

**CERTIFIED
DENTAL
LABORATORY**



CERTIFIED DENTAL LABORATORY HANDBOOK AND APPLICATION

NBC

National Board for Certification in
Dental Laboratory Technology



**CERTIFIED
DENTAL
LABORATORY**



**NBC RECOMMENDS THAT THIS HANDBOOK BE
KEPT FOR REFERENCE THROUGHOUT THE
APPLICATION AND REVIEW PROCESS.**

This handbook contains information about how to become a nationally Certified Dental Laboratory (CDL).

If you have questions about the policies, procedures or processing of your certification application after reading this handbook, please go to our website at www.nbccert.org or email us at CDL@nbccert.org. We are also happy to assist you by phone during business hours (Monday through Thursday: 8:00 a.m. to 5:00 p.m. EST; Friday: 8:00 a.m. to 3:30 p.m. EST) at (800) 684-5310 or through written correspondence sent to our offices at the address below.

NBC

National Board for Certification in
Dental Laboratory Technology



325 John Knox Road, #L103, Tallahassee, FL 32303
(800) 684-5310 TOLL FREE • (850) 205-5627
(850) 222-0053 FAX • www.nbccert.org

Congratulations!

Thank you for your interest in attaining the CDL certification for your laboratory. The CDL distinction is a measure of your commitment to the highest standards of professional laboratory excellence within the dental technology community.

You should know that this distinctive certification — when it is obtained — places your laboratory among an elite group of dental laboratories. Each member of the team who lends expertise to your laboratory can be proud of this effort and should celebrate the attainment of this industry distinction.

This handbook contains the information needed to become a Certified Dental Laboratory. For more information about NBC, including the CDL Application, Renewal Applications and information about other programs, please visit our website at www.nbccert.org.

Once again, you have made an excellent choice in pursuing the CDL and we, at the NBC office, will work with you throughout the process, providing guidance, information, materials and advice, to assist you in obtaining the CDL credential for your laboratory.

If you have any questions, please contact NBC at CDL@nbccert.org or call toll-free at (800) 684-5310.



NBC Mission

The National Board for Certification in Dental Laboratory Technology provides professional certification to dental technicians and dental laboratories for the health and safety of the dental patient.

NBC Vision

The NBC is dedicated to administering a globally-recognized certification program to verify the knowledge, skills and abilities of dental technicians through examinations and continuing education. NBC is also dedicated to the certification of dental laboratories for the purpose of ensuring employee safety and quality assurance practices that meet or exceed government requirements.

Statement of Nondiscrimination

The Certified Dental Laboratory program is offered to all laboratories that meet eligibility requirements, regardless of age, race, religion, gender, national origin, marital status or disability of stakeholders.

Please read all sections of this handbook. Information can also be found in the Certified Dental Laboratory section on the NBC website at www.nbccert.org. You may contact the NBC Headquarters at CDL@nbccert.org or call our toll-free number, (800) 684-5310.

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Certified Dental Laboratory Handbook and Applications

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Overview of the History, Regulation & Organization in Dental Laboratory Technology

EARLY HISTORY

Dental disease has been treated since the first prehistoric toothache. Substitutes for natural teeth were made very early from the bones and teeth of animals, and later from other materials such as mother-of-pearl, ivory and jeweler's enamel baked on carved bone or metal tooth plates.

Until the mid-eighteenth century, medical doctors concerned themselves little with the mouth. Dental ailments were treated largely by laymen. Only a very small amount of medical literature dealt with dental treatment until 1728, when a Frenchman, Pierre Fauchard, published the first major text dealing with dentistry: *Le Chirurgien Dentiste*. By incorporating into a single book everything known about the science and art of dentistry, Fauchard established a scientific basis for a new medical specialty and earned the title of "The Father of Modern Dentistry."

Dentistry was brought to colonial America around 1766; George Washington was among the most famous of early dental patients for whom prosthetic teeth were made. The evolution of various forms of dental treatment and techniques and materials for replacement of missing teeth became a constant process.

FIRST COMMERCIAL DENTAL LABORATORY

As the art and science of dentistry continued to develop, certain dentists developed special processes and skills in manufacturing prosthetic devices. Since these processes and skills were in demand by other dentists, the practice of sending out laboratory work to those possessing the processes began.

One doctor particularly noted for his prosthetic skills was Dr. W. H. Stowe who practiced in Boston. Dr. Stowe eventually found that he had little time for his own dental practice after accepting laboratory work from all the dentists who sought his services. So, in 1883, he began to separate his dental practice from his laboratory services, accepting laboratory work only from a limited number of dentists. However, the laboratory service was so successful that it suggested to him the potential for a dental laboratory serving the profession at large.

In 1887, Dr. Stowe opened a dental laboratory in Boston in which he was later joined by his cousin, Frank F. Eddy. The laboratory — to be known later as Stowe and Eddy — is generally acknowledged to be the first commercial dental laboratory in America separate from a private dental practice.

The establishment of the commercial dental laboratory led quickly to the training of apprentices. As these apprentices gained skills, they opened their own laboratories and the growth of the commercial dental laboratory industry began. As more and more laboratories came under the management of dental technicians, a decreasing number of dentists went into the business. By 1910, it is likely that dental technicians managed a majority of commercial dental laboratories.

The work and innovations of dental technicians became a significant influence in the development of new prosthetic techniques and materials.

NATIONAL ORGANIZATION

As the dental laboratory industry grew, it was natural that organizations should be formed. In 1950, there were two national organizations representing the dental laboratory industry, but no single unified organization. A group of dental laboratory owners from throughout the country met in Chicago, and agreed to form a national, federated association, similar in organization to the American Dental Association, with state-level association components.

The meeting marked the beginning of the National Association of Dental Laboratories (NADL), which today represents more than 1,000 commercial laboratories nationwide. The stated mission of NADL is "the NADL is the unified voice for the dental laboratory industry supporting dentistry and serving the public interest by promoting high standards. NADL accomplishes this by providing programs, services and networking opportunities responsive to the evolving technical, educational, professional and business needs of dental laboratories."

