

BE DENT SKILLED



ARE YOU DREAMING TO BECOME A PROFESSIONAL DENTIST? MEET OUR BRAND-NEW MULTI-TASK DENTAL SIMULATOR – **BE.DENT.PRO**

- It is more than just manual skills and cavity preparation
- It is more than just objective assessment of a separate skill
- It is a multi-task AR simulator assessing clinical competencies integrated in a realistic environment with accurate 3D visualization

New ergonomic and modern style

Head of simulator can be rotated up to 180 degrees

Convenient work opportunities for both left-handers and right-handers

Unique tracking system, which reproduces in real time position on 3D screen our manipulations



Oral cavity have three positions of opening

New articulator model makes possible to open and close the oral cavity, like a real patient

Several variants for installation Leonardo on the workplace



REALISTIC ENVIRONMENT & MULTIDISCIPLINARY AR-SIMULATOR

- Used tools are real HP and Typodont without any trackers
- No more heavy trackers attached to dental tools
- Simple and real automated calibration
- No more issue with smooth tracking system
- Integrated Learning Management System
- Radiography Module
- Anesthesiology Module

REAL TIME 3D-VISUALIZATION

- AR is enabling the trainee to visualize his handpiece positioning in real time
- Real time feedback provided in 3D rendering similar to digital scanning
- Handpiece does not need a tracker so the trainee feels like he works with a regular handpiece



HAVE A LOOK AT THE STEP-BY-STEP TRAINING

:: Step 1

Log in using your personal credentials and chose a case to start your training. More than 60 cases are on 3 dental specialties are available on the simulator.

Login

Password

Log in

Exit

[Use network mode](#)

v **Therapeutic dentistry**

Tooth decay 1.7 preparation

Tooth decay 3.2 preparation

Tooth decay 3.3 preparation

Tooth decay 3.5 preparation

Tooth decay 4.2 preparation

Tooth decay 4.3 preparation

Tooth decay 4.5 preparation

:: Step 2

The briefing block: every lesson begins with a briefing, which contains patient complaints, his/her medical history and related images. In the questioning block a trainee can collect a patient's history by choosing related questions to the particular case from the wide library of questions and adding the important question to the patient's card. What a wonderful way to develop the trainee's clinical reasoning!

Leonardo Hybrid Dental Simulator

Module: Therapeutic dentistry Lesson: Tooth decay 3.5 preparation Help

Lesson brief Lesson brief video

Caries of dentin (K02.1) of the tooth 3.5

Patient K., male, aged 42 years (height 177 cm; weight 78 kg), requested for medical help into dental office with complaints of short-term temperature-induced toothache and food getting stuck between the teeth of the left side of the mandible.

History of the present illness: two-week history of non-radiating toothache that could be relieved by elimination of the causative stimuli. The patient suffers from hyperthyroidism and stress-induced hypertension.

Examination

The patient's condition is satisfactory; the facial configuration is intact; regional lymph nodes are painless on palpation and are not enlarged; the vermillion border shows no abnormalities; mouth opening is not reduced.

Examination of the vestibule

The condition and the level of the labial frenulum attachment are unremarkable; there are no adhesions of the vestibule; there is no pallor or separation of the gingiva from the cervical regions of teeth when retracting the lower and upper lips and the cheeks. Lip closure is normal. The chin and nasolabial folds are moderately developed.

Moderate depth of the vestibule. Direct occlusion; dense location of teeth in the frontal area of the mandible; no displaced teeth. Palpation of the salivary glands results in release of a drop of saliva from the excretory ducts. The tone of the muscles of mastication and mimic muscles is normal.

Intraoral examination

The gingival mucosa shows mild hyperemia, moderate swelling; there is soft dental plaque on the teeth of the upper and lower jaws. The mucosa of the hard and soft palates is dark red, moderately moistened and shows no lesions. The tongue has normal size; the mucosa is pale pink and moderately moistened. The base of the tongue shows no lesions, desquamations, fissures or ulcerations. There are no soreness, burning sensation or swelling of the tongue. The fauces is pale pink, normally moistened and is not swollen.

