


Orofacial inflammations

History

- “Ubi pus, ibi evacuo”
- Pre-antibiotic period – mortality 10-40%
- Discovery ATB  decrease of incidence, morbidity and mortality
- Lastly, the increase of resistance to antibiotics increases the incidence of maxillary inflammations

Terminology

- infection
- odontogenous
- periodontitis
- periodontitis
- abscess
- phlegmona
- intraoral incision (i. o. incision)
- extraoral incision (e. o. incision)

Etiopathogenesis orofacial inflammations

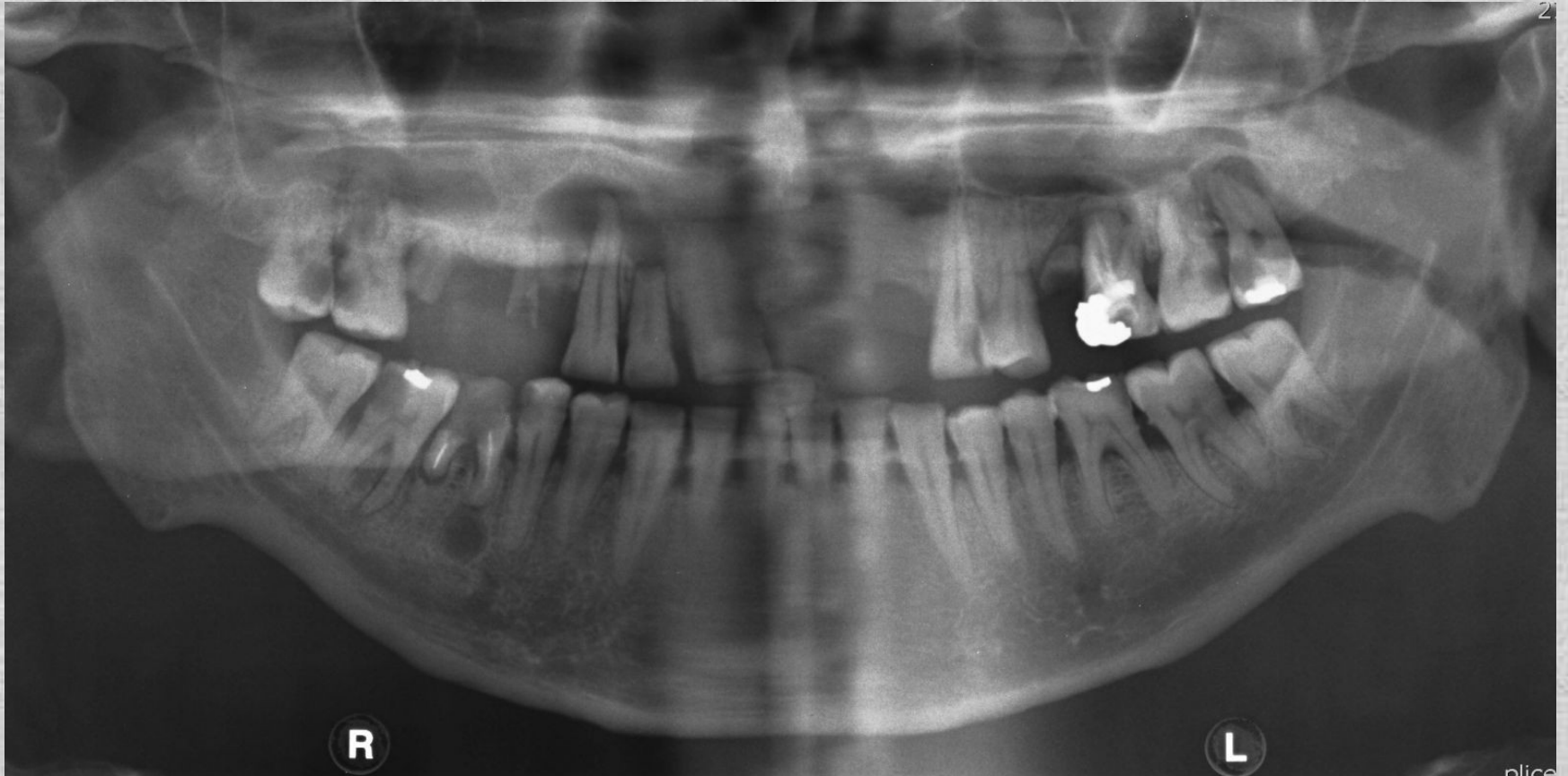
- Routes of infection
 - per continuitatem
 - lymphatic pathways
 - blood vessels pathways

Etiopathogenesis orofacial inflammations

(3 most common reasons)

- 1. devital tooth (70%) – acute exacerbation of chronic periodontitis
- 2. inflammation of alveolus after tooth extraction
- 3. dentitio difficilis

Etiopathogenesis orofacial inflammations



Etiopathogenesis orofacial inflammations



Etiopathogenesis orofacial inflammations



Etiopathogenesis orofacial inflammations

4. suppurating cyst
5. osteomyelitis of jaw bone
6. parodontosis
7. local anesthesia - or nerve-block anesthesia infiltration
8. fractures of the jaw bones
9. sialoadenitis
10. tonsillitis
11. purulent skin lesion
12. infectious diseases

Odontogenous infection

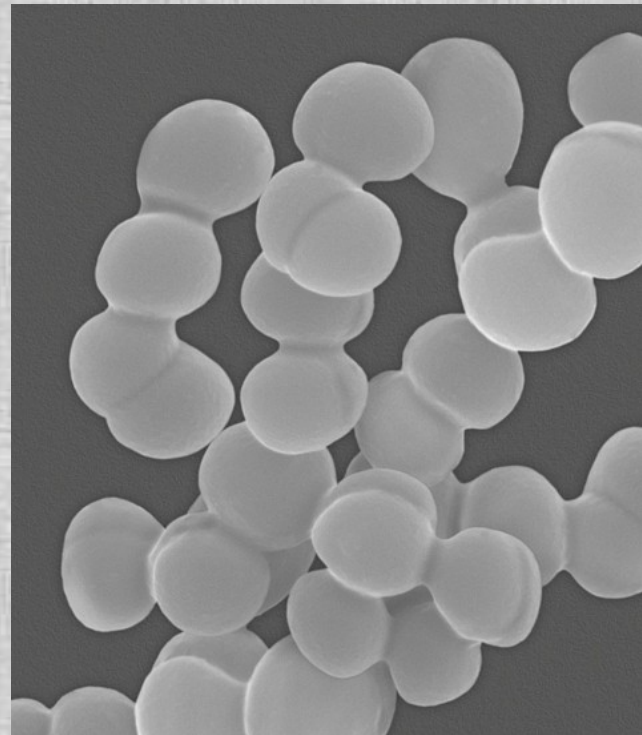
- Polymicrobial - a combination of aerobes, facultative anaerobes and strict anaerobes

