Minimum criteria for the ENT exam

- essential ENT knowledge for a physician –

1. Symptoms and clinical features of diffuse otitis externa

Symptoms: earache, ear itching, ear discharge, feeling of ear blockage, possible moderate hearing loss. There is usually no fever. Good general condition, tragus usually sensitive to pressure.

Clinical picture: swelling and hiperemia of the skin of the ear canal, serous or purulent or crumbly discharge. Tympanic membrane appears to be normal.

2. Symptoms and clinical features of acute otitis media (AOM) – suppurative form

Symptoms: earache, fever, hearing loss, otorrhoea in case of perforation, loss of appetite, malaise

Clinical picture: moderately wide ear canal, initially free of secretions, with secretions in case of perforation. Vascularized, blood-filled tympanic membrane, later bulging. The tympanic membrane may spontaneously perforate.

3. Causes of acute hearing loss

Conductive: cerumen plug, foreign body, otitis media (serous or purulent type), trauma (e.g. perforation of the tympanic membrane)

Sensorineural: acute noise, viral infection, vascular causes, toxical damage (medication, chemicals), traumas.

4. What is to be done in case of acute sensorineural hearing loss?

In case of acute sensorineural hearing loss, immediate oral or intravenous steroid bolus treatment, if necessary with hospitalization; meanwhile detailed investigation is required to be carried out to clarify the etiology. The earlier the treatment is started, the better the outcome is.

5. Recognition of hearing loss in childhood, newborn hearing screening

Signs of hearing loss in childhood:

- the newborn does not react to sounds;
- tone of crying is unusual;
- visual orientation is dominant;
- speech development is delayed;

- tone, pitch, intensity, melody and rhythm of the speech is pathologic;
- articulation disorders;
- worse reading and writing skills

Infant hearing screening: with objective hearing testing methods (in Hungary: BERA, may also be: OAE) in the first few days after birth. Mandatory examination in all infant care facilities. In case of hearing loss, further examinations are required in centers.

6. Causes of ear pain (list)

Primary: otitis externa, otitis media, tumors of the ear

Referred ear pain:
- tumors and inflammations of the larynx, pharynx, tonsils, base of the tongue;
- neuralgic pain (n. IX, n. X, n. V/1, C/II-III, n. VII);
- dental inflammations, temporomandibular joint syndrome.

7. Complications of acute otitis media (AOM)

Extracranial:

Intratemporal:

- Acute mastoiditis;
- Zygomaticitis;
- Petrositis;
- Facial nerve palsy;
- Labyrinthitis;

Extratemporal:

- Abscess: subperiosteal, preauricular, suboccipital,
- Bezold's abscess;

Intracranial:

- extradural abscess;
- sinus phlebitis - sinus thrombosis;
- subdural abscess;
- meningitis, encephalitis;
- brain abscess;

General: sepsis.

8. Clinical symptoms and recognition of acute mastoiditis

Associated with, or following acute otitis media;

- the pinna is pushed forward;
- retroauricular pain, erythema;
- the posterior wall of the external ear canal is swollen, seems to be lowered;
- pulsating, severe pain;
- pulsating otorrhea.
- fever
- symptoms may be milder with antibiotic pretreatment
- covered mastoid cavity based on imaging (CT, possibly MR).

9. Causes of unilateral otitis media with effusion (OME) in adults and childhood

Chronic dysfunction of the Eustachian tube (adenoid vegetation or nasopharyngeal tumor).
In adults, the possibility of a nasopharyngeal tumor must not be left out of consideration!

10. How to diagnose vertigo caused by vestibular disorders

Patient history: type of vertigo (sensation of spinning or falling), vegetative symptoms, nausea, vomiting.

Examination: deviation, tilting. Patient has spontaneous nystagmus or nystagmus provoked by head movements. Brief description of head-impulse test.

11. Causes of peripherial facial palsy (list)

- Bell's palsy
- Herpes zoster oticus
- other viral or bacterial infections (HSV, EBV, Lyme);
- acute and chronic middle ear diseases (acute and chronic middle ear infections, cholesteatoma, rarely tumors);
- tumors of the pontocerebellar angle, vestibular schwannoma;
- cranial traumas (pyramid bone fractures),
- extratemporal traumas;
- malignant tumors of parotid gland.

12. Differential diagnosis of central and peripheral facial nerve palsy

In the case of peripheral facial paralysis, the function of all nerve branches distal to the underlying cause is affected. In the case of involvement of the main branch of the facial nerve, the full ipsilateral facial motor function is lost.

In case of central paralysis, the function of frowning and the muscles around the eyes is preserved on the affected side due to the bilateral innervation of the affected muscles. The motor functions of the lower part of the face are lost. Central paralysis is often associated with other neurological symptoms, such as slurred speech, limb weakness or sensory disturbances.

13. Primary management of epistaxis/nosebleeding (at home/ambulance/by GP)

The patient should lean forward with open mouth, firm digital pressure should be applied to both nasal alae for 10 minutes;

Ephedrine/nasal drop/vasocontrictor solution-imbibed cotton or spongostan should be applied in nasal cavity;

Cold compress should be applied to the nape of the neck and to the nasal dorsum;

Blood pressure-measurement, antihypertensive treatment if needed.