Objective assessment: The medial-contact (approximal) surface of the tooth 3.5 shows a non-deep cavity filled with residual amounts of food and pigmented softened dentin. Positive short-term reaction to the cold test (water-air).

The medial-contact surface of the tooth 3.4 shows a non-deep cavity filled with residual amounts of food and pigmented softened dentin. Positive short-term reaction to the cold test (water-air).

The electric pulp test = 7 μ A.

X-ray examination demonstrates a carious lesion in the dentin, which is distant from the tooth's pulp chamber. No visible signs of periapical lesions.



Back
Get anamnesis
Start

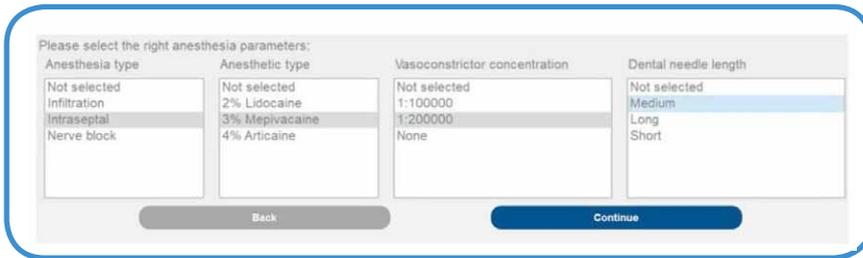
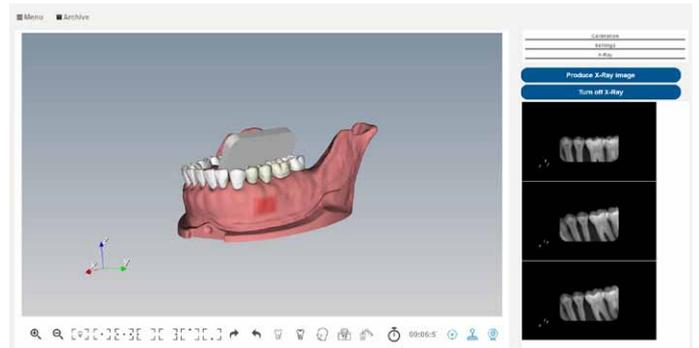


:: Step 3

The X-ray block. The simulator is equipped with a special positioner. This step helps to learn how to position it correctly in order to obtain a proper positing of a tooth on an X-ray image. An unlimited number of X-Ray images can be taken without any harm to the trainee or patient. All images are saved in a library and can be used for later debriefing.

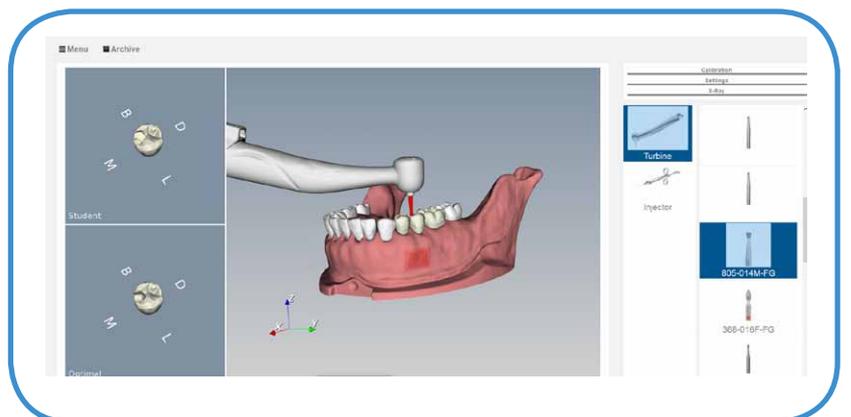
:: Step 4

The anesthesia block. The anesthesia block is created to train different anesthesia techniques (periodontal anesthesia, nerve blocks, infiltration anesthesia) by determining a local anesthetic agent, vasoconstrictor type and a needle length. A trainee can visualize the anatomical structure of the jaw (its nervous and muscular systems) to see the correct injection site.



