

# Quick Tips for the Dental Office



## Radiology

### X-Ray Machine Registration

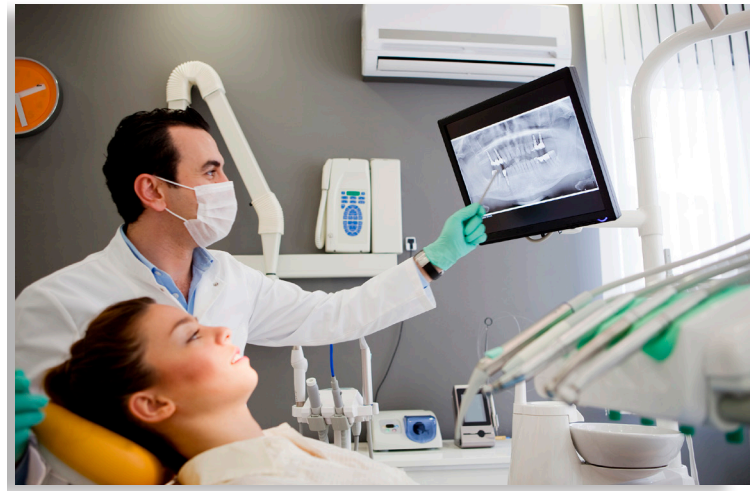
Any person or entity possessing a radiation-producing machine must register with the Department of Environmental Protection (DEP) within 30 days of acquiring the machine. Any change of address, owner, radiation safety officer or number of radiation producing machines requires written notification to DEP within 30 days of the change. Registrants must maintain a written inventory including, at a minimum, the type and location of all radiation producing devices.

**Registration may not be transferred to any other person or entity without approval from DEP.**

Registrants are required to renew their registration each year, and verify the number and type of machines they possess. Machines are inspected by the Department approximately once every four years.

Radiation-producing machines must remain registered with DEP regardless of whether or not they are currently in use. Registration status will only be terminated once a registrant no longer possesses the machine. It is the registrant's responsibility to notify DEP in writing. Machine disposal options include:

- selling the equipment,
- donating the equipment or
- disposal.



Note: X-ray systems manufactured prior to July 2, 1979 may contain oil made with polychlorinated biphenyls (PCBs), which are hazardous in nature. Thus these machines must be disposed of properly. Machines manufactured prior to 1979 must be tested for PCB content prior to disposal, and it is the responsibility of the equipment owner to have the machine analyzed before disposal; the results of the analysis will determine how the equipment may be disposed of.

**Do not smash the X-ray tube. Contents of the X-ray tube may cause injury if the tube is broken.**

The forms needed to register an x-ray machine or terminate a registration can be found on DEP's website at: <http://www.depgreenport.state.pa.us/elibrary/GetFolder?FolderID=3920>.

## Film Badges in the Dental Office

Film Badges are required to be worn in the dental office when an employee:

- Will exceed 10% of the annual adult limit; this equates to 500mR/year for adults or 100mR/year for minors and pregnant women
- Is a minor
- Has declared pregnancy
- Enters a high radiation area; exposed to more than 100mR/hour

**No badging is required if an individual does not meet any of the criteria listed above.**

In instances where badging is required, the party responsible for each radiation source an individual is exposed to is obligated to assure that radiation exposure from sources under their control does not result in an individual exceeding limit requirements. There is no requirement for how often personnel badges must be analyzed, except to say that it cannot exceed one year.

Even though a dental office is not likely to exceed the limit requiring badging, the Bureau of Radiation Protection recommends badging, not only for liability reasons, but also to follow the “As Low As Reasonably Acceptable” (ALARA) Principle.

## Continuing Education

Regulations require that any individual who operates an X-ray machine must maintain continuing education credits in radiology. The course can be any pertaining to radiology, but there are four subject areas that the course must address in order to satisfy regulations:

- radiation safety,
- biological effects of radiation,
- quality assurance and
- quality control.

Employees should obtain radiology related CE every four years. You will need to maintain a record of any continuing education specific to radiology that is obtained by all employees. When DEP inspectors come into your offices to inspect your X-ray equipment, they may ask to see these CE records.

## Authorization to Take X-Rays in the Dental Office

State Board of Dentistry (SBOD) regulations require that dental auxiliary personnel (EFDAs and assistants) must pass the radiological procedure examination adopted by the SBOD prior to taking radiographs in the dental office. Auxiliary personnel are prohibited from taking radiographs prior to passing the exam.

Individuals who hold a license from the state (dentists and dental hygienists) do not require additional authorization to perform radiological procedures. Licensees have already satisfied the general competency requirements through licensure alone.

The examination currently adopted by the board is the *Dental Assisting National Board's Radiation Health and Safety exam*. Auxiliary personnel must first take and pass the exam. Once they have passed the exam, they need to keep a copy of their test scores, as well as provide a copy to their employer(s). They are then permitted to take radiographs in the dental office under direct supervision.

SBOD regulations regarding the performance of radiologic procedures by auxiliary personnel can be found at: <https://www.pacode.com/secure/data/049/chapter33/subchapDtoc.html>.

# Quality Assurance Programs

X-ray machine registrants are required to have a documented quality assurance program that consists of at minimum) the following:

- Repeat Rate
- Diagnostic Reference Levels
- Image recording
- Processing and Viewing
- Image Quality and Artifacts
- Maintenance and Modifications to the Quality Assurance Program

For CT, each study shall be checked, and if artifact is present the registrant shall take corrective action as appropriate.

**Records must be maintained for inspection by the Department for 5 years.**

Additional information regarding quality assurance programs can be found on DEP's website at:

<http://www.depgreenport.state.pa.us/elibrary/GetDocument?docId=1456549&DocName=MINIMUM%20QUALITY%20ASSURANCE%20REQUIREMENTS%20FOR%20HEALING%20ARTS%20RADIOGRAPHY.PDF%20%20%20%3cspan%20style%3D%22color:blue%3b%22%3e%3c/span%3e%205/21/2021.>