Conference of Radiation Control Program Directors, Inc.

NEWSBRIEF

www.crcpd.org A Partnership Dedicated to Radiation Protection October 2009

Message from Chairperson Adela Salame-Alfie, Ph.D.

Greetings everybody,

I hope you had a great summer and that you are enjoying this lovely fall weather. So far in upstate New York, the mornings and evenings have that wonderful chill that makes you want to sip a nice cup of tea or hot chocolate and find some of your most beloved winter gear! Fall is such a beautiful time of the year, I had to include a couple local photos.

We have been pretty busy. As you may know, Mike Gilley, Ruth McBurney and I traveled to Washington D.C. to visit the leadership of our Federal partners. We visited the Environmental Protection Agency and we had an opportunity to talk about the upcoming radon meeting (which I understand was very successful), as well as many other projects where EPA is involved, including emergency response activities. We also met with staff from the Food and Drug Administration and discussed several issues, such as current and future NEXT activities, and we learned that they were gearing up to provide training (via webcast) for tanning operators. They scheduled four sessions during October and I hope those of you that have a tanning program took advantage of the training.

We also had an opportunity to brief (with OAS) the Chairman and Commissioners of the Nuclear Regulatory Commission. We spoke about the effect that the current economy has had on our programs, the impact of the release of the NCRP 160 report, and we had a discussion on the possible implications of the recommendations of ICRP 103. We used the information you provided in response to our surveys to prepare for the briefings, and I

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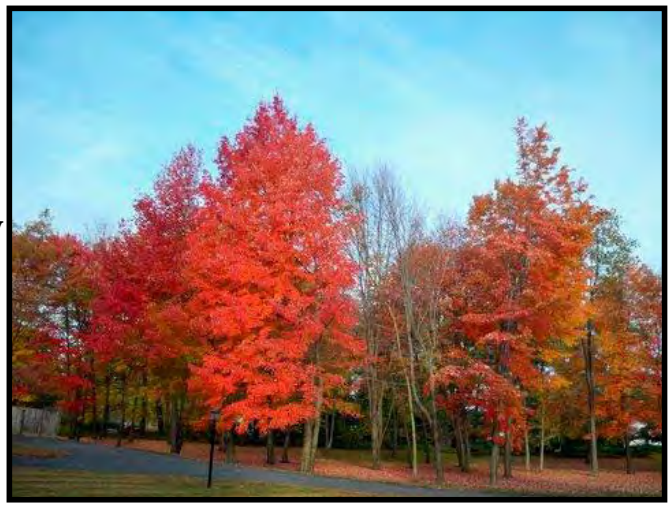
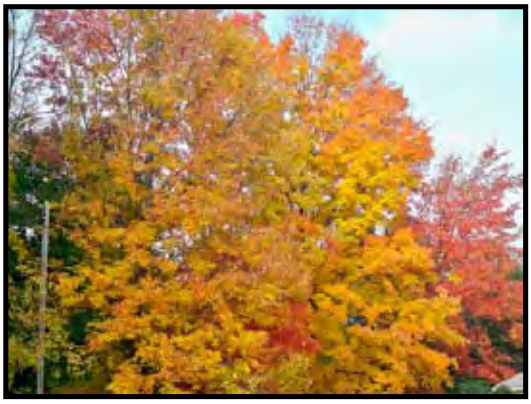
[Continued]



want to take this opportunity to thank all of you who provided feedback. Having your input allows us to present a more complete view from the perspective of the states. If you'd like to see the briefing, it is posted on the NRC website http://www.nrc.gov.

In addition to the formal briefing, we had an opportunity to speak one-on-one with Chairman Jaczko and with Commissioners Klein and Svinicki, as well as with the Office of Federal and State Materials and Environmental Management Programs leadership and staff. We talked about their continued support for training (especially as 'seasoned' staff retires), ways in which this training could be accomplished with less travel, and even talked about plans of the various states for Continuity of Operations (or COOP) in light of the anticipated pandemic flu. We also had a chance to present a "Happy Retirement" resolution to George Pangburn to recognize his support of the state programs. Last, but not least, we met with the Department of Energy to discuss the Source Collection and Threat Reduction (SCATR) program. And we did all this in three days, so as you can imagine, we had a packed schedule!