CERTIFICATION FOR TECHNICIANS

The early activities of NADL were concentrated in the areas of recognition and education. In 1954, the NADL Education Committee began development of a certification program, which would set skill standards for the individual dental technician. The following year, the NADL Executive Council elected seven persons to the newly formed National Board for Certification in Dental Laboratory Technology, which adopted policies and approved examinations for the certification program. The first Certified Dental Technician tests were given in October of 1958, and the first CDT certificates were awarded in March of 1959.

The examinations undergo continual upgrading and revision. As of early 2007, over 6,000 technicians held CDT certificates and over 1,100 CDT examinations were given annually.

For more information about the Certified Dental Technician program, please contact NBC or refer to the NBC website at www.nbccert.org.

CERTIFICATION FOR LABORATORIES

As with most professions and industries, there are both technicians and dental laboratory owners and/or managers who desire to achieve and be recognized for their advanced levels of professionalism. For the laboratory, the NBC administers the Certified Dental Laboratory program.

The Certified Dental Laboratory (CDL) program was created in 1974 to promote and maintain a recognition that will assist dental laboratories in their continuing efforts to improve the quality and efficiency of the dental team's service to the public. CDLs must demonstrate compliance with requirements pertaining to employee safety and education, physical facility equipment and processes, quality assurance procedures, policies for billing and re-make circumstances among other things.

To maintain certification, a CDL must renew annually, reporting any changes in the number of laboratory personnel and significant changes in laboratory facilities. A complete review is required every five years to ensure continual compliance with the CDL program requirements.

continued...

An Overview of the History, Regulation & Organization in Dental Laboratory Technology, continued.

The CDL program creates a means for dental professionals and members of the public to identify dental laboratories which meet specific standards. By earning and maintaining the CDL designation, a dental laboratory is always monitoring and attempting to improve the quality and efficiency of their services and facilities.

A laboratory may seek certification in up to five specialties, including Complete Dentures, Partial Dentures, Crown & Bridge, Ceramics and Orthodontics.

GOVERNMENT REGULATIONS

The authority of state governments to regulate the health professions is well established. Every state in the nation has exercised its authority over dental health services by enacting a Dental Practice Act, which establishes the basic relation between the dentist and the dental technician or commercial dental laboratory. In general, these acts state that the manufacture and repair of dental prosthetic appliances are included in the definition of the practice of dentistry and that no unlicensed person may engage in any phase of such manufacture or repair unless it is at the direction of a licensed dentist. The required "direction" normally means the written dental prescription or work authorization of the dentist. The nature and format of the prescription is spelled out in varying degrees of detail by the different state Dental Practice Acts.

All state dental practice laws specify the functions which the dentist may perform, and the conditions under which he or she may perform them. Any unlicensed person found to perform these functions directly for the public is engaged in the illegal practice of dentistry.

During the past few decades, additional regulations have been imposed on dental laboratories in the form of occupational health and safety laws. These laws deal with the requirement for employers to provide safe and healthy workplaces for their employees, and they are promulgated and administered both by federal (the Occupational Safety and Health Administration or OSHA and the United States Food and Drug Administration or FDA) and state agencies.

While there are fewer than half a dozen states having more specific regulatory legislation governing the operation of a commercial dental laboratory, there has long been a segment of the laboratory industry desiring the enactment of registration or licensing laws.

Dental laboratory owners and managers must also be aware of applicable state and local laws (zoning, taxation, etc.) which apply to all businesses.

Eligibility, Requirements & Standards

ELIGIBILITY

To be eligible for certification, a laboratory must be actively engaged in manufacturing prosthetic devices or appliances according to prescriptions or work authorizations from legally authorized sources. Certification shall apply only to the applicant laboratory, its facilities and personnel. It should not be stated or implied that certification extends to branch offices or associated facilities or services. Branch offices desiring certification must make separate application. To be eligible to become a Certified Dental Laboratory, a laboratory must meet all applicable standards outlined under the General Requirements (below), Personnel Standards (page 10), Infection Control Standards (page 10) and Specialty-Specific Facility Standards (page 11).

The Certified Dental Laboratory (CDL) program was created to promote and maintain a recognition that will assist dental laboratories in their continuing efforts to improve the quality and efficiency of the dental team's service to the public. This is accomplished by:

- promoting a means for identifying dental laboratories which meet specific standards established for the certification program; and
- encouraging dental laboratories to improve the quality and efficiency of their services and facilities.

The certification process includes the establishment and enforcement of minimum acceptable standards. CDLs must demonstrate compliance with requirements pertaining to:

- the competency level of personnel;
- infection control processes;
- equipment to manufacture dental prosthetic appliances;
- safety of the employees;
- the physical facility;
- product labeling requirements;
- billing and re-work policies;
- quality assurance procedures; and
- staff training and certification.

REQUIREMENTS FOR ALL SPECIALTIES

GENERAL REQUIREMENTS

The owner/manager of a Certified Dental Laboratory has the responsibility for complying with OSHA or the prevailing jurisdiction's occupational health and safety laws as well as state and local laws and codes pertaining to the conduct of business. For detailed information, please refer to OSHA standards. Some have been specifically referenced within the requirements for your convenience.

It should be kept in mind that overcrowding or inadequate equipment are factors which are contrary to the CDL program's objectives. The location of equipment must be conducive to safe utilization. Safety devices and equipment must be installed and functional. There should be within the laboratory written policies and procedures for the management of emergency situations.

All equipment with moving parts must be well guarded to prevent an employee's hands, clothing, hair, etc. from entering the equipment and causing an injury. Examples of this type of equipment

continued...

Eligibility, Requirements & Standards, continued.

can include, but are not limited to, polishers, lathes, model trimmers, grinding equipment, compressor belts, etc. This equipment, if producing flying particles, should have direct exhaust to minimize these particles from entering the employee's breathing zone and/or getting into their eyes. 29CFR 1910.212.

