Advanced Endodontic Laser Course

Do you want to become one of the pioneers of Expert Laser use in Endodontics?

This advanced laser Endodontic course welcomes general dentists with special interest for root canal treatments and/or endodontic specialists which would like to integrate the ultimate endodontic techniques assisted by dental laser(s) in their daily practice.

By using innovative therapy concepts, based on specific laser-tissue interactions, scientific and clinical findings, you will be able to boost your endodontic outcomes, overcoming the limitations and hazardous effects of conventional techniques.

Moreover, you will be able to distinguish yourself from your peers while providing high-standard treatments based in breakthrough technological developments and techniques.

Furthermore, you will be able create new business potentials and marketing strategies for your dental office by increasing and broadening your field of expertise.

AALZ
WORLD ACADEMY FOR LASER EDUCATION
IN DENTISTRY

Introduction

Dentistry is constantly evolving, and as a modern dental practitioner, it is essential to stay up-to-date with the latest techniques and technologies. One such technology that has revolutionised the field of dentistry is the use of lasers. Lasers have been used in dentistry for over 30 years and have been proven to be a safe and effective tool for a wide range of dental procedures. In this essay, we will discuss the importance of incorporating lasers into your practice and the benefits of taking our laser dentistry course.

We are excited to announce this possibility as for a long time we were aiming to address many requests from endodontists but also from dentists which are struggling on a everyday basis to perform root canal treatments with acceptable outcomes and a simple technique.

As you know, the most critical factor of an Endodontic treatment is clean, debridement and disinfection of the root canal system. **This is exactly where lasers can represent the game-changer in your practice.**

This course is an integrated part of the “Mastership Lasers in Dentistry” curriculum, provided by AALZ via Sigmund Freud University in Vienna, Austria.

Curriculum and Course Targets

This course aims to provide theoretical backgrounds, scientific support, clinical indications and skill training (patient demo’s possible upon treatments) as integral parts of the Curriculum.

For such purpose, the latest and advanced Endodontic techniques will be presented as integrated parts of this laser-assisted endodontic Course.

The biophysical basic interaction concepts and laser safety fundamentals are included in the course program. Thus, the technical steps towards a responsible usage of a laser will be demonstrated.

All laser clinical indications within the field of endodontics (e.g. 2780nm Er,Cr:YSGG laser and the 940nm diode laser) will be explained, presented in detail and demonstrated.

You learn all clinical possibilities and indications in the skill training.

By attending this Advanced Certified Course you will be able to improve patient's expectations and decrease your work-related stress by increasing your self-confidence and endodontic outcomes.

Content

- We will provide all endodontic materials for pre-clinical RC Treatment (e.g. endodontic files & obturation materials)
- Try different wavelengths and understand the possibilities while combining different lasers.
- Laser Safety Officer (LSO) & course accreditation(s) by:
    - AALZ – Sigmund Freud Vienna University
    - Portuguese Society for Interdisciplinary Medical Lasers
- Each participant shall bring minimum 3 extracted teeth with access cavity performed (3-D models will be also provided).
- Possibility to upgrade your laser knowledge by enrolling in any of the Lasers in Dentistry Masterships AALZ/Sigmund Freud University - worldwide. All fees and contents covered in this advanced laser-endodontic programme will be subtracted.

After successful participation and examination, you will become certified as LSO (Laser Safety) and endodontic laser expert.

Course Dates & Schedule

Day 1 – LASER SAFETY OFFICER Certification(EN 60825-1)
Day 2 – LASERs & ENDODONTICS
Day 3 – LASERs in ENDO advanced/complicated scenarios & APICAL SURGERY

