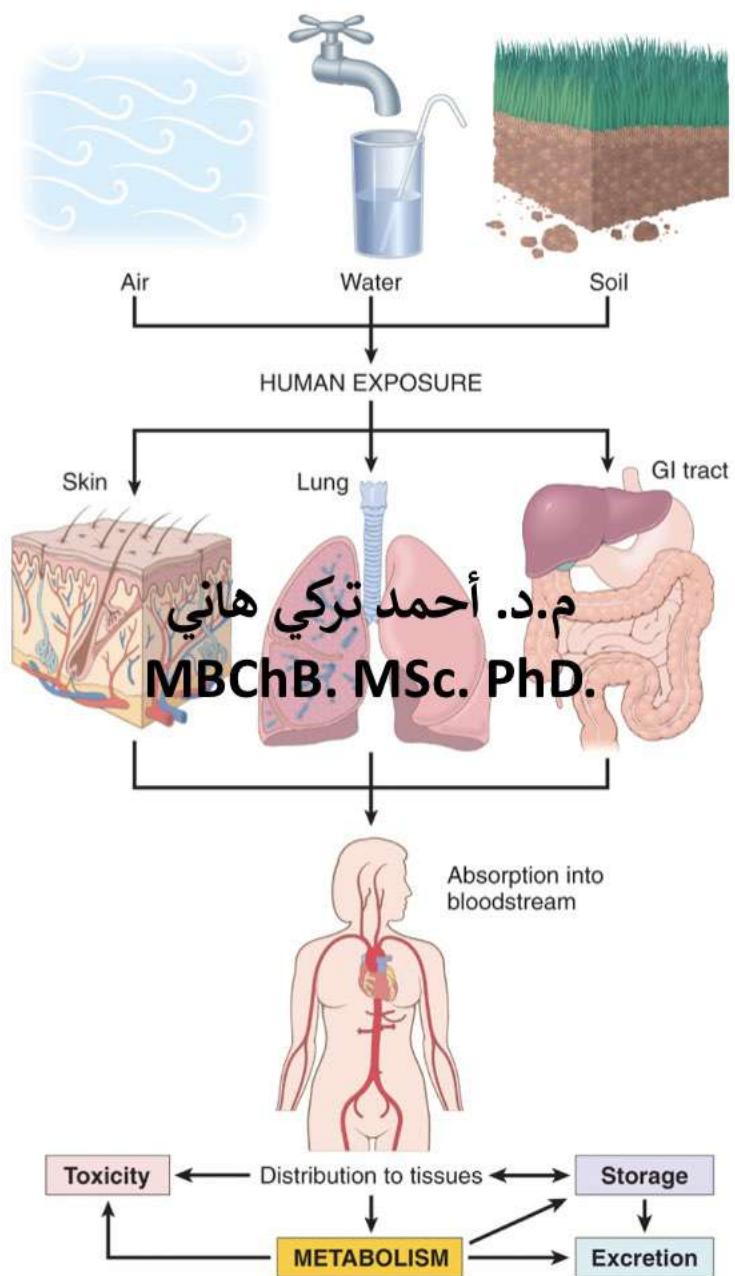


## Introduction

Environmental and nutritional diseases encompass a wide range of conditions caused by external environmental factors and dietary deficiencies or excesses. These diseases can significantly impact oral and systemic health, making their understanding crucial for dental professionals.



