Topics for the oral examination in Anaesthesia and Sedation in Dentistry

Development of anaesthesia in dentistry

- main historical milestones of local and general anaesthesia (key figures, substances, dates)
- current options for controlling pain and fear in dentistry

Local anaesthetics and vasoconstrictors

- generation and conduction of the nerve impulse, how local anaesthetics block it, effect of inflammation on efficacy
- molecular structure, classification into esters and amides and its practical significance
- agents and products used in practice (articaine, lidocaine, mepivacaine, prilocaine, bupivacaine, trimecaine): concentration, duration of action, choice of product
- vasoconstrictors (adrenaline, felypressin): action, dilution, indications and contraindications
- maximum doses and their calculation for adults and children, including the adrenaline limit

Instruments

- cartridge: composition of the solution, storage, defective cartridge
- syringes (aspirating, computer-controlled) and needles (gauge, length, use)
- safe handling, prevention of needlestick injury

Local complications

- pain, haematoma, facial nerve palsy, paraesthesia, trismus, needle breakage, mucosal necrosis, lip and cheek biting
- causes, prevention and treatment of each

Systemic adverse reactions and first aid

- toxic reaction: causes, clinical picture, treatment, prevention
- allergic reaction and anaphylaxis: causes, clinical picture, treatment, prevention
- hyperventilation, syncope, epileptic seizure and asthma attack, psychogenic reactions: recognition, differentiation and first aid

The patient before anaesthesia

- medical history and examination before local and general anaesthesia, ASA classification, informed consent

- local anaesthesia in pregnancy, during breastfeeding, in the elderly
- high-risk patients (e.g. cardiovascular disease, diabetes, asthma): what to watch for and how to adapt the procedure

Dental fear, sedation and general anaesthesia

- dental fear and anxiety: manifestations, assessment, non-pharmacological options
- sedation: levels, methods (nitrous oxide inhalation, oral, intravenous), procedure, monitoring, safety
- general anaesthesia: indications, patient preparation, course, postoperative care

Innervation of the jaws

- maxillary and mandibular nerves: course and branches
- nerve supply of the teeth, gingiva, mucosa, lips and tongue in the upper and lower jaw
- significance of innervation for choosing a technique (overlapping innervation, accessory innervation)

Topical, infiltration and intraligamentary anaesthesia

- agents and techniques of topical anaesthesia
- types of infiltration anaesthesia, technique in the upper and lower jaw, suitable anaesthetics
- intraligamentary and other supplementary techniques: procedure, volume, indications and contraindications

Conduction anaesthesia in the upper jaw

- infraorbital nerve block, maxillary tuberosity block, palatal blocks
- for each technique: landmarks, procedure, depth and volume, area anaesthetised, complications

Conduction anaesthesia in the lower jaw

- inferior alveolar nerve block (direct and indirect technique), lingual, buccal, mental and incisive nerve blocks
- alternative approaches: Gow-Gates, Vazirani-Akinosi, extraoral techniques
- for each technique: landmarks, procedure, signs of success, area anaesthetised, complications

Clinical decision-making

- criteria for choosing a technique according to the tooth, procedure and patient

- failure of local anaesthesia: causes, management, prevention
- situations in which the usual approach cannot be used (inflammation, tumour, limited mouth opening) and management options
- anaesthesia for patients with physical or mental disabilities