The general requirements of the Certified Dental Laboratory program are as follows:

1. Physical Facility Requirements:

- a. Appropriate first aid kit(s) must be readily accessible and regularly maintained. First aid kits must be OSHA compliant which includes the restriction of non-prescription medication such as aspirin, ibuprofen, cough syrup, etc. Supplies in the kit should only be for injuries of a minor nature that are reasonably anticipated to occur at the lab. If there is a potential for blood or body fluid exposure gloves, gowns, face shields, masks, one-way and eye protection must be provided. 29CFR 1910.151;
- b. Emergency equipment must be provided, inspected regularly and maintained in proper working conditions at all times. This includes providing an emergency eyewash station that is ANSI approved and is located to provide immediate access to all employees per OSHA 29CFR 1910.151(c);
- c. Emergency fire blanket(s) and fire extinguisher(s) must be readily accessible and regularly maintained. The fire blanket should be stored in an easily accessible location in the area(s) of the lab with the greatest potential for fire. Employees must be trained on its use and storage location. Fire extinguishers must be wall-mounted at a height easily accessible to all employees, in enough locations to provide coverage throughout the facility and in all places where fire hazards exist. An "ABC type" in general will suffice, or special purpose type may be utilized if the need exists. All fire extinguishers and blankets should be marked with signage above them so that one can look out over the lab and easily identify their locations. All employees must be trained on how to use them properly. Extinguishers must be inspected monthly to ensure they are fully charged and inspected annually by the extinguisher manufacturer. 29CFR 1910.157 and 29CFR 1910.39;
- d. Exit and other cautionary signs must be posted as necessary. Fire exit routes and exits must be clearly marked and posted so that the exits are clearly visible regardless of where an employee is standing in the facility. Doors that are locked, but lead to the outside must be marked "Not An Exit", as well doors that automatically shut or stay shut along an exit route. For more information, refer to OSHA standard 29CFR 1910.36 and your local/state Fire Marshall;
- e. There must be access to emergency shut-off of gas supply(ies). The location of the emergency gas shutoff needs to be posted and communicated to applicable persons in the lab should the need arise to access it. This can also be designated on the evacuation map. 29CFR 1910.39, Subpart E;
- f. Adequate lighting must be provided so that the employee can comfortably and properly see to perform those tasks requiring customer shading and use of a magnification lens;
- g. Overall safe and orderly housekeeping must be evident. The lab's overall cleanliness above and beyond what is covered for infection control should include aisles being kept clear, no blocked doors, ceiling tiles intact, no holes in ceilings or walls, no excessive or obvious dust issues, adequate and working restrooms and hand-washing facilities, adequate lighting for the tasks being performed, all chairs in good working order and a climate that is comfortable. Smoke from smoking areas cannot enter the building and break areas must be cleaned daily (including dirty dishes). All trash must be removed regularly to prevent buildup;

- h. Acids must be safely and securely stored and labeled. Where acids are used in the laboratory, the containers of such must be labeled with hazard warnings (Acid – Corrosive – may cause burns to skin, eyes, lungs). Waste containing acids must be disposed of per local, state and federal regulations. Acids must not be stored near flammable products. They should be stored in a secondary plastic container and the lab should have an acid spill kit dependent on the size of a potential spill. Employees must be trained on the PPE required when using the acid (chemical goggles if there is a splash potential, otherwise safety glasses and neoprene gloves), how to recognize the appearance of an acid spill, how to clean it properly, how to access the MSDS, and how to dispose of it properly. 29CFR 1910.1200; and
- i. A specific location must be provided for effective infection control, with appropriate equipment & materials (including running water supply). The receiving area where all incoming cases are opened must be equipped with the means to properly disinfect any items that have been in a patient's mouth per the manufacturer of the EPA-registered disinfectant in use. A wet sink should be provided to allow for proper removal of gross contamination and employee hand-washing, plus a large trash can with liner to hold packing materials that may be contaminated. There should be posted procedures for standard protocols and disinfection practices. 29CFR 1910.1030.

2. Equipment Requirements:

- a. There should be local, direct exhaust over all burnout, casting and/or boilout areas, providing direct ventilation to the outdoors. This exhaust will remove high heat produced from this equipment and provides better air quality to employees by the removal of odors, smoke, etc. to the outdoors. The local, direct exhaust should be located within 18" of the source equipment in order to effectively remove heat, smoke or odors. The installation of a chimney can help in directing the exhaust in many instances. If no local exhaust is provided, the lab must demonstrate that their ventilation system is effective in providing safe and healthful working conditions in areas where this equipment is used, i.e. air sampling data, high number of air changes per hour based on square feet of applicable area, etc.;
- b. Gas and oxygen cylinders must be safely secured. Oxygen compressed gas cannot be stored with flammable gases (i.e. propane, acetylene, etc.) unless properly separated. They must be separated by a 30 minute fire barrier or a physical separation of at least 20 feet. The barrier must extend 18" above the top of the canisters and 18" beyond the sides. Also, canisters must be stored in an upright position, marked as "full" or "empty", and secured so that they cannot be knocked over. They may be secured through the usage of a constructed canister holder or chaining the canisters to a wall or building structure. 29CFR1910.253;
- c. Finishing and polishing equipment must have suction devices to prevent the accumulation of dust in the workplace and in the worker's breathing zone;
- d. Evacuation must be in use with air abrasion units. Abrasive blasting units must be equipped with exhaust units to provide a continuous inward flow of air while in operation. Blasting equipment must be kept in good condition at all times including no torn or missing cuffs, no leakage of blasting medium and a means to ensure that there is no pressure build-up inside the cabinet. Some state OSHA plans may require abrasive blasting cabinets be checked periodically for static pressure drops. Labs under a state OSHA plan will need to clarify their ruling on the ventilation standard and whether it applies in their particular case. 29CFR 1910.94(a);
- e. Evacuation of fumes is required from monomer and polymer areas. Hazardous vapors produced from the use of monomers and polymers should be evacuated from the employees' breathing zone through mechanical exhaust. The exhaust should be as close to the source as possible and should be directed away from the employee. Bunsen burner use should be done under caution due to the presence of flammable vapors. 29CFR 1910.39.;

continued...