Streptococcus viridans

Peptostreptococcus

Prevotella

Fusobacterium



Acute (apical) periodontitis, periodontitis acuta

- In typical cases of acute apical periodontitis occurs in four phases:
 1. Periodontal
 2. Enoseal
 3. Periosteal
 4. Submucous

Clinical manifestations

- **Rubor- Erythema**

Erythema of the inflammation area due to vasodilatation and hyperemia



Clinical manifestations

- **Tumor- swelling**
- swelling caused by inflammatory edema and vasodilation



Clinical manifestations

- **Dolor- bolest**
Inflammatory pain arises stimulation of peripheral nerve endings - acidic pH, cytokines
- **Calor-** elevation of temperature
locally we can palpate warmer area

Clinical manifestations

- **Functio laesa - impaired function**
Inflammation can damage the function of the closer organs

- Trismus



Clinical manifestations

- **Systemic symptoms:**

Fever

Increased sedimentation of erythrocytes

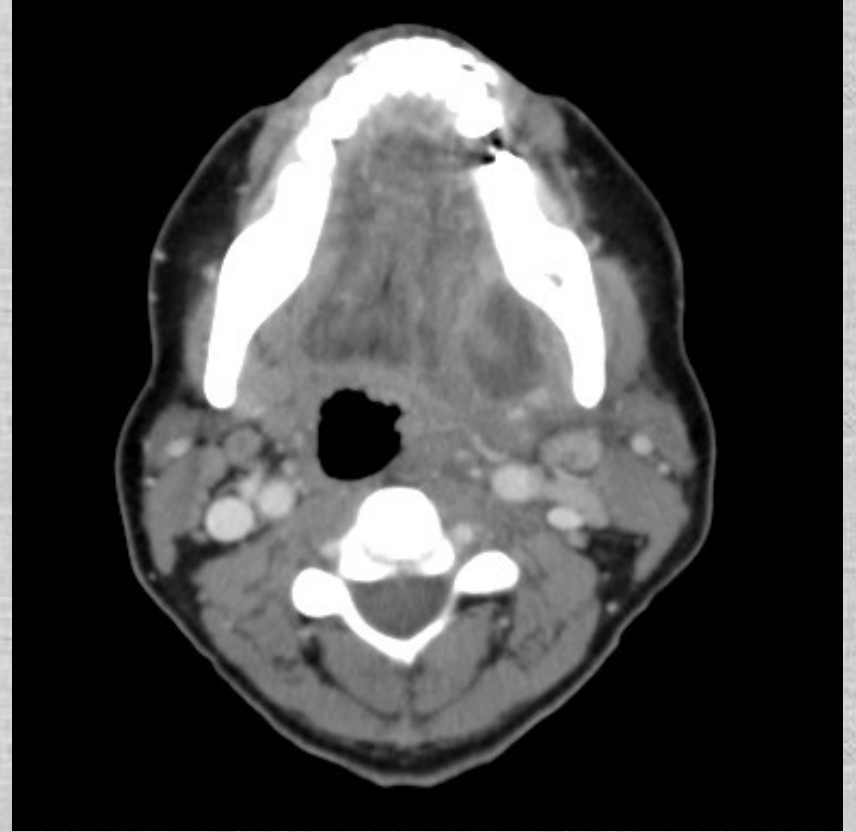
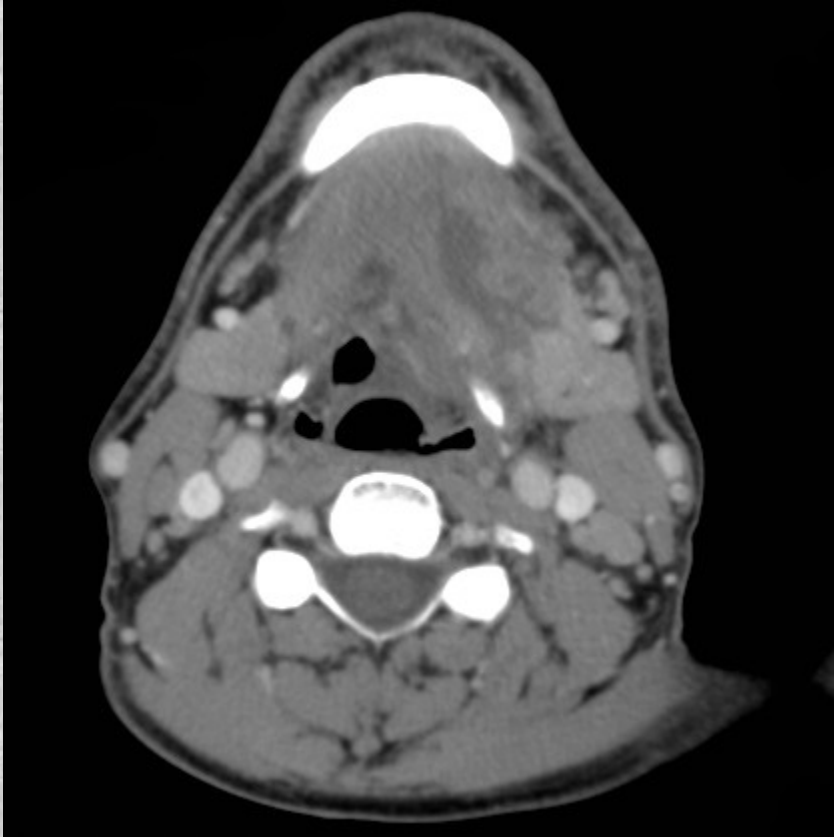
Leukocytosis

Increased levels of CRP

Diagnosis

- Clinical examination
- Auxiliary examination methods:
 - panoramic radiograph (ortopantomogram-OPG)
 - Ultrasonography (ultrasound)
 - Computed tomography (computed tomography-CT):

Diagnosis



Distribution of jaw inflammation

- Spreading inflammation in the lower jaw arise following abscesses:
- abscessus submental
- abscessus perimandibular
- abscessus regionis parotideomassetericae
- abscessus submandibular
- abscessus spatii pterygomandibularis et parapharyngei
- abscessus linguae et regio sublingualis

Distribution of jaw inflammation

- Spreading inflammation in the upper jaw arise following abscesses:
 - abscessus palatinus
 - abscessus perimaxillaris
 - abscessus retromaxillaris
 - abscessus orbitae