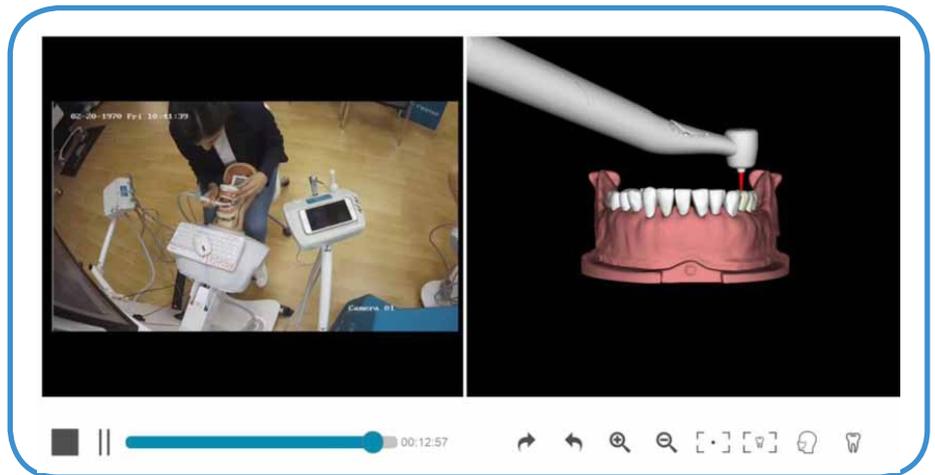
:: Step 5

Tooth preparation. The microsensors, mounted on the dental hand piece, are tracked in full 6DOF (6 Degrees-Of-Freedom) at speeds up to 240 Hz providing impressive accuracy of the performed manipulations. The tooth preparation cases both for therapeutic and orthopedic dentistry are developed by doctors for doctors.



:: Step 6

The debriefing block. Real video capture from the camera synchronized with 3D-player enabling the instructor to check ergonomic and posture. Real Video capture eliminates issues of cheating during testing. Report is generated according to the trainee's selection of relevant parameters depending on what student is tested on. A teacher can also review all questions and answers from medical history data accomplished by the trainee.



Lesson type: Therapeutic dentistry Author: Geotar Name: Mandible Task: Tooth decay 4.7 preparation
User: admin Lesson time duration: 00:06:22

Statistics | Video player | Work tooth slices | Medical record

Results	
Caries eliminated	32.0%
Overextension	1.8%
Pulp perforation	0.0%
Efficient work time	92.1%
Injection accuracy	100.0%
Soft tissue damage	No
Adjacent teeth damage	No
Injection volume	1.8 ml
Injection speed	3.1 ml/min
Injection aspiration test	No

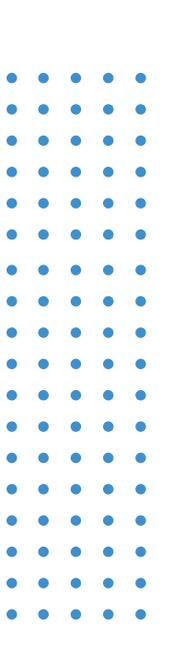
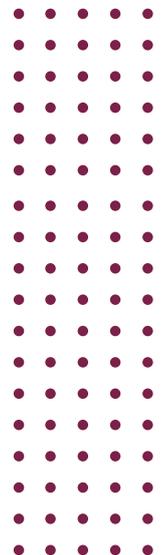
Local anesthesia results

Anesthesia type	Intraligamentary	Wrong
Anesthetic type	3% Mepivacaine	Wrong
Vasoconstrictor concentration	1:100000	Wrong
Dental needle length	Long	Wrong

Bar chart showing 'Number' (0.0 to 100.0) for various evaluation parameters:

Evaluation parameter	Number
Caries eliminated	32
Overextension	18
Pulp perforation	0
Efficient work time	92
Injection accuracy	100
Soft tissue damage	0
Adjacent teeth damage	0
Injection volume	100
Injection speed	100
Injection aspiration test	100

Buttons: Export Camera Video, Export 3D Video, Save Result to File, Exit to Main Menu



Lesson type: Therapeutic dentistry Author: Geotar Name: Mandible Task: Tooth decay 4.7 preparation
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Statistics | Video player | Work tooth slices | Medical record