But it wasn't all work and no play. I was invited to give an update of CRCPD activities at the Baltimore-Washington Chapter of the Health Physics Society. Folks that attended really enjoyed the presentation and some were surprised to learn of the many activities in which we are involved. Of course I tried to recruit some volunteers and I hope some of those attending will join CRCPD.

Chairperson's Message

[Continued]

While in Washington we also were able to meet with the American Society for Radiation Oncology (ASTRO) leadership to discuss ways for collaborating and possibilities of getting some ASTRO speakers for our upcoming annual National Conference on Radiation Control. Speaking of our annual meeting, have you sent your 'mini-abstract' to Sue so we can consider it during the planning meeting? Remember that this is YOUR meeting, and we want to make sure that we include topics that are of interest and are relevant to your work, so your feedback regarding topics of interest will help shape this year's meeting. You can send a note to Sue Smith at <ssmith@crcpd.org>.

I would like to acknowledge those of you who work on committees and/or agree to step up when needed to represent CRCPD in various venues (and there are so many!). This includes providing comments on documents, being members on panels, representing our views in national meetings, etc. You know as well as I do that what we do is very important in shaping the course of radiation protection in this country and we couldn't do it without your help and support.

And, speaking of radiation protection, I would like to use this pulpit to congratulate YOU, as we celebrate National Radiation Protection Week during November 8-14. National Radiation Protection Week gives us an opportunity to showcase what we do. Now, more than ever, it is very important that we educate others (citizens, employers, and even politicians) on the scope of skills and abilities needed by radiation protection professionals and the important role that we play. Also, National Radiation Protection Week is a time to express your appreciation to your colleagues and staff, and to display your support and dedication to the field. So please let us know if you had any special activities geared to celebrate this event and we will showcase them in the next issue of the Newsbrief.

In closing, since this issue comes out at the end of October, I'd like to wish you very Happy and Healthy Holidays.

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Greetings from Your Executive Director

Ruth E. McBurney, CHP

Since the time for membership renewal in CRCPD is here, I am sure that many of you pause to think about the benefits you receive from being a part of CRCPD as you pay your dues. Of course, the main benefit of CRCPD to radiation control programs is making the job of regulating radiation easier through its products, resources, and networking. Member surveys and discussions at Members Forums held during annual meetings have indicated that members need and use the Suggested State Regulations, inspection protocols and other guidance documents from CRCPD as efficient means to incorporate them into state and local radiation control programs.

Through cooperative agreements with our federal partners and the generosity of our organizational donors, we are able to continue to provide these and other products and services to our members, including (just to name a few):

- Information and training on new radiation technologies and emerging radiation control issues;
- An annual National Conference on Radiation Control and National Radon Training Conference;
- Late-breaking news on overexposure events (primarily machine-source radiation) and "hot" topics of interest to the radiation community and to regulators;
- Monitoring and providing technical expertise on emergency preparedness and homeland security issues;
- Networking with federal and state radiation regulatory directors and staff and other knowledgeable radiation professionals on a myriad of issues facing radiation control programs; and
- Opportunities to serve on working groups to address radiation control standards, procedures, and other issues on a national level.

The finances of CRCPD are very important to the ongoing success of the organization. Many professional organizations have experienced shrinking membership and budgets and are facing tough challenges during today's economic situation.

Although CRCPD is cutting some expenses and will continue to take steps at the Office of Executive Director to trim our operating budget in some areas, we still should be able to provide the same level of service and even enhance some resources and assistance to radiation control programs with new initiatives. The Finance Committee and the Board of Directors are discussing several innovative ways to still maintain our high standards while being frugal within the CRCPD budget.

