

Laser Therapy in Dentistry

RWTH Aachen University, Germany

Course Director: Prof Dr. Norbert Gutknecht
President World Federation for Laser Dentistry (WFLD)



The certified Fellowship Status Certification Course is a one-year clinical specialisation course in laser dentistry, in which the dentist can participate beside his/ her daily practice. The program spans a period of one year, in which six modules are held, including the realisation of five clinical cases. An internet-based e-learning environment supports the participants in their homework between the modules.

The certificate „Fellowship Status Laser Therapy in Dentistry“ is awarded by the RWTH Aachen University

The course director, Prof. Dr. Norbert Gutknecht, is President of the World Federation of Laser Dentistry (WFLD) and President of the German Society for Laser Dentistry (DGL).

New course: **16-18 June 2010 (Modules 1,2,3 part I)**
 23 -24 September 2010 (Modules 3 part II, 4)
 29 November - 1 December 2010 (Module 5)
 31 March - 2 April 2011 (Module 6, Exams)

From 9 am to 5 pm each day

Participants receive extensive course materials. Coffee breaks and catering is included

Contact:

AALZ Representative:

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Module 1: (1 day)

Laser Physics and Laser Safety Officer Course

- Laser Safety Officer seminar
- Physics of lasers
- History of lasers
- Laser Wavelengths
- Photons
- Laser-Tissue-Interactions, Absorption and Emission of Photons
- Biophysics
- Absorption and Absorptions spectra
- Laws and Regulations
- Transformation of laws and regulations in the dental office
- Multiple choice test

Module 2: (1 day)

Laser Construction and Handling, Laser Diagnostics

- Laser construction
 - Laser function
 - Operation manual and guidelines
- Hands-On training of biophysical interactions on hard and soft tissues on all laser types
- Oral Laser Diagnosis

Module 3, 4: (3 days)

Nd:YAG Lasers (1.064 nm) and CO2 Lasers

Biophysical background: ablation mechanisms, transmission, absorption in the tissues, temperature and tissue reactions --> EBD literature

Hands-On Training, Skill Training and Live-Patient Demonstrations

Clinical indications:

- Endodontics
 - Root canal treatment
- Periodontology
 - Closed curettage
- Herpes treatment, Incision (Abscess fission), Sulcus enlargement, Aphthosis



Diode Laser High-Power (810/ 940/ 980 nm)

Biophysical background: ablation mechanisms, transmission, absorption in the tissues, temperature and tissue reactions --> EBD literature

Hands-On Training, Skill Training and Live-Patient Demonstrations

Clinical indications:

- Endodontics
 - Root canal treatment
- Periodontology:
 - Closed curettage
 - Sulcus enlargement
- Soft Tissue Therapy
 - Frenectomy
 - Gingivectomy, Gingivoplastics, Gingiva hyperplasia
 - Incisions (Abscess fission)
 - Exposure of retained teeth
- Hard tissue therapy
 - Hypersensible teeth
- Oral mucosa diseases
 - Hemangioma
 - Herpes
 - Aphthosis

Diode Laser Low-Power (650 nm)

- Low Level Laser Therapy
- Photo Dynamic Therapy



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Module 5: (3 days)

Er:YAG (2.940 nm)/ Er,Cr:YSGG (2.790 nm) in Soft Tissue

Biophysical background: Absorption and transmission in soft tissue --> EBD literature

Hands-On Training, Skill Training and Live-Patient Demonstrations

Clinical indications

- Periodontology
 - Closed and open curettage
- Soft tissue surgery
 - Gingivectomy, Gingivoplastics
 - Frenectomy
 - Pericoronitis
 - Incision/ Excision
- Implantology
 - Implant exposure
 - Peri-implantitis treatment

Er:YAG (2.940 nm)/ Er,Cr:YSGG (2.790 nm) in Hard Tissue

Biophysical background: Ablation mechanism, temperature and pulp reaction, preparation speed, cavity sterilisation, sense of pain during cavity preparation --> EBD literature

Clinical indications

- Cavity preparation
 - Minimal invasive caries removal
 - Fissure sealing
 - Cavity preparation methods for composite fillings and ceramic inlays
 - Veneer preparation
 - Creation of micro retentive sealings
 - Removal of old fillings (possibilities)

- Endodontics
 - Cleaning and disinfection of the root canal
- Hart tissue surgery
 - Apicoectomy
 - Sinus lift
 - Depigmentation of the gingiva
 - Bone surger: bone exostosis, crown enlargement, osteotomy

Module 6: (2 days)

Oral and written exam (1 day)

Presentation of 5 clinical cases (1 day)

Official delivery of the certificates

