Welcome to the RRAD Survey - Radiation Risks: Attitudes on Disclosures

We thank you very much in advance for completing our survey!

Note: "Stable" patient is used in this survey to refer to patients in the emergency department where there is time for discussion of management options and ability of the patient/family to participate in such discussions.

1. For stable patients, how comfortable do you feel discussing the potential future malignancy risk associated with CT with patients and/or their families?

   - Extremely comfortable
   - Very comfortable
   - Somewhat comfortable
   - A little comfortable
   - Not at all comfortable

2. When ordering a CT for a stable patient, in general, how often do you discuss the potential future malignancy risk from ionizing radiation with the patient and/or family member?

Please provide a separate response for each patient age.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Almost always</th>
<th>Most of the time</th>
<th>Sometimes</th>
<th>Not very often</th>
<th>Almost never</th>
<th>Not applicable, I do not treat this age group</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-18 year-old patients</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
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<tr>
<td>19-40 year-old patients</td>
<td>✅</td>
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<td>✅</td>
<td>✅</td>
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<tr>
<td>41-65 year-old patients</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>&gt;65 year-old patients</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
</tr>
</tbody>
</table>
Tell us if you have other comments:

3. When you DO discuss the potential malignancy risk associated with CT in a *stable* patient, how important are the following factors in your decision to discuss the risk?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Very low importance</th>
<th>Low importance</th>
<th>Moderate importance</th>
<th>High importance</th>
<th>Very high importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient/family directly asks me for more information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is my duty to let patients/families know about the potential risks and benefits of any test</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Patients/families often worry about the potential risks, even if they do not ask</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There may be medico-legal implications if I do not discuss the risk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The patient/family is requesting the CT but I do not think it is clinically indicated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tell us if there are other factors important in your decision to discuss the potential malignancy risk from CT:

4. When you DO NOT discuss the potential malignancy risks associated with a CT in a *stable patient*, how important are the following in your decision NOT to discuss the risk?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Very low importance</th>
<th>Low importance</th>
<th>Moderate importance</th>
<th>High importance</th>
<th>Very high importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time pressure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tell us if there are other factors important in your decision NOT to discuss the potential malignancy risk from CT:

Concern that patients/families will refuse the CT and/or ask for alternative tests/strategies not easily available

Discussion is not relevant because there is a lack of consensus on the level of risk

Lack of confidence in my knowledge of the potential risk

Most patients/families will not understand the complexities of these discussions

Discussion is not necessary because I as a physician have considered the balance of benefit and risk

Concern that the patient's health will be compromised due to refusal

The discussion of risk is not as relevant for elderly adults or those with reduced life expectancy

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5. If malignancy risk disclosure to patients became the standard of care for medical imaging with radiation exposure, how do you think this should be performed?

Verbal informed discussion without requiring documentation in the medical record (i.e. conversation between clinician and patient/family discussing potential risks and benefits, including limitations of our knowledge)

Verbal informed discussion with documentation in the medical record

Written informed consent (i.e. signed document acknowledging awareness of potential risks and benefits)

Other (please specify):

6. How useful do you think the following education tools would be in providing you with information on risks/benefits from diagnostic imaging so that you can communicate better about
these issues?

<table>
<thead>
<tr>
<th></th>
<th>Not at all useful</th>
<th>Rarely useful</th>
<th>Somewhat useful</th>
<th>Very useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online lecture/educational webinar</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>In-person lecture/workshop</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Smartphone app/web-based interactive tool</td>
<td>○</td>
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<tr>
<td>Automated feature of the electronic medical record when ordering imaging that exposes a patient to radiation</td>
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<tr>
<td>Pocket card/short booklet</td>
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</tbody>
</table>

Tell us if there are other education tools that would be effective for you:

7. Consider an adult patient (30-50 yrs old) who undergoes a head CT for trauma. What is the current estimate of the potential increase in lifetime cancer mortality associated with this examination?

We acknowledge the estimation of potential risk is very challenging due to local variability in doses and the complexities and limitations of CT dosimetry and risk model methods. Given these limitations, please select the answer you feel is most correct to the nearest order of magnitude.

1 in 100
1 in 1,000
1 in 10,000
1 in 100,000
1 in 1,000,000
There is no risk
I do not know

8. Now consider a 5-10 year old child who undergoes a head CT. Appropriate adjustments to the
technical settings are made and the effective dose is similar to that of the scan performed on the adult patient.

How does their potential increase in lifetime cancer mortality risk compare to the adult patient?

- Approximately one fifth of the risk (0.2 x adult risk)
- Approximately half the risk (0.5 x adult risk)
- Similar to that of the 30-50 year-old adult
- Approximately double the risk (2 x adult risk)
- Approximately five times the risk (5 x adult risk)
- I do not know

9. Are the technical settings on the CTs obtained through your ED adjusted for pediatric patients?

- Yes
- No
- I am unsure
- Not applicable- my ED never treats patients under 18 years of age

Other (please specify):

10. To what degree are you familiar with the following concepts and campaigns?

<table>
<thead>
<tr>
<th>Concept/Program</th>
<th>Highly familiar</th>
<th>Very familiar</th>
<th>Somewhat familiar</th>
<th>A little familiar</th>
<th>Not at all familiar</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALARA (As Low As Reasonably Achievable)</td>
<td>○</td>
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<tr>
<td>Image Gently Campaign</td>
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<tr>
<td>Image Wisely Campaign</td>
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<tr>
<td>Choosing Wisely Campaign</td>
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<tr>
<td>American College of Radiology (ACR) Appropriateness Criteria</td>
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</tbody>
</table>
11. How often do you consider a patient’s prior radiation exposure from medical imaging when deciding on appropriate imaging tests for the current ED visit?

Almost always  Most of the time  Sometimes  Not very often  Almost never

Please tell us if you have additional comments regarding prior radiation exposures from imaging:


12. How many years have you been in practice since residency training?

Less than 5 years
5 -10 years
11-15 years
16-20 years
More than 20 years

13. Do you primarily practice in the United States or Canada?

United States
Canada

13a. In which state is the emergency department in which you primarily work located?


13a. In which Canadian province is the emergency department in which you primarily work located?


14. Do you care for pediatric patients ≤14 years of age in your emergency practice?

No, I do not care for patients ≤14 years of age in my practice
Yes, these patients represent <25% of my practice
Yes, these patients represent 25-50% of my practice
Yes, these patients represent 51%-75% of my practice
Yes, these patients represent >75% of my practice

15. Please provide any additional comments you have regarding this topic:

16. If you would like to be entered into a raffle to receive $100, please provide an email address below.

For educational materials and awareness opportunities regarding radiation from medical imaging, please visit:

http://www.imagewisely.org

and

http://www.imagegently.org

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