

DENTAL RADIATION HEALTH AND SAFETY

Study Guide



RADIATION PROTECTION PT II

2025-2026

Welcome

Welcome to the Dental Radiology (RHS) Exam Study Guide! This guide is designed to help you confidently prepare for the Radiation Protection Component of the Radiation Health and Safety (RHS) exam—a big step toward becoming a certified or licensed dental radiographer.

Our goal is to provide you with the key tools, knowledge, and support to help you feel prepared and ready. Let's get started!

Guide Highlights

1

Aligns with RHS exam outline

This study guide is designed to align with DANB's RHS Radiation Protection which is 25% of the total exam.

2

Focused Study Content

You'll find what questions to focus on and tips to help answer exam questions.

3

Created by Licensed Dental Radiographers

This guide was put together by experienced dental radiographers to help you connect concepts to practical situations on the RHS exam.



Contents

- A. **Radiation Biology & Safety**
- B. **X-Ray Protection Tips**
- C. **Additional Resources**



GET READY TO PASS YOUR EXAM

As you get ready for your RHS exam, keep in mind that success comes from dedication, steady effort, and a solid study plan. Stay focused, take it one step at a time, and you've got this!

About the RHS Exam

The RHS Dental Radiology exam is an important step toward becoming a Registered, Licensed, or Certified Dental Radiology Technician in many states. This exam tests your knowledge of essential dental radiology principles and practices. It's a big milestone on your journey, and with the right preparation, you'll be ready to succeed!

Radiation Biology & Safety

“Why it matters” —radiation biology and safety! In this section, you’ll learn how radiation affects the body, what dose levels mean, and the best ways to protect both your patients and yourself.

This isn’t just textbook stuff—it’s real-life knowledge that helps you practice safely and responsibly every day. Let’s break it down and keep safety front and center!



Radiation Biology & Safety

What You Need To Know

Ionization: Main source of biological damage

Dose Units:

- **Roentgen (R):** Exposure
- **Rad:** Absorbed dose
- **Rem:** Occupational exposure

Types of Exposure:

- **Acute:** Short-term, high dose
- **Chronic:** Long-term, low dose (most concerning in dentistry)

Radiosensitivity (Most to Least Sensitive):

1. Reproductive & blood cells
2. Skin and glands
3. Muscle, nerves, mature bone

Know the Key Terms

- **Ionization** = cell damage
- **Roentgen (R)** = exposure
- **Rad** = absorbed dose
- **Rem** = occupational risk

Understand Exposure Types

- **Acute** = one-time, high dose
- **Chronic** = repeated, low dose (common in dentistry)

Radiation Biology & Safety

Key Take Away

This section explains how radiation affects the body and why it's important to limit exposure in dental settings:

Ionization is what causes damage to body cells when exposed to X-rays.

Dose units help measure how much radiation is used:

- Roentgen (R) = amount of exposure in the air
- Rad = how much the body absorbs
- Rem = risk to workers over time

Types of exposure:

- Acute = high dose all at once (less common in dental)
- Chronic = low dose over time (more common in dental work and the biggest concern)

Radiosensitivity shows which body parts are more affected by radiation:

- Most sensitive: Reproductive and blood cells
- Least sensitive: Muscle and bone

Understanding this helps dental workers follow safety rules to protect both patients and themselves from long-term radiation effects.

X-Ray Protection

Let's talk protection—because safety is always in style! This section covers all the must-know strategies for minimizing radiation exposure, from lead aprons to proper positioning and equipment settings.

Whether you're behind the camera or in the chair, knowing how to protect both the patient and the operator is a key part of being confident and prepared.



X-Ray Protection

What You Need To Know

Patient:

- Use digital sensors
- 2.5 mm aluminum filter
- Collimator (ideally rectangular) 2.75 diameter
- Lead aprons + thyroid collars
- Correct exposure technique(Parellel)

Operator:

- Stand 6 ft.
- Stand behind a shielded walls
- Stand away at 90–135° from beam

Patient Safety

Focus on using fast film or digital sensors, aluminum filters, collimators, and lead aprons to minimize radiation exposure.

Operator Safety

Emphasize standing at a safe distance, using shielded walls, and maintaining the correct angle from the beam.



X-Ray Protection

Key Take Away

These protection tips help keep patients and dental workers safe during X-ray procedures:

- For patients, using digital sensors, filters, collimators, and lead aprons helps reduce how much radiation they receive.
- For operators, standing back 6 feet at an 90–135° angle, using barriers or lead, and wearing a film badge helps limit their exposure over time.

Following these tips helps prevent unnecessary radiation and keeps both the patient and the dental team safe.

Additional Resources

Need More Support?



REVIEW MATERIALS

Prepare for the DANB Radiology exam with our self-paced, affordable review course materials, featuring instructor support, practice test and interactive activities.

DENTAL RADIOGRAPHY PROGRAM

Become a certified dental radiologist with our online program, offering flexible learning paths for beginners and experienced professionals, completed in weeks.

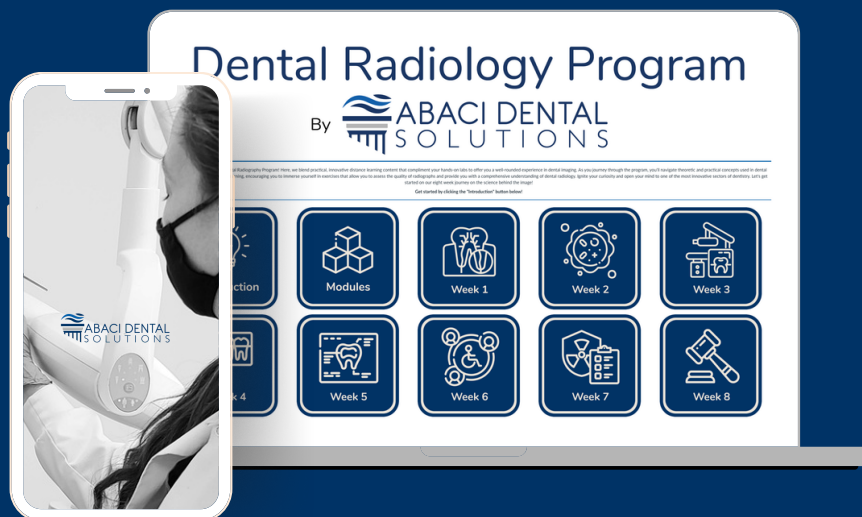
BLOG

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