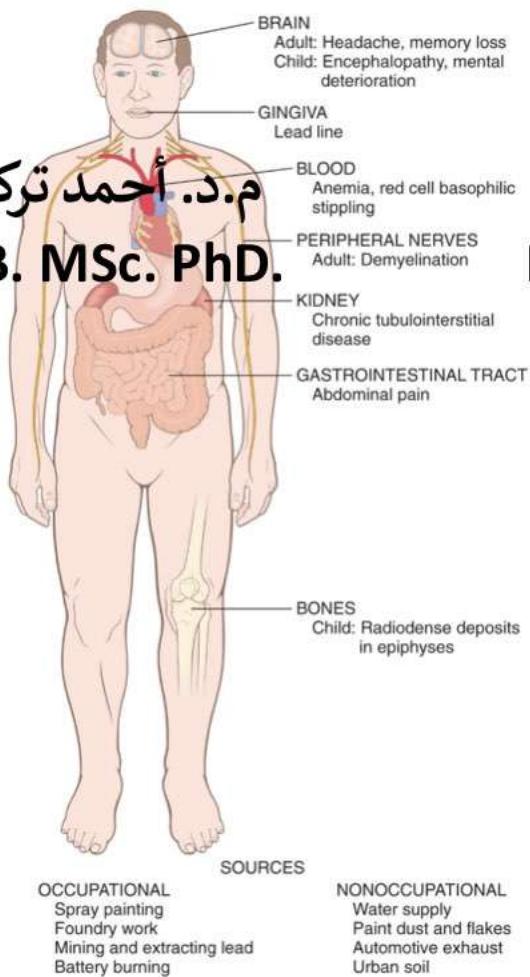
## 1. Environmental Diseases

Environmental diseases result from exposure to harmful agents in the environment, including physical, chemical, and biological factors.

### A. Types of Environmental Diseases

- **Chemical Agents:** Exposure to toxic substances such as heavy metals (lead, mercury), pesticides, and industrial chemicals.

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Ionising Radiation

### Lead Poisoning

- **Physical Agents:** Radiation, extreme temperatures, and mechanical trauma.
- **Biological Agents:** Pathogens like bacteria, viruses, and fungi that cause infections.

### B. Oral Manifestations

- **Chemical Exposure:** Lead poisoning can cause a blue-black line along the gingival margin (Burtonian line).
- **Radiation Exposure:** Xerostomia (dry mouth), mucositis, and increased risk of oral infections.
- **Biological Agents:** Oral candidiasis, viral infections, and bacterial infections.

### C. Prevention and Management

- Minimize exposure to harmful substances.
- Use protective equipment and follow safety protocols.
- Early diagnosis and treatment of oral manifestations.

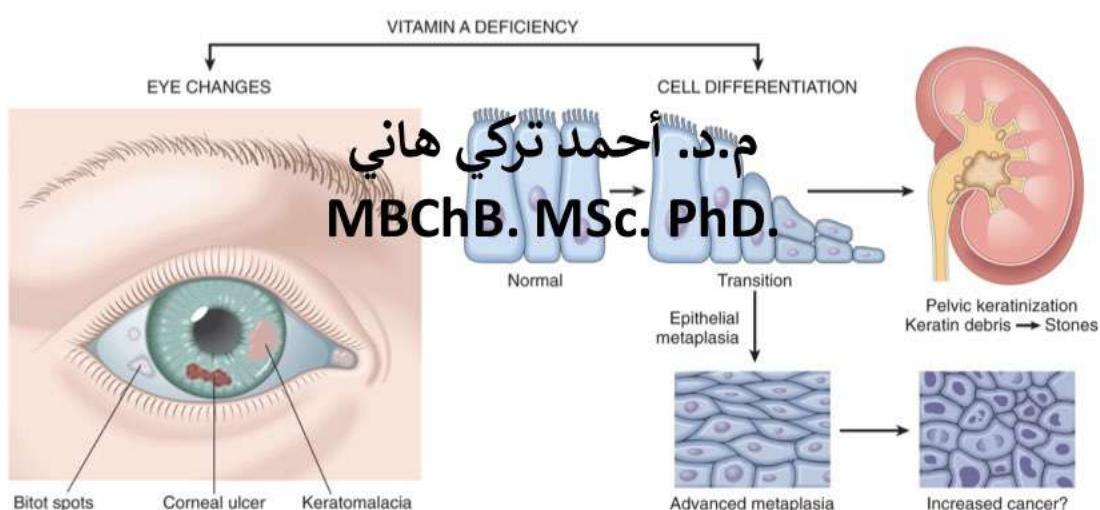
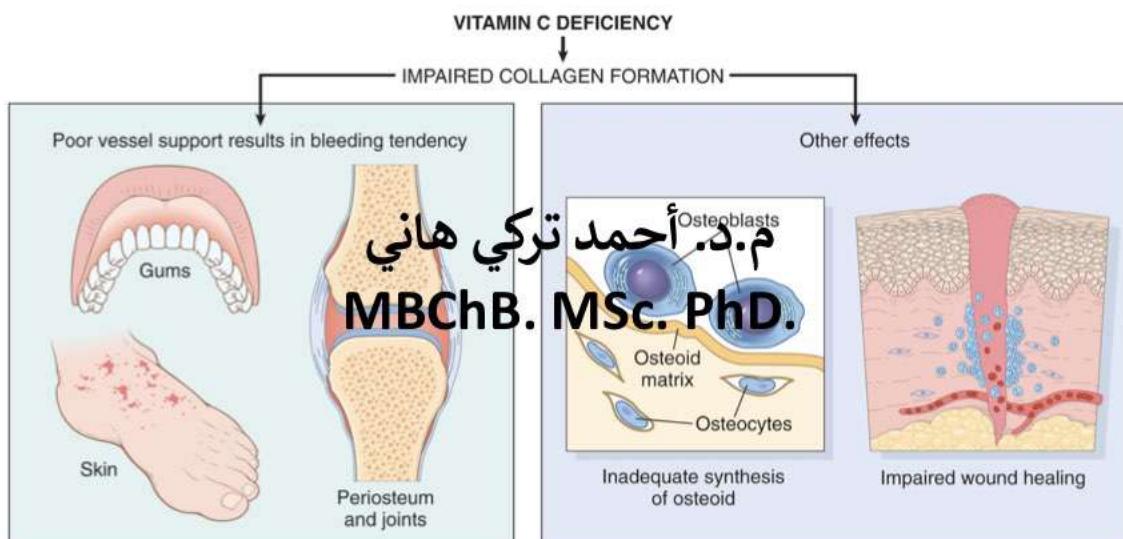
## 2. Nutritional Diseases