Eligibility, Requirements & Standards, continued.

- f. Casting well(s) must be made of non-flammable materials, as well as all lubricants, cleaners, etc. used on the equipment. This includes any product that contains a propellant which can get trapped in the well and ignite when heated. Proof of compliance can be demonstrated by posting a sign on the machine or in close proximity to it, plus showing documentation that employees have been trained on this safety precaution;
- g. Suppressors are required on all air nozzles. All air nozzles used for cleaning purposes must be regulated at a maximum of 30 psi and/or fitted with safety suppressor nozzles. 29CFR 1910.242(b); and
- h. Personal Protective Equipment (PPE) must be available and in use, especially eyewear.

3. Managerial Requirements:

- a. Infection control actively practiced;
- b. Proper prescriptions and work authorizations must be documented;
- c. Re-Make Warranty Policies must be written and followed;
- d. Billing policies must be written and followed;
- e. Staff Certification and training meets or exceeds state and federal government requirements;
- f. Quality assurance procedures must be in place to ensure that the laboratory meets or exceeds FDA standards;
- g. Product labeling requirements must be established and in use, including:
 - the use of an existing system (such as Identalloy) for alloys; and
 - the disclosure of other brand specific products (such as pressable ceramics, Zirconia frame materials, veneering porcelains, denture teeth, etc.); (From a dentist's perspective, the use of prescribed ingredients such as noble metals is of primary importance, not the brand of ceramics used.)
 - a statement of disclosure regarding country of manufacture (such as "Components made in Mexico and in the U.S.A." or "Made in the U.S.A.")

Once certified, a CDL must have both the CDL and CDT certificates on display within their facilities, and should refer to the certification of the laboratory and its personnel on letterhead, business cards and other business forms, documents, advertisements and publications as may be appropriate.

PERSONNEL STANDARDS

In each specialty for which certification is requested, all work must be done in cooperation with a Certified Dental Technician(s) holding current certification in that specialty. Each CDT must facilitate the technical work of not more than fifteen (15) non-certified technicians employed in the respective specialty.

INFECTION CONTROL STANDARDS

To qualify for certification, a laboratory must routinely practice a responsible infection control process as outlined below.

Personnel: Key personnel must learn about materials and processes required for effective infection control. Staff must use Personal Protective Equipment (PPE). Training may be obtained

through certified completion of the Online Infection Control Seminar (published by the National Association of Dental Laboratories) — or documented participation in other programs presented by qualified personnel.

Facility: Certified Dental Laboratories are required to stock and utilize disinfecting agents that meet the infection control guidelines established by the Centers for Disease Control. A CDL must have a location that includes a receiving area and is clearly equipped and utilized for disinfecting procedures for both incoming and outgoing case materials. There must also be evidence of proper handling of pumice, packing and laboratory instruments and equipment.

Process: All CDL's must have a written protocol for infection control procedures posted in the laboratory. The following model is considered to be the minimum acceptable standard.

1. Wear latex utility gloves to handle incoming packages.
2. Discard disposable packing material; disinfect reusable containers.
3. Rinse impressions, dentures, try-ins, repairs, etc.
4. Soak or spray all items with an acceptable disinfectant such as dilute iodophor or sodium hypochlorite solution.
5. Treat finished case with an acceptable disinfectant; label the packaging to indicate use of disinfectant (using manufacturers' labels or special CDL seals*).
6. Clean and disinfect all work stations and shipping/receiving bench at least daily.
7. Use separate pumice for new cases and repairs; replace pumice at least daily; mix with iodophor; use disposable plastic liner.
8. Soak brushes, rag wheels, etc., overnight in iodophor or sodium hypochlorite.
9. CDLs which see patients on the premises for the purpose of shade verification must follow accepted clinical infection control procedures.

SPECIALTY-SPECIFIC FACILITY STANDARDS

CDLs must illustrate that specialty-specific facility standards have been met. This is accomplished through photographs that illustrate acceptable technical resources (well maintained and functional) in their respective specialty areas as follows:

COMPLETE DENTURES

- processing equipment;
- presses and denture flasks;
- finishing and polishing equipment (see the infection control requirement as it relates to the handling of pumice);
- hand instruments and articulators;
- equipment for preparation of casts; and
- boilout and curing area.

PARTIAL DENTURES

- burnout and casting area;
- finishing and polishing equipment;
- hand instruments;

continued...

* *Once certified, a laboratory can purchase these seals from the NBC.*

Eligibility, Requirements & Standards, continued.

- equipment for preparation of casts;
- surveyors and articulators; and
- casting wells made of of non-flammable materials.

CROWN & BRIDGE

- equipment for manufacturing casts and dies;
- burnout and casting area, with casting wells made of of non-flammable material;
- finishing and polishing equipment;
- hand instruments, surveyors and articulator; and
- equipment for processing crowns and bridges.

CERAMICS

- equipment for manufacturing casts and dies;
- burnout and casting area, with casting wells made of non-flammable material;
- finishing and polishing equipment;
- hand instruments, surveyors and articulators; and
- equipment for processing, including porcelain furnace(s).

ORTHODONTICS

- processing equipment;
- welding and soldering equipment;
- finishing and polishing materials and equipment;
- hand instruments and articulators; and
- equipment for preparation of casts.

RECOMMENDED PRACTICES

While not mandated to achieve the CDL designation, the following practices are strongly recommended for all Certified Dental Laboratories. A CDL:

- should have written guidelines for monitoring equipment calibration and maintenance;
- should address and document customer complaints and complaint resolution — in writing;
- should have a process to trace materials used in appliances; and
- should have a tracking mechanism for internal and external remakes.

GLOSSARY OF TERMS

The following definitions apply to terms used in this manual for certification purposes. Further explanations are provided under Requirements for All Specialties starting on page 7.

Equipment for manufacture of casts and dies:

This includes equipment such as model trimmers, vibrators, plaster bins, dowel pins, saws and other equipment necessary to manufacture models and/or dies.

