

IDPH/BUREAU OF RADIOLOGICAL HEALTH
GUIDE TO COMPLETING
A REQUEST FOR X-RAY ROOM SHIELDING REVIEW
DENTAL, PODIATRIC, AND VETERINARY FACILITIES

The Iowa Administrative Code states:

641-41.1(3)“d”(1) **Prior to construction of all new installations or modifications of existing installations, or installations of equipment into existing facilities utilizing x-rays for diagnostic or therapeutic purposes, the floor plans and equipment arrangements shall be submitted to the agency for review and verification that national standards have been met.**

The purpose of this guide is to help you complete the Request for Review of Room Shielding form. Room shielding is required to provide protection outside the room where the x-ray unit will be operated to ensure machine operators and members of the general public are not unnecessarily exposed to radiation.

Definitions

“Registered service providers” are companies registered with IDPH to provide services such as installation, repair, and calibration of x-ray equipment and processors, and radiation safety evaluations of facilities. “Exposure” means one push of the control button to allow one x-ray image to be created.

Instructions

The following guidelines may be used to help determine the appropriate shielding for a new installation or when modifying an existing one, provided the following criteria apply to the installation. If the following criteria applies, then complete this form and submit it to IDPH. **If the following criteria does not apply, do not use this form. You must contact a registered service provider for help in determining the proper shielding and have the service provider complete the proper Shielding Evaluation form or submit documentation that includes all of the information on the Shielding Evaluation form.** All shielding evaluations for CT or cone-beam CT must be submitted by a registered service provider.

Criteria for all intraoral, podiatric and veterinary units

1. The x-ray unit is operated in the range from 60 kVp to 90 kVp and is equipped with a position-indicating device.
2. The room containing the x-ray unit has dimensions of at least 6’x6’.
3. The operator must be able to stand behind a protective barrier or wall of at least 6.5 feet or be at least 9 feet from the unit and out of the direct beam. Item 3. does not apply to hand-held dental units.
4. The x-ray workload (number of images/exposures) per workweek does not exceed 150. If you have a workload over 150 exposures per room, shielding evaluations must be submitted by a registered service provider on the Medical Shielding Evaluation form.
5. Hallways must be controlled so that no individual is passing the door of the room during x-ray exams.

Shielding required per room under the above criteria

Number of exposures	Up to 20 exposures per week	Up to 100 intraoral exposures or 50 pan exposures per week	Above 100 intraoral exposures or 50 pan exposure per week
Room shielding requirements	No physical shielding barriers required	Two 5/8" sheets of regular drywall	Contact a service provider

Additional shielding (three thicknesses of 5/8" drywall instead of two) is required when sharing a wall with another office or tenant where the dentist, podiatrist, or veterinarian does not have administrative control. Other material can provide adequate wall shielding such as concrete block or brick. While this is usually sufficient, contact a registered service provider if you have questions. Firewall construction of brick or concrete block between businesses is usually sufficient if the x-ray room is adjacent to the firewall.

Dental machines shared by two rooms should have the pass-through opening located at the end of the rooms so the primary beam cannot pass through the opening. Doors on the pass-through are recommended.

FOR MORE INFORMATION

You may visit the National Council on Radiation Protection and Measurements (NCRP) website (ncronline.org) and review the appropriate document:

- a. NCRP Report #145: Radiation Protection in Dentistry
- b. NCRP Report #147: Structural Shielding Design for Medical X-ray Imaging Facilities
- c. NCRP Report #148: Radiation Protection in Veterinary Medicine

Use the NCRP guidelines to complete the shielding request form.

All submissions are compared to the NCRP Reports to verify that the shielding meets national standards. After reviewing the submission, IDPH may still require the applicant to use the services of a registered service provider to determine proper shielding.

Submit the shielding request form at least 30 days prior to installation to:

IDPH/Rad Health
 Lucas State Office Bldg, 5th Fl
 321 East 12th St
 Des Moines, IA 50319

FAX: 515-281-4529
 EMAIL: david.myers@idph.iowa.gov

Allow at least 4 weeks for us to review your submission. You will receive a letter acknowledging your submission.

For any questions regarding the form, please call 515-281-0430 or 515-281-0415.