Distribution of jaw inflammation

- Spreading inflammation from both jaw arise following abscesses:
 - abscessus fossae pterygopalatinae
 - abscessus fossae infratemporalis
 - abscessus fossae temporalis

Abscessus submentalis

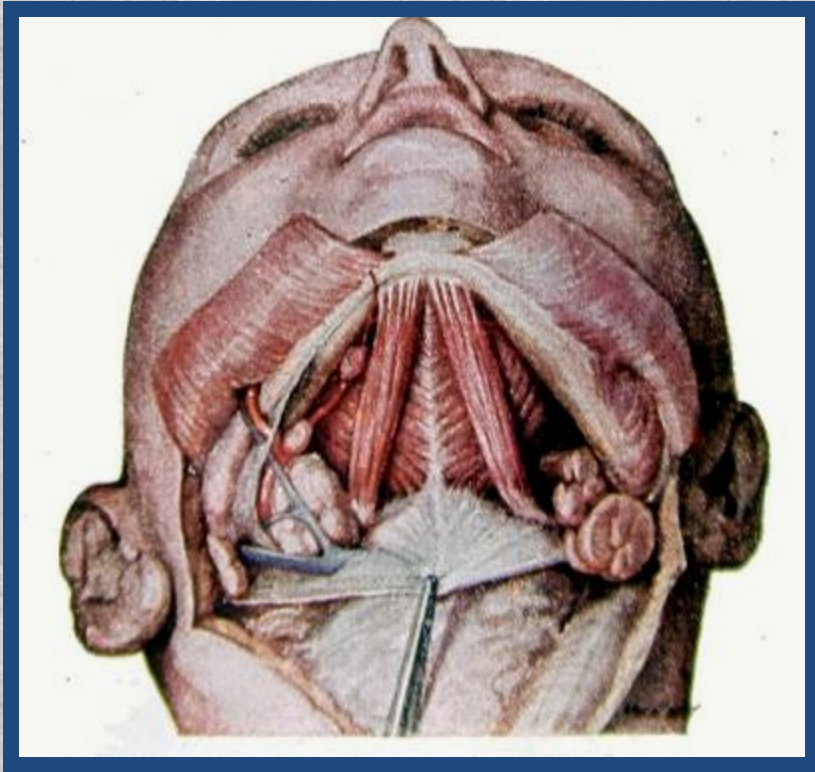
- **Cause:** The mandibular anterior teeth

- **Spatium submentale:**

Between surface of m. mylohyoideus and superficial neck fascia (lamina superficialis fasciae cervicalis) with m. platysma, laterally anterior bellies of mm. digastrici.

Contains infrequent adipose tissue with submental lymphonodes

Abscessus submentalalis



Abscessus submentalalis

- **Clinical symptoms:**
- swelling, warm skin erytema, palpation painfulness
painful mouth opening
- **Incision:** e.o. incize vertical in the midline

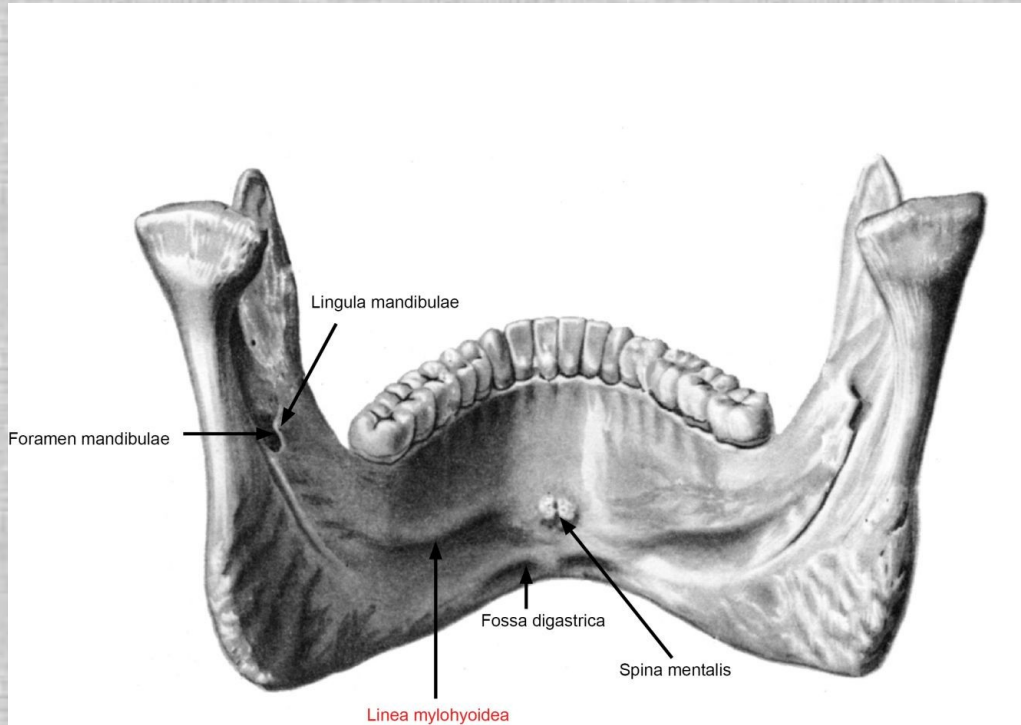
Abscessus perimandibularis

- **Cause:** infected root of the tooth of the lower jaw
 - the spread to the outer surface of the mandible
- **Clinical symptoms :** swelling not over the edge of the mandible, extending to the face (without swelling of eyelid).
 - induration, palpation painfulness
- **Incision:** i.o. or e.o. incision below the point of greatest convexity, possibly a combination of both

