

**SUNY DOWNSTATE MEDICAL CENTER
UNIVERSITY HOSPITAL OF BROOKLYN
POLICY AND PROCEDURE**

No. CT-9

Subject: COMPUTED TOMOGRAPHY (CT)
ACR DOSE Reference Levels

Page 1 of 2

Reviewed by: Donna McKenzie
Maxine Barnes, MSc

Original Issue Date: 9/2001

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Effective Date: 12/2017

Reviewed: 01/2019

TJC Standards: MM. 01.01.03 (EP3) The hospital implements its process for managing high-alert and hazardous medications.

EC. 02.01.01(EP.17) *Verifies that the radiation dose (in the form of CTDIvol) produced and measured for each protocol tested is within 20 percent of the CTDIvol displayed on the CT console.*

Approved by: Hyman Schwarzberg.M.D.

Deborah Reede M.D

Issued by: Radiology Department

I. PURPOSE

To maintain CT dose levels within or below recommended ACR Reference Dose levels

II. DEFINITION:

CT Dose: is that amount of radiation that is imparted and absorbed in tissue during a CT examination...

ACR Reference Dose Levels: Dose of Radiation which The ACR has identified as being the maximum dose which should be imparted to tissue during a CT exam.

A. Adult Head- 75-80 mGy

B. Adult Abdomen- 25-30mGy

C. Pediatric Abdomen- 25mGy* or 7.5mGy – 10mGy *

D. Pediatric Head – 35-40mGy (based on 1 year old)

III. RESPONSIBILITIES

Technologist, Attending Radiologist and/or Radiology Resident, Medical Physicist
CT Manager, and Radiation safety officer .

IV. POLICY

CT-9 CT DOSE MONITORING

All CT Technologist will utilize all available methods of reducing and minimizing radiation exposure to CT patients utilizing principle of ALARA.

V. PROCEDURE/GUIDELINES

- a. All CT technologists will adhere to the established protocols that have been designed to minimize patient exposure.
- b. All CT technologist will utilize the Dose reduction Software available on the Philips Brilliance 64 Scanners to minimize patient exposure.
- c. The CT manager will conduct a weekly review of the CTDI volume's as recorded in RADIMETRICS ALERT DASH BOARD. The CT MANAGER & RSO will investigate CTDI levels in the form of alerts that exceed the established threshold (ACR reference levels) jointly. A determination of the reason for the exposure exceeding the threshold levels will be identified and noted in the alert acknowledgement section. Each individual alert will be closed and removed from the alert dashboard. The Radiation Safety Officer will decide if notification /reporting of the exposure value to the patient's PCP is warranted based on the degree of exposure.
- d. The RSO will report alerts that are Sentinel events at the Radiation Safety committee meeting.
- e. All CTDIvol for each CT procedure will be incorporated into the Physician's interpretive report.

VI. ATTACHMENT

* ACR Recommended CTDI volume. The pediatric abdomen dose estimate limit as reported by the scanner using a 16cm phantom. If the scanner reports values using a 32cm phantom, the approximate limits would be 7.5 to 10mGy based on a 40 to 50lb pediatric patient.

VII. REASON FOR REVISION

Review of current ACR standards

VIII. REFERENCES:

- *TJC Standards*

UHB Policy (RAD-12) <http://www.downstate.edu/regulatory/pdf/policies/RAD-12.pdf>

Date Reviewed	Revision Required (Check One)		Responsible Staff Name and Title
9/2001	Yes		James Shanahan, Director Radiology Department
12/2015	(Yes)	No	Vincent Monte Assoc. Director Radiology Department
01/19	(YES)		Maxine Barnes, Radiation Safety Officer