Iowa Department of Public Health/Rad Health
**REQUEST FOR REVIEW OF ROOM SHIELDING FOR DENTAL, PODIATRIC, OR VETERINARY
 X-RAY EQUIPMENT.**

Complete one request for each room.

Facility name:	Facility registration number (if already registered)
Facility street address:	Facility city and zip:
Facility address: (mailing)	Facility city and zip: (mailing)
Contact for questions:	Contact phone number:
Email:	FAX:
Is this a new building construction? <input type="checkbox"/> yes <input type="checkbox"/> no Expected dated of completion:	Is this a replacement of old unit with different unit in the same room? <input type="checkbox"/> yes <input type="checkbox"/> no Expected date of installation:
Is this an existing facility that you are moving to? <input type="checkbox"/> yes <input type="checkbox"/> no Move in date:	Is this a remodel of the facility registered above? <input type="checkbox"/> yes <input type="checkbox"/> no Date of completion:
Room number or name:	

Type of machine:

- Intraoral Panoramic Pan/Cephalomatric Veterinary Cone beam CT
 Podiatric

Other _____

Machine manufacturer: _____ Model # _____ Serial # _____

Workload: Example: Type of exam: Full-spine/3 exposures; type of exam: Intraoral/4 exposures. The unit operator's manual should have the average mA, kVp, and time for each type of exposure. For new practices, please estimate the number of weekly exams expected after 6 months of operation.

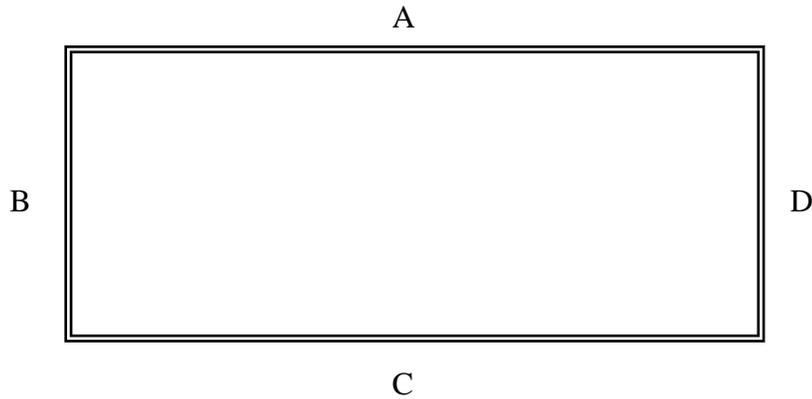
	Type of exam	Number of exposures per exam	Average Number of exams per week	Average mA	Average kVp	Average exposure time
1.						
2.						
3.						

Dimensions of the room:

Distance from wall A to wall C: _____

Distance from wall B to wall D: _____

1. Use the following symbols on your drawing:
 W for windows D for doors X for position of x-ray unit
 P for pass-through door
2. Show the position of the operator during exposures or label the operator's booth.
3. Use arrows to show the general direction (s) of the x-ray beam during exposures.



If any of the above are hallways, you must be able to prevent passing during exposures.

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X-ray Room Composition: (fill in the appropriate blanks)

	Wall A	Wall B	Wall C	Wall D	Operator barrier for medical/chiro offices only
1. E for exterior, I for interior					
2. Thickness of sheetrock in inches					
3. Number of layers of sheetrock					
4. Inches of lead (1/16, 1/32) OR					
Inches of concrete block or other material (please specify material)					

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Composition of the floor? _____ wood _____ concrete: Thickness in inches _____

Composition of the ceiling? _____ wood _____ concrete _____ sheetrock
 _____ other (specify) _____ Thickness in inches _____

What or who is on the other side of the wall. Measure from the wall to the person.

Wall	Distance to nearest person in feet	How many hours per day is this person in this position?
Wall A		
Wall B		
Wall C		
Wall D		
Floor		
Ceiling		

ALL ITEMS IN PAGES 1 through 3 MUST BE COMPLETED IN ORDER FOR IDPH TO MAKE A VALID REVIEW. Thank you for your cooperation.

I verify that the above information is correct.

I will notify IDPH of any changes to this form or my facility before the changes are made.

I understand that this review request does not imply approval or disapproval of this facility.

 Printed name of individual responsible for this request

 Date

 Signature

2/10/2015