Cross section
Select tooth: 47
Original
Optimal
Prepared

Special slices:
B-L, Extension L
Slice evaluation:
B-L, Extension L 0.6mm, Optimal: 3.1mm
Satisfactory

Tooth areas:
Tooth area
Optimal
Properly removed
Incorrectly removed

Buttons: Export Camera Video, Export 3D Video, Save Result to File, Exit to Main Menu

DENTAL TRAINERS



BE. DENT.LIGHT

BE.DENT.LIGHT & BE.DENT.OPTIMAL trainers allow students to have dental trainings that reproduces real conditions of the patients visit and simulate the operation on the dental unit with a high level of accuracy. The real dental instruments are used on the both trainers:

- air/water syringe
- saliva ejector
- high-speed handpiece
- low-speed handpiece

DENTAL TRAINER COMPONENTS

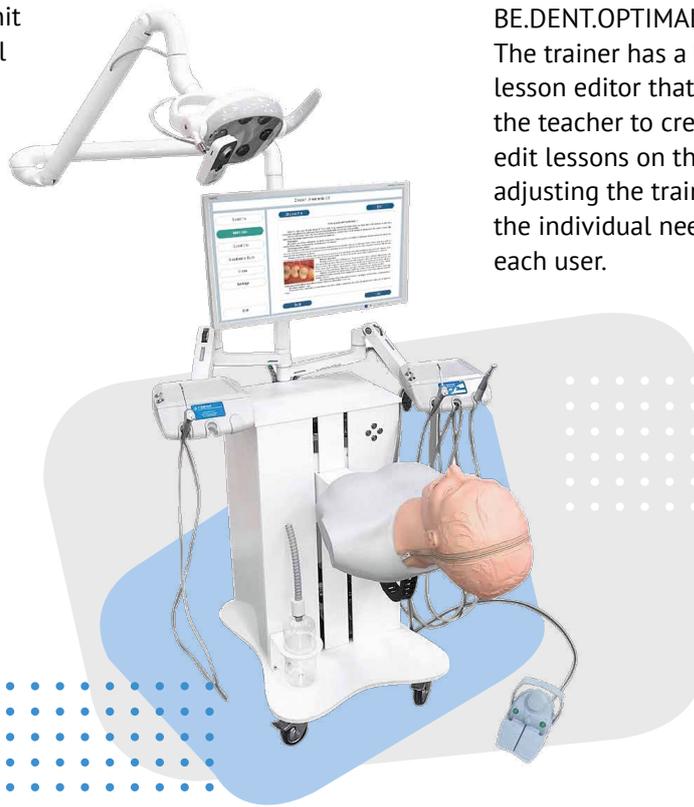
- Operation tray
- Assistant tray
- Utility table
- Water suction/supply control pedal
- Aspiration system
- Dental lamp
- Dental phantom for practicing
- Built-in lift mechanism
- External camera

The dental trainers (BE.DENT.LIGHT & BE.DENT.OPTIMAL) are intended for development of manual skills in dentistry. Recommended for students, residents and dental specialists.



BE.DENT.OPTIMAL

The trainer has a built-in lesson editor that allows the teacher to create and edit lessons on their own, adjusting the trainer to the individual needs of each user.



FEATURES

- The manikin head contains a universal model of the upper and lower jaw for preparation and restoration, with a soft gum and a set of 28 teeth, as well as a water drain. The teeth are easily removable and replaceable.
- The teeth are fastened screw-free, due to which it is possible to practice tooth extraction techniques
- The built-in metal articulator allows to reproduce the natural movements of the lower jaw in all possible anatomical positions:
 - occlusion
 - protrusion
 - retrusion
- The entire training process is recorded on a camera and a video file is saved for each user. It can be viewed in the library and used for debriefing or appeal.