Greetings from Your Executive Director
[Continued]

Your membership and participation in the organization is also very important to its success. And, the good news for you as you renew your membership is that the cost of dues has not gone up! Membership in CRCPD is a great value, and is much less than other professional societies. I hope you will see that the benefits outweigh the costs by a large margin.

New Radiation Response Volunteer Corps Project

Speaking of new initiatives, the CRCPD, through collaboration and a contract with the Centers for Disease Control and Prevention (CDC) and their primary logistics contractor, will be providing funding to several radiation control programs for the development and enhancement of a radiation response volunteer registry for assistance in major radiological events. The project will also help to determine the feasibility of incorporating trained radiation professionals (such as health physicists, medical physicists, nuclear medicine technologists and radiation oncologists) into existing volunteer registries to provide a sustainable radiological response program.

Population monitoring for contamination following a major radiological event has been identified as an area in which state and local resources can quickly be depleted, and trained radiation volunteers will greatly improve the state's capability to respond. A Request for Proposal for sub-contracts will be sent out very soon to all radiation control programs with an opportunity to submit a plan to recruit and train radiation professionals in their areas as volunteers for assistance in radiological emergency response, particularly for use in population monitoring. There will be a short window of opportunity for submission of the proposals, so be thinking of how your program could implement such a program in your state or local jurisdiction.

A new Homeland Security/Emergency Response Task Force (HS/ER-10 Task Force for Volunteer Development) has been assigned to write the Request for Proposals (RFP), evaluate the applicants, monitor the progress of the programs and sub-contracts issued to the radiation control programs, and compile the results and lessons learned from the project. More details of the program will be included in the RFP, which will be sent electronically to the Director Members very soon. We are excited about this new opportunity to enhance radiological emergency preparedness.

Curt Hopkins Retires from the OED

After working at the CRCPD Office of the Executive Director (OED) in Frankfort for over 19 years, Curtis (Curt) Hopkins has retired.

Greetings from Your Executive Director

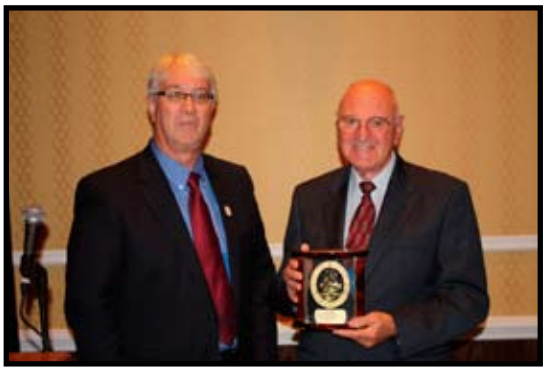
[Continued]

Curt Hopkins Retires [Continued]

Tom Kelly (EPA) and Curt Hopkins at the 2009 Radon Conference

Curt served as Radon Program Manager and *Newsbrief* and *Radon Bulletin* editor during his time with the OED. He also coordinated exhibitors, served as photographer, and assisted in other ways at both the National Conference on Radiation Control and the National Radon Training Conference. Curt has also been a great asset in designing exhibits and preparing graphics for CRCPD.

Prior to coming to CRCPD, Curt worked as a nuclear medicine and radiation therapy technologist, radiation physicist with the Kentucky radiation control program, and as a medical physicist. He also operated a nuclear pharmacy for a few years.



Michael Gilley (CRCPD Chair-Elect) recognizes Curt Hopkins at the 2009 Radon Conference

In 1999, Curt received a Board of Directors Award for Outstanding Achievement in the Field of Radiation, and was recently honored by EPA and CRCPD at the 2009 National Radon Training Conference in St. Louis, Missouri, for his many years of service.

We will miss Curt very much and wish him a pleasant, relaxing and rewarding retirement. We hope that he will find more great outdoor scenes and lighthouses to photograph and can pursue other travel and hobbies of interest. Happy trails to you, Curt!

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Can Bone Mineral Density Patients in Your State Trust Results?

