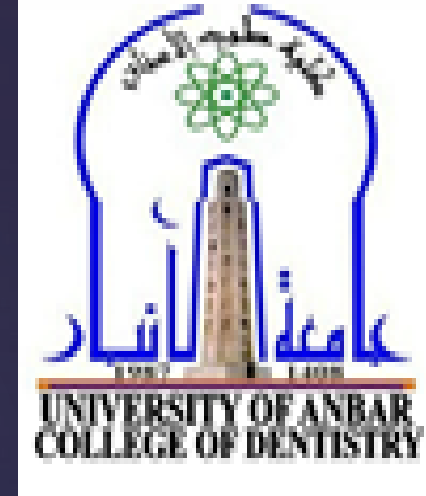


University of Anbar  
College of Dentistry



# Oral Medicine

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PhD of Oral Medicine

# Principles of investigation and diagnosis

**Oral medicine** is a specialty in dentistry that concerned with clinical diagnosis and non surgical management of non dental pathologies affecting the oral and maxillofacial region such as lichen planus, Behcet's disease and pemphigus vulgaris.

Another aspect of the field is managing the dental and oral condition of medically compromised patients.

For example, cancer patients who suffer from related oral mucositis or oral pathology related to radiation therapy.

In order to obtain an accurate diagnosis we need four important things:

- A detailed history

- Clinical examination

  - Extraoral

  - Intraoral

- Making a clinical differential diagnosis

- Special investigations (as appropriate)

  - Radiography or other imaging techniques

  - Biopsy for histopathology

  - Specimen for microbial culture

  - Haematological or biochemical tests

## ● Tacking history

### \* Demographic details

The age, gender, ethnic group and occupation of the patient should be noted. Such information is occasionally critical.

For instance, an elderly woman with arthritis and a dry mouth is likely to have Sjogren's syndrome.

Some diseases such as oral submucous fibrosis have a restricted ethnic distribution.

## **\*Taking a pain history**

**Type:** Ache, tenderness, dull pain, throbbing, stabbing, electric shock. These terms are of limited use and the constancy of pain is more useful.

**Severity:** Mild, managed with mild analgesics (e.g. aspirin/paracetamol)

Moderate, unresponsive to mild analgesics

Severe, disturbs sleep.

**Duration:** Time since onset. Duration of pain or attacks.

**Nature:** Continuous, periodic or paroxysmal. If not continuous, is pain present between attacks?

**Initiating factors:** Any potential initiating factors. Association with dental treatment or lack of it is especially important in eliminating dental causes

**Exacerbating and relieving factors:** Record all and note especially hot and cold, sensitivity or pain on eating which suggest a dental cause.

**Localisation:** The patient should map out the distribution of pain if possible. Is it well or poorly defined?

**Referral:** Try to determine whether the pain could be referred.



## \*History of the present complaint

In many cases a detailed history is required and sometimes, as in aphthous ulceration, the diagnosis can be made on the history without examination or investigation.

If earlier treatment has been ineffective, the diagnosis should be reconsidered. Many patients' lives have been shortened by having malignant tumors treated with repeated courses of antibiotics.

Pain is completely subjective and when physical signs are absent special care must be taken to detail all its features. Especially important are features suggesting a dental cause.

## \*The medical history

A medical history is important as it aids the diagnosis of **oral manifestations of systemic disease**. It also ensures that **medical conditions and medication which affect dental or surgical treatment** are identified.

If the history suggests, or examination reveals, any condition beyond the scope of the dentist's experience or clinical knowledge, referral for specialist medical examination may be necessary.

A detailed drug history is essential. Drugs can have oral effects or complicate dental management in important ways.

## **\*The dental history**

A dental history and examination are obviously essential for the diagnosis of dental pain or to exclude teeth as cause of symptoms in the head and neck region.