Exit signs:

An approved "Exit" sign or signs must be clearly posted at all exits from the facility. Other cautionary signs (such as "not an exit," "danger") should be posted as is appropriate for the laboratory. This requirement applies to all laboratories regardless of size or location.

Finishing and polishing equipment:

These include handpieces and lathes equipped with proper shielding and/or evacuation devices.

Fire extinguisher:

One or more fire extinguishers must be located appropriately for the facility, and must meet either OSHA or state or local regulations regarding its type.

Gas and oxygen cylinders secured:

All potentially explosive tanks must be safely secured by chains or other non-resilient methods of restraint in an upright position.

Hand instruments:

This includes instruments such as spatulas, waxers, brushes, pliers and mallets which are necessary to perform the functions normally associated with the respective specialty area.

Local, direct exhaust:

Local, direct exhaust is one which targets a specific area such as burnout, boilout and/or casting, and has direct discharge to the outside from all working areas via a hood and fan system.

Materials:

All materials used in manufacture of dental prosthetic appliances and devices must comply with standards set by the American Dental Association (unless no standard exists).

Overall housekeeping:

All areas of the laboratory must meet minimum standards of acceptable cleanliness and sanitation. Dirt, dust and clutter should not be evident.

Prescription forms and work authorizations:

All forms must comply with and be maintained in accordance with the laws or regulations of the prevailing jurisdiction.

Processing equipment:

This includes all equipment necessary to perform the functions normally associated with the respective specialty area.

Suction:

All areas in the laboratory where finishing or polishing of alloys, plastics, ceramics, or acrylics is accomplished must be supplied with a suction system that effectively evacuates any particles from contact with the technician and immediate surrounding area.

Suppressors on air nozzles:

Compressors shall not be used for cleaning purposes except where reduced to less than 30 psi, and then only with effective chip guarding and Personal Protective Equipment. An air gun or nozzle is considered suppressed when the air is DEAD-ENDED and the flow is diverted.

continued...

How to Become a Certified Dental Laboratory

CERTIFICATION

Certification is the professional standard in dental laboratory technology. It is the means for the dental profession, the dental laboratory industry, and all others with an interest to identify dental technicians and dental laboratories that have demonstrated their technical qualifications and their commitment to maintaining high standards in dental technology.

The Certified Dental Laboratory (CDL) provides assurance that a laboratory has met specific standards relating to quality assurance and safe business and manufacturing practices. By earning and maintaining the CDL designation, a dental laboratory is always monitoring and attempting to improve the quality and efficiency of their services and facilities.

Certification is a national program. Since it is voluntary, it represents not only compliance with documented standards but a desire to be an industry leader with a commitment to quality and professionalism.

The CDL is recognized by the National Association of Dental Laboratories (NADL), the American Dental Association (ADA) and the American College of Prosthodontists (ACP). It also receives outstanding support and participation from US military services.

For those whose laboratories are CDLs, the certification program offers:

- an incentive to increase quality and efficiency;
- criteria for maintaining facility and management standards;
- improved business opportunities;
- peer recognition;
- enhanced professional visibility; and
- a built-in marketing program through NBC to dentistry professionals.

For those who work with CDLs, certification offers:

- an enhanced perception of the value of laboratory services;
- increased respect for extra effort required to obtain and retain certification;
- assurance that quality and safety standards are important in your laboratory; and
- confidence that your laboratory offers specific expertise in your specialty area.

FEES

Initial Application (includes one Independent Review)	\$ 200.00
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Annual Renewal	\$ 150.00
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Five Year Revalidation Application (includes one Independent Review and Annual Renewal fee for that year)	\$ 200.00
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Late Fees (applies for Renewal and Revalidation Applications)	
Within one year	\$ 25.00
Between 1 and two years	\$ 75.00
After two years	N/A - must reapply
<hr/>	
Additional Independent Review <i>(May be required if additional documentation is needed for certification. Mandatory when adding additional specialties and if laboratory is relocated or remodeled. Occasionally, multiple reviews may be required.)</i>	\$ 50.00 each

APPLICATION PROCESS

Applications for laboratory certification are provided in the back of this handbook, on the NBC website and upon request from the NBC National Headquarters. They are also available at many state and regional dental laboratory meetings.

Information requested on the application includes basic identification of the laboratory and its principal(s) and an affidavit attesting to the legal and ethical operation of the business. The CDTs involved in production/quality control in each specialty must be named, and a checklist will assist the applicant in taking photographs to effectively document the laboratory's compliance with CDL facility standards.

If the laboratory owner/manager so desires, electronic documentation may be submitted in lieu of traditional photographs. Such documentation should not identify the laboratory or laboratory employees. The camera must focus clearly on each of the requirements designated on the photographic checklist; narration is optional, but some sort of labeling must be utilized to correspond with the Photographic Checklist.

The application and photographic documentation, accompanied by the application fee, are submitted to NBC Headquarters. Once received, the application is checked to ensure completeness and photographic documentation is compared to the application checklist by the NBC Staff. The current certification of designated personnel is verified.

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CDL Handbook and Application

How to Become a Certified Dental Laboratory, continued.

At this point, if omissions are noted, applicants are offered the opportunity to submit additional information or photographs prior to the application review. If the materials received are complete and CDTs are verified, the laboratory is notified of the preliminary receipt of its application. The application is then sent to a contracted independent reviewer for evaluation. After the independent review is completed, the application and any resulting notes or comments are sent back to the NBC Staff.

Every effort shall be made to ensure that the reviewer and Trustees are not informed of the identity of the laboratory being reviewed.

If certification is granted, the NBC Staff will print and mail a new CDL packet to the laboratory.

If the application is rejected, due to missing information, pictures or requirement insufficiencies, the applicant will be contacted by the NBC Staff and asked to submit additional information or proof, or to make and document the necessary changes. The modified application is again evaluated by the NBC Staff and the independent reviewer. A fee will be assessed for every re-evaluation by the independent reviewer that is required.