By June Hawkinson (MN) Chair of the H-30 Task Force on Bone Densitometry when they developed the White Paper on Bone Densitometry. H-30 then terminated.

While you may think this is not under your umbrella of responsibility, you may be contributing to the lack of reliability in bone density test results by not understanding the need for precision assessment.

Bone mineral density (BMD) testing via DXA has become the "gold standard" for diagnosing bone loss due to several diseases in adults and children. It is the least expensive, has high resolution, emits the lowest radiation of other tests using ionizing radiation, is effective in predicting fracture risk, and is reliable providing it is done correctly. This requires not only good training for operators and interpreters, but also requires the practice of precision assessment.

Some states, without understanding the need for precision assessment, have prohibited the practice. Their major concern, of course, is the apparent unnecessary radiation to a few, select patients. Precision assessment requires that each technologist operating a DXA unit must calculate their precision by scanning 30 patients twice (or 15 patients three times). The patients are removed from the table and repositioned for the second scan. The least significant change (LSC), a value that is derived from the precision calculation, is the smallest BMD change that is statistically significant with a 95% confidence level. (No, phantoms cannot be substituted for humans.) The LSC is essential to provide accurate analysis of bone density changes. Physicians need an accurate diagnosis to decide if expensive treatment is necessary, and then later to ascertain if the treatment is effective. False information could also mean treatment is withheld from someone who could have their fracture risk reduced with treatment.

To address the benefit versus risk issue, those exposed to the additional, small amount of radiation are providing a benefit to themselves and all others by validating the results of BMD exams for that facility. The average effective dose (ED per ICRP) to an individual in the U.S. from background radiation is approximately 3000 µSv per year, or about 8 µSv per day. Thus a DXA scan of the hip and spine (ED <10.0 µSv) is similar to the background radiation we receive in a day.[1]

Even though some bone densitometers can produce exceptionally good skeletal images, the images are not radiographs, nor do they have the same properties. Precision assessment is not research, but an integral part of quality assurance for the exam. It enables a facility to determine the smallest change in bone density that is biologically significant from measurement errors that will skew results.

Can Bone Mineral Density Patients in Your State Trust Results?

[Continued]

Without precision testing, the BMD study is of no value, resulting in thousands of patients being exposed to unnecessary radiation. "Any quantitative comparison including DXA, peripheral DXA, QCT, peripheral QCT, and QUS requires precision assessment in order to determine whether the apparent BMD change is likely a genuine biological change or measurement error. Without it [precision assessment], it is not possible to make a quantitative comparison or monitor patients being tested," states Dr. Michael Lewiecki, Clinical Assistant Professor of Medicine, U of NM School of Medicine and Director of the NM Clinical Research & Osteoporosis Center.[2]

As regulators, we are obligated to become knowledgeable in the new and changing technologies constantly bombarding us. We exist to protect the workers and the public, but not cause harm in the process

The CRCPD has produced a white paper that addresses BMD quality assurance issues. It can be found at the following web link: http://www.crcpd.org/Pubs/BoneDensitometryWhitePaper.pdf

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2. personal communication

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CRCPD Working Group & Liaison Activities

HS/ER-2 Committee for Expanding Radiological Emergency Preparedness in Public Health

By Frieda Fisher-Tyler, Chair

In September 2009, a final report was submitted to the Centers for Disease Control and Prevention (CDC), describing the CDC/CRCPD "Alliance to Expand Radiological Emergency Preparedness in Public Health" Workshop planned and executed by the HS/ER-2 Committee, the CRCPD Office of Executive Director and CDC on April 1-2, 2009, in Atlanta, Georgia. The purpose of the workshop was to solidify, formalize and further develop partnerships established among radiation control programs and public health organizations, and to address priorities for radiological emergency preparedness that were established during the June 2008 CDC/CRCPD Roundtable. The main objective of the workshop was to produce an action plan to carry out recommendations made at the 2008 roundtable. A number of actions have already been taken, and are described below.