## ● Clinical examination

### \*extraoral

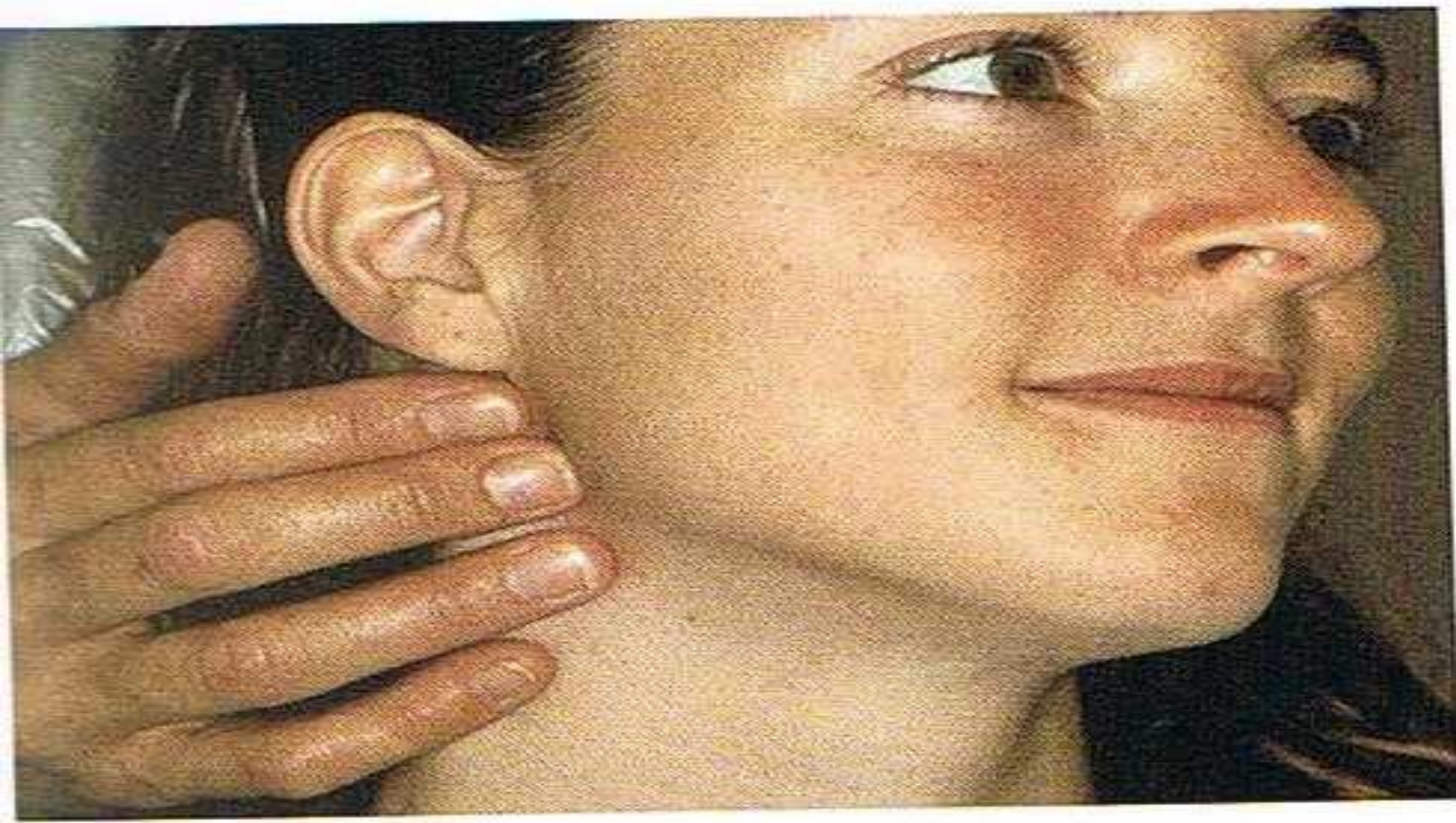
First, look at the patient, before looking into the patient's mouth.

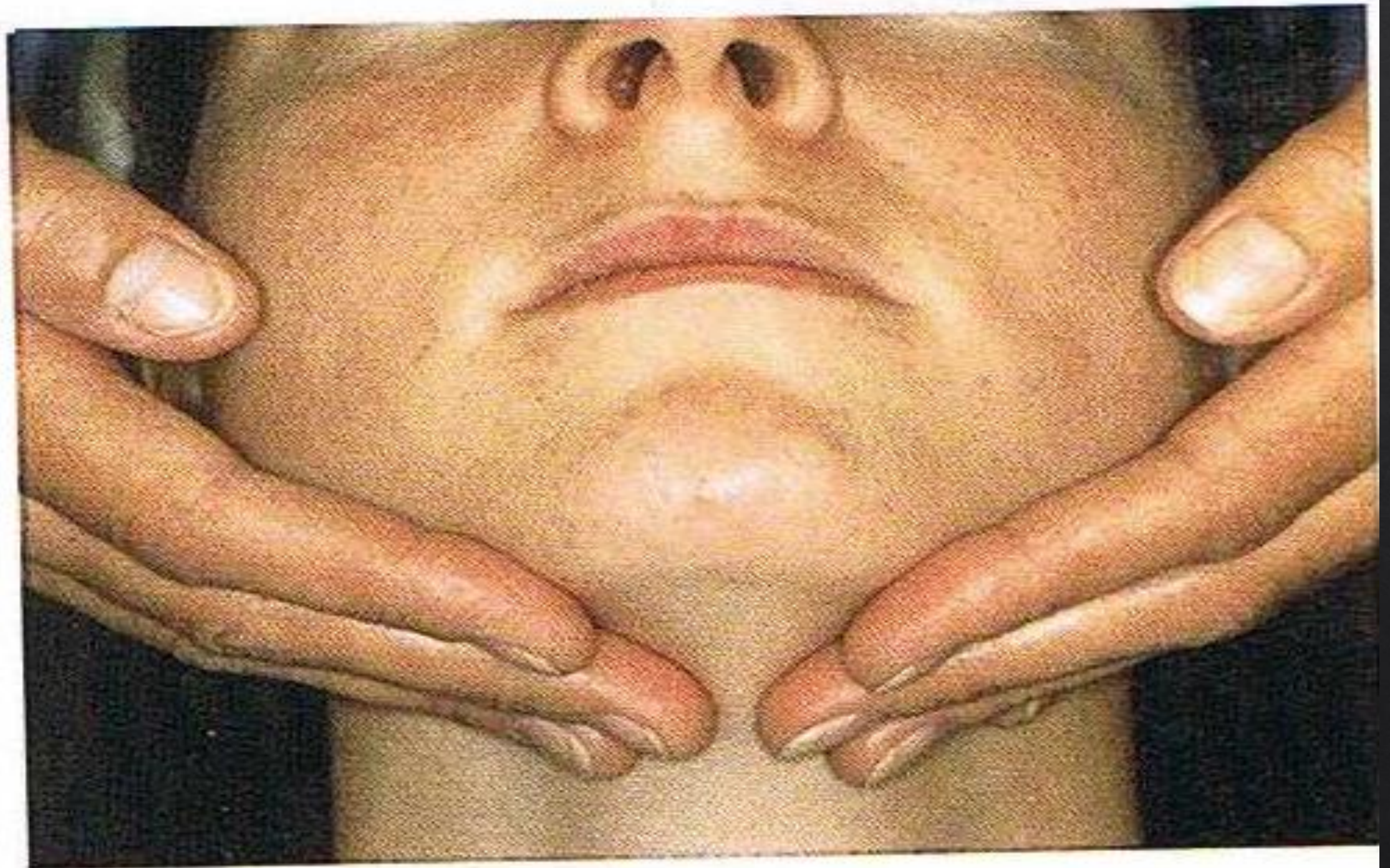
Anaemia, thyroid disease, long-term corticosteroid treatment, parotid swellings, or significantly enlarged cervical nodes are a few conditions that can affect the facial appearance.

