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February 26, 2008

**INFORMATION NOTICE**  
Keep for Future Reference

**TO: Limited Permit X-ray Technicians (XTs)**

**Subject: Use of Digital X-ray Equipment by XTs**

*Please read carefully and completely!*

Regulations have now been adopted that provide for the authorization of a *limited permit X-ray technician (XT) to use digital X-ray equipment*. This information notice is also posted under *Hot Topics* on the Radiologic Health Branch (RHB) internet Home Page at [www.cdph.ca.gov](http://www.cdph.ca.gov), click on Programs, go to "R" (A-Z Index), and go to Radiologic Health Branch. Prompts will assist you.

It is important to know that these new regulations do not allow an XT to use digital X-ray equipment *unless* that individual has received authorization from this Department to perform digital radiography.

**In order for you to receive authorization to use digital X-ray equipment you are required to meet the following (A, B, & C):**

**A.** Hold a current and valid limited permit in any of the following categories:

- (1) Chest radiography.
- (2) Extremities radiography.
- (3) Gastrointestinal radiography.
- (4) Genitourinary radiography.
- (5) Leg-podiatric radiography.
- (6) Skull radiography.
- (7) Torso-skeletal radiography.

**Note:** If you hold a limited permit in the X-ray Bone Densitometry or Dental Laboratory Radiography categories, you are already authorized to use digital X-ray equipment within that permit's scope of practice.

**B.** Complete at least twenty (20) hours of instruction in all of the following subjects:

- (1) Basic principles of digital radiography addressing digital image characteristics, types of digital receptors in cassette-less systems and cassette-based systems, comparison of detector properties and evaluative criteria, and dynamic range versus latitude;
- (2) Image acquisition addressing raw data acquisition, and image extraction and exposure indicators in cassette-less and cassette-based systems;
- (3) Image acquisition errors addressing exposure field recognition, histogram analysis error, low intensity radiation response, scatter control such as coning and use of optimal exposures, and grid use including Moiré effect;
- (4) Software (default) image processing addressing automatic rescaling, final image processing,

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effects of excessive processing, and recognition of image processing errors that affect image clarity;

(5) Fundamental principles of exposure addressing optimal receptor exposure, receptor response and detective quantum efficiency, selection of exposure factors, exposure myths associated with digital imaging systems, controlling patient exposure, monitoring patient exposure;

(6) Image evaluation addressing evidence of appropriate exposure level and exposure recognition failure or histogram analysis error, contrast, recorded detail, and artifacts;

(7) Quality assurance and maintenance issues addressing initial acceptance testing, cassette-based system reader preventive maintenance, plate maintenance, uniformity of default processing codes, and reject analysis; and

(8) Image display issues to include types of viewing monitors as compared to film/screen, picture archiving and communication systems, teleradiology, and operator responsibilities such as image annotation and manipulation, and patient confidentiality.

**C.** Receive the instruction outlined in B above from either of the following:

- a radiologic technology or X-ray technician school whose digital instruction has been approved by this Department, or
- a continuing education (CE) provider that is approved by an organization acceptable to the American Registry of Radiologic Technologists (ARRT) as a CE provider.

**To apply for authorization, submit a completed form CDPH ZZZ, “X-Ray Technician Digital Authorization Application” (attached). Please note, documentation must be included with this form, which is discussed in detail below.**

**!! AUTHORIZATION NOTIFICATION !!**

If your application is complete, a notice of completed application will be mailed to you stating how to obtain the authorization document at [www.cdph.ca.gov](http://www.cdph.ca.gov). Click on Programs, go to “R” (A-Z Index), go to Radiologic Health Branch, and go to Permits/Certificate Names Search Tool. Prompts will assist you. If the information indicates you have been authorized, print that page, which is your temporary authorization. *That page shall be posted at every facility where you take X-rays and shall be presented to any California Department of Public Health (CDPH) inspector upon request.*

Please allow 45 days for receipt of the official permit indicating digital radiography is authorized.

**CE Credit for Permit Renewal**

Completion of the instruction in digital radiologic technology is considered to be approved CE credits for purposes of renewing your permit; thus, the instruction may be used both for becoming authorized to use digital X-ray equipment and for meeting the CE requirement for renewal. However, it is your responsibility to include these credits on the CE form during renewal, otherwise, you will not receive credit for completion of the instruction and this may result in the delay or denial of your renewal due to insufficient CE credits. Thus, any dates of instruction that fall within the 2-year period preceding the expiration date of

your permit as required by regulation (17 CCR 30403<sup>1</sup>) may be claimed as CE for renewal purposes.

**Documentation:** In order for CDPH staff to verify the completion of the required instruction, documentation you submit should indicate all of the following:

- The applicant's name.
- Instruction provider's name, approving organization (e.g. CDPH or ARRT Recognized Continuing Education Evaluation Mechanism (RCEEM) such as The American Society of Radiologic Technologists (ASRT) and organizational approval number:
  - for CDPH-approved XT or RT schools, the name and approval number should be the same as shown on the school's CDPH approval document; and
  - for CE providers, the name should be the same as registered with the ARRT-RCEEM entity and the approval number should be the number issued by that entity to the provider. The document must indicate that the provider's CE activity is designated as "Category A" credit.
- Any one of the following:
  - (highly recommended) wording such as "[applicant's name] has completed [actual number of hours] hours of instruction in the topics specified in title 17, California Code of Regulations, section 30410.2," or
  - wording such as "[applicant's name] has completed [actual number of hours] hours of instruction in the following topics: [the topics specified in section 30410.2 are listed]," or
  - wording that indicates the individual has met the required instruction and hours from an acceptable provider.
- The date instruction was completed.
- The provider's printed name and signature and date of signature.

As we go through the transition process, we ask that before contacting Department staff you carefully read and re-read this information notice to determine if what you seek is included and, if not, to ensure your question(s) is(are) clear and specific when contact is needed.

**The following documents are attached:**

- 1. X-Ray Technician Digital Authorization Application (CDPH ZZZ (2/08)),**
- 2. list of known CE Providers and XT/RT schools whose digital instruction has been approved by CDPH, and**
- 3. the new regulations pertaining only to XTs.**

If you still have questions after you have read this information notice thoroughly, you may submit your question(s) to the following e-mail address: [rhblistic@cdph.ca.gov](mailto:rhblistic@cdph.ca.gov).

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<sup>1</sup> 17 CCR 30403 means title 17, California Code of Regulations, section 30403.