Four major focus areas were identified for the Workshop:

- Addressing the need to develop consistent radiological emergency capabilities nationwide,
- Continuing to build relationships among participating organizations,
- Addressing training, drill and exercise issues identified during the 2008 roundtable,
- Addressing the need for funding specifically allocated for radiological emergency preparedness in public health.

The following organizations were represented at the Roundtable:

- Association of State and Territorial Health Officials (ASTHO)
- National Association of County and City Health Officials (NACCHO)
- Council of State and Territorial Epidemiologists (CSTE)
- Centers for Disease Control and Prevention (CDC) – Radiation Studies Branch
- Conference of Radiation Control Program Directors (CRCPD)

The workshop included initial presentations on topics related to the purpose, objectives, and logistics of the workshop, as well as an overview of the June 2008 CDC/CRCPD "Roundtable on Communication and Teamwork." In addition, information was provided on lessons learned from the Florida radiation control

CRCPD Working Group & Liaison Activities
[Continued]

programs' successful collaborative project in obtaining funding and implementing a radiological emergency volunteer corps, the CDC Public Health Emergency Preparedness Cooperative Agreement Program, the Federal Emergency Management Agency's (FEMA) National Training and Exercise Program, and an example of a successful multi-organizational Alliance ("Image Gently").

Following the initial presentations, participants were divided into three groups and were assigned to rotate through three facilitated breakout sessions, with each breakout session led by subject matter experts, or "champions," for the following topics:

1. Building Alliances and Capabilities
2. Training and Exercises
3. Funding for Radiological Preparedness in Public Health.

Recommendations developed during the workshop included:

1. Building Alliances and Capabilities: develop consistent, comprehensive radiological emergency preparedness capabilities nationwide, increase communication among interested parties, and share resources, tools and information. Necessary actions include redefining the post-9/11 public health role in radiological emergencies, assessing skill sets needed to execute public health roles and defining core competencies, establishing minimum standards and performance measures for readiness levels, and identifying and sharing best practices.
2. Training and Exercises - encourage and facilitate training of public health professionals in radiological emergency preparedness and explore ways to promote integration of multiple agencies in radiological exercise planning, development and participation, or inclusion of a radiological component in existing exercise plans. Actions needed to achieve these objectives included promoting interagency training and exercises, encouraging a paradigm shift in the way radiological preparedness is viewed by expanding beyond the traditional nuclear power plant-based radiological emergency preparedness (REP) framework to a more comprehensive model (CREP) that includes terrorism and transportation scenarios, and developing training programs and job aids that are effective for the target audience.
3. Funding for Radiological Preparedness in Public Health - re-define the post-9/11 role of radiation control programs

CRCPD Working Group & Liaison Activities

[Continued]

in public health and explore funding mechanisms for enhancing radiological emergency preparedness within that framework. Actions needed to achieve these objectives included: developing a comprehensive radiological emergency preparedness overview to raise awareness of radiation issues within the public health preparedness community, developing a clear role for radiation response in public health within an all-hazards framework, piloting outreach through a chemical, biological, radiological, or nuclear explosives (CBRNE) summit, promoting interagency discussions, and providing templates to assist public health programs seeking funding.

The following actions have been or are currently underway by the potential alliance partners (CRCPD, ASTHO, NACCHO, CSTE) and CDC, who would serve in an advisory role to the alliance:

- Submitted a proposal for funding an alliance steering committee to CDC (in process, ASTHO & CRCPD).
- Held a meeting to discuss development of an alliance, with CRCPD, CDC, ASTHO, CSTE and NACCHO partners (May 09)
- Had Jim Blumenstock of ASTHO present an overview of public health preparedness programs during a special interest meeting on "Expanding States' Emergency Preparedness Capabilities," at the annual conference, emphasizing the fact that over half of the states and territories have their radiation control programs based in public health departments (May 09).
- Frieda Fisher-Tyler made presentations at the National Radiological Emergency Preparedness Conference and the National Conference on Radiation Control to describe the collaborative work being done to expand radiological emergency preparedness capabilities in public health (April & May 09).
- Adela Salame-Alfie made a presentation to a CDC-sponsored workshop held in conjunction with the annual meeting of the Council of State and Territorial Epidemiologists in Buffalo, New York, on partnering with public health to perform population monitoring at community reception centers for the Empire 09 national level emergency management exercise (June 09).
- CRCPD representatives attended and provided an exhibit on partnering with public health in radiological emergencies at the NACCHO annual meeting in (July 09).