The parotid glands, temporomandibular joints (for clicks, crepitus or deviation), cervical and submandibular lymph nodes and thyroid gland should be palpated.











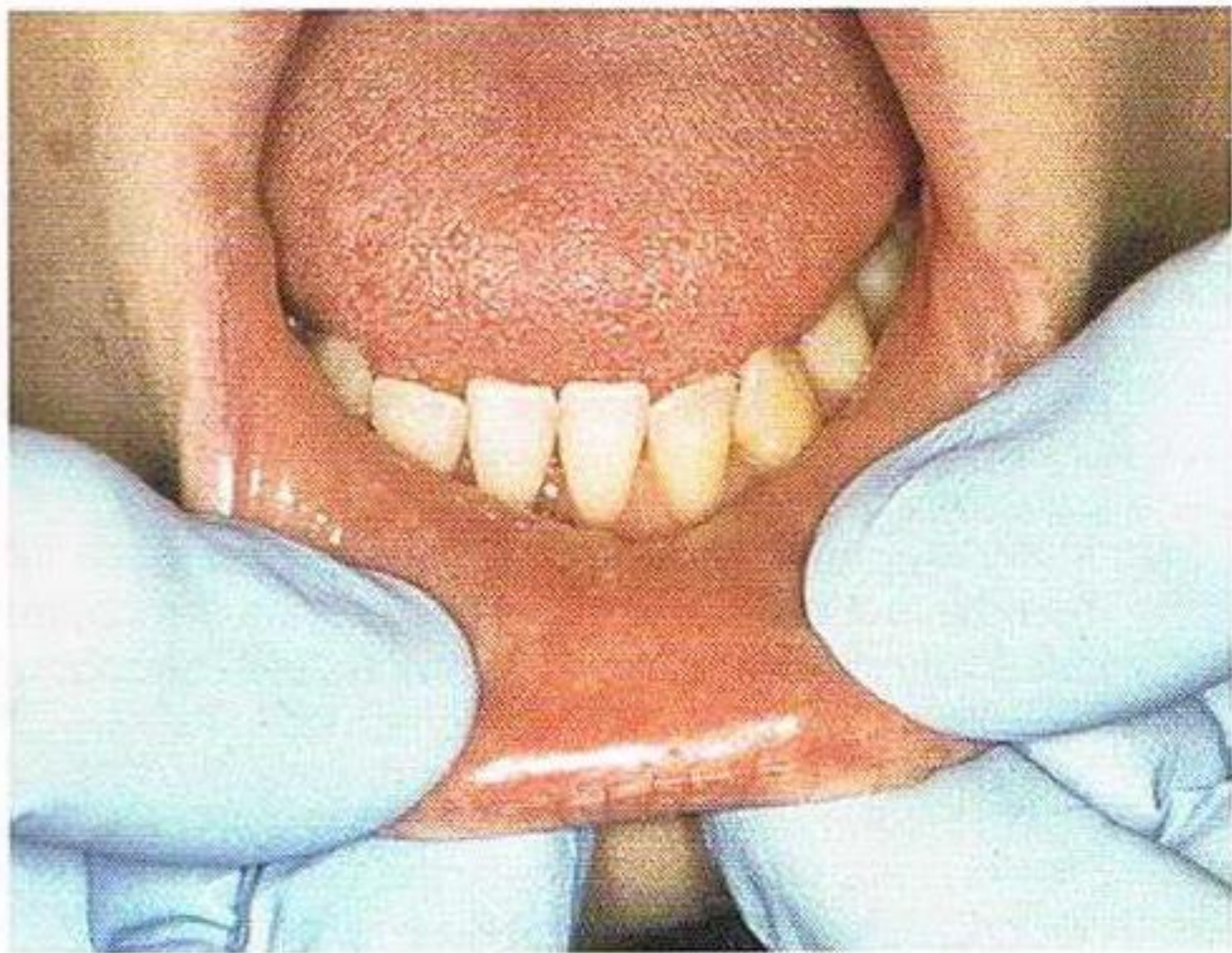
## **\*Oral examination**

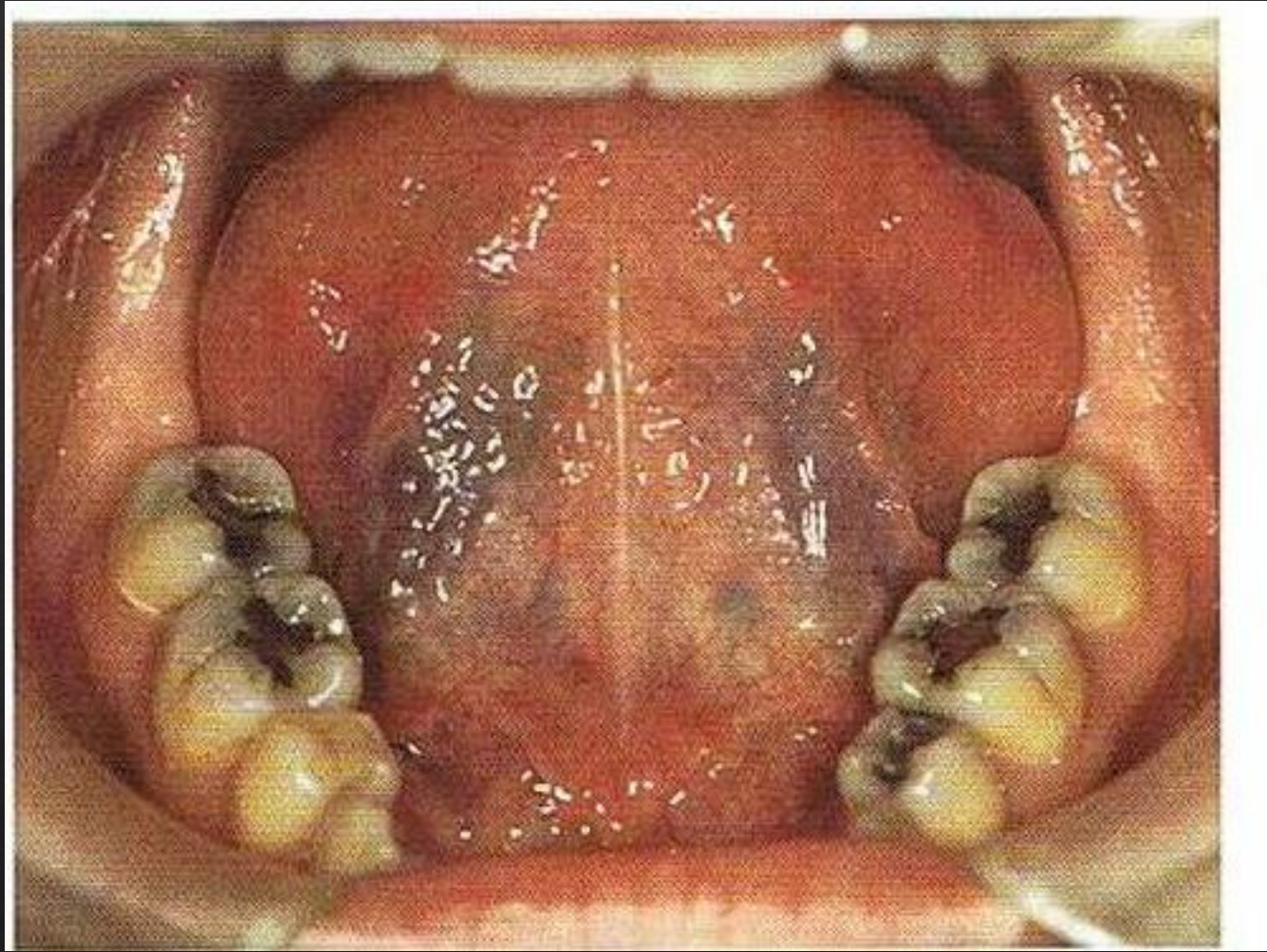
Examination of the oral cavity can only be performed adequately with good light, mirrors and compressed air or other means of drying the teeth. If viscid saliva prevents visualization of the tissues and teeth, a rinse with sodium bicarbonate mouthwash will help.