If an application is still rejected after re-evaluation, it may be presented to the full NBC Board of Trustees for a determination. If the full Trust rejects the application, a letter stating the reasons will be sent to the applicant.

Once certified, a CDL may purchase duplicate or replacement certificates for a \$25 administrative fee.

Initial Application	\$200 (includes initial Independent Review)
Additional Independent Review(s)	\$50 each
Duplicate/Replacement Certificate	\$25

ANNUAL RENEWAL

The CDL Certification is renewable annually. All renewals are due in either June or December, depending upon the date of initial certification. Renewal applications are mailed to CDLs by NBC on a timely basis.

The basic requirements for renewal are the maintenance of the prevailing standards for certification and payment of the fee. (Specified time periods are allowed for Certified Dental Laboratories to come into compliance with any new standards adopted subsequent to the issue of the laboratories' initial certification.)

If renewal is granted, the NBC Staff will print and mail notification and the appropriate materials.

If the application is rejected, the NBC will send the applicant a letter noting the deficiencies. Once rectified, the application and its supporting documentation are evaluated again and a determination is made concerning the necessity of an independent review. An independent, third-party review may be required if a CDL renewal application has been rejected and resubmitted with additional information and/or photographic documentation. If an application requires a new review by the independent reviewer, an additional fee will be assessed.

A CDL can add additional specialties to its certification at the time of its annual renewal by submitting the new information on the Renewal Application together with departmental photographs and the identification of the CDT involved in the additional specialty(ies). If an additional specialty is to be added during renewal, an independent review will be required and an additional fee will apply.

If a CDL has allowed their certification to expire due to delinquency, the Renewal Application must be submitted with a \$25 late fee if the lapsed period is less than one year. If a CDL has lapsed for more than one year but less than two years, the Renewal Application must be submitted with an increased late fee of \$75. If a CDL has lapsed for more than two years, the laboratory must reapply as if it were a new applicant.

Annual Renewal	\$150
Independent Review (if required) (Mandatory if adding additional specialties)	\$50 each
Late Fee (If renewing within one year)	\$25
Late Fee, 1 to 2 years (If renewing after more than a year)	\$75

REVALIDATION

Every five years, a complete review is required to ensure continual compliance with the CDL program requirements and new industry safety or regulatory standards. A Revalidation Application will be sent to your laboratory by the NBC Staff with instructions at least 90 days before it is due.

The revalidation process is similar to the initial application process. CDLs must demonstrate ongoing compliance with requirements pertaining to employee safety and education, physical facility equipment and processes, quality assurance procedures, policies for billing and re-work circumstances and others.

Once received, the Revalidation Application is checked to ensure completeness by NBC Staff. The continued certification of designated supervisory personnel is verified. An independent review is required for Revalidation Applications. If a second independent review is required, an additional fee will be charged.

Revalidation Application	\$200 (includes initial Independent Review)
Additional Independent Review (if required)	\$50 each
Late Revalidation Fee	
Within one year	\$ 25.00
Between 1 and two years	\$ 75.00
After two years	N/A - must reapply

continued...

How to Become a Certified Dental Laboratory, continued.

CHANGES IN LABORATORY AFTER CERTIFICATION

Any changes in the number of laboratory personnel or facilities must be reported with the next Renewal Application. Significant changes in the facility (remodeling or relocation) will require new photographic documentation which should be submitted with the renewal application. There is a possibility that a new independent review will be required. If so, an additional fee will be assessed. Changes in certified personnel must also be reported on the renewal application.

In the event that a laboratory should lose one or more of the CDTs designated in fulfillment of the CDL personnel requirement, the Board will allow a reasonable amount of time for the employment of another CDT or the certification of a current employee. The time allowance will be arranged on an individual basis in cooperation with the individual laboratory.

Independent Review (if required) \$50 each

PHOTOGRAPHIC DOCUMENTATION

Your CDL Application must include photographic documentation which clearly illustrates your laboratory's compliance with the CDL standards. This documentation may be submitted in print or electronic formats. If submitted electronically, acceptable formats include Adobe PDF, .tifs, .jpps and .ppts. If compression is required for email, WinZip must be utilized.

Photographs may be black-and-white or color and of a size and type which will yield sufficient detail for examination. The specific areas and resources that must be illustrated are listed on the application. A Photographic Checklist is provided to facilitate the process and prevent omissions.

Each required illustration is numbered. Documentation must include labels which correspond to the list. For example, the number "2-A" should appear on the front of the photograph that shows your local, direct exhaust or a narrator may say "This portion demonstrates our compliance with requirement 2-A." Compliance with more than one requirement may be shown in each photograph. Examples may be found on the NBC website at www.nbccert.org/CDL/.

Photographic documentation submitted becomes the property of the National Board for Certification in Dental Laboratory Technology and is not returnable. The Board reserves the right to make use of these materials in furtherance of the purposes and promotional activities of the CDL program.

Examples may be found on the NBC website at www.nbccert.org/CDL/.

DISCLAIMER

The National Board for Certification in Dental Laboratory Technology does not warrant the efficacy or acceptability of restorations or appliances manufactured in Certified Dental Laboratories. Experience shows, however, that laboratories which submit to voluntary certification through the CDL program are at the forefront of their profession.

**CERTIFIED
DENTAL
LABORATORY**



Certified Dental Laboratory Application

INSTRUCTIONS

The National Board for Certification in Dental Laboratory Technology welcomes your application for certification of your laboratory. For prompt review of your application, please read the following instructions:

1. Utilize the Application Packet Checklist (page 26) to assist in the preparation of your application packet.
2. Be sure to print all information clearly and complete all eight sections.
3. Remember to include documentation of product labeling systems, re-work warranty policies and staff training.
4. Follow the Photographic Checklist (page 24) carefully and remember to label or number your photographs to correspond to the checklist. (For example, the photograph(s) showing your infection control area would be labeled "1-I" — and if the same photograph includes your first aid kit it could also be labeled "1-A".)
 - a. If you choose to use video instead of photographs, please submit only DVD format. Labeling may be accomplished through narration or videoed labels or signage. Be sure to relate the application compliance number to the item being recorded, such as "This is the first aid kit per 1-A."
 - b. Do not mount photographs in any way.
 - c. Do not write on the reverse of the photographs; no labels or words on the reverse of the pictures will be visible at the time of the review.
 - d. Do not show or state the name of your laboratory. The laboratory must be anonymous to the reviewers.
5. Allow two to four weeks for initial processing of your application.
6. Remember that annual renewal of laboratory certification requires maintaining compliance with all applicable CDL standards, and that a Revalidation Application will be required every five years.