Location

Easy to reach and close to **Eindhoven**:
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Praktijk voor Endodontologie Brabant – MECK
Veldhoven (NL)
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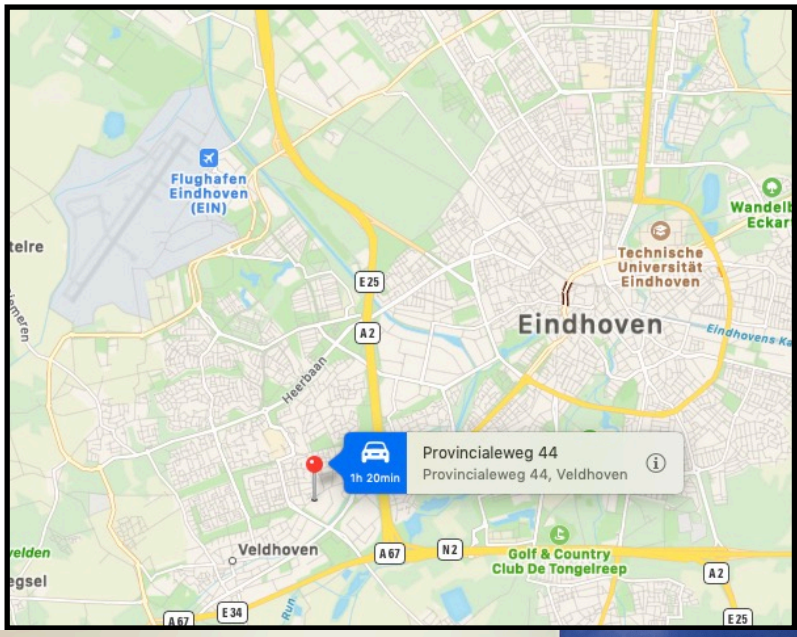
https://www.pvebrabant.nl



Day 1

Laser Safety Officer Course (LSO), 1 ECTS credit point

One-day course with official certification as a Laser Safety Officer (LSO)

(This course is a pre-requisite for practical laser use)

The Laser Safety Officer (LSO) Certification (1-day) is the basic start where you will get the basic knowledge regarding biophysical interactions between several wavelengths and the main oral tissues. You will also become entitled to legally use Class IV medical lasers in your practice being responsible for all safety regulations that must be known and should be implemented.

If fundamental technical, biological and physical information about the application and laser safety measures are not or insufficiently known, laser therapy and medical treatment methods may include risks for both practitioners, their teams and naturally for patients.

We prepare you for safely using lasers by giving you an in-depth understanding of laser physics and laser-tissue interaction. With examples, we clarify the need for safety precautions in the use of lasers in everyday dental practice. We explain statutory regulations, demonstrate their implementation in practice and describe laser application fields. After passing the examination you receive the “Laser Safety Officer” certificate.

Our laser safety courses meet the requirements of the trade associations for obtaining expertise as a Laser Safety Officer. They are recognised according to the guidelines of orientated to **EN 60825-1** and/or ANSI Z136.1. This course is conceived upon the suggested curriculum of the German regulations OStrV and TROS “Laserstrahlung”.

Content

- Introduction to basic laser physics
- Properties of laser radiation & Generation of laser light
- Biological interaction with laser light
- Absorption behaviour of laser light in biological tissues
- Laser parameters and their influence on the the tissue interaction
- Hazards of laser light: Eye damages and laser safety goggles
- Measures to minimise and mitigate laser risks
- Duties of the LSO (Laser Safety Officer)
- Device safety
- Treatment room safety
- Workspace safety
- Safety checklists

Day 2

Lasers in Endodontics, 2 ECTS credit points (days 2 & 3)

- **Success in Endodontics: debating the need of alternatives to current methods**
    - Historical context of lasers in Endodontics;
    - Categorising endodontic success: how far can we go?
    - Criteria to evaluate literature results and outcomes;
    - Rationale to support laser-assisted endodontic treatments:
    - Limitations of traditional irrigation methods.
    - Scientific evidences supporting the use of lasers in Endodontics;
    - Limitations of laser-supported techniques in endodontics;

- **Laser Biophysical Interactions in Endodontics**
    - Interaction of different wavelengths with dentine;
    - Erbium lasers: 2940nm Er:YAG and 2780nm Er,Cr:YSGG lasers
        - Physical and technical backgrounds
        - Concept differences and Tips
        - Smear Layer Removal properties and concepts
        - Disinfection properties and concepts
    - Interaction of different wavelengths with aqueous solutions/irrigants:
        - Laser-induced cavitation: properties and achievements
        - Laser-Assisted Irrigation
    - Technical set-up of different pulse emission patterns and tip-shape profiles;
    - Evolution, properties, science and clinical features of:
        - PIPS and SWEEPS (Er:YAG)
        - RFT (Er,Cr:YSGG)
        - Other techniques
    - The 450, 810, 940 and 980nm diode lasers:
        - Biophysical and technical background
        - Selecting the appropriate wavelengths
        - Modes of operation and protocols for endodontic disinfection.
    - Combining different wavelengths:
        - Optimizing LAET - the Dual-Wavelength Concept
    - Brief introduction and approaches to:
        - Pulp capping & Pulpotomies
        - (antimicrobial) Photodynamic Therapies (PDT, aPDT).