Nutritional diseases arise from deficiencies, excesses, or imbalances in dietary intake. These can affect oral health and overall systemic health.

### A. Common Nutritional Deficiencies

#### 1. Vitamin Deficiencies:

- **Vitamin C:** Leads to scurvy, causing gingival bleeding and delayed wound healing.
- **Vitamin D:** Causes rickets in children and osteomalacia in adults, leading to weak bones and dental abnormalities.
- **Vitamin A:** Results in xerostomia and impaired epithelial integrity.
- Vitamin B Complex:
  - **B1 (Thiamine):** Deficiency causes beriberi, leading to glossitis and burning mouth syndrome.
  - **B2 (Riboflavin):** Deficiency causes angular cheilitis and glossitis.
  - **B12 (Cobalamin):** Deficiency leads to pernicious anemia, causing glossitis and oral mucosal pallor.



**2. Mineral Deficiencies:**

- **Iron:** Iron-deficiency anemia can cause atrophic glossitis and angular cheilitis.
- **Calcium:** Deficiency can lead to hypocalcification of teeth and increased risk of periodontal disease.

**B. Nutritional Excesses**

- **Sugar Consumption:** High sugar intake is a major risk factor for dental caries.
- **Obesity:** Associated with periodontal disease and systemic inflammation.

**C. Oral Manifestations**

- Delayed tooth eruption.
- Increased susceptibility to infections.
- Altered salivary flow and composition.
- Enamel hypoplasia and dental caries.

**D. Prevention and Management**

- Promote balanced diets rich in essential vitamins and minerals.
- Educate patients on the importance of reducing sugar intake.
- Encourage regular dental check-ups for early detection and management of oral manifestations.

***3. Clinical Relevance***

- Dental professionals play a key role in identifying oral signs of environmental and nutritional diseases.
- Collaboration with medical professionals is essential for comprehensive patient care.
- Early intervention can prevent systemic complications and improve oral health outcomes.

***Conclusion***

Understanding environmental and nutritional diseases is vital for dental students to provide holistic care. By recognizing the oral manifestations of these conditions, dental professionals can contribute to the overall health and well-being of their patients.