CDL Application

For Office Use Only:	Sent to Reviewer _____
Candidate Lab# _____	Approved _____
Received _____	Not Approved _____
Verified Complete _____	Provisional Approval _____

I. APPLICANT INFORMATION

Name of Laboratory _____

Contact Name (Individual Submitting Application) _____

Contact E-mail _____

Laboratory Street Address _____

City _____ State _____ Zip _____

Phone _____ FAX _____

Website (if applicable) _____

Manager _____

Owner (Individual(s) or Parent Company) _____

Address of Owner (if different from above) _____

City _____ State _____ Zip _____

Number of years in business under this name _____

Number of years in business at this location _____

Number of employees at this location _____

Number of CDTs at this location _____

Total number of technicians/production employees at this location _____

Please Note: This application pertains only to the physical facility described above. Branch laboratories or subsidiaries of the laboratory named must be submitted on separate applications if desirous of certification.

II. LEGAL REQUIREMENT

Does this laboratory comply with OSHA or the prevailing jurisdiction's occupational health and safety laws, as well as state and local laws and codes pertaining to the conduct of business?

Yes No

Does this laboratory meet or exceed all applicable state or federal certification and training requirements for laboratory owners and/or staff?

Yes No

Has any principal or employee of this laboratory been convicted of the illegal practice of dentistry or any illegal business practice in the last 36 months?

Yes No

Are there charges related to the practice of dentistry or the business operation of the laboratory presently pending in any court against the laboratory or any of its principals or employees?

Yes No

If YES, please explain: _____

III. INFECTION CONTROL

Please provide the following information for all infection control training within the last twelve months:

Instructor(s) or source(s): _____

Title(s): _____

Date(s): _____

IV. WRITTEN DOCUMENTATION

A: Product Labeling Requirements (attach examples and use additional sheets if necessary)

Identify and describe the system used for labeling alloys (such as Identalloy):

Describe how records are maintained for other brand-specific products used (such as pressable ceramics, Zirconia frame materials, veneering porcelains, denture teeth, etc.):

Describe the system used for disclosing country of manufacture:

B: Policies

Please provide a copy of written policies regarding re-work warranties. Indicate submission format below:

Digital (Format: _____) Traditional (Paper copies)

C: Staff Training

Please provide a copy of written policies regarding staff training and certification. Indicate submission format below:

Digital (Format: _____) Traditional (Paper copies)

continued...

CDL Application, continued.

V. PHOTOGRAPHIC DOCUMENTATION

Please indicate the type of photographic documentation submission accompanying this application:

- Digital (Format: _____) Traditional (Snapshots)

If any photos are omitted, please indicate which by number and include an explanation:

VI. SPECIALTIES

Please check below the specialty or specialties **for which certification is being sought:**

- Complete Dentures Partial Dentures Crown & Bridge Ceramics Orthodontics

Complete the appropriate specialty section(s) below for the specialties identified above.

A: Complete Dentures

Name of the Certified Dental Technician involved in production/quality control:

_____ CDT Number: _____

This CDT must be certified in the Complete Dentures specialty by the National Board for Certification in Dental Laboratory Technology.

How many technicians or production workers employed in the manufacture of Complete Dentures are assisted by this technician? _____

List all other Certified Dental Technicians employed in the manufacture of Complete Dentures:

B: Partial Dentures

Name of the Certified Dental Technician involved in production/quality control:

_____ CDT Number: _____

This CDT must be certified in the Partial Dentures specialty by the National Board for Certification in Dental Laboratory Technology.

How many technicians or production workers employed in the manufacture of Partial Dentures are assisted by this technician? _____

List all other Certified Dental Technicians employed in the manufacture of Partial Dentures:

C: Crown & Bridge Specialty

Name of the Certified Dental Technician involved in production/quality control:

_____ CDT Number: _____

This CDT must be certified in the Crown & Bridge specialty by the National Board for Certification in Dental Laboratory Technology.

How many technicians or production workers employed in the manufacture of Crown & Bridge restorations are assisted by this technician? _____

List all other Certified Dental Technicians employed in the manufacture of Crown & Bridge restorations:

D: Ceramic Specialty

Name of the Certified Dental Technician involved in production/quality control:

_____ CDT Number: _____

This CDT must be certified in the Ceramic specialty by the National Board for Certification in Dental Laboratory Technology.

How many technicians or production workers employed in the manufacture of Ceramic restorations are assisted by this technician? _____

List all other Certified Dental Technicians employed in the manufacture of Ceramic restorations:

E: Orthodontic Specialty

Name of the Certified Dental Technician involved in production/quality control:

_____ CDT Number: _____

This CDT must be certified in the Orthodontic specialty by the National Board for Certification in Dental Laboratory Technology.

How many technicians or production workers employed in the manufacture of Orthodontic devices are assisted by this technician? _____

List all other Certified Dental Technicians employed in the manufacture of Orthodontic devices:

Indicate all other specialty services offered by the laboratory:

- Complete Dentures Partial Dentures Crown & Bridge Ceramics Orthodontics

VII. AFFIDAVIT

Statement: In applying for certification, I understand that this laboratory will be made available for inspection by the National Board for Certification in Dental Laboratory Technology and its agents to verify information submitted on this application and/or to determine the laboratory’s compliance with established certification standards.

I attest by my signature below that all information provided in this application is correct, accurate and complete to the best of my knowledge; that the photographs or videos submitted are actual and representative; and that this laboratory is and will continue to be operated in full compliance with the stated federal laws governing the operation of a dental laboratory, and the conducting of business in the state and community in which the laboratory is located.