- **AALZ clinical/practical recommendations: video-demos & pre-clinical training.**

Day 3

Endodontic complicated scenarios & apical surgery

- **Managing endodontic complications with lasers**
  - Overcoming the limitations and hazardous effects of chemical irrigants
    - Laser-assisted Irrigation vs Laser-assisted Endodontics
    - 3-D Debris & Smear Laser removal & Disinfection
  - Acute and Chronic Apical Periodontitis
    - Laser-induced negative pressure
    - Drainage of apical inflammatory content/suppuration
    - Fistulas' approach
    - Large Apical Periodontitis / Cysts-like lesions
  - Intricate Root canal anatomies:
    - Debriding and cleaning challenging root canal systems and morphologies
    - Isthmuses
  - Rationale for laser-assisted re-treatments
    - Removal of sealers and gutta-percha
    - Deep disinfection
  - Open apexes and Apical Resorptions
  - Endodontic traumatology:
    - Dentin hypersensitivity
    - Root Fractures
    - Internal, External and Invasive Cervical Resorptions
  - Dealing with iatrogenic damages:
    - Furcation damage
    - Perforations
    - Ledgings
    - Broken files
    - Apical extrusions
    - "Unbelievable" clinical scenarios
  - Root Canal Sclerosis/calcifications

- **Laser-Assisted Endodontic MicroSurgery (Laser Apicoectomy)**
  - Introduction to the benefits of using Lasers in Endodontic Apical Surgery
  - Properties of different wavelengths
  - The use of erbium lasers for:
  - Incision, bone ablation, granulation tissue removal, apicoectomy, retro-preparation, bone cavity and canal disinfection, suture bandage and Low Level Laser Therapy.

Examination & Certification

A written exam of 60min duration will be available after the course via e-learning after the participant had time to study the materials in their own time again.

Upgrades and benefits, further information

This workshop is an integrated part of the “Mastership Lasers in Dentistry” curriculum, provided by AALZ - via Sigmund Freud Vienna University.

The Laser Safety Officer (LSO) Certification (1-day) is the basic start where you will get the basic knowledge regarding biophysical interactions between several wavelengths and the main oral tissues. You will also become entitled to legally use Class IV medical lasers in your practice being responsible for all safety regulations that must be known and should be implemented. The LSO certificate is recognised with 1 ECTS.

Once you have successfully passed the LSO exam, you are entitled to choose any laser-workshop of your choice.

You can choose from several-workshops (2 days each) divided by dental specialities such as Lasers in Endodontics, Periodontics, Surgery, Implantology, Pediatric Dentistry, Orthodontics, Low-Level Laser Treatments, Facial Aesthetics, etc. Each workshop is accredited with 2 ECTS (50h workload).

Being AALZ a pioneer in Laser-Dentistry Research and Education for more than 25 years, we developed for the first time in laser-dentistry history a tailor-made programme, where you can decide which modules you want to follow, according to your specific needs and interests.

You can attend how many modules you want, worldwide, with no time-limit.

If you attend the minimum of LSO plus 4 modules, you qualify for the “Case-Presentation & Final Examination” module in S.F. Vienna University, where you will graduate as Mastership in Laser Dentistry.

The total ECTS accreditation for the “Mastership Lasers in Dentistry” is therefore:

- 1 ECTS for LSO
- 4x 2 ECTS (for each selected workshop)
- 6 ECTS accredited for the final Case Presentation and Exams, awarding you a total of 15 ECTS.

Becoming a Mastership, you will be automatically enrolled as WALED-member (World Academy of Laser Education) and get access to our annual Congress, Scientific Events and laser updates worldwide.