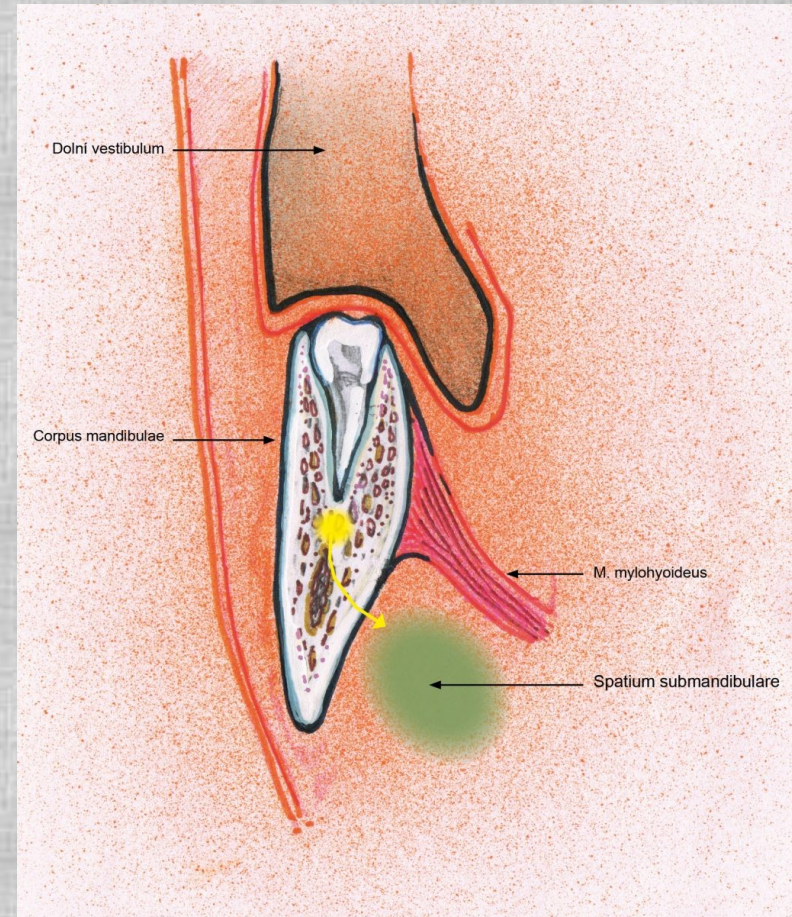
Abscessus submandibularis

- **Cause:** molars of the lower jaw, the spread from the surrounding area and lymphatic vessels
- **Spatium submandibulare:**
 - Cranial: medial wall of mandible under mylohyoid linea and mylohyoideus m.
 - Caudal and lateral: lamina superficialis fasciae cervicalis
 - Frontal: anterior belly of digastric m. (adjacent with submentale space)
 - Distal: exact border is missing, open to parapharyngeum and retropharyngeum sp.
 - Medial: sublingual space
 - Lateral: pterygomandibular space and parotid gland
- **Contains:** submandibular gland, submandibular lymphatic node, a. and v. facialis, n. lingvalis, n. hypoglossus

Abscessus submandibularis



Upraveno podle Siněnikova



Abscessus submandibularis

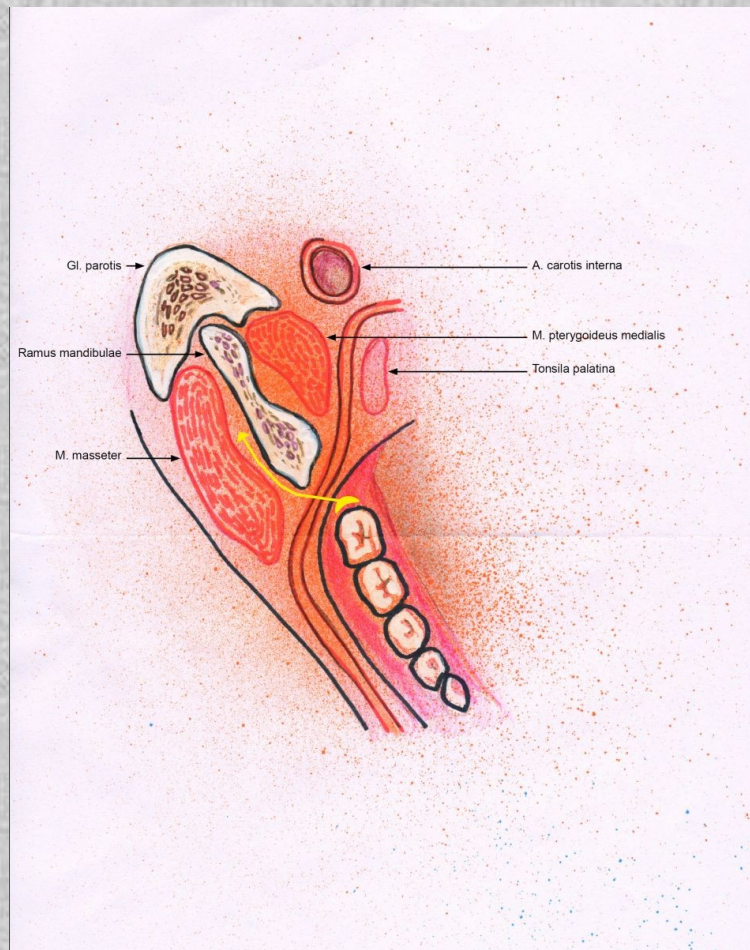
- **Clinical symptoms :**
- Painful mouth opening and swallowing.
- Induration, collateral edema, the edge of the mandible cannot palpate
- Soft swelling around + lymphonoditis - LN enlarged
- Warm skin erytema
- Intraoraly erytema, swollen, elevate of vestibule and sublingual mucosa
- Trismus, high fever
- **Incision:** e.o. incision under the edge of the mandible

Abscessus submandibularis



Abscessus regionis parotideomassetericae

- **Cause:** infected lower molars, dentitio difficilis



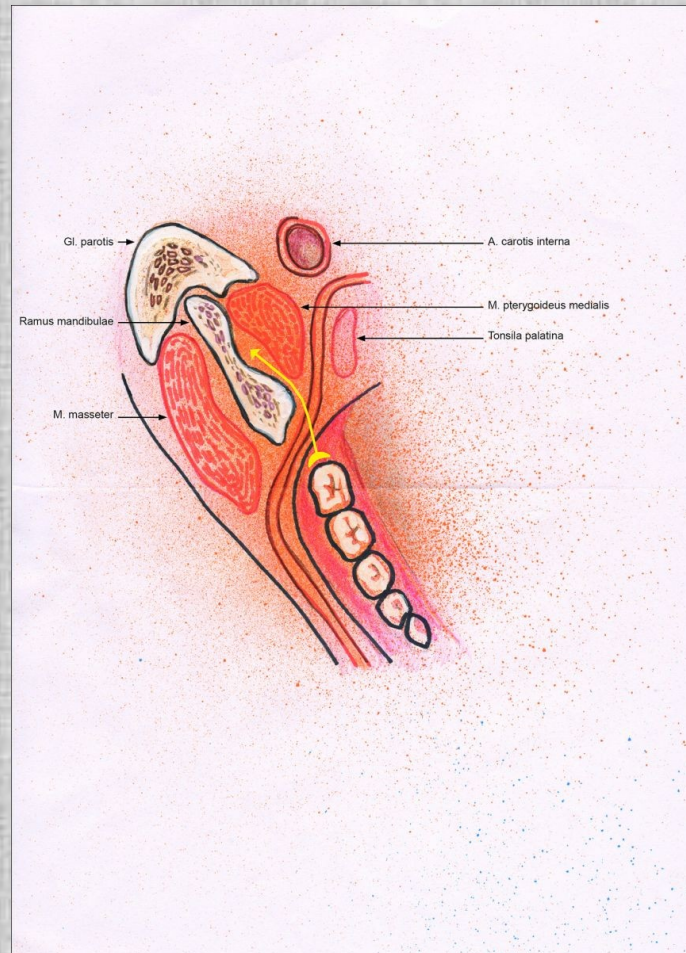
Abscessus regionis parotidomassetericae

- **Clinical symptoms** : edema of parotidomasseteric space, skin taut, painful mouth opening
- Trismus.
- **Incision**: e.o. incision under angle of mandible

