DENTAL OPERATIVE MICROSCOPE

A THEORETICAL AND PRACTICAL COURSE

Dr.Prof.ac. Cristian CORAINI – Milan, Italy

Dr.Prof.ac. Giovanni OLIVI – Rome, Italy

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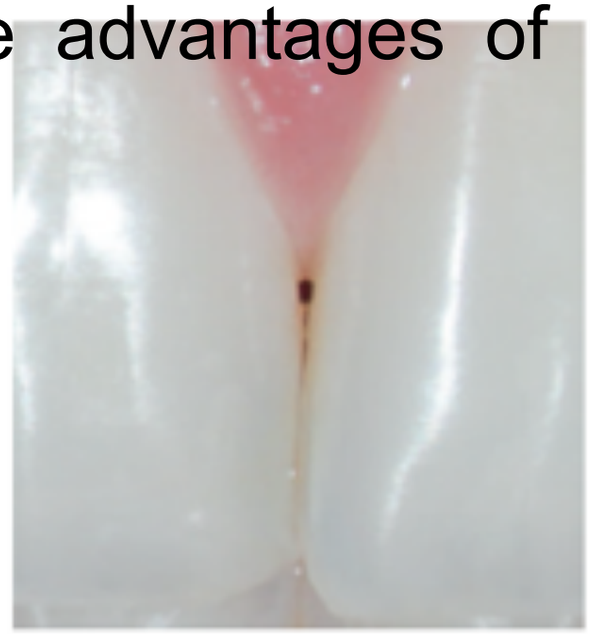
AIM OF THE COURSE

The aim of this course is to present the several advantages of the use of the magnification in dentistry. Magnification and powerful coaxial light help the dentist to see "larger" and see "better" both in the pre-operative diagnostic phases and in the control of each clinical procedure and in the follow-up of the clinical treatments.
The microscopic magnification synergistically combined with laser technology allows the control of the effects of the laser light on the tissues, so avoiding possible thermal side effects, improving the self-confidence of the operator and optimizing the clinical results.
Intra-operative photos and videos make it possible to report the clinical steps, to review the phases of interest, to check the most minute details of the clinical work , and to correct even the smallest imperfections.
Magnification in general and specifically the "operative microscopy", play a key role in dentistry where precision, minimally invasive and ultra-conservative approach make the difference in achieving the desired esthetic of the treatments, significantly improving the clinical results and longevity of the therapies.

LEARNING OBJECTIVES OF THE COURSE

- Illustrate the different parts of the dental operative microscope;
- explain the different work positions and the concepts of ergonomics in dentistry;
- to involve the participants in an interactive, theoretical and practical comparison, through lectures, videos, and hands-on performed with microscopy utilizing both manikins and animal models;
- learn and demonstrate how magnification improves both neuro-motor ability and precision;
- to highlight and personally experience how the coaxial lighting allows us to see better and therefore work better;
- discuss the advantages of using magnification in all fields of dentistry.

TWO-DAYS PROGRAM

FIRST DAY:

THEORY (LECTURES)