14. Management of epistaxis/nosebleeding (anterior, posterior) by ENT professionals

Blood pressure-measurement, antihypertensive treatment - if needed.

Visible bleeding source: chemical cauterization (trichloroacetate, silver nitrate) or coagulation (bipolar electrocoagulation).

Anterior nasal bleeding: anterior nasal packing.

Posterior nose bleeding: Bellocq tamponade and anterior nasal packing, possibly balloon catheter. Endoscopic electrocoagulation.

15. Management and complications of nasal folliculitis and furuncles

The infection is usually caused by Staphylococcus aureus.

Circumscript folliculitis: local therapy with antibiotic and steroid containing creams, vapor coverage. The patient should be told not to pick or squeeze the lesions.

For furunculosis and/or phlegmonous reaction, parenteral antibiotics should be administered, along with vapor coverage, initiation of anticoagulant treatment.

Possible complications: facial phlegmone, angular vein thrombophlebitis, cavernous sinus thrombosis.

16. Types of rhinitis (list)

- common infections: simple acute rhinitis, purulent rhinitis;
- allergic rhinitis
- specific forms of rhinitis: TB, syphilis, sarcoidosis;
- atrophic rhinitis (oezena)
- rhinitis sicca anterior.
- other causes: idiopathic, vasomotoric, hormonal, drug-induced, *rhinitis medicamentosa*, occupational (caused by irritants) foodstuffs. (3 causes are required from the “other” group)

17. Clinical features and management of angioedema (Quincke-edema)

Symptoms and clinical features: urticaria, edema in the head and neck region; dysphagia, globus feeling or visible swelling in the throat, choking. In a severe form: anaphylaxis.

Treatment: antihistamines, corticosteroids, adrenaline, maintaining free airways: cricothyrotomy/tracheotomy – if needed.

18. Complications of paranasal sinus infections (list)

Extracranial complication:
- periorbital cellulitis
- subperiosteal abscess;
- orbital phlegmone / abscess;
- osteomyelitis;
- sepsis;

Intracranial complications:
- meningitis;
- epi/subdural or brain abscess, encephalitis;
- cavernous sinus thrombosis.

19. Where does the patient localize the pain in cases of frontal, maxillary, ethmoidal or sphenoidal sinusitis?

frontal sinusitis – forehead;
maxillary sinusitis – face;
ethmoidal sinusitis –periorbitally, between the eyes;
sphenoid sinusitis – crown of the head, referring to the occipital area;
all forms of sinusitis can cause diffuse headache.

20. Causes of unilateral nasal obstruction and discharge in childhood and in adulthood

Childhood:

- foreign body,
- sinusitis,
- nasopharyngeal angiofibroma,
- congenital malformation: choanal atresia, meningoencephalocele.

Adulthood:

- nasopharyngeal tumors,
- deviation of the nasal septum,
- hypertrophy of turbinates,
- tumors blocking the nasal cavity (e.g. polyp, benign and malignant tumor),
- trauma and it's late consequences.

21. ENT diseases causing headache

- viral infection of the upper airways;
- inflammation of nasal sinuses: (acute and chronic);
- benign and malignant tumors of nasal sinuses;
- cervical: cervical vertebra disorders, spondylosis, myalgia;
- complications of otitis and sinusitis: mastoiditis, meningitis, brain abscess, inflammation of the petrous pyramid;
- neuralgias;
- pain of temporomandibular joint.

22. Most frequent causes of dysphagia

- GERD
- inflammation in the mesopharyngeal, hypopharyngeal and laryngeal region;
- tumors in the mesopharyngeal, hypopharyngeal and laryngeal region;
- neuralgia (n. IX, n. X);
- sensorial and motor innervation disorders: sensorial disorders in supraglottical region;
- foreign bodies in the hypopharynx and oesophagus;
- esophageal motility disorders, achalasia;
- diverticulum (e.g. Zenker);
- esophageal, hypopharyngeal stenoses;
- processus styloideus elongatus,
- globus feeling, psichogenic disorders,

23. Indications of tonsillectomy (absolute and relative)

Absolute indications:

- rheumatic fever
- peritonsillar abscess
- tonsillogenic sepsis.

Relative indications:

- chronic tonsillitis;
- recurrent tonsillitis;
- tonsillogenic or posttonsillitis focal symptoms;
- marked hypertrophy of the tonsils causing mechanical obstruction;
- if a tonsillar tumor is suspected;
- mycosis tonsillae;
- obstructive sleep-apnea syndrome or other obstructive sleep-related breathing disorders;
- severe orofacial / dental disorders causing narrow upper airways.

24. Clinical features and symptoms of peritonsillar abscess

Symptoms: throat pain (unilateral), referred ear pain, difficulty in swallowing, trismus, the speech is thick and indistinct, oral fetor, fever, insomnia, loss of appetite.

