



**JEFFERY B. PRICE, DDS, MS**

*Dr. Price is a Clinical Associate Professor of Oral & Maxillofacial Radiology and Director of Oral & Maxillofacial Radiology at the University of Maryland School of Dentistry in Baltimore, MD and is board certified by the American Board of Oral & Maxillofacial Radiology. In addition, he is an Adjunct Associate Professor of Oral & Maxillofacial Radiology at the UNC School of Dentistry in Chapel Hill, NC; and, a visiting faculty member at the Spear Education Center and LD Pankey Institute. Before entering the specialty of Oral & Maxillofacial Radiology, Dr. Price practiced general and adult restorative dentistry in Hendersonville, NC for 24 years. While in practice, Dr. Price completed the continuum at the L.D. Pankey Institute in Key Biscayne, FL; in addition, he attained his Mastership in the Academy of General Dentistry as well as Diplomate status in the International Congress of Oral Implantologists. Dr. Price is currently a Senior Editorial Board Member for the ICOI-sponsored journal, *Implant Dentistry*; and, is a reviewer for the *International Journal of Oral & Maxillofacial Surgery* and the *Journal of Dental Education*.*

# Principles of Oral Radiology

<b>Instructor:</b>	Jeffery B. Price, DDS, MS
<b>Full Course CE:</b>	12 CEs ADA/AGD 16 CEs CBDE
<b>Short Course CE:</b>	6 CEs ADA/AGD 8 CEs CBDE
<b>Format:</b>	Audio
<b>Delivery:</b>	mp3 Download or CD Via Mail
<b>Register:</b>	(866) 611-5599 or <a href="http://www.AmericanSeminar.com">www.AmericanSeminar.com</a>
<b>Full Course Price:</b>	\$580
<b>Short Course Price:</b>	\$485

## COURSE OBJECTIVE

The course consists of a total of ten oral radiology lectures; the first half of the course consists of the scientific principles of oral radiology including topics such as how x-rays are generated, the components of dental x-ray machines, radiation biology and safety and regulatory requirements. Dental patients today are much more interested in the amount of radiation used in dental radiographic examinations and look to the dental professional to provide answers to their questions. Having the background knowledge provided in the first half of the course will be very helpful to the practicing dentist then next time a patient asks, 'What is the risk of this x-ray?'

The second half of the course deals with clinical topics, addressing patient selection criteria, as well as the different film and digital systems, projection geometry and the rationale for using a system such as the XCP system. We will finish the course with a discussion of panoramic radiography. This part of the course will provide assistance with how to order which x-ray when since many dentists still recommend bitewings once a year for all their patients when in reality patients want to be treated as individuals based on their particular dental history and needs. Also, if a clinician has not yet switched to digital, this section will provide a great deal of unbiased information to help make an informed decision.

Course Topics cont'd on Page 2

## Part A - Course Topics

### 1) PHYSICS OF RADIATION & X-RAY UNITS

- ◆ Purpose of learning/reviewing the basics
- ◆ Nature and characteristics of radiation
- ◆ X-ray production
- ◆ Dental x-ray machines

### 2) INTERACTIONS OF X-RAY BEAMS WITH MATTER

- ◆ Factors affecting the x-ray beam
- ◆ Three types of x-ray interactions seen in dental radiography
- ◆ Factors which influence attenuation of the x-ray beam
- ◆ How to manipulate these factors during diagnostic imaging

### 3) RADIATION BIOLOGY

- ◆ Develop an understanding of the biological foundation of risk of ionizing radiation
- ◆ Understand the real and relative risks of radiographic examinations in dentistry
- ◆ Understand the importance of developing a plan for patient education of dental radiation
- ◆ Introduce the topic of protection for the operator and the patient during dental radiographic examinations
- ◆ Radiation Safety
- ◆ Learn how to minimize the radiation dose from dental radiography
- ◆ Understand the basic principles of radiation safety
- ◆ Discuss radiation safety and the pregnant patient

### 5) REGULATORY REQUIREMENTS

- ◆ Understand the difference between guidelines and regulations
- ◆ Learn about enforcement of regulations
- ◆ Development of a diagnostic reference level for dentistry; and how this impacts dentistry
- ◆ Discuss the components of a quality assurance plan

## Part B - Course Topics

### 6) PATIENT SELECTION CRITERIA

- ◆ Review the 2012 edition of the FDA/ADA patient selection criteria
- ◆ Understand the distinction between guidelines and clinical judgment versus regulations
- ◆ Explain how the selection criteria guidelines are associated with the goal of radiation safety

### 7) X-RAY FILM SYSTEMS

- ◆ Review the two types of film systems used in dentistry
- ◆ Explain the properties of film
  - ~ Composition
  - ~ Film density and contrast
  - ~ Film speed
- ◆ Review the basics of film processing

### 8) DIGITAL SYSTEMS

- ◆ Understand the definition of a digital image
- ◆ Review the types of digital detectors available today in dentistry
- ◆ Explain the basics of digital image processing

### 9) PROJECTION GEOMETRY & THE XCP SYSTEM

- ◆ Understand the importance of knowing the principles of projection geometry
- ◆ Know the primary determinants of image quality
- ◆ Introduce and explain the importance of receptor holding devices
- ◆ Demonstrate the XCP system in a clinical environment

### 10) PRINCIPLES OF PANORAMIC RADIOLOGY

- ◆ Explain the theory of panoramic imaging
- ◆ Illustrate characteristics of the panoramic focal trough
- ◆ Discuss the differential vertical and horizontal magnification factors
- ◆ Discuss the production of 'ghost' images
- ◆ Demonstrate patient positioning errors, motion artifacts and operator errors