Abscessus spatii pterygomandibularis et parapharyngei

- **Cause:**
 - mandibular bloc
 - dentitio difficilis
 - after extraction of wisdom teeth
 - Suppurating hematoma after local anaest. administration
 - spread of infection from submandibular space

Abscessus spatii pterygomandibularis et parapharyngei



Abscessus spatii pterygomandibularis et parapharyngei

- **Clinical symptoms :**
 - begins muscle contracture
 - difficult i.o. examination
 - i.o. - edema, erytoma of soft palate and palate arch.
 - tonsil pushed to the midline.
 - painful mouth opening
 - retromandibular swelling
 - spread of inflammation to parapharyngeal space

Abscessus spatii pterygomandibularis et parapharyngei

- Cave: inflammation of the parapharyngeal space can quickly spread to surrounding areas:
 - Retrofaryngeal space: between the spine and throat, as well as between the spine and the esophagus into the posterior mediastinum
 - Anterior mediastinum: along the internal carotid artery and internal jugular vein
 - Fossa infratemporalis a pterygopalatina
 - Parotid gland

Abscessus spatii pterygomandibularis et parapharyngei

- **Incision:**

- ptergomandibular space: i.o. incision above the anterior edge of the mandibular ramus
e.o. under body of mandible
- parafaryngeal space: e.o. under angle of mandible, along the sternocleidomastiod m.,
the revision of the cervical area

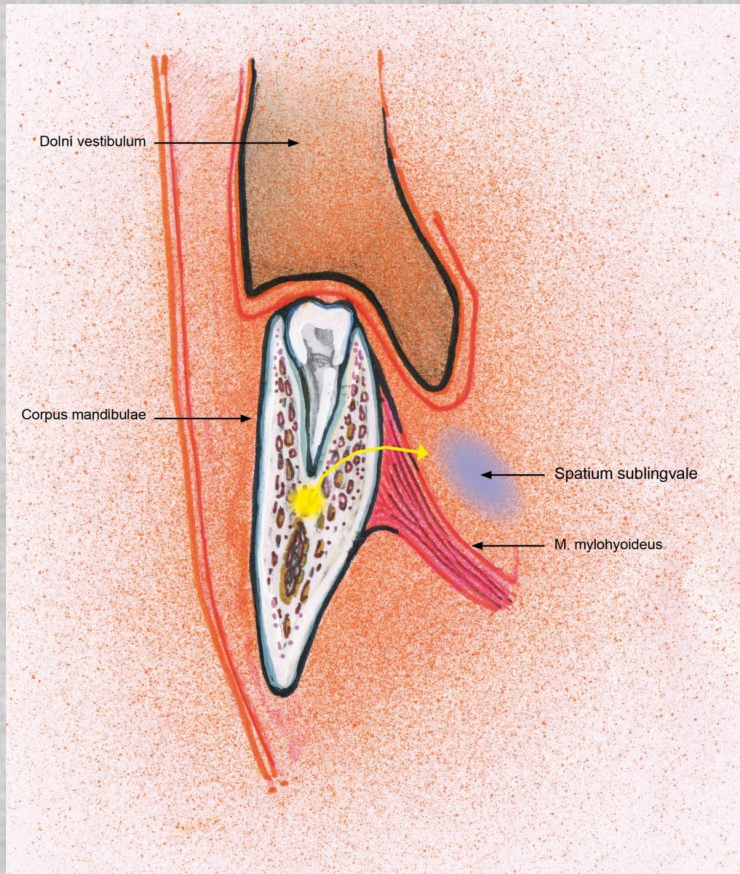
Abscessus spatii pterygomandibularis et parapharyngei



Abscessus sublingualis

- **Cause:** infected distal teeth of mandible (roots lie above the insertion of mylohyoid m.)
- **Clinical symptoms :** edema of mouth floor, mucosal erythema, deviation of tongue, submandibular and submental edema

Abscessus sublingualis



Abscessus sublingualis

- **Incision:** e.o. incision under edge of mandible
- in case of smaller absces – i.o. incision on medial wall of mandible (cave: lingual nerve)

Abscessus linguae

- Phlegmonous inflammation or abscess
- Rare occurrence – bite, foreign body trauma, suppurative cysts floor of mouth, gangrenous teeth
- Phlegmonous glossitis – rapid development, large tongue and mouth floor edema – can cause breathing difficulties

Abscessus linguae

Therapy:

vertical incision in the midline between the edge of the mandible and the hyoid bone, revises the base language and sublingual and submandibular scape



Abscessus palatinus

- **Cause:** small incisor, palatal root of the first premolar, the palatal roots of maxillary molars.
- **Clinical symptoms:** mucous swelling on palate, border of abscess are clear, palpation is painful, fluctuations.
- **Incision:** i.o. incision near midline in anteroposterior direction - avoid risk of injury a major palatine artery