Clinical signs: swelling, redness and protrusion of the tonsil, faucial arch, palate and uvula; the uvula is pushed towards the healthy side.

25. Peritonsillar abscess – treatment

Drainage of the abscess:

- puncture, incision, daily opening of the abscess cavity, tonsillectomy 6 weeks after recovery („á froid");
- abscess-tonsillectomy („á chaud").

Antibiotics, decreasing edema, analgesics, administration of fluids.

26. Clinical features, symptoms and complications of para- and retropharyngeal abscesses

Symptoms: throat and neck pain, foreign-body sensation, fever, difficulty in swallowing, trismus, torticollis, swelling of the lateral or posterior pharyngeal wall, thick speech, laryngeal/oropharyngeal edema.

Complications:
Oropharyngeal and laryngeal edema, septicemia, mediastinitis, choking.

27. Pathogens of tonsillitis and pharyngitis, indication of antibiotic treatment

Pathogens:

Viral (80-90%);
- adenovirus, rhinovirus;
- (EBV - infectious mononucleosis);

Bacterial:
- Streptococcus pyogenes - follicular tonsillitis;
- Group C and G Streptococci;
- Mycoplasma, Chlamydia, Neisseria subspecies;
- (Pneumococci);
- (Haemophilus influenzae);
- (Moraxella catarrhalis);
- (Staphylococcus subspecies)

<u>Antibiotic therapy indications:</u> only in bacterial infection (centor criteria), physical findings, laboratory findings (blood count, CRP, ESR, rapid bacteriological test). Types of complaints (acute or chronic) based on antibiogram, presence of immunosuppression.

28. Causes of chronic hoarseness (Why is it necessary to visit an ENT specialist after 3 weeks of hoarseness?)

- acute and chronic inflammations of the larynx;
- benign laryngeal lesions (cysts, granulation, Reinke edema, polyps, papillomatosis);
- malignant laryngeal lesions;
- recurrent laryngeal nerve paresis, (which can be caused by: hypopharyngeal, thyroid gland, esophageal, pulmonary, mediastinal cancer, intracranial diseases);
- GERD;

It is exceptionally important to diagnose a malignant lesion as soon as we can.

29. Symptoms of head and neck tumors

Hoarseness, dyspnea, dysphagia, referred ear pain, globus feeling, hemoptoe, foetor ex ore, loss of body weight, neck lump, visible mucosal leukoplakia, erythroplakia.

30. Swollen neck lymph nodes – causes

Non-specific inflammations (e.g. upper respiratory tract infections);
Specific inflammations:

- Bacterial: TB, syphilis, cat scratch disease, tularemia,
- Protozoal: toxoplasmosis,
- Viral: HIV-infection,
- Non-infectious: sarcoidosis;

Lymphomas;
Metastases of head and neck cancers.

31. Evaluation of neck lumps – diagnostic steps

1. Correct, accurate registration of patient history: e.g. duration of symptoms, upper respiratory tract infections, dysphagia, hoarseness;
2. Careful ENT examination – special attention should be paid to the examination of the neck: localization, consistency, sensibility of the lump, its relation to the surrounding structures;
3. Blood tests: inflammation markers, serology;
4. Imaging modalities: ultrasound, CT/MRI;
5. US guided Fine Needle Aspiration Biopsy;
6. For lymphadenomegaly, excision of the node is carried out only if the evaluation of the FNAB reveals lymphoma (or, if it is needed by the pathologist). Reason: it is necessary to avoid the removal of the metastasis of a hidden primary tumor before examination, or isolated metastasectomy.

32. Causes of dyspnea in the upper respiratory tract

- upper respiratory tract infections (tonsillitis, epiglottitis, laryngitis),
- lumps in the upper respiratory tract: abscess, granulation tissue, malignancies,
- non-specific reactions of the upper respiratory mucosa: allergy, Reinke edema, hereditary angioneurotic edema,
- foreign body,
- crico-tracheal stenosis,
- recurrent laryngeal nerve palsy (one or both side).

33. Middle-aged, smoker patient presents with unilateral ear pain, but the examination of the ear does not reveal any disorders. What may be the cause, and what is obligatory to be examined?

Unilateral, referred ear pain is a typical finding in patients with hypopharyngeal (less commonly supraglottic and oropharyngeal) malignancies. This symptom and the tobacco use in the patient history make the examination of the oral cavity, oropharynx/hypopharynx, larynx and the neck obligatory.

34. Management of choking patients – if intubation cannot be carried out

1. **Cricothyrotomy** – in the lack of time and appropriate tools: we find the cricothyroid ligament above the cricoid cartilage (using fingers), and after carrying out a transversal incision on the skin, we pierce the ligament with any instrument at hand, and insert a holed tool (e.g. outer tube of a pen).
2. **Tracheotomy** – After incising the skin and the platysma, we find (and if necessary - ligate) the isthmus of the thyroid gland, and - at the 2nd or 3rd tracheal cartilage - we make an incision on the anterior wall of trachea (in childhood) or remove a part of the cartilage (in adults). We insert a tube/cannula in order to maintain the free airway.