



**State of New Hampshire**  
**Department of Health and Human Services**  
**Division of Public Health Services**  
**Radiological Health Section**

## **Dental X-Ray Inspection Guide**

### **Administrative items:**

- Registration is available and current
- Radiation Protection Program must include:
  - Name of Radiation Safety Officer (RSO), and RSO responsibilities
  - Annual review of Radiation Protection Program(RPP) - documentation for 3 years of reviews conducted by RSO or management/ownership
  - Training requirements for users of x-ray machines
  - Safe operating Procedures
  - Personnel Monitoring and annual dose limits
  - Dose limits to the public
  - Use of Lead aprons
  - Declared pregnant women and Exposure policy
  - Self-inspections/audits
- Dosimetry Records – Entire dosimetry history must be maintained
  - Prior occupational dose
  - Dosimetry reports provided by request to employees upon termination
- Scaled Drawing and Shielding evaluation that includes the following:
  - Locations of X-ray machines
  - Adjacent area use and occupancy factors
  - Shielding thicknesses
  - Shielding evaluation must include assumptions made by registered physicist
  - **NOTE: IT IS THE REGISTRANT'S RESPONSIBILITY TO MAINTAIN RECORDS OF A SHEILDING EVALUATION AND A SCALED DRAWING**
- Posting of RHS-5: Notice to Employees
  - Employees have access to the current version of the New Hampshire Rules for the Control of Radiation (NHRCR) either online or printed out
- X-ray logs: patient file or digital storage
- Service records – e.g. Maintenance, installation paperwork, calibration, etc.
  
- **Are your techniques as low as possible while still maintaining image quality?**

### **Machine Requirements:**

#### **Intraoral machine Requirements:**

- Legible and accessible Machine labels include the following:
  - Warning: this X-ray unit may be dangerous to patient and operator
  - Machine produces radiation when energized
- Technique Chart must be **posted on or near machine** and indicate the following:
  - Any Adjustable settings used by the practice including:
    - kVp setting
    - Timer setting
    - mA
    - Film Speed/Sensor type
  - Icons/preset values can be taken into consideration
- Tube housing is stable, all locking/holding/centering devices function as necessary
- User manual available

#### **Panoramic Machine Requirements:**

- Legible and accessible Machine labels include the following:
  - Warning: this X-ray unit may be dangerous to patient and operator
  - Machine produces radiation when energized
- Technique Chart must be posted on or near machine and indicate the following:
  - Any Adjustable settings used by the practice including:
    - kVp setting
    - Timer setting
    - mA
  - Icons/preset values can be taken into consideration
- Operator must be able to safely view patient while taking an exposure
  - Avoid line of sight viewing of patient; use of a mirror, shielded window, etc. must be taken into consideration
- User manual available



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**Dental Cone Beam CT Machine Requirements:**

- Legible and accessible Machine labels include the following:
  - Warning: this X-ray unit may be dangerous to patient and operator
  - Machine produces radiation when energized
- Technique Chart must be posted on or near machine and indicate the following:
  - Any Adjustable settings used by the practice including:
    - kVp setting
    - Timer setting
    - mA
  - Icons/preset values can be taken into consideration
- Operator must be able to safely view patient while taking an exposure
  - Avoid line of sight viewing of patient, use of a mirror, shielded window, etc. must be taken into consideration
- Machine maintained and operated within manufacturer specifications
- Operators have been trained by manufacturer for the use of the machine
- User manual available

**Hand-Held intraoral machine e.g Nomad**

- Legible and accessible Machine labels include the following:
  - Warning: this X-ray unit may be dangerous to patient and operator
  - Machine produces radiation when energized
- Battery charge indicator
- Technique Chart must be posted on or near machine and indicate the following:
  - Any Adjustable settings used by the practice including:
    - kVp setting
    - Timer setting
    - mA
  - Icons/preset values can be taken into consideration
- Protective Shielding in place
- Operator requirements:
  - Device specific training documented
  - Operator wears a lead apron
  - Operator wears extremity dosimeter
- User manual available

**Radiological Health Section (RHS) Performance Checks**

- An RHS inspector will verify the performance characteristics of selected x-ray machines using specialized instrumentation. The parameters most frequently measured are:
  - kVp output
  - Timer accuracy
  - Filtration
  - Entrance Skin Exposure (ESE)
  - General operability
  - Operator exposure rate measurements
- **NOTE:** An RHS inspector tests your machine to verify that it is operating in compliance with the NHRCR. An inspection should not be considered as routine maintenance of your machine. If there are any performance issues noted during the inspection, contact your service provider.

**References:**

- *New Hampshire Rules for the Control of Radiation (NHRCR):*
  - He-P 4019 - Notices, Instructions, and Reports to Workers; Inspections
  - He-P 4020 - Standards for Protection Against Radiation
  - He-P 4021 - Records, Reports, and Additional Requirements
  - He-P 4022 - Surveys and Monitoring
  - He-P 4040.03 - Shielding Plan Review
  - He-P 4045 - Use of Radiation Machines: Administrative Requirements
  - He-P 4046.01 - General Requirements for All Diagnostic X-Ray
  - He-P 4046.06 - Radiographic Systems Other Than Fluoroscopic, Dental Intraoral, or Computed Tomography X-ray Systems
  - He-P 4046.08 - Dental Intraoral Radiographic Systems
  - He-P 4046.09 - Hand-held Dental Intraoral Machines
  - He-P 4046.10 - Dental Cone-Beam CT (CBCT)
- *NHRCR can be found here:*  
<https://www.dhhs.nh.gov/programs-services/environmental-health-and-you/radiological-health/new-hampshire-radiation-machines>

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