CRCPD Working Group & Liaison Activities

[Continued]

Plans are ongoing to pursue the objectives identified during the workshop, and to work with CDC and CRCPD leadership on a realistic plan for accomplishing these objectives.

New QA Collectible on Repeat Analysis

The H-7 Committee on Quality Assurance in Diagnostic X-ray, as part of their periodic review of the Collectibles, has revised and republished the QA Collectible originally titled "Film Use Analysis," which was published in July 1986. The October 2009 version of this Collectible is titled "Repeat Analysis," and now includes CR/DR and how to document repeated images on these systems.

This Collectible is provided as an insert in this issue. It is also available on our Website under Publications.

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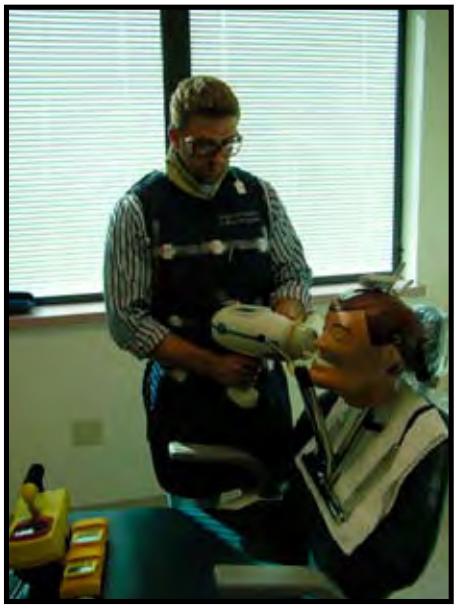
Washington State Measures Stray Radiation from a Handheld X-ray Device

By Mike Odlaug (WA Dept. of Health, X-ray)

We wanted to duplicate the dosimetry conducted by Danforth, Herschaft and Leonowich in their March 2009 paper in the Journal of Forensic Science, Vol 54, No.2, in which they measured operator exposure from a hand-held Aribex Nomad. Armed with leaded glasses, leaded apron and leaded thyroid shield, and with Landauer dosimeters strategically placed, we made 750 exposures while holding the device in normal fashion for a right bite-wing or periapical on a dental school phantom.



The results are not in yet since we just finished the project, but we are now attempting to obtain hand-held units from companies wanting to sell similar products, such as the Genoray, the Sigma BioRay Prox, and the Dexcowin DX3000. It appears, however, that some of these new devices have no scatter shield whatsoever, and look much like a camera with the cone sticking out, much like a lens. If we are successful getting loaners of these new units and testing them, we will share the results.

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Time to Renew your CRCPD Membership

It's that time of the year to renew your membership. The Board of Directors approved not increasing the 2010 membership dues, so dues amounts remain the same as for last year.

The 2010 CRCPD membership renewal notices are in the process of being distributed via e-mail to all CRCPD members. Please check your e-mail for your renewal notice. If you do not receive your notice by November 15, 2009, please contact Sharon Bowen via e-mail <sbowen@crcpd.org> or by phone 502/227-4543, Ext. 2229.

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The Newsbrief is written to address the needs of all radiation control program personnel. Readers are encouraged to contribute newsworthy or informative items for the Newsbrief, with neither charges nor stipends for the items that are selected. News of state radiation control programs is especially sought.