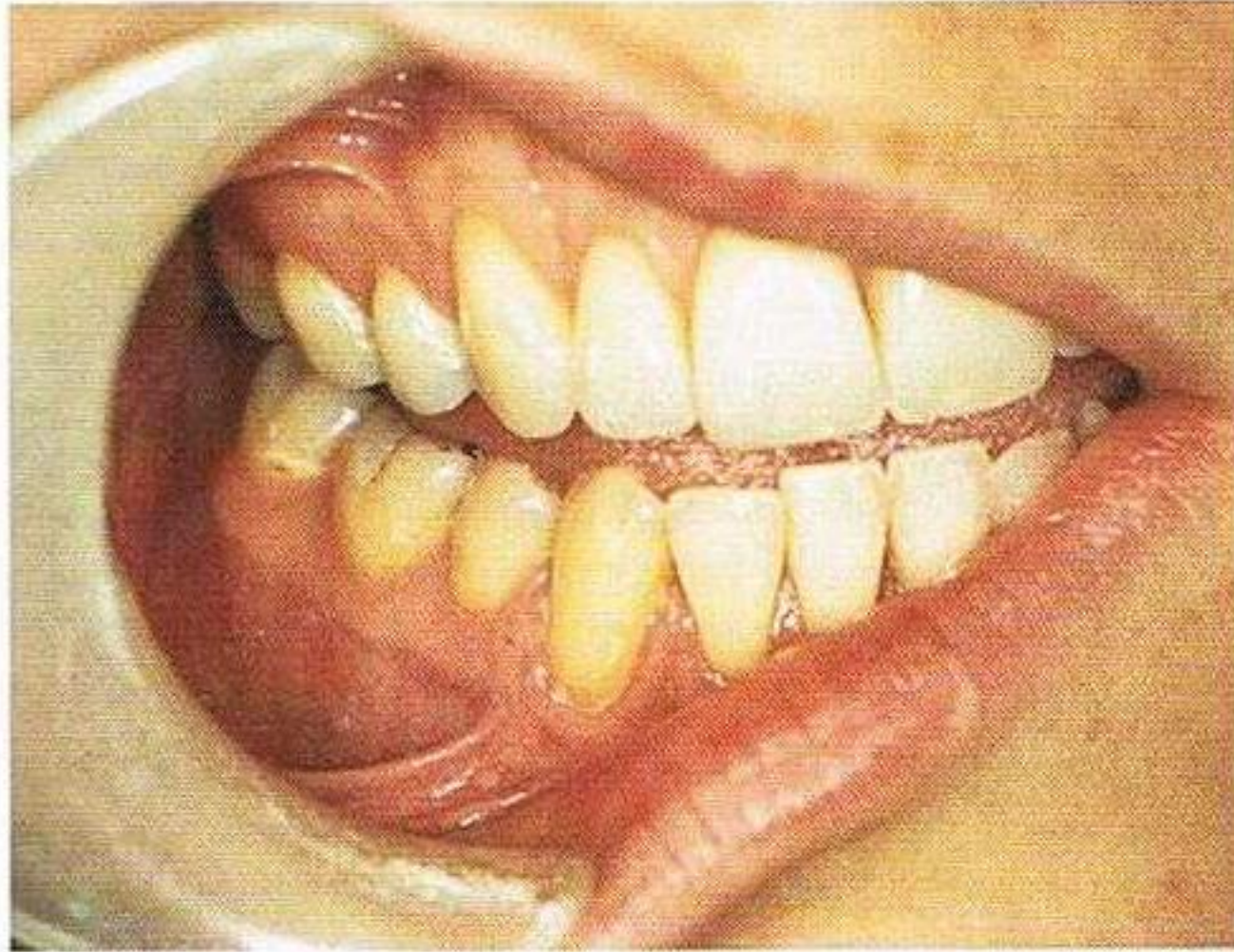
## Soft tissues

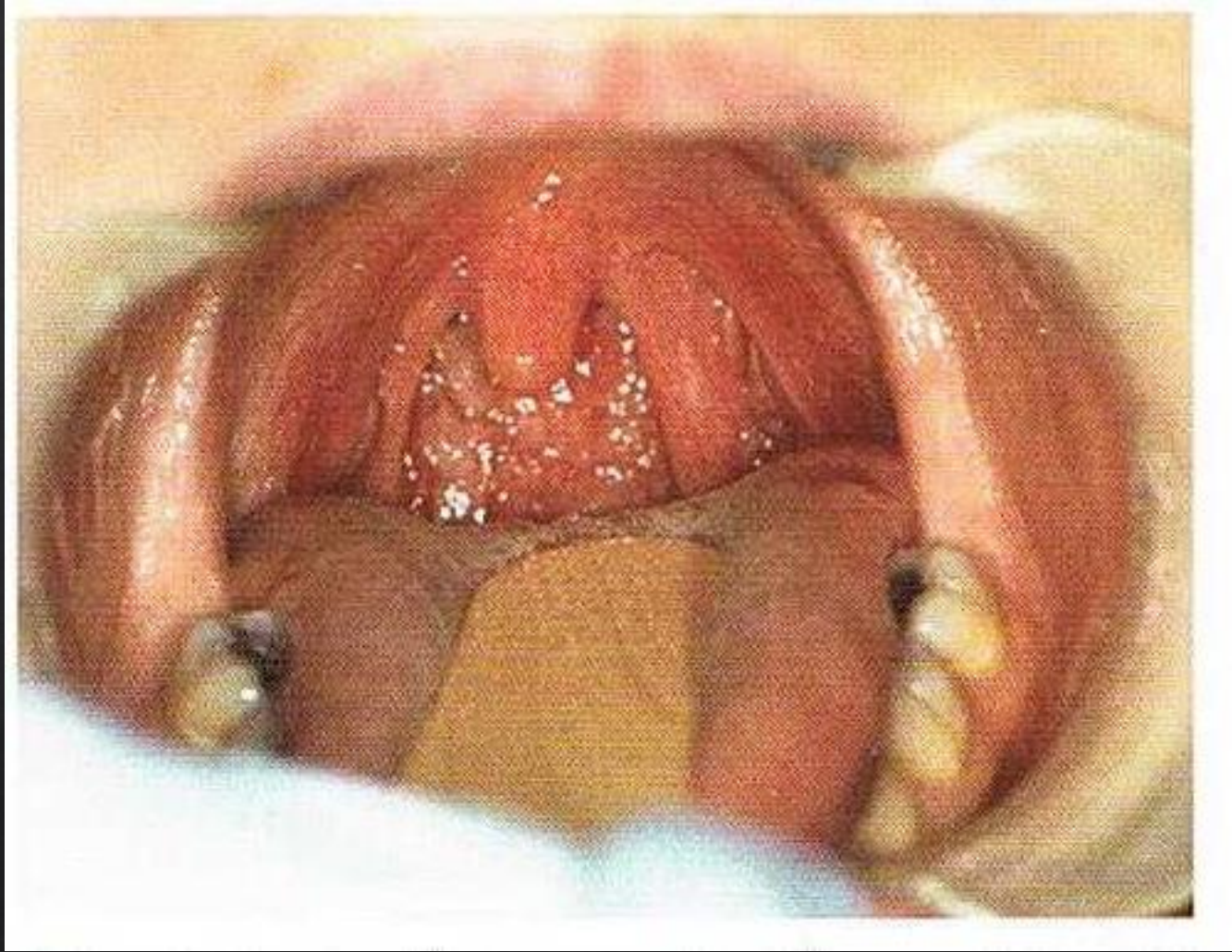
The soft tissues of the mouth should usually be inspected first.

