Supplementary Appendix S1

Q1. Which of the following best describes your current primary employer?

- [ ] Academic Institution
- [ ] Private Practice
- [ ] Other, please specify: ________________________________________________

Skip To: End of Block If Q1 = Other, please specify:

Q2. Please select your primary area of practice.

- [ ] Radiology
- [ ] Internal Medicine
- [ ] Emergency/Critical Care

Q3. How many years have you been practicing in your specialty (post-residency)?

- [ ] Less than 1 year
- [ ] 1-5 years
- [ ] 6-10 years
- [ ] 11-15 years
- [ ] 16-20 years
- [ ] Greater than 20 years
Q4. Was your residency performed at a/an...

- [ ] Private practice
- [ ] Academic institution
- [ ] Other, please specify: ________________________________________________

Q5. What imaging modalities are available at your practice? Please check all that apply.

- [ ] Radiography
- [ ] Fluoroscopy
- [ ] Ultrasound
- [ ] Computed tomography
- [ ] Magnetic resonance imaging
- [ ] Nuclear medicine / PET

Q6. How many radiologists are employed by your practice?

- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4 or greater
- [ ] There is no radiologist on staff, but we utilize a traveling or an online radiology service
- [ ] There is no radiologist on staff and we do not use a traveling or online radiology service
Q7. Is mandatory radiation safety training for ALL medical personnel (doctors and technicians regardless of ionizing radiation use, e.g. taking radiographs) performed at your institution?

- Yes
- No
- Don't know

Display This Question:

If Is mandatory radiation safety training for ALL medical personnel (doctors and technicians regardl... = No
Or Is mandatory radiation safety training for ALL medical personnel (doctors and technicians regardl... = Don't know

Q8. Is mandatory radiation safety training for all medical personnel who USE ionizing radiation performed at your institution (e.g. technicians performing radiographs)?

- Yes
- No
- Don't know

Q9. Are radiation safety practices discussed in your employee/practice manual?

- Yes
- No
- Don't know
- My practice does not have an employee/practice manual
Q10. Please select the format(s) in which training is offered. Please check all that apply.

☐ In person/lecture by practice employee

☐ In person/lecture by outside entity

☐ Online

☐ Self-taught through reading materials/employee manual

☐ Other, please specify: ________________________________

☐ Don't know

Q11. What is the frequency of radiology safety training?

☐ One time only

☐ Once yearly

☐ More frequent than yearly

☐ Less frequent than yearly

☐ Don't know
Q12. Have you received radiation safety training at your current institution?

- Yes
- No

Q13. During radiation safety training, is there any discussion on minimizing dose of ionizing radiation to hospital personnel?

- Yes
- No
- Don't know
Q14. During radiation safety training, is there discussion about minimizing exposure to personnel through time, distance, and shielding?

Time is defined as reducing time spent working with radiation sources.
Distance is defined as increasing the distance from radiation sources.
Shielding is defined as the use of lead or other material to protect personnel.

- Yes
- No
- Don’t know

Q15. During radiation safety training, is there any discussion on limiting dose of ionizing radiation to patients?

- Yes
- No
- I don’t know
Q16. Do you know what the acronym A.L.A.R.A. stands for in regards to radiation safety?

- Yes (Please write the answer in the text box provided)

- No

Q17. Does your hospital have an assigned radiation safety officer?

- Yes

- No

- Don't know

Q18. Are personnel at your hospital who work with radiation assigned individual dosimetry badges?

- Yes

- No

- Don't know
Q19. Technicians and/or students at our institution are taught to take radiographs primarily...

- With the students in the x-ray examination room providing manual restraint of the patient
- By remote with the students outside of the x-ray examination room with the assistance of sedation (when possible) and physical restraints (e.g. sand bags)
- Students are taught both techniques equally

Q20. Human studies have found that roughly 1 out of 1000 patients will develop a potentially fatal cancer as a result of computed tomography.

Do you believe that ionizing radiation doses from veterinary CT have the potential for a similar increase in the lifetime risk of fatal cancer in veterinary patients?

- Yes
- No

Q21. Has a client ever asked about the risks associated with the use ionizing radiation in imaging procedures?

- Yes
- No
Q22. Do you routinely warn clients that some medical imaging procedures use ionizing radiation and that they may carry a cancer risk?

- Yes
- No

Q23. Do you routinely warn clinicians that medical imaging procedures using ionizing radiation may carry a cancer risk?

- Yes
- No

Q24. If a study showed that CT scans in young patients (e.g. a poly-trauma hit by car dog or puppy evaluated for a portosystemic shunt) resulted in a 0.1% increased lifetime risk of fatal cancer, would this affect your use of this procedure?

- Yes, I would choose an alternative modality
- Yes, but only if an alternative modality would provide similar diagnostic value
- No, I already consider this when choosing a modality
- No, this would not be a factor in the procedure I choose.
Q25. Within your institution what would a typical response be toward a staff member who was found to have violated radiation safety practices for a first offense (e.g., taking patient radiographs with an ungloved hand in the primary x-ray beam or taking a radiograph without wearing a protective lead apron and thyroid shield)? Please select all that apply.

☐ No action would be taken
☐ The individual would be educated in radiation safety practices
☐ The finding and potential hazard would be documented in the radiographic report
☐ The individual would be verbally warned by a radiologist or administrator regarding a breach in safety protocols
☐ More severe disciplinary action would be taken. Please explain. __________________________________________________
☐ Don't know

Q26. Within your institution what would a typical response be toward a staff member who was found to have violated radiation safety practices on multiple occasions (e.g., multiple radiographs taken with an ungloved hand in the primary x-ray beam or multiple occasions of taking radiographs without a protective lead apron and thyroid shield)? Please select all that apply.

☐ No action would be taken
☐ The individual would be educated in radiation safety practices
☐ The finding and potential hazard would be documented in the radiographic report
☐ The individual would be verbally warned by a radiologist or administrator regarding a breach in safety protocols
☐ More severe disciplinary action would be taken (e.g. termination of employment)
☐ Don't know
Q27. Please estimate the effective dose for the following medical imaging studies. For reference, the estimated yearly dose due to natural background radiation is 3.1 mSv

<table>
<thead>
<tr>
<th>Modality</th>
<th>0.1-0.5 mSv</th>
<th>0.5-1.0 mSv</th>
<th>1-5 mSv</th>
<th>5-10 mSv</th>
<th>10-50 mSv</th>
<th>50-100 mSv</th>
<th>&gt;100 mSv</th>
<th>This modality does not utilize ionizing radiation</th>
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<tbody>
<tr>
<td>Thoracic Radiographs</td>
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<td>Three-Phase Esophagogram</td>
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<tr>
<td>Three Phase (pre-contrast, arterial, and delayed phases) CT of the abdomen</td>
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<td>MRI of the brain</td>
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<tr>
<td>Abdominal ultrasound</td>
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