

Dental X-ray Inspection Guide

June 2025

Use this list to help your dental facility comply with the updated [Radiological Health Rule](#) that took effect on January 1, 2024. These items will be reviewed during inspection. Be sure to reference the full [Radiological Health Rule](#) for more complete information. The section of the rule that references each inspection item is included.

If you need help accessing or understanding this information, contact AHS.VDHRadiologicalHealth@vermont.gov

Administrative Items

- [X-ray registration](#) is current and posted in a visible location (5.4).
- Everyone who will operate an x-ray machine has a valid and current [State of Vermont Professional License](#) from the Office of Professional Regulation (8.2.6).
- Radiation Protection (7.1) demonstrated by:
 - Documentation showing that the management or owner of your facility has completed an annual review of the Radiation Protection Program (7.1.3).
 - Written safe operating procedures (8.4).
 - Documentation showing that operators of x-ray machines have completed an annual policy and procedure review (8.10).
 - Compliance with occupational monitoring (if dosimetry used) and annual dose limits (7.2).
 - Compliance with dose limits to the public (7.6).
 - Declared pregnant person and embryo/fetal exposure policy (7.5 and 7.8).
 - Availability and condition of lead/protective aprons (8.9).
 - Self-inspections and audits (7.10)
 - Facility review of dosimetry records (if dosimetry is used) (7.7.3, 7.8, and 7.12).
 - The Health Department's [Form 3 Notice to Employees](#) has been posted (7.17).
 - Inspector review of service records (8.2.4 and 8.7).
 - Your facility has only used service providers who are registered with the Radiological Health Program (8.2.4).

- All monitors used for primary diagnosis are evaluated according to the manufacturer's recommendations (8.10.9).
- Computed and digital radiography cassettes and cassette readers used for primary image interpretation are evaluated periodically according to the manufacturer's recommendations (8.10.10).

Machine Requirements (All Dental X-Ray Machines)

- Operator must be able to see the x-ray control panel from the operator's protected position when x-rays are being taken (8.6.3.4.1 and 8.14.4.3.1).
- A signal that the operator can hear from their protected position when an x-ray exposure is completed (8.6.3.4.2 and 8.14.4.3.2).
- Legible machine and control panel labels that say (8.2.3):
 - Warning: This x-ray unit may be dangerous to patient and operator.
 - Machine produces radiation when energized.
- Technique chart posted on or near machine showing (8.14.4) any adjustable settings used by your practice:
 - Timer setting
 - KVp setting
 - mA
 - Film speed or sensor type
- Tube and pointer cone are stable and maintain their position without drift or vibration. All locking, holding and centering devices are working as designed (8.14.3.2.5).
- Operator must be able to safely view patient and avoid direct line of sight while taking an exposure using a mirror, shielded window, whole body protective barrier or other method (8.14.4.2.2.2).
- Facility follows the manufacturer's maintenance schedule (8.14.2).
- User manual is available.

Dental Cone Beam CT Machines (3D CBCT)

In addition to **all dental x-ray machine requirements**, dental cone beam computed tomography (3D CBCT) machines have these additional requirements:

- Operators have been trained specifically to use the machine (8.17.4.1.1).

- Periodic calibrations and quality control tests are performed according to the manufacturer’s specifications (8.14.5.2), including additional or more frequent testing as recommended by a Qualified Medical Physicist.
- The facility has completed an annual review of all quality control tests (8.14.5.3).
- The facility has a scaled drawing and shielding evaluation performed by a qualified expert for:
 - New installations of 3D CBCT and cephalometric x-ray machines
 - Modification of existing facilities for installation of these units (8.5 and 8.14.3.1).

Handheld Dental X-Ray Machines

In addition to **all dental x-ray machine requirements**, handheld dental x-ray machines have these additional requirements:

- Battery charge indicator on unit (8.15.4.11).
- Documentation of initial and annual user training (8.15.4.3).
- Use of a lead apron by operator (8.15.4.5).
- Backscatter shield is in place (8.15.4.5).
- Use of dosimetry or other means to demonstrate that the operator will not receive 10% of the annual dose limit (7.8.2).
- Device is secured when not in use (8.15.4.13).
- The device has a built-in locking mechanism that is used between patients (8.15.4.15).
- Device is approved for use by the Health Department (8.15.4.1).

Dental Facilities Using Traditional X-Ray Film

- Quality control and quality assurance have been performed and documented according to the manufacturer’s recommendations, including:
 - Following recommended time and temperature specifications (8.14.5.1.1).
 - Measuring and logging the temperature of chemicals each day x-rays are developed (8.14.5.1.2).
 - Documentation showing that developer chemicals are changed at least once a month (8.14.5.1.3).

Automatic film processors are adjusted and maintained to meet technical development specifications for the film used (8.10.5.1).

- Manual film processing:
 - The manufacturer's recommendation for developing time and chemical temperature is followed (8.10.6.1).
 - Measure and log developer chemical temperature each day it is used (8.10.6.2).
 - Document in writing the developer chemicals are changed at least once every month (8.10.6.3).
- Film storage and pass boxes are light tight and have adequate shielding to protect against stray radiation (8.10.8).