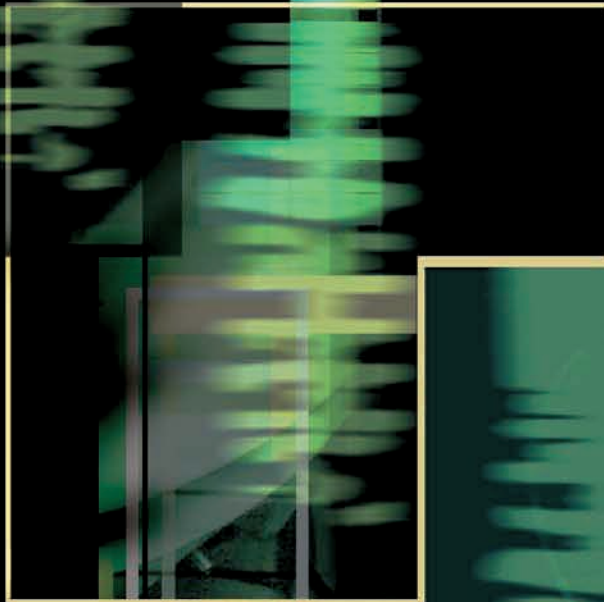


Recommended Training Guidelines for Basic Implant Placement





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The proliferation of training courses and training centers throughout the country promoting 1-3 day courses as being fully adequate to begin placing implants has contributed to significant problems for patients and practitioners. Many of these problems would not occur if course directors and participants were better informed of the legal standards of care for implant placement and guidelines for basic implant placement. Standardized training guidelines would enable dentists to make fully informed decisions regarding their course of study and how they wish to incorporate implants into their practices.

Therefore, acting in what we believe to be the best interests of patients, the profession and the implant industry, the IDIA organized a committee of experienced clinicians from private practice, including a general dentist who places implants, as well as clinicians from academia, under the guidance of malpractice defense attorney Arthur W. Curley J.D. to construct guidelines for training courses. These guidelines were based on those already established in the U.K., the recommendations outlined by the IDIA in 2007, the collective experience of several surgical specialists and restorative dentists, and the knowledge and understanding of the legal ramifications in the United States.

It is not our intention to establish a specific curriculum for surgical implant placement training programs. Rather we seek to provide guidelines for evaluating CE courses to determine whether they cover the appropriate areas of study to meet the legal standard of care.

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These guidelines are being supported and distributed by most of the major implant companies and will contribute to an industry standard for company sponsored training programs. We believe that this will promote the highest standards in implant dentistry, and therefore ultimately protect the patients and the profession.

Additionally, it is recognized that the practice of implant dentistry is ever changing as new materials and techniques are developed and that it will be necessary to review these training guidelines at least every two years, and if necessary, modify them accordingly.

Finally, we would like to thank Astra Tech, Biomet 3i, Neoss, Nobel Biocare, Straumann and Zimmer for their commitment to preserving the integrity of implant dentistry and for taking the lead role in the industry to support the creation and distribution of training guidelines for the benefit of the profession, the industry, and most importantly, the patients.



Introduction:

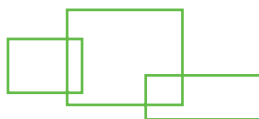
In designing any continuing education program intended to train dentists on the safe and successful placement and maintenance of dental implants, the nature of the procedure must be kept in perspective. Above all, the placement of dental implants is a surgical procedure, with the attendant risks, benefits and alternatives associated with any surgery. In maintaining that perspective, the distinction between residency trained specialists and dentists without post-graduate surgical residency training must be considered.

From a legal perspective, any licensed dentist can perform any dental procedure. However, when a general dentist begins to perform procedures that are primarily performed by dental specialists, due to either complexity or difficulty, the law holds all such practitioners to the same standard of care expected of specialists providing similar procedures on a regular basis. The test of the standard of care is not so much a dentist's ability to begin or initiate treatment, rather it is the experience and ability of the dentist to predict, prepare for, and quickly recognize and treat all of the various potential complications.

Most implants are placed by specialists who have attended surgical residency programs. Those programs teach not only the techniques of dental implant surgery, but also how to diagnose the complex or unusual cases, predicting and diagnosing the potential for complications and most importantly, providing timely and effective treatment for such complications.

It is the very nature of surgical residency programs that they have a disproportionate number of unusual patients, cases and complications associated with dental implant patients. Indeed, what might be rare in the typical dental office is more commonplace in a residency program. Therefore, training programs for implant placement must keep that perspective in mind and employ appropriate risk management education.

These guidelines were developed to provide recommendations for minimum training for basic surgical implant placement. They are intended to be used to guide program designer and participant as to whether training courses cover the areas of study to meet the legal standard of care and whether sufficient time is devoted to each area of study necessary to meet the course objectives.





