

Joint Degree Master Program: Implantology and Dental Surgery (M.Sc.)

Basic modules: List of individual modules

Basic Module 1

Basic principles of general and dental medicine

The module comprises the following training contents

- Anatomy
- Basic principles of general medicine
- Pharmaceutics
- Dental assistance
- X-ray technology and radiation protection
- Tissues
- Histology, physiology and pathophysiology of the bone
- Oral structures
- Diseases affecting the oral mucosa
- Immune system
- Pathological principles
- Inflammation
- Tissue injuries
- Medically compromised patients
- Emergency medicine
- Local anesthetics
- Antibiotics and chemotherapy
- Radiological diagnosis
- General and special case history
- Practice structure for the execution of surgical interventions
- Injuries and infections
- Analgesics
- Surgical sutures
- Surgical instruments

- General anesthesia
- Pre-medication

Basic Module 2

Basic principles of oral medicine

The module comprises the following training contents

- The patient undergoing surgery
- Principles of surgery
- Surgical anatomy of the head and neck region
- Imaging procedures
- Preparation of surgical interventions
- Medically compromised patients, local anesthesia, analgesics, sedation
- Basic principles of surgery
- Dental surgery
- Complications
- Odontogenic soft tissue and bone infections
- Traumatology
- Diseases of the oral mucosa, oncology, tumor surgery
- Prosthodontic treatment
- Basic principles of cleft lip, alveolus and palate, and deformities, Basic principles of dysgnathia
- Basic principles of periodontology

Suture and preparation exercises on a pig's mandible

- Rehrmann's trapezoid flap
- Vestibuloplasty
- Rotation flap
- Recession coverage
- Nerve exposure

Suture exercises in a pig's ear

1. Straight incision, angular incision, square excision
2. Harvesting of a large connective-tissue graft in a thick skin fold in the middle of the ear
3. Simple interrupted sutures: interrupted knots using instruments, and manual knots
4. Mattress sutures: horizontal, vertical
5. Running sutures: overcast, U-shaped sutures, modification according to Schuchardt
6. Intracutaneous sutures

Suture and preparation exercises on a pig's mandible

1. Rehrmann's trapezoid flap in region 7 or 8 (without prior tooth extraction):
 - a. Preparation of trapezoid flap
 - b. Periosteal slitting
 - c. Fixation using mattress sutures and simple interrupted sutures

2. Vestibuloplasty in regions 5 and 6:
 - a. Incision in the mucogingival border area
 - b. Preparation of an apically advanced split-thickness mucosal flap sparing the periosteum (epiperiosteal preparation)
 - c. Fixation of the mucosal flap at the apical periosteum using simple interrupted sutures
 - d. Fixation of a part of the connective-tissue graft harvested prior to the procedure on the periosteum using simple interrupted sutures in order to cover the wound

3. Rotation flap in the space between teeth 3 and 2:
 - a. Crestal incision in the mucosa only!!!!
 - b. Preparation of a lingually advanced trapezoid mucosal flap sparing the periosteum and the connective tissue
 - c. Sharp circumcision of the exposed trapezoid connective tissue up to the bone, never using a crestal incision since otherwise the flap will be separated
 - d. Detachment of the connective tissue flap pedicled on the crest from the bone up to the middle of the alveolar crest
 - e. Preparation of a buccal pocket to take the rolled connective-tissue flap
 - f. Fixation using simple interrupted sutures

4. Recession coverage using Raetzke's envelope technique:
 - a. Preparation of a single recession in region 3
 - b. Preparation of a pocket surrounding the recession completely to the papilla
 - c. Placement of a part of the connective-tissue graft harvested prior to the procedure in the mucosal pocket

5. Nerve exposure (mental nerve; please note: this nerve may be present more than once in a pig)
 - a. Incision of the mucoperiosteum in region 2/3
 - b. Submucous to caudal preparation
 - c. Nerve exposure

Basic Module 3

Basic principles of oral surgery

The module comprises the following training contents

- Tooth extraction
- Complications in dentoalveolar surgery
- Surgical measures for the preservation of teeth
- Local anesthesia
- Changes and diseases of the oral mucosa
- Bisphosphonate-induced necrosis of the jaw
- Cysts in the oral and maxillofacial region
- Odontogenic soft tissue infection
- Basic principles of traumatology treatment
- Fractures of the mandible
- Fractures of the midface
- Dental trauma
- Odontogenic bone infection
- Basic principles of oncology
- Tumor surgery
- Basic principles of cleft lip, alveolus and palate, and deformities
- Basic principles of dysgnathia

On-site events

Surgical anatomy of the head and neck region

Anatomy, histology, pathophysiology, oral structures, tissue injuries, wound healing, wound infection, characteristics and treatment of wounds, hemorrhage and hemostasis

Imaging procedures

Dental, oral and maxillofacial radiography: Technical options and validity of current examination methods (incl. review course)

Diagnostic options for and requirements of dental and orthodontic surgery (incl. review course)

Preparation of surgical interventions

Legal requirements: contents of the hygiene schedule, such as hand disinfection, incl. demonstration and "black box" (training device for hand disinfection); rules with regard to the changing of clothes; handling MRSA, infectious diseases

Behavior in the operating room: as a non-sterile/sterile person; how to put on and take off surgical gloves; demonstration with specially treated surgical gloves; getting dressed (surgeon and assistants)

Preparation of the patient: shaving, positioning, disinfection, covering of the patient with cover sets

Instrument table: standard table in oral and maxillofacial surgery
Cleaning of the instruments

Medically compromised patients, local anesthesia, analgesics, sedation

Local anesthetics are used every day: Brushing up on interesting and important information

Sedation and anxiolysis in practice

Dealing with pain in patients undergoing dental surgery

Dental surgery in medically compromised patients

What to do in case of emergency: be prepared, identify the underlying problem correctly, deal appropriately with the underlying problem

Management of emergencies: practical exercises in emergency treatment

Dental surgery

Tooth extraction, novel procedures and technologies, surgical tooth extraction, impacted teeth, root end surgery (apicoectomy), laser, piezotechnology, conventional approach

Complications

Complications occurring during dental surgical procedures, and management of complications