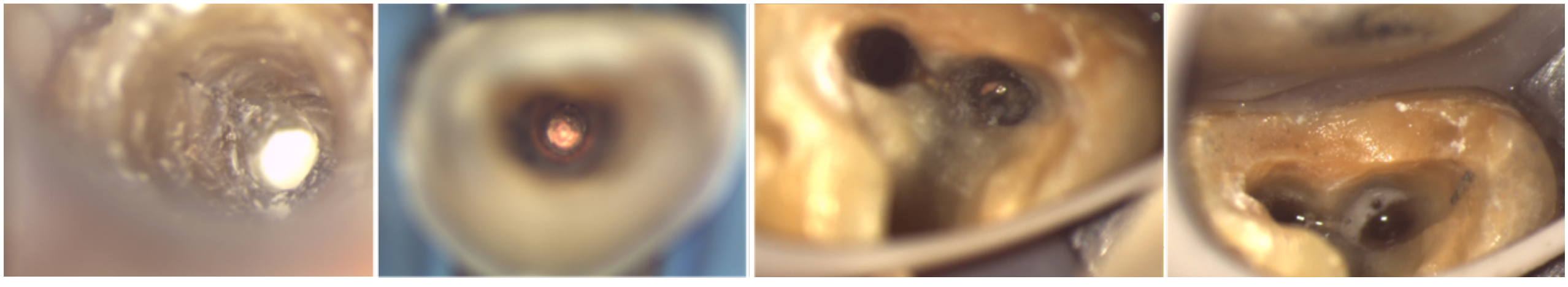
- Introduction: vision with the naked eye, with Galilean and prismatic magnifying systems;
- what are the reasons that suggesting the use of magnification in Dentistry? What are the operational difficulties for the operator?
- specific differences between Galilean and prismatic systems, and operative microscopy;
- learning curve; practical tips and errors to avoid; diagnosis, control, finishing in direct and indirect vision, intra-operative execution;
- notes on the basic principles of vision, on anatomy and on the resolving power of the human eye;
- stereopsis: definition and basic concepts on stereoscopic vision; how to establish and why the dominance of one of the 2 eyes; historical data on stereo-microscopes;

TWO-DAYS PROGRAM

FIRST DAY:

THEORY (LECTURES)

- what is the "Operating Microscope" (OM): clinical applications;
- basic anatomy of an OM: optics, lens, lenses, focal lengths, binocular tubes, magnification changer, double iris diaphragm, illuminator and lighting systems, dispersions and coaxial light, possible configurations;
- practical tips when approaching surgical microscopy: how to work using microscopy without "adapting", but "adapting" and "setting";
- magnification power, depth of field, field of view diameter, focal length, working distance, linear magnification; calculation formulas;
- usual lens/magnification, usual set-up;

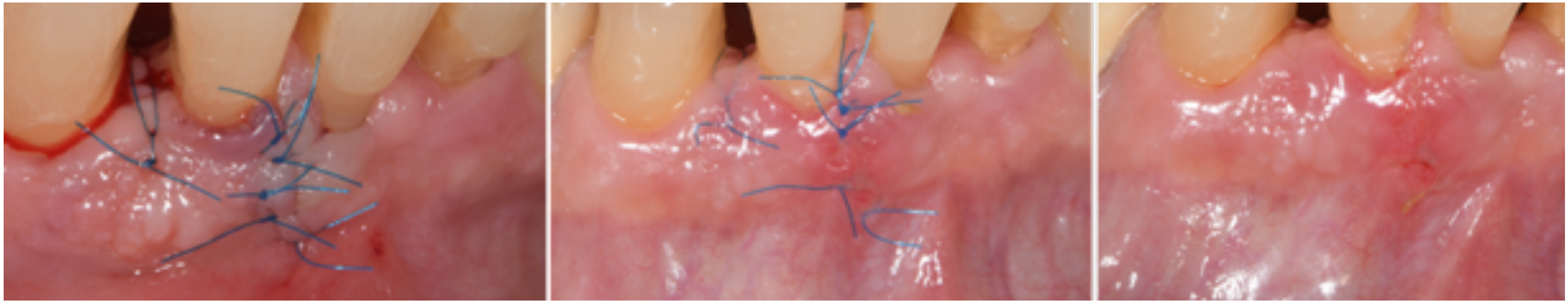


TWO-DAYS PROGRAM

FIRST DAY:

THEORY (LECTURES)