Recommended Training Guidelines for Basic Implant Placement:

Section I: Understanding Implant Dentistry

Course Objectives:

- Understanding the fundamentals of implant dentistry
- Overview of specific implants and components - indications and contraindications for various designs

Course Topics:

- Developing an “implant” practice – recognizing the importance of the entire office team being committed and educated regarding the delivery of implant dentistry - understanding interdisciplinary dentistry and the importance of building an interdisciplinary team
- Exposure to classification of implant surgical/prosthetic procedures, such as the one developed by the Swiss Society of Implant Dentistry (i.e. Straightforward, Advanced and Complex) – as well as a clear understanding of the definition of “basic” or “straightforward” cases

Straightforward Level as defined by the Swiss Society of Implant Dentistry:

***Surgery:** adequate bone volume, placement of 2 implants in the mandible, treatment of large tooth gaps and single-tooth replacement where aesthetics are not a factor*

***Prosthetics:** treatment of the mandible with bar prostheses or stud-retained prosthesis, gap treatment and single tooth replacement where aesthetics are not a factor*

- Historical development of implants, biologic basis for implants, principles of implant biomaterials and understanding Osseointegration
- Manufacturer specific implants, armamentarium, components and basic surgical protocols, indications and contraindications for dental implants of various designs and characteristics
- Recognition and understanding of implant restorations of all types and manufacturer specific components associated with such restorations – and the importance of coordination with the lab with implant restorations

Section II: Patient Selection, Patient Education, Documentation, and Risk Management

Course Objectives:

- Criteria for selecting patients for implant treatment
- Criteria for determining the types of patients and “basic” cases that are appropriate for clinicians with little or no surgical implant experience
- Understanding of the requirements and goals for patient education, informed consent, informed refusal and documentation
- Understanding of risk management protocols, including staff training and malpractice insurance needs

Course Topics:

- Clinical assessment of a patient’s suitability for implants, such as medical conditions, habits and psychological factors that could diminish a patient’s candidacy for implant techniques, or complicate surgery
- The main implant options available and their indications and contraindications for various patient groups
- The risk/difficulty factors for implants in the various zones in the mouth and potential need for referral of cases to specialists based on the difficulty of the case, and the experience and competency of the clinician
- The duty to refer: ethical, standard of care and legal rationale
- An overview of the informed consent process, including patient presentation, education and documentation, as well as the obligation to obtain informed refusal in cases where a patient declines a recommended procedure or treatment
- A review of the standard of care as it relates to health history data and forms, including situations that would require medical clearance for surgery
- Guidelines for use of, and keeping current with relevant forms (i.e. consent forms, health history, etc)
- A discussion of documentation with risk management considerations in mind, including documentation of patient information, imaging, diagnosis, treatment plans, informed consent, informed refusal, surgery, process notes, referrals, consultations and recalls
- The legal and ethical issues associated with the difference between placing, restoring and maintaining dental implants



Section III: Diagnosis, Treatment Planning, Radiographic Techniques and Pre-Surgical Work-Up

Course Objectives:

- Understanding of surgical anatomy and radiological examinations
- Knowledge of options for diagnostic and planning tools and pre-surgical work up, including the use, fabrication and limitations of surgical stents/guides
- Criteria for surgical and prosthetic treatment planning options for various indications

Course Topics:

- The surgical anatomy of the maxilla and mandible, as well as the pathological and non-pathological processes that may occur in the maxilla and mandible
- Radiology systems and image analysis radiography of the mandible and maxilla, and how to interpret the findings from radiological examinations
- Recognizing that the standard of care is dynamic, a review of current diagnostic and planning tools including 3D cone beam imaging, and alternative implant systems
- Surgical and prosthetic treatment planning options for various indications
- A discussion on the importance of pre-surgical work-up, including stents (use, fabrication and limitations), computer guided surgery and/or other tools that can be utilized to insure success and minimize outcome and patient risk

Sections I, II, and III: Recommended 2.5 days minimum

Section IV: Fundamental Surgical Procedures, Anesthesia and Sterile Protocols

Course Objectives:

- Understanding of bone morphology, particularly anatomic variations that affect implant placement
- Considerations with anesthesia
- Techniques for surgical extractions for bone preservation
- Techniques for flap design, primary closure, suturing, drilling systems
- Techniques for surgical implant placement (basic cases)
- Understanding of surgical sterile protocols and essentials in operatory set-up – not necessarily to teach the original Branemark protocols, but to recognize the importance of issues such as preventing the contamination of implants

Course Topics:

- Bone morphology, including anatomic variations that affect implant placement, including undercuts of the mylohyoid area and canine fossae, proximity of the maxillary sinus, floor of the nose and mandibular nerve, buccal plate integrity.
- Operatory preparation, patient preparation, anesthesia, pre and post-op medications
- Infection control and surgical aseptic techniques as applied to implant dentistry, as well as antibiotic use
- Techniques for flap design, primary closure, suturing
- Proper bone width and anatomy (implant specific) and when not to proceed with the surgery
- Implant drilling sequence, techniques and proper management of the bone
- Faculty case presentations
- Techniques for surgical placement of dental implants for basic cases: 1) single posterior, 2) two posterior implants side by side and 3) two mandibular implants for overdenture - to include surgical model work
- Techniques for harvesting bone from oral sites for very minor augmentation during implant placement, as well as the use of exogenous bone or bone substitutes for minor augmentation