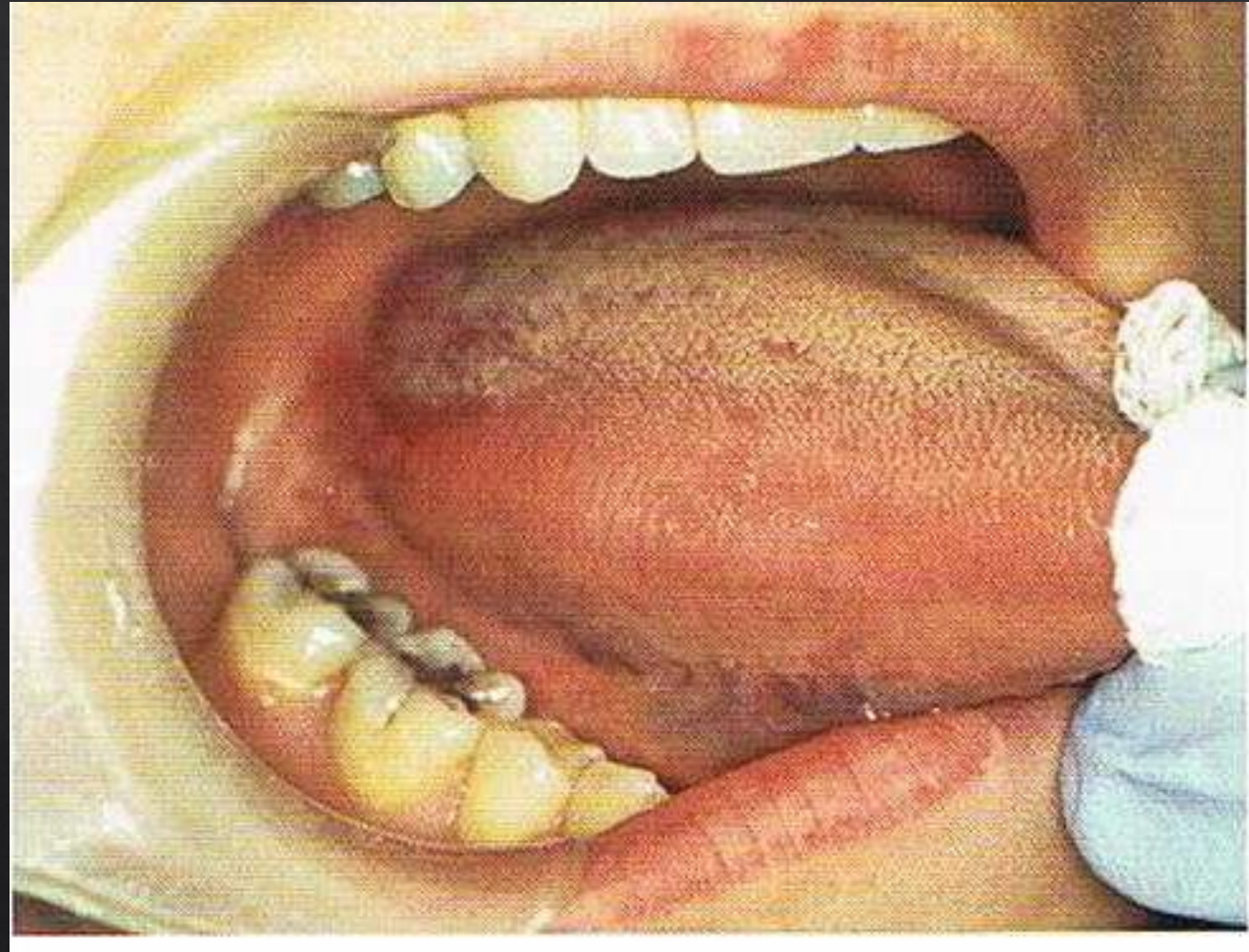
Examination should be systematic to include all areas of the mouth. Care should be taken that mirrors or retractors do not obscure lesions. To ensure complete examination of the lateral tongue and posterior floor of mouth the tongue must be held in gauze and gently extended from side to side.











## Teeth

As a minimum, the standing teeth with a summary of their periodontal health, caries and restorative state, should be recorded. Tooth wear should be checked for 'parafunction'.

When dental pain is a possibility, full charting, assessment of mobility and percussion of teeth are necessary and further dental investigations will probably be required.



## Medical examination

The dentist should be capable of performing simple medical examinations of the head and neck.

-Examination of the **skin of the face, hair, scalp and neck** may reveal unexpected foci of infection to account for cervical lymphadenopathy or even malignant neoplasms.

-The **eye** can readily be inspected for conjunctivitis or signs of mucous membrane pemphigoid, anaemia or jaundice.

- Examination of the **hands** may also reveal relevant information.

- Dentists should be able to examine **cranial nerve** function.

## ● Making a clinical differential diagnosis and investigation plan

The diagnosis and appropriate treatment may be obvious from the history and examination. More frequently there are various possible diagnoses and a clinical differential diagnosis and plan of investigation should be worked out.