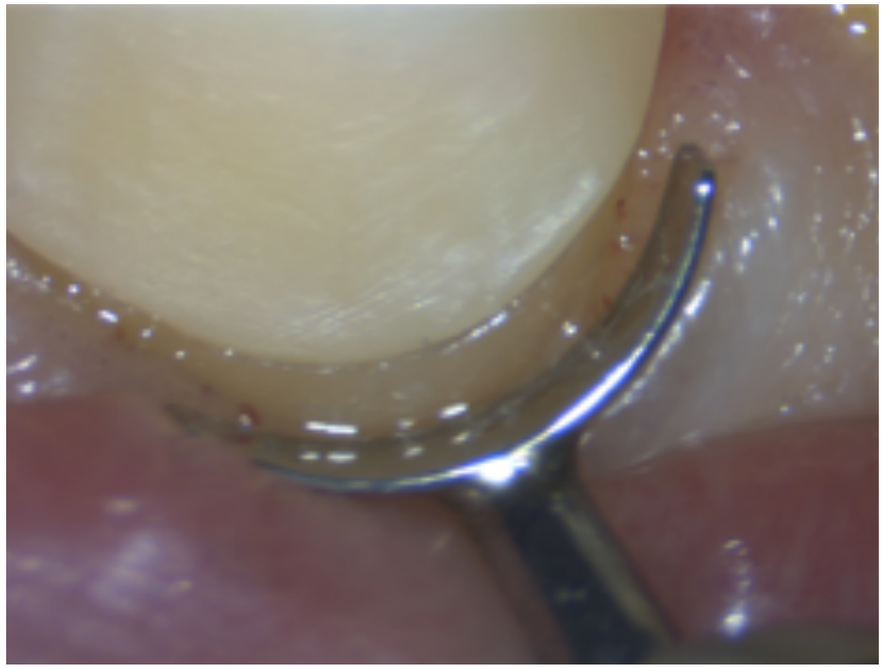
- operating, physical and cognitive ergonomics, micro-layout and mini layout; operating procedures, basic movements and economizing movements; direct vision, optimized visual access, ideal posture;
- work positions in relation to quadrants and disciplines: conservative dentistry, prosthetics, endodontics (orthograde and surgical); oral surgery and periodontology; static work and dynamic work;
- Minimally Invasive Dentistry (MID): definitions and literature, bibliographical references related to operative microscopy; clinical cases and applications in different fields of dentistry.
- the fundamental settings: inter-pupillary distance, diopter adjustment and parfocality adjustment;

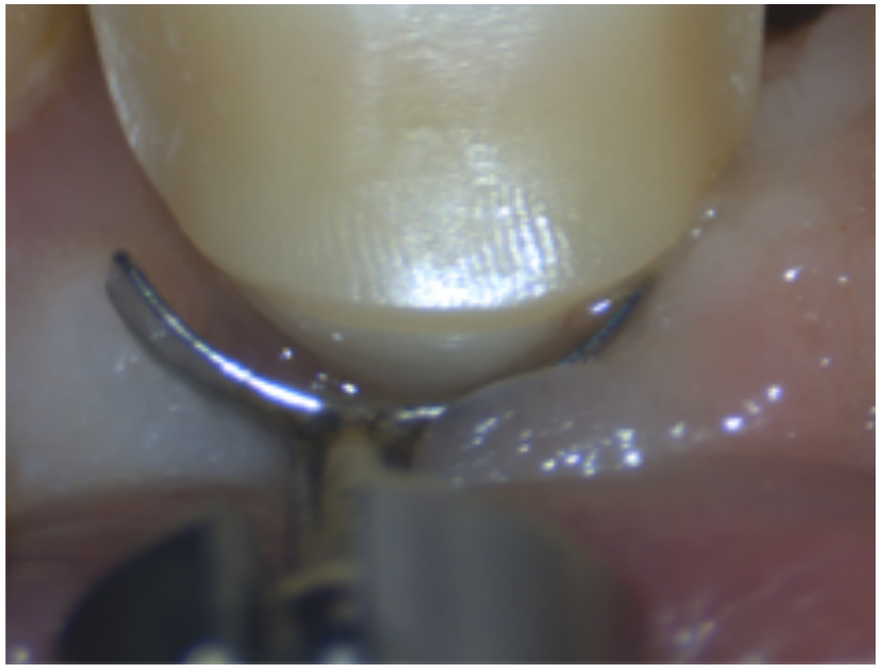


TWO-DAYS PROGRAM

SECOND DAY:
THEORY (LECTURES)

