

# PATIENT RADIATION SAFETY IN CT

## Perform The Scan Only If It's Indicated

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The lowest radiation exposure to a patient is the radiation exposure that doesn't occur, if there's an unnecessary exam, then we shouldn't be scanning the patient.

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## Consider The Use of Alternative Imaging Options

Ultrasound or MRI don't use radiation and they could be alternatives depending on the diagnostic question that's trying to be answered.

## Always Check If Your Patient May Be Pregnant

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We don't want to unknowingly image or do a CT on someone who is either pregnant or potentially pregnant. Always verify if the patient is pregnant before doing their exam

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## Start Using Images With Some Noise Without The Loss of Diagnostic Information

High-quality images may not be necessary for answering the diagnostic question. You can use a lower radiation dose and still answer the diagnostic question.

## Use Indication-Specific CT Protocols For Each Body Part

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Use indication-specific CT protocols for each body region. For example, not every chest CT should be a full-blown chest. We could do a low-dose screening, a lung screening chest protocol, and also potentially do a low-dose nodule follow-up protocol.

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## Multiple Pass or Multiphase CT Should Not Be Performed Routinely

Multiple pass or multiphase CT should not be performed routinely. Only do the passes that are actually necessary and potentially combine different protocols.

## Adjust Exposure Parameters According To The Patient And Body Part

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## Know Your Equipment, Including the AEC System

Learn how to adjust the parameters of the automatic exposure control (AEC) system to fine tune radiation dose for different clinical indications and body regions.

## Use Good Technique

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- Always center the area of interest in isocenter of CT gantry.
- Check that your scan length is covering only the anatomy that's absolutely necessary.
- Any further padding is absolutely necessary. The one caveat to this is with a scout.

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## Pay Attention To Radiation Dose Values

Pay attention to your radiation dose values, such as the Pre-scan CTD because you need to make sure that you're falling within your pre-determined dose values and dose limits.