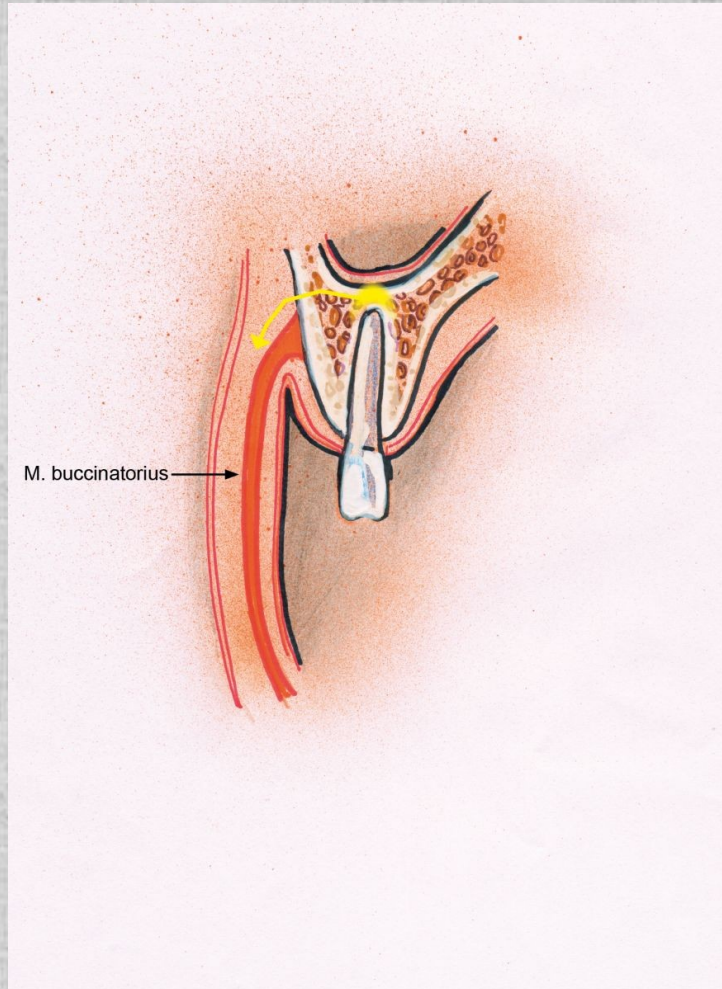
Abscessus palatinus



Abscessus perimaxillaris

- **Cause:** any tooth of the upper jaw.
- **Location:** space bounded of masseter m. and lower edge of orbit and - regio buccalis.
It may come down to the perimandibular space.

Abscessus perimaxillaris



Abscessus perimaxillaris

- **Clinical symptoms:** Collateral edema may affect the whole face, upper and lower eyelid. It does not spread over the zygomatic arch and the lower edge of the mandible
- **Incision:** i.o. or e.o. incision below the point of greatest convexity, possibly a combination of both.

Abscessus retromaxillaris

- **Cause:**
 - suppurating cysts of jaws
 - inflammation of the maxillary sinus
 - suppurative hematoma after injury of the pterygoid plexus

Abscessus retromaxillaris

- **Clinical symptoms:**

fever, pain, trismus. Later, he develops a swelling under the arcus zygomaticus and soon over it. The arc exactly divides swollen face (cave: an important clinical sign).

- **Incision:** i.o. incision in the vestibule behind crista infrazygomatica

Abscessus orbitae

- **Cause:** teeth of upper jaw
- Spreading – periosteal pus penetrates to the rim of the orbit, where it causes either an abscess lower eyelid, or continue to the orbit
 - Venous way - infection penetrates through v. angularis to the ophthalmic veins
 - Intraosseal spread- upper incisors and canines, ostitis
 - Transfer of infection into the orbit from the maxil. sinus or etmoid

Abscessus orbitae



Abscessus orbitae

- Therapy – extraoral incision near the infraorbital rim.

Abscessus fossae infratemporalis

- Pterygopalatinal, infratemporal and temporal are separated anatomically inaccurately bounded, are associated with parapharyngeal space
- Cause: parapharyngeal space infection, inflammation in maxilla, transfer of infection via the pterygoid plexus

Abscessus fossae infratemporalis

- Clinical symptoms - edema of the zygomatic arch and in the temporal region, tough infiltrate temporal area and the zygomatic arch, eyelid edema, conjunctival chemosis, proptosis of the globe.

