

Suggested Changes to the 1998 Radiation Safety Booklet
April 15, 2009

Page 2 - item3

Delete: "Exceeding 10 percent of the listed limit is very unlikely in a veterinary setting." The statement may be true, but it conveys the wrong idea.

Page 6 – first paragraph – add at the end: Personnel monitors may be performed either on a monthly or quarterly basis.

Page 10 –Renewal of registration – strike entire paragraph and replace with: Registration must renewed with the Department on or before the registration expiration date.

Page 10 – Vendor Obligation – align to left and change to read:

A vendor must inform the receiver of the radiation machine of the registration requirements [Section 30118).

Page 11 – Records – Delete this entire reference and replace with:

Record of individual monitoring results must be maintained until the terminations of their registration. [10 CRF 20, section 20.2106]

Page 11 – Fees – Delete this entire reference.

Page 11- Payment of Fees - wrong section number and needs to read:

Each registration and registration renewal requires payment of a fee. [Section 30146}

Page 15 – Item - add a bullet between 'Use of a film type 'and 'Low-absorption cassette'

- Digital Imaging - The x-ray-imaging process starts with the normal x-ray machine, the animal patient and x-ray cassette arranged in the usual positions. The difference is that the digital cassette contains a reusable phosphor plate, which is sensitive to x-rays but not light. Once the plate has been exposed, it is fed into a laser computer reader, which captures the image in a digital format. The reader then resets the plate ready for reuse. The phosphor plates are expensive but can be reused several thousand times; they are also more X-ray-sensitive than film, allowing a slightly lower radiation dose to be used. The advantages of this process over film developing are the elimination of the expensive film, the absence

of toxic developing chemicals and the speed. Within 30 seconds, the image is visible, so if the image needs to be repeated for technical reasons this can be done immediately. The radiographer orientates the image on the monitor according to established protocols and can alter the contrast and grey scale (a process known as windowing).

The company who supplies the digital equipment should provide information on the recommended receptor exposures factors to ensure diagnostic images with the lowest possible dose for each particular examination.

It is important for each veterinary practice to set up QA systems to routinely monitor factors including clinical exposure constancy, imaging system sensitivity.

Digital radiography systems may have different x-ray energy responses to film screen systems. Therefore, the technical exposure factors should be different from that used for film screen systems.

For existing systems that have been upgraded to use DR or CR, the existing exposure protocols should be adjusted to reflect as 30-50% reduction in mAs and/or exposure time. Each image, whether produced on film or soft copy display, should ideally have an associated number to indicate the level of exposure to the detector. Currently all CR systems have a sensitivity index which is related to detector exposure, however, DR systems are generally not supplied with this feature. Once CR and DR are in use, the constancy of applied exposure factors should be monitored on a regular basis.

Page 17 – Under Section 8, add another heading:

Digital Imaging Processing

Strict adherence to the manufacturer's quality assurance and system maintenance manuals is critical In order to take full advantage of any digital radiography system. Windowing an image to "make it diagnostically acceptable" is not an alternative for using the correct technical factors in producing the initial image.

Page 20 – Animal patient holding
2. Typo 'fil' should be film badge

Page 21 -- Pregnant or potentially pregnant employees

Section 30280 was repealed and replaced with 10 CFR 20 with multiple sections cited.. I suggest keeping the wording but simply deleting the section reference.

Page 21. Posting – item 4 This is a great idea but is not one of our requirements.

Page 25 For the complete package, including:
10 CFR 20 not CAR

New Address:

California Department of Public Health
Radiologic Health Branch
P.O. Box 997414, MS-7610
Sacramento, CA 95899-7414
916-327-5106

The Notice to Employees, Regulation information and X-Ray Machine Registration forms can be found the CDPH website:

<http://www.cdph.ca.gov/programs/Pages/RadiologicHealthBranch.aspx>

Page 26.

Depart of Toxic's website is:

<http://www.dtsc.ca.gov/>

Department of Toxic Substances Control
Address: P. O. Box 806
Sacramento, CA 95812-0806

Page 17 Definitions Department = The Department of Public Health -no longer Health Services

Thanks for the opportunity to contribute to your revision.



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