Section IV: Recommended 1.5 days minimum



Section V: Surgical Procedures for Basic Cases (surgical model work)

Suggest: Hands-on Model Work, Cadavers, Observation of Live Surgery, and Where Possible Placement in Patients

Recommend: Additional Observations of Live Surgery with a Surgical Specialist (mentor) Following the Course

- Single posterior implant case
- Two posterior implants (basic case)
- Two mandibular implants for overdenture
- Following the surgeries, presentation of completed cases and discussion of planned restorative treatment (with modifications if needed)

Section V: Recommended 2 days

Section VI: Complications, Long-Term Management and Analysis

Course Objectives:

- Understanding surgical anatomy and the range of possible complications
- Techniques for early recognition and evaluation of complications
- Management and treatment of complications
- Understanding when to refer and importance of timely referral
- Understanding of the requirements for documentation of the process
- Understanding evaluation of healing and neurological status
- Criteria for long-term management

Course Topics:

- Exposure to both didactic and clinical examples of a wide range of potential complications, including but not limited to those outlined in Section IV of the guidelines, as well as identification of “implant failures”

- Techniques for prevention, early recognition and evaluation of complications, as well as documentation of the process, including imaging, tests performed or considered, consultations, and referrals
- Prevention, early recognition and possible treatment of complications that occur as a result of morphological variations, as described above, including dehiscence and fenestration problems; problems arising from variations in bone density and the patient's medical and medication history
- Management and treatment of implant failures and the resulting defects
- Criteria for timely referral of complications to a surgical specialist
- Regular evaluation of the healing and/or periodontal status, implant integration, neurological or sinus status, imaging evaluation, and patient overall status
- The long-term management of surgical implant patients, including soft tissue analysis, status of the bone and function

Section VI: Recommended 1.5 days

Section VII: Overview of Advanced and Complex Surgical Procedures and Prosthetic Treatment Options

Suggested Course Objectives:

- Understanding of the indications for bone grafting and sinus lift procedures
- Understanding of the special considerations for anterior implant placement
- Understanding of complex prosthetic procedures

Course Topics:

- Indications for bone grafting, soft tissue grafting and site preparation; types of grafting materials and techniques
- Overview of sinus lift procedures
- Overview of special considerations for anterior implant placement, including side by side implants vs. cantilevers, and soft tissue manipulations and procedures to enhance final esthetic results
- Overview of advanced and complex prosthetic procedures, such as extraction and immediate implant placement

Section VII: Recommended 2 hours

**Recommended
Training Guidelines**



Section VIII: Post Instruction Written Evaluation (multiple choice), Ethical Considerations, Recommendations for Additional Training

- This post-instruction evaluation should be straightforward and intended to identify areas of further study by the individual doctor.
- Ethical Considerations: Recognition that surgical implant treatment can result in permanent loss of tissue (e.g. nerve tissue) and associated morbidity that can greatly burden patients both physically and mentally; acceptance that surgical implantation of materials requires frequent updating of implant knowledge; recognition that there is an obligation to the patient to present all implant options and not just basic; understanding that improper surgical care is the doctor's responsibility, not that of the referral surgical specialist; recognition that the course instructor is not responsible or liable for improper surgery by the student.

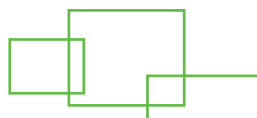
Additional Considerations:

The doctor, upon course completion should perform a sufficient number of straightforward cases to develop proficiency (suggested placement of 50-100 implants) before proceeding with advanced cases. Those advanced cases should only be done after comprehensive instruction with hands-on training (cadaver surgery and model surgery).

Since implant dentistry is prosthetically driven, it is recommended that dentists should be proficient in the treatment planning and restoration of both fixed and removable implant cases, prior to undertaking surgical training for implant placement. This would include:

- An understanding of advanced restorative procedures
- Recognition of technical and cosmetic limitations of implant dentistry in certain situations

Lastly, we should remember that this training is designed to allow the patient to safely receive a dental implant that can be expected to last for an exceptional period of time, and be informed completely of why failure can occur plus exceptionally accurate presentation of their individual risks. If this cannot be done then the case by definition is not a "basic" surgical case and should be referred.



The Institute for Dental Implant Awareness would like to acknowledge the individual committee members who contributed to the development of these guidelines.

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"As a general dentist, I believe that one of the critical components of success is knowing your limitations. Focusing on what you do best and knowing when to refer and the best specialist to refer to in each situation, is essential to ensure that the patients always receive the best possible care."

Ronald G. Bollinger, D.D.S.