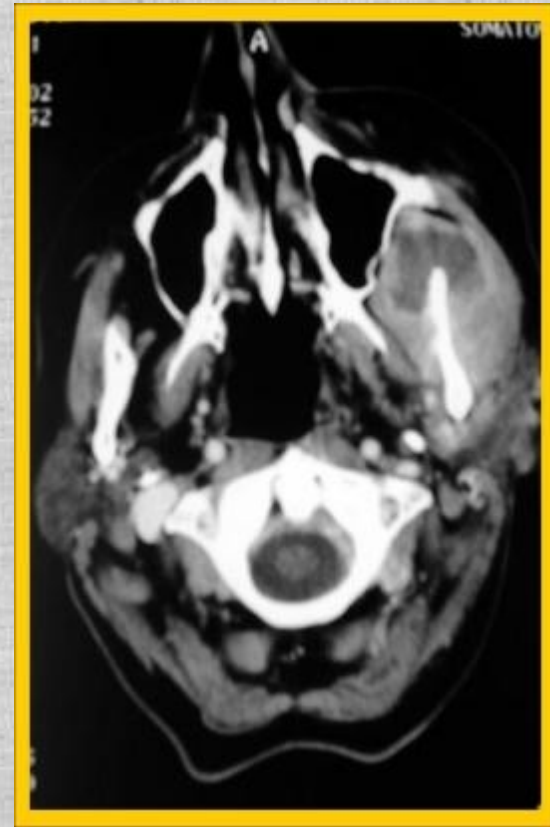
Abscessus fossae infratemporalis



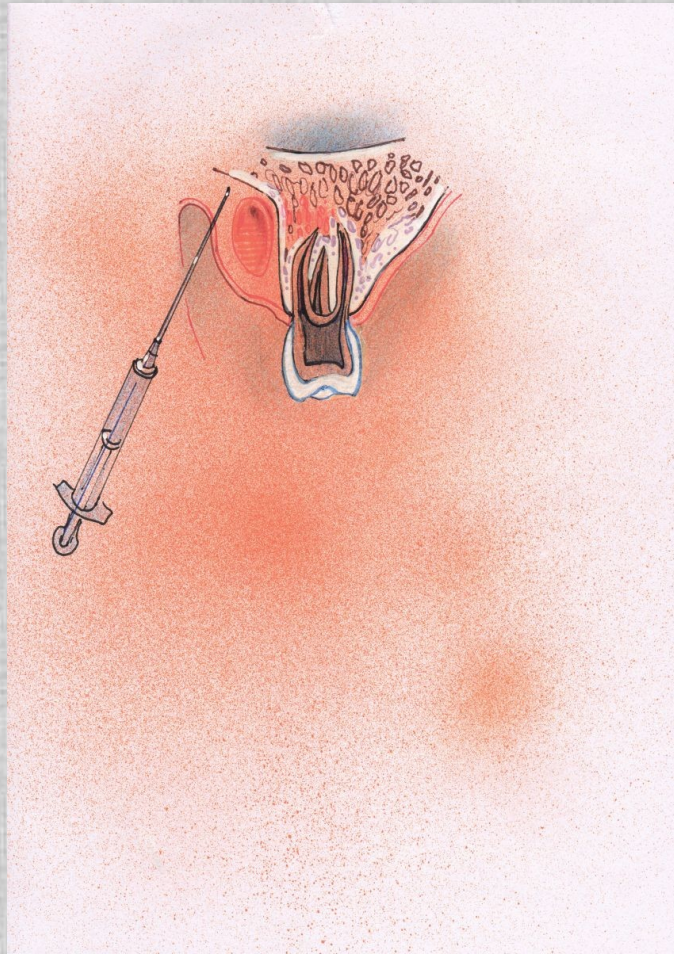
Abscessus fossae infratemporalis

- Therapy – according to the origin and extent of inflammation, with inflammation of the lower jaw is reviewed parapharyngeal space of the cut of angle of the jaw. Abscesses caused by infection of the cost of the maxilla opening of intraoral cut in the fornix, hence penetrate a tuber, from external cut above and below the zygomatic bridge