## ● Special investigations

### \*Imaging

The most informative imaging techniques in the head and neck are radiography and computerised tomography (CT), magnetic resonance imaging (MRI) and ultrasound.

## **\*Histopathology**

Removal of a biopsy specimen for histopathological examination is the mainstay of diagnosis for diseases of the mucosa, soft tissues and bone.

## **Surgical biopsy**

Incisional biopsy (removal of part of a lesion) is used to determine the diagnosis before treatment.

Excisional biopsy (removal of the whole lesion such as a mucocele) is used to confirm a clinical diagnosis. The request form should contain all the clinical information used to reach the clinical diagnosis.

## **Fine needle (FNA) aspiration biopsy**

Even if not completely conclusive, the information from fine needle aspiration (FNA) is often sufficient to distinguish benign from malignant neoplasms, to initiate treatment, or to indicate a need for further investigations.

# Exfoliative cytology

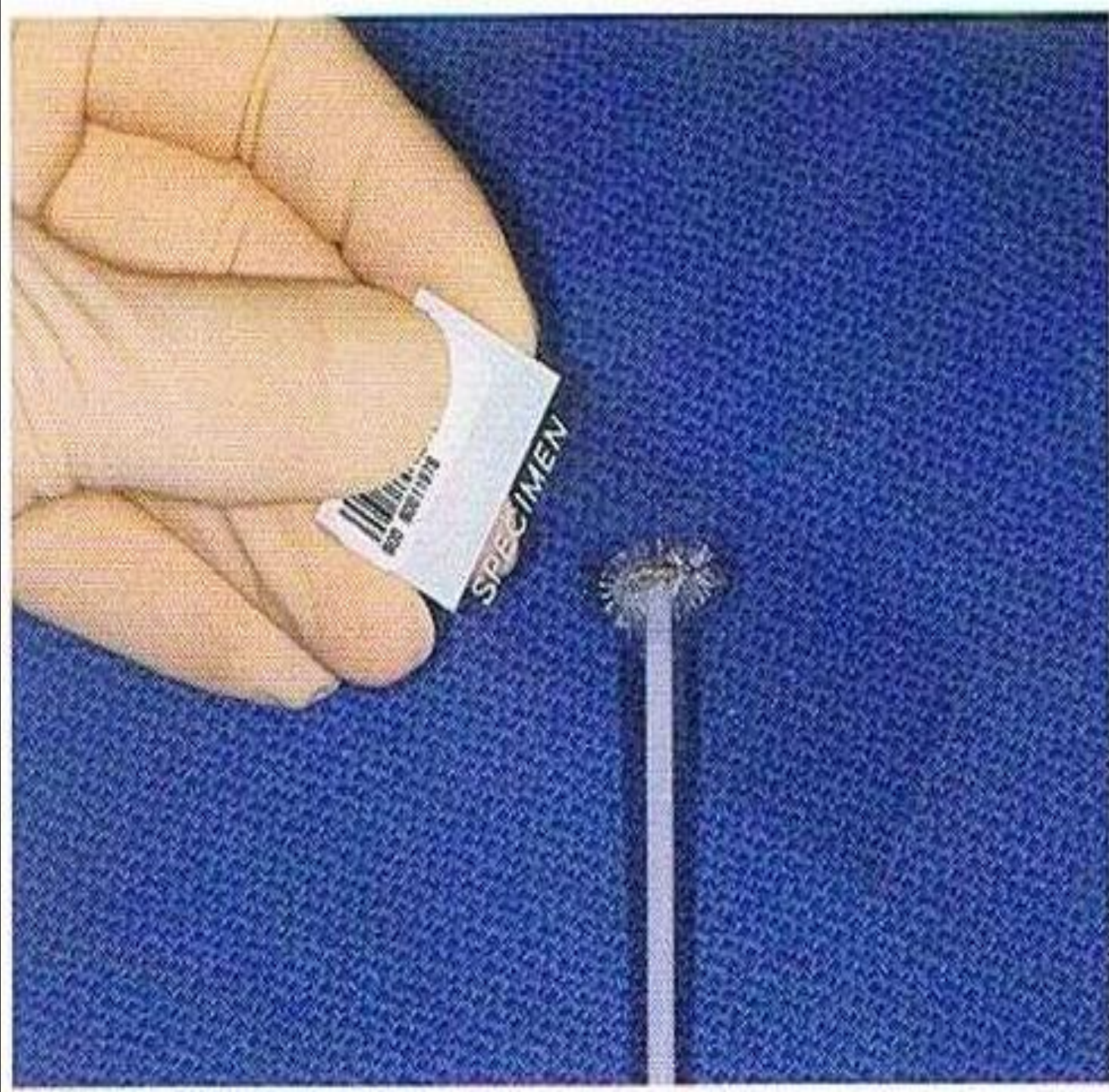
Exfoliative cytology is examination of cells scraped from the surface of a lesion or occasionally of material in aspirates of a cyst.

Biopsy is always more reliable and can be so readily carried out in the mouth that it is mandatory when cancer or premalignancy is suspected.