Articles should be sent to CRCPD, Attn: Sue Smith, 1030 Burlington Lane, Suite 4B, Frankfort, KY 40601 (fax: 502/227-7862; email: <ssmith@crcpd.org>. The deadline for contributions is the 15th of the month before an issue is to be published.

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Q.A. Collectible

Sponsored by CRCPD's Committee on Quality Assurance
In Diagnostic X-Ray (H-7)

Repeat Analysis

Every facility, regardless of its size, should account for each x-ray film it uses. A program to analyze film use (sometimes called a Repeat or Reject Analysis Program) provides a framework to manage film use, monitor equipment performance, and measure the effectiveness of the facility's quality assurance program, and most importantly control patient dose. All films not read by the health care practitioner or that are repeated for some reason should be counted in this analysis. A Film Use Worksheet is provided for use in analyzing the reasons for repeat x-rays. On the worksheet, categories are included for patient motion, positioning, etc. Other important categories that need to be analyzed but are sometimes omitted include non-medical films, QC films, and scout films. Analyzing all aspects of film use is important for a facility because it may identify specific problem areas.

Film use analysis separates non-diagnostic films into two basic areas: repeat films and all other films. REPEAT FILM is defined as a film that was not acceptable and required an additional exposure to the patient. Even if the film is kept (not put in the reject bin), it should be counted as a repeat if it resulted in additional exposure to the patient. ALL OTHER FILMS includes test (QC) films, clear films, and any others that do not fit the definition of "repeat film."

General Procedure for Film Radiography:

Collect and save all films that are not sent to the health care practitioner for reading. Make a note of the films that were repeated, but both films were sent through to the practitioner for reading (these are still considered repeats).

After a period of time (recommend a minimal sample size of 250 patients or quarterly) analyze all of the films and record the reason that each film was placed in the collection box. The worksheet has several categories listed that are important in the management of an x-ray facility. For each film, place a mark in the box next to the appropriate cause. Record the total number of films that are checked for each category on the worksheet.

It is also important to record the total number of films used by the facility during the time period in order to determine total film usage.

Add up rows 1-10 on the worksheet to determine the total number of repeat or reject films and rows 11-14 to determine the total number of the other films. Also add these two numbers to

determine the total number of non-diagnostic films. Determine the percentage of non-diagnostic films for each category.

Digital Radiography:

Digital Radiography (DR/CR/picture archiving and communication systems [PACS]) may reduce repeated exposures, but they do not eliminate them. A repeat analysis is just as important in these systems as it is in analog systems. The methodology must be changed as there usually is not a "film" to be analyzed. Some systems may have a repeat exposure analysis capability built into the software. If so, one should follow the manufacturer's suggested procedures. Lacking this, a tally sheet may be maintained to record repeated exposures as they occur and the reason for the repeat. Again, periodic analysis of repeat exposures can be made on the attached Film Use Worksheet. The form may be modified with different causes, as digital systems have some unique artifacts and several of the "causes" on the form will not be present in a digital system.

Analysis of Results:

In order for this program to be of any value to the facility, the results must be reviewed PERIODICALLY! The overall rate should be less than 10%. The percentage of films in each category also needs to be reviewed to determine if a particular problem exists. If so, steps should be taken to correct that problem. As conditions improve, the overall percentages should decrease.

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QA Collectible: Repeat Analysis

Film Use Worksheet

Time Period: From:_____ To:_____ Total Films Used:_____

Cause	Number of Films in Each Category	Total Number	Percentage
1. Positioning			
2. Patient Motion			
3. Light Film			
4. Dark Film			
5. Black Film			
6. Static			
7. Fog – Darkroom			
8. Fog – Cassette			
9. Mechanical			
10. Good Film			
11. Other			

Total Number of Repeat Films: _____

Percentage: _____

Cause	Number of Films in Each Category	Total Number	Percentage
12. Clear Film			
13. QC Film			
14. Other			

Total Number of Other Films: _____

Percentage: _____

.....

Total Number of All Categories: _____

Percentage: _____

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