By achieving a Mastership degree you get optional access to upgrade your curriculum into a 2.5-years module-based Master Professional (120ECTS) in Sigmund Freud Vienna University, where you will be engaged in highly deep and cutting-edge laser knowledge, produce laser-research project(s) and present it as Master Thesis, becoming entitled with a MSc University degree.

As regards to this specific Laser-Endo workshop, which will take place in Praktijk voor Endodontologie Brabant, Veldhoven (Netherlands), we aim to get deep into the root canals and show you all the amazing possibilities that different wavelengths are able to provide.

If you already have the LSO certificate, you can only attend the 2-days fully dedicated to Endodontics and wave the LSO.

During these "peak-power" 3 days we will approach each single wavelength available in the market and explore all their advantages and limitations. We aim to address all techniques and protocol variations so you could understand their logics and also their pitfalls. Based on our scientific knowledge and experience we have naturally our preferences on wavelength(s) selection(s) and possible laser combinations for endodontic use.

However, this module has no commercial intent and the goal is to let you freely choose -based on biophysics and scientific rationale- the laser(s) and techniques that could fit the most into your daily practice.

If you have any question(s), or if you want to approach any specific technique(s) more in detail let us know in advance so we can focus on it/them in detail.

Being laser-dentistry a field of rapid development and full of outstanding features to be tested, we would also be delighted to guide you, provide tutorial assistance or cooperate in research projects that could provide the scientific world a deeper understanding about current and further laser applications in Endodontics.

Please remember…this will be just the beginning of your laser-life-journey! :)

The AALZ team welcomes you!

Leon Vanweersch, Rene Franzen, Dimitris Strakas, Miguel Rodrigues Martins

Other AALZ workshops available for upgrading your ECTS points to complete a Mastership.

AALZ Workshop Name	Duration (days)	Credit Points (ECTS)	Description
LSO (Laser Safety Officer)	1	1	This workshop covers the basics of laser safety, laser physics, and the responsibilities of a laser safety officer.
Lasers in Endodontics	2	2	This workshop covers the clinical use of lasers in endodontic procedures, including indications, contraindications, and hands-on training.
Lasers in Periodontics	2	2	This workshop covers the clinical use of lasers in periodontic procedures, including indications, contraindications, and hands-on training.
Lasers in Dental Aesthetics	2	2	This workshop covers the clinical use of lasers in aesthetic dental procedures, including indications, contraindications, and hands-on training.
Lasers in Orthodontics	2	2	This workshop covers the clinical use of lasers in orthodontic procedures, including indications, contraindications, and hands-on training.
Photo-biomodulation Therapy (PBMT)	2	2	This workshop covers the use of PBMT in dentistry, including indications, contraindications, and clinical protocols. It will also cover the principles, mechanism of action, safety and potential side effects of PBMT.
Lasers in Pediatric Dentistry	2	2	This workshop covers the clinical use of lasers in pediatric dental procedures, including indications, contraindications, and hands-on training.
Lasers in Facial Aesthetics	2	2	This workshop covers the use of lasers in facial aesthetic procedures, including indications, contraindications, and clinical protocols. It will also cover the safety and potential side effects of these procedures.

Note: The LSO module must be completed first, and all other modules can be selected as needed, with the option of not taking them all.

Our workshop series is designed to provide you with the knowledge and skills needed to master the use of lasers in a variety of dental procedures. It consists of a series of 2-day modules, including laser safety officer, lasers in endodontics, lasers in periodontics, lasers in dental aesthetics, paediatrics, PBMT, and lasers in orthodontics. The workshops can be taken in any order and also not all workshops are compulsory. You will earn continuing education credits for completing the course, which will help you to maintain your license.

Each workshop is worth 2 credit point (ECTS)[1] and includes 16 hours of teaching and 9 hours of self-study, including the LSO workshop which is worth 1 credit point and includes 8 hours of teaching and 17 hours of self-study.

[1] Note that 1 ECTS point is defined as 25 - 30 hours of workload, including both class hours (so called „contact teaching“) and independent study hours (so called „self-study“).

Your lectures and AALZ team

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