SKILLS

- Possibility for preparation of hard tooth tissues in order to remove pathologically altered tissues and create a cavity shape that provides convenient and technological filling, preservation of the strength characteristics of the tooth, as well as strength, reliable fixation, aesthetics and medical efficiency of the fillings
- Possibility for all types of cavity preparation according to the Black's approach
- Possibility of free tooth preparation in all directions of dentistry

BROADCASTING OPTION

A lecturer can broadcast his/her performance of the procedure to the student's trainers or each student can broadcast his/her performance to the lecturer's trainer. Up to 6 students' monitors can be viewed simultaneously at the lecturer's training unit. All the trainers must be connected to the same local network.

LESSON EDITOR

The special software for training (both manual and communication skills), self-control and accreditation. It is a perpetual license with free updates. The software has a built-in lesson editor that allows the teacher to create and edit lessons on their own, adjusting the simulator to the individual needs of each user.

Each lesson is a complete module with history data, images, visual instructions and videos on how to perform manipulations. The Anesthesia module is represented by an interactive questionnaire, where the student gets an anamnesis from a virtual patient in a live chat mode. Based on the results of this survey, the type of anesthesia and the rest of parameters are selected.

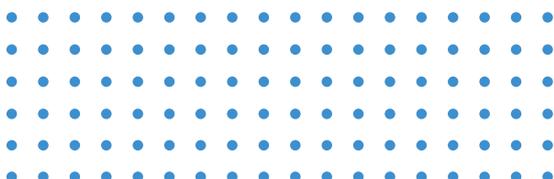
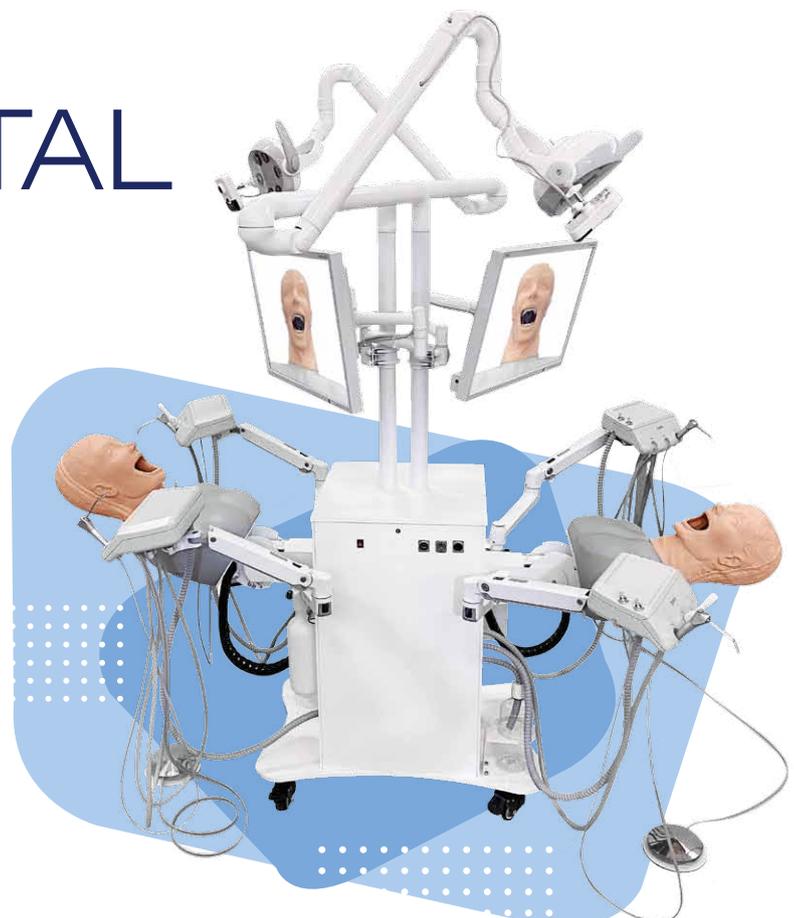
The case library to train on:

- Anesthesia
- Orthodontics
- Orthopedic dentistry
- Therapeutic dentistry
- Surgical dentistry

DUO DENTAL TRAINER

BE.DENT.DUOLIGHT has the same features like the standard BE. DENT.LIGHT, but with its own advantages:

- Saving space
- Less energy consuming than two separated trainers
- Development of collaborative learning



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