Applicant’s Signature _____ Date _____

VIII. APPLICATION AND CERTIFICATION FEE

A **\$200 fee** covers the initial application process, one independent review and one year of certification. Payment must be enclosed with the application.

Enclosed is Check # _____ in the amount of \$ _____ payable to the NBC.

Please charge my credit card VISA MC AMEX Amount \$ _____

Credit Card Number _____ Exp. _____ CCV Code * _____

Cardholder Name _____

Signature _____

Billing Address _____

Phone _____

* Credit Card Verification (CCV Code): This is the 3-digit number that appears on the reverse side of your credit card. For American Express cards only, this is the 4-digit number on the front of your card.

CDL Application, continued.

Photographic Checklist

Your CDL Application must include photographs or videos which clearly illustrate your laboratory's compliance with the CDL standards. The specific areas and resources that the reviewer must be able to verify are listed below. Each requirement is numbered; please label your photographs or video with the numbers corresponding to this list. For example, "2-A" should appear on the front of the photograph that shows your Local, direct exhaust. There may be more than one requirement illustrated in each photograph. Photographs are also mandated if your laboratory moves or has significant structural or organizational changes.

Photographs and videos submitted with your CDL application become the property of the National Board for Certification in Dental Laboratory Technology and are not returnable. The Board reserves the right to make use of the photographs or videos in furtherance of the purposes and promotional activities of the CDL program.

Identifying information should be removed or omitted from photos as much as possible. Every effort shall be made to ensure that the reviewer is not informed of the identity of the laboratory being reviewed.

Please refer to the Requirements for All Specialties, starting on page 7 for clarification on specific items.

GENERAL REQUIREMENTS (mandatory for all applications)

1. Physical Facility Requirement

- A. OSHA-compliant first-aid kit(s) — opened and shown fully stocked
- B. Immediately accessible ANSI-approved eyewash station
- C. Fire extinguisher(s) and fire blanket immediately available in work area and marked with signage
- D. Exit and other cautionary signs as appropriate for the facility
- E. Emergency gas shut-off (access to gas control) available for laboratory facility
- F. Adequate lighting
- G. Overall acceptable "housekeeping" (neatness and cleanliness)
- H. Safe provision and labeling for any acid(s) in the laboratory, with posted caution signs and appropriate protective devices for ordinary use
- I. An infection control area that includes appropriate equipment and materials (including wet sink) for effective infection control processes, a receiving area and evidence (posting) of standard protocol and instructions

2. Equipment Requirements:

- A. Local, direct exhaust over all burnout, casting and/or boilout areas, providing exhaust to the outdoors or evidence of an effective ventilation system providing removal of high temperatures, smoke and odors produced by this equipment.
- B. Oxygen and other gas cylinders, if present in the laboratory, must be shown to be safely secured and stored in an upright position
- C. Finishing and polishing equipment with suction, shielding and/or other safety apparatus as required by OSHA or prevailing jurisdiction
- D. Evacuation in use with air abrasion units

- E. Evacuation of fumes from monomer and polymer areas
- F. Casting well(s) made of non-flammable materials
- G. Suppressors on air nozzles
- H. Staff utilization of Personal Protective Equipment (PPE)

3. Managerial Requirements:

- A. CDT and other credentials displayed in the laboratory

The documentation outlined below needs to be submitted only for the specialties in which your laboratory is seeking certification.

COMPLETE DENTURES

- 4.** Equipment for processing complete dentures
- 5.** Presses as required for packing and curing
- 6.** General view of production area; workbenches, articulators, hand instruments and materials required for the manufacture of complete dentures

PARTIAL DENTURES

- 7.** Equipment for processing partial dentures
- 8.** Burnout equipment
- 9.** Casting equipment (safely mounted in well)
- 10.** General view of production area showing workbenches, surveyors, hand instruments and materials required for manufacturing partial dentures

CROWN & BRIDGE

- 11.** Model and die preparatory area
- 12.** Equipment for processing crown & bridge restorations
- 13.** Casting equipment (safely mounted in well)
- 14.** General view of production area showing workbenches, articulators, hand instruments and materials required for manufacturing crown & bridge restorations

CERAMICS

- 15.** Model and die preparatory area
- 16.** Equipment for processing ceramic restorations (including porcelain furnace(s))
- 17.** Casting equipment (safely mounted in well)
- 18.** General view of production area showing workbenches, articulators, hand instruments and materials required for the manufacture of ceramic restorations

ORTHODONTICS

- 19.** Equipment for processing orthodontic devices
- 20.** General view of production area showing workbenches, hand instruments and materials required for manufacturing orthodontic devices

Application Packet Checklist

Your CDL Application Packet will be checked when received by NBC to ensure completion and accuracy. Please ensure that the following items have been considered or included:

1. A COMPLETED APPLICATION

- A. Section 6 should include information for any specialties in which you would like to have your laboratory certified, including CDT numbers
- B. Make sure to clearly indicate the individual contact
- C. Don't forget to sign the affidavit in section 7

2. WRITTEN DOCUMENTATION

- A. Example of alloy labeling system
- B. Example of brand-specific records
- C. Example of "country of manufacture" labeling
- D. Copies of re-work and warranty policies
- E. Copies of staff training and/or certification policies

3. PHOTOGRAPHIC DOCUMENTATION

- A. Labeled/Numbered. Clearly label your photographic documentation to reflect the items on the Photographic Checklist (page 24)
- B. Identifying information should be removed as much as possible (Every effort shall be made to ensure that the reviewer is not informed of the identity of the laboratory being reviewed)
- C. Any omitted photographs must be explained in section 5

4. PAYMENT VIA CREDIT CARD OR CHECK



Please mail completed application packet to:

NBC, 325 John Knox Road, #L103, Tallahassee, FL 32303
 (800) 684-5310 TOLL FREE • (850) 205-5627 DIRECT • (850) 222-0053 FAX
 www.nbccert.org • CDL@nbccert.org