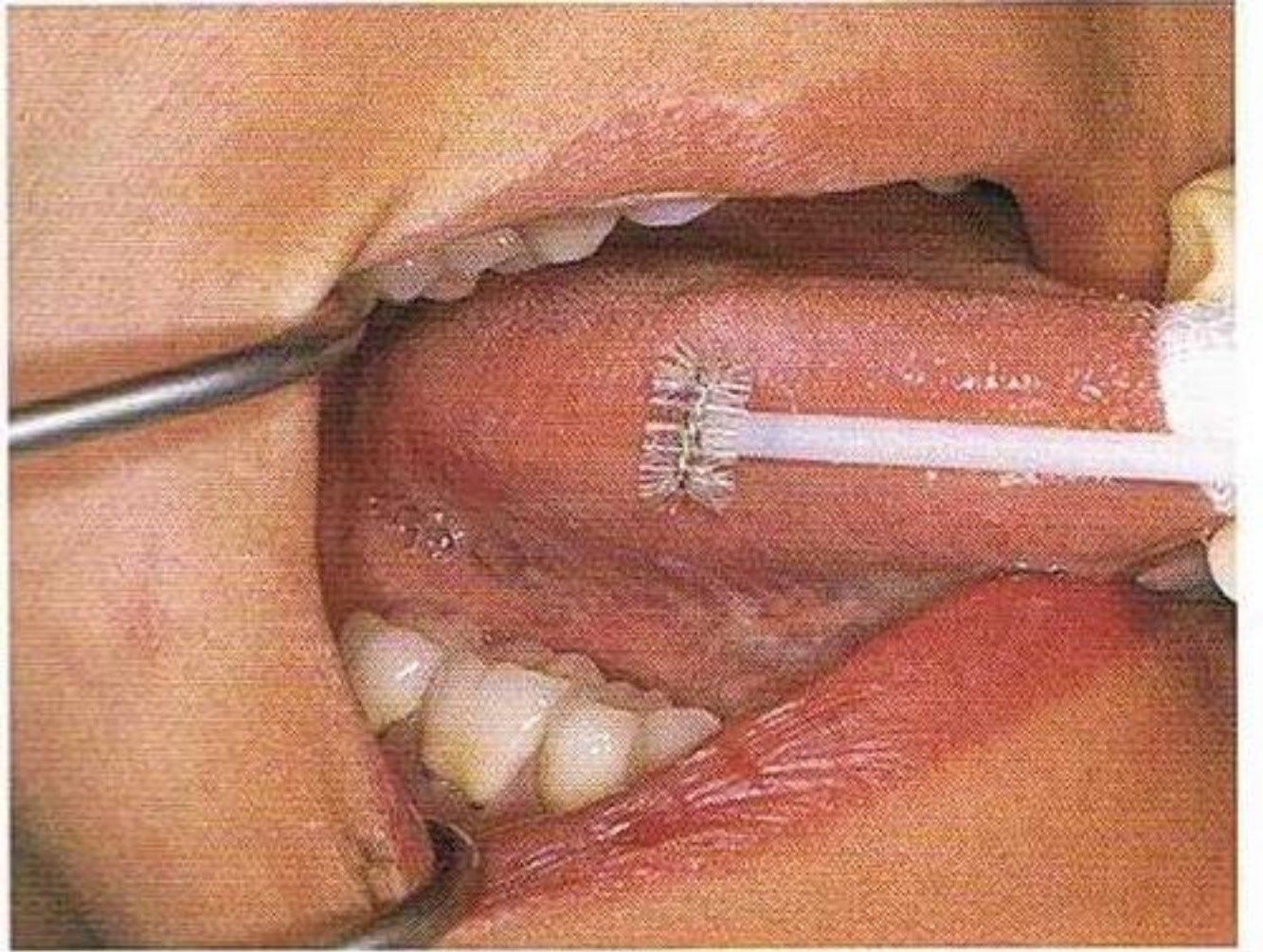
Exfoliative cytology samples only surface cells and provides no information on deeper tissues.

## Brush biopsy

This technique uses a round stiff bristle brush to collect cells from the surface and subsurface layers of a lesion by vigorous abrasion.







## \*Molecular biological tests

Molecular biological diagnostic tests have revolutionized diagnosis, particularly in screening for and identification of genetic abnormalities and rapid identification of bacteria and viruses. Some malignant neoplasms have characteristic genetic abnormalities, mostly chromosomal translocations, which can be detected by **cytogenetics**, **polymerase chain reaction (PCR)** or **fluorescent in situ hybridisation**.

## **\*Haematology, clinical chemistry and serology**

- Blood investigations are clearly essential for the diagnosis of diseases such as leukaemias, myelomas,
- or leukopenias which have oral manifestations, or for defects of haemostasis which can greatly affect management.
- Blood investigations are also helpful in the diagnosis of other conditions such as some infections, and sore tongues or recurrent aphthae which are sometimes associated with anemia.

## **\*Microbiology**

A key microbiological investigation is culture and sensitivity of pus organisms. Whenever pus is obtained from a soft tissue or bone infection it should be sent for culture and determination of antibiotic sensitivity of the causative microbes. Those of osteomyelitis, cellulitis, acute parotitis, systemic mycoses (frequently mistaken for tumours), or other severe infections need to be identified if appropriate antimicrobial treatment is to be given.

Viral identification is rarely required for oral diseases as many oral viral infections are clinically typical and indicate the causative virus. A smear alone may show the nuclear changes of herpetic infection in epithelial cells from the margins of mucosal ulcers. A more sensitive and almost as rapid result may be obtained by sending a swab for virus detection using ELISA (enzyme-linked immunosorbent assay).

A purple rectangular tag with a hole on the left side is the central focus. It is held in place by a light-colored string that loops around it. The tag is surrounded by several white daisies with yellow centers, scattered on a light brown, textured surface. The background is softly blurred.

Thank  
you!