- tools dedicated to micro-dentistry; micro-blades, micro and macro dedicated mirrors, needle holders, micro-tweezers, various inserts, dedicated operator seats;
- clinical cases of conservative endodontics, prosthetics, periodontology, surgery and applications of laser dentistry in microscopy;





TWO-DAYS PROGRAM

SECOND DAY:

PRACTICAL PART-HANDS-ON

- individual settings: inter-pupillary distance, dioptic and parfocality adjustment (on an OM operating microscope);
- endodontic cavity access, root canal probing and OM microscope finishing (on extracted teeth);
- OM microscope sutures (on rubber dam sheet and on animal model);
- simulation of antrostomy access to the maxillary sinus with the microscope (on fresh egg);
- retro grade preparation (surgical endodontics) with the OM microscope (on extracted teeth specially mounted on the model);

TWO-DAYS PROGRAM

SECOND DAY:
PRACTICAL PART-HANDS-ON

- removal of cast pins by extractor using the OM microscope (on
- removal of fiber posts using ultrasound inserts with the microscope (on extracted teeth);
- refinement of sensitivity with the use of the scalpel and the OM (on a newspaper sheet);
- laser-assisted frenulectomy utilizing the OM microscope (on animal model);
- laser-assisted operations on both hard and soft tissues with OM (on animal model);
- work positions, photos and video documentation.

Teacher's Biography

Dr.Cristian CORAINI

Dental technician Qualification and Diploma (1990-1991), Degree in Dentistry "cum Laude" at Milan-University (1996), International Certificate Post-Graduate in Implantology and Esthetic Dentistry (New York University 2003-2005). Goer from 1998 at the Istituto Stomatologico Italiano of Milan in all Departments, from 2012 Head of the Perio-Implants and CAD-CAM Department in the same Institut. In 1998 winner of the italian national prize "The clinical case I'll never forget" (UTET editions, Rimini, Amici di Brugg), and in 2013 with his technician Mr. Luca Vailati of the prize on the occlusion at the International College of Prosthodontists World Congress (Turin). Founding member and 2022 President Elect of International Academy of Innovative Dentistry (IAID). Active member of: SIE (Italian Society of Endodontics), AIG (Italian Academy of Gnathology), member of the editorial board of "Italian Journal of Endodontics". Currently, he is Adjunct Professor in Prosthesis at the University of Milan. He is in private practice in Milan, focusing his work in the treatment of endodontic, perio-implants, prosthetic, esthetic and micro-dentistry cases with a multi-disciplinary approach.

Dr.Giovanni OLIVI

Giovanni Olivi is native of Rome, Italy, where he graduated cum laude in Medicine and Surgery (MD) and in Dentistry (DDS).

Dr. Olivi achieved the Advanced Proficiency and the Master status from the Academy of Laser Dentistry (2006-2009). He is the 2007 recipient of the "Leon Goldman Award" for clinical exellence bestowed from ALD. Founding member and 2020-2021 President of the International Academy of Innovative Dentistry (IAID).

Active member of Italian Society of Endodontics (SIE), of Italian Society of Paediatric Dentistry (SIOI), of Italian Society of Laser Dentistry (SILO), and of Academy of Laser Dentistry (ALD). Giovanni Olivi is professor and scientific Coordinator of the "Laser Dentistry" proficiency and master courses at Catholic University of Rome and is also lecturing worldwide for laser education.

Dr. Olivi is author of over 70 peer-reviewed articles and several chapters textbooks on dentistry topics, He is the author of 4 books on different laser topics.

Giovanni Olivi maintains his private practice in Endodontics, Restorative and Esthetic Dentistry in Roma, Italy.

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