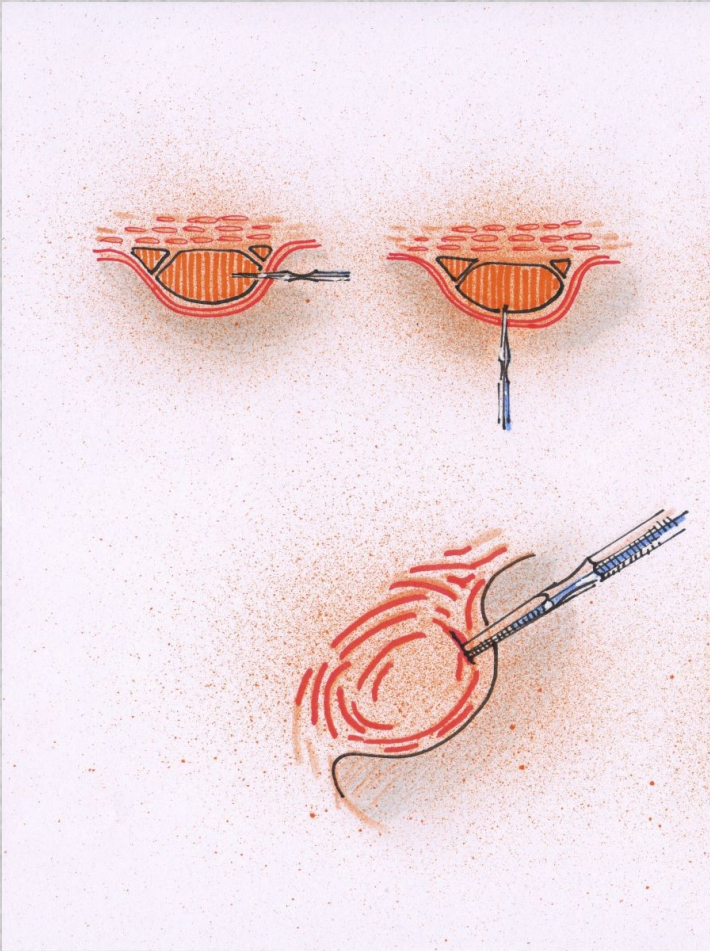
Abscessus fossae infratemporalis



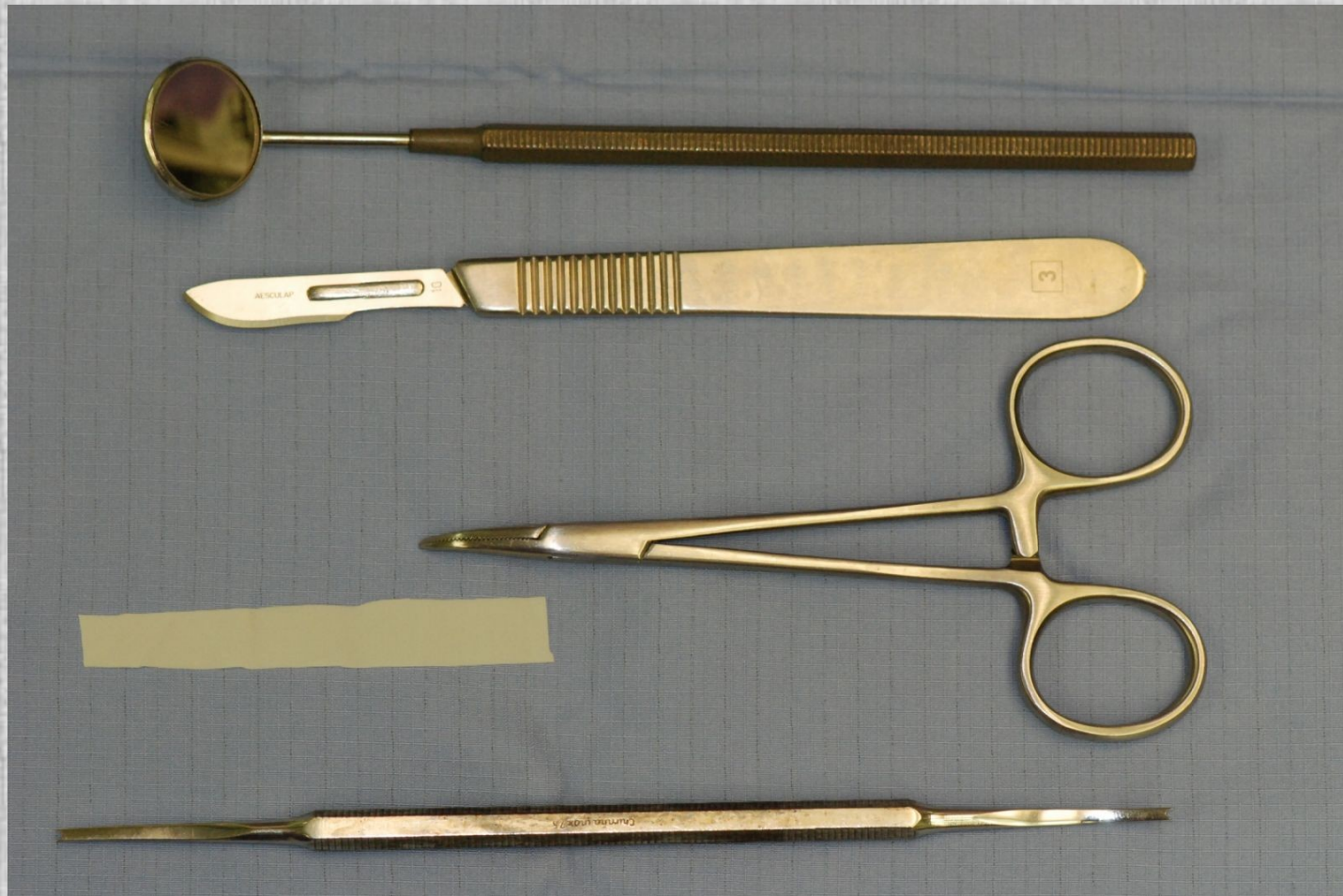
Surgical therapy



Surgical therapy



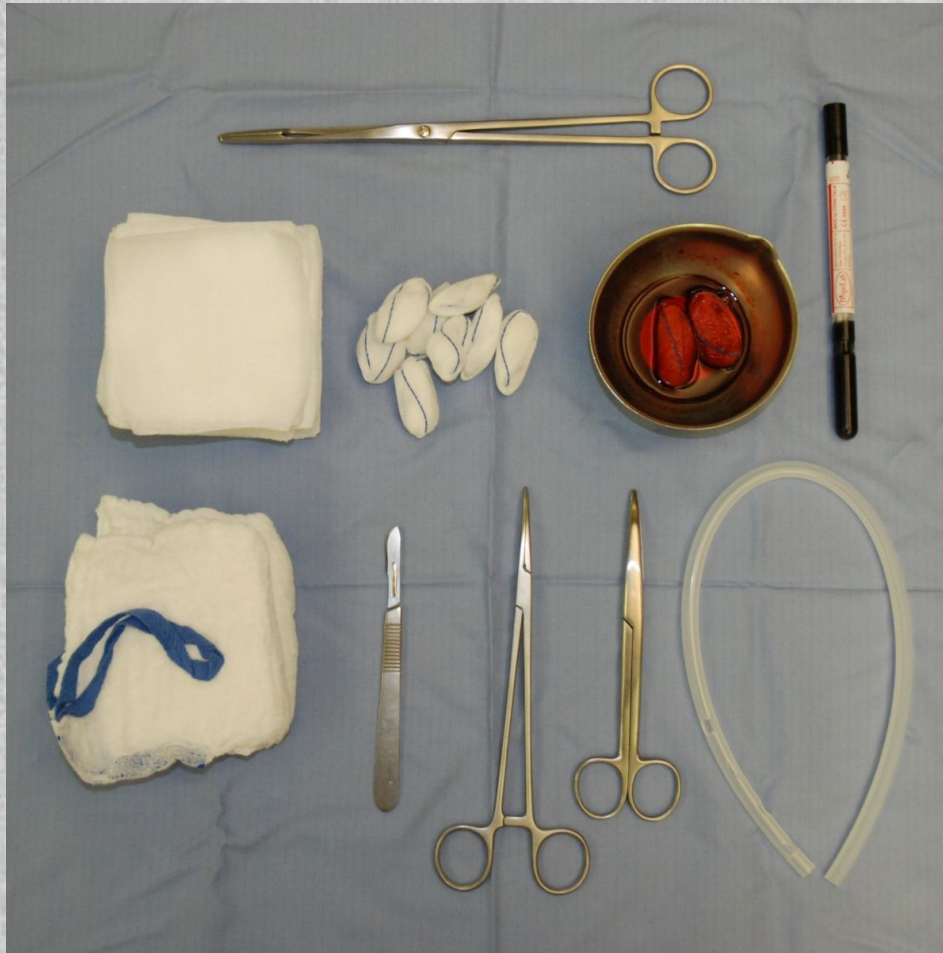
Surgical therapy



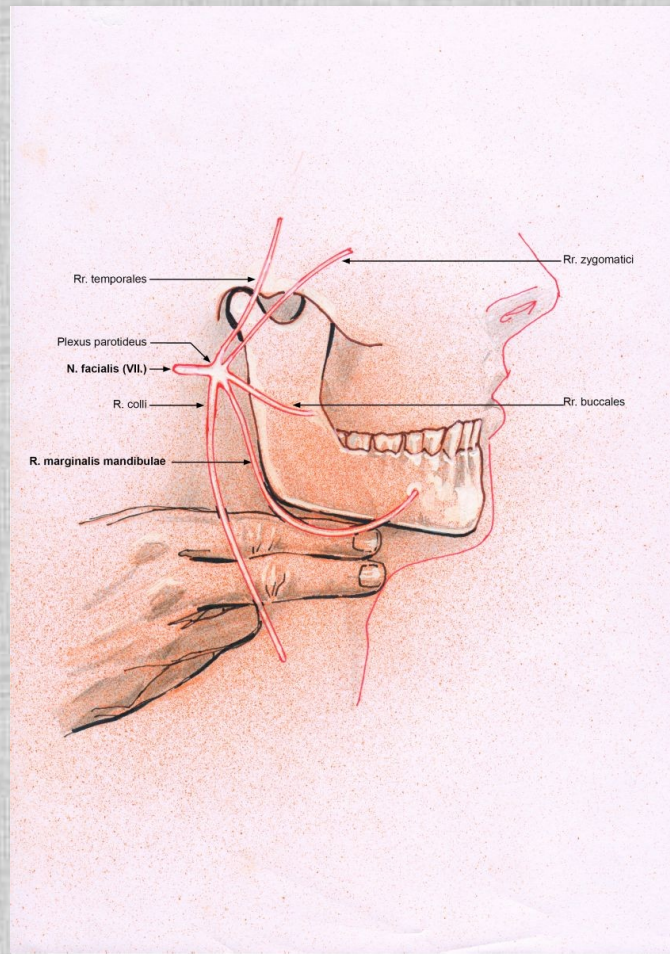
Surgical therapy



Surgical therapy



Surgical therapy



Surgical therapy



Surgical therapy



Surgical therapy



Surgical therapy



Surgical therapy



Medical therapy

- Peniciliny (V - Penicilin v dávce 750mg p.o á 6hod, či 500mg p.o á 4hod)
- Aminopenicilin (Ospamox 500 - 1000mg p.o á 8hod)
- Amoxicilin with clavulanate acid (Augmentin 625 - 1000mg p.o á 8hod)
- When allergy to beta-laktams ATB can use:
- Klindamycin (Dalacin C 300mg p.o á 6 až 8 hod)
- Less suitable choice for outpatient treatment are makrolids (Rovamycine 500-1000mg p.o á 8-12hod, or Roxithromycine 150mg p.o á 8-12hod)