic inflammation.

This localized area of chronic infection causes inflammation, suppuration, liberation of toxins resulting in toxemia, septicemia with fatal outcome.

This infection and inflammatory process in the oral cavity is called focal sepsis.

### Oral foci of infection

A variety of situations exist in the oral cavity which are sources of infection and which may set up distant metastases.

- Infected periapical lesions
- Teeth with infected root canals
- Periodontal disease
- Pericoronitis

### Significance of oral foci of infection in systemic diseases

Bacteria from the mouth can cause infection in other parts of the body. It can either cause or aggravate a great many systemic diseases like:

- Arthritis
- Cardiovascular diseases
- Diabetes Mellitus
- Ocular disease
- Gastrointestinal disease
- Renal diseases
- Respiratory diseases Skin diseases.

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