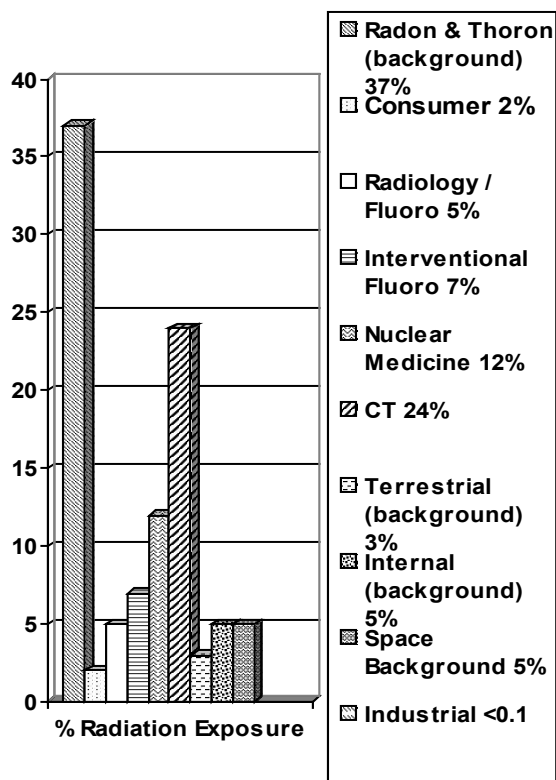


## Suggested CTDI<sub>vol</sub> Reference Levels

CT Head:	<75mGy, (<7.5 rad)
CT Abdomen:	<25mGy, (<2.5 rad)
CT Chest:	<20mGy (<2.0 rad)
Pediatric Abdomen:	<20mGy (<2.0 rad)
CT Brain Perfusion Study:	<500mGy (<50.0 rad) (Suggested Value)



Graph created from information in Figure 1.1 of NCRP Report No. 160, Ionizing Radiation Exposure of the Population of the United States.

## Resources

[www.crcpd.org](http://www.crcpd.org)

NEXT CT Survey, Example CT Dose Log

[www.imagecently.org](http://www.imagecently.org)

Pediatric imaging protocols; online education for patients, technologists and radiologists, dose reduction tools

[www.aapm.org](http://www.aapm.org)

AAPM reports

<http://mayoresearch.mayo.edu/CTCIC>

Educational resources

[www.acr.org](http://www.acr.org)

Practice guidelines, technical standards, radiation dose, appropriateness criteria, CT accreditation information

[www.jointcommission.org](http://www.jointcommission.org)

CT accreditation information

[www.intersocietal.org](http://www.intersocietal.org)

CT accreditation information

[www.ctisus.com](http://www.ctisus.com)

Educational resources, scanner protocols, case studies

Prepared by

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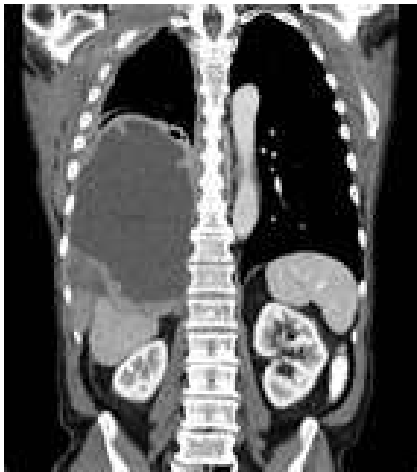
## COMPUTED TOMOGRAPHY DOSE MANAGEMENT

It is the position of the Board of Directors of the Conference of Radiation Control Program Directors, Inc. (CRCPD) that hospitals and computed tomography (CT) facilities should review their CT protocols to ensure that their current protocols are appropriate to allow them to provide the best possible CT studies while assuring they are keeping patient exposures as low as reasonably achievable.

# CT Dose Management Committee

CRCPD recommends that each facility should establish a committee that consists of the:

- CT interpreting radiologists,
- Chief CT technologists,
- CT medical director,
- Radiation safety officer, and
- Facility's qualified medical physicist (QMP).



## Responsibilities of the CT Dose Management Committee

- Review CT default protocols to ensure they are correct, that they are the intended protocol, and then compare them to the initial dose assessments made at the time of install and at the last QMP review.
- Work to optimize the parameter settings for each protocol to ensure that the  $CTDI_{vol}$  is appropriate and the study will provide the needed image quality.
- Determine whether the  $CTDI_{vol}$  is appropriate or whether there is an opportunity to reduce the technique and lower the  $CTDI_{vol}$  (dose values).
- Record the techniques and establish guidelines of variability. The variability range should be approved by the CT medical director. CT technologists should be permitted to adjust protocols as long as they remain within the approved limits.
- If possible, a password protection should be put in place that prohibits anyone from changing protocols without approval from the CT medical director. Ensure that the service provider does not change any protocols without approval from the committee.
- Ensure the dose values are forwarded on the images for the interpreting radiologist's review.
- Conduct an ongoing review of all protocols. Specified subsets may be reviewed on a rotating basis.
- Suggested review intervals:
  - o Monthly by chief CT technologist
  - o Annually by QMP
- Review the control parameters of the Automatic Exposure Control system (AEC). The committee should ensure they are optimized with respect to the imaging requirements of each type of CT study.
- Ensure the interpreting physicians and technologists are properly educated on what the  $CTDI_{vol}$  dose numbers mean. The dose should be available for each patient case and periodically reviewed by appropriate facility staff. The dose should be recorded as part of the patient's medical record.
- Technologists should monitor available dose values for each patient to ensure that the displayed value falls within an acceptable range. Written logs ensure consistency and aid in the ongoing review process.
- Consider establishing a threshold to investigate radiation doses above certain dose values.

## EXAMPLE CT DOSE LOG

Date:	Patient Name:	Tech(s):	Pre CTDivol:	Exam Type:	CT Number:	Post CTDivol:	Reviewer:
Time:		Assist.Tech:					
Time:		Assist.Tech:					
Time:		Assist.Tech:					
Time:		Assist.Tech:					
Time:		Assist.Tech:					
Time:		Assist.Tech:					
Time:		Assist.Tech:					
Time:		Assist.Tech:					

This form is meant to be a starting place for facilities to log CT exams. It is an example of the basic information that facilities should consider capturing. A handwritten log allows easy documentation to ensure technologists are capturing information on each scan and will help facilitate review by the dose management committee.

Work Product of the  
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