



UK Health  
Security  
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# UKHSA Update – CTUG 2025

Sue Edyvean, Jan Jansen, John Holroyd

Topics for Round Table session:

- CT Calculators – UKHSA and ICRP (Jan Jansen, SE, JH)
- New CT survey to update CT NDRLs (John Holroyd, JS, SE)

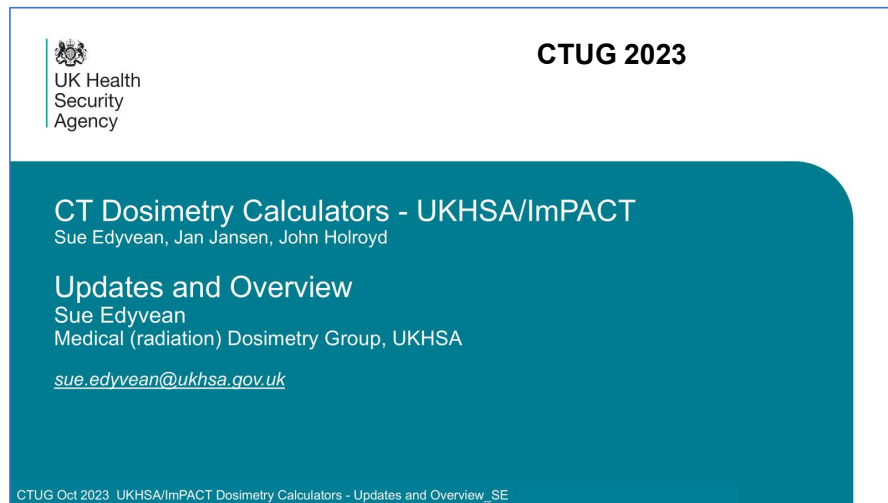
CTUG 16<sup>th</sup> October 2025 Newcastle

# CT calculators – Update since presentations at CTUG 2023

## 25th CT users group meeting: 19/10/2023 - CT Users Group

- **CT Calculators – UKHSA/ImPACT**

- Updates and Overview – ImPACT, UKHSA, ICRP
- UKHSA calculator – Work in progress



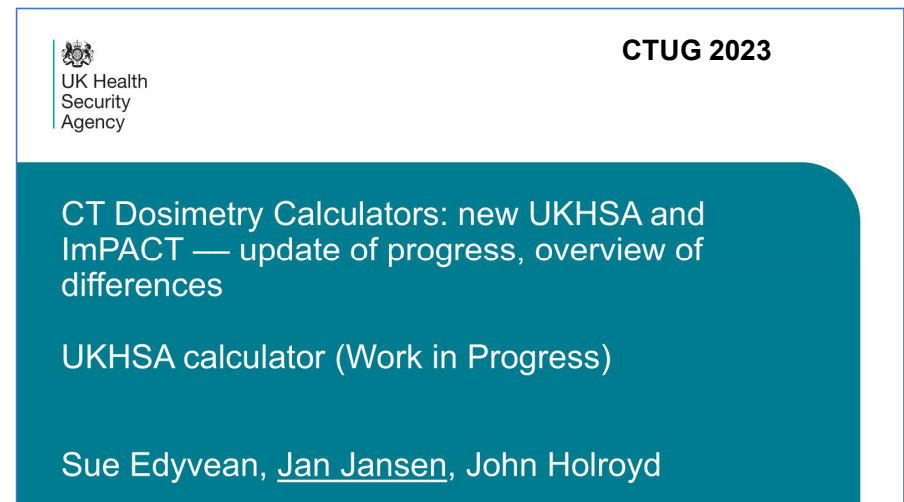
UK Health Security Agency

CTUG 2023

CT Dosimetry Calculators - UKHSA/ImPACT  
Sue Edyvean, Jan Jansen, John Holroyd

Updates and Overview  
Sue Edyvean  
Medical (radiation) Dosimetry Group, UKHSA  
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CTUG Oct 2023 UKHSA/ImPACT Dosimetry Calculators - Updates and Overview\_SE



UK Health Security Agency

CTUG 2023

CT Dosimetry Calculators: new UKHSA and ImPACT — update of progress, overview of differences

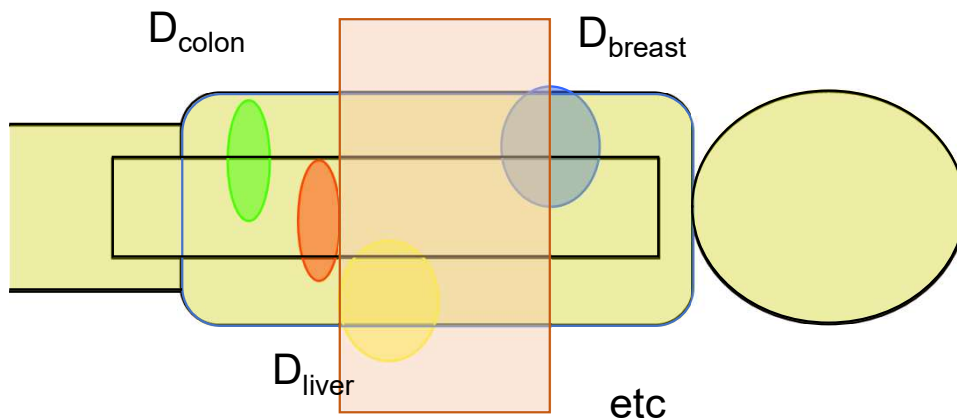
UKHSA calculator (Work in Progress)

Sue Edyvean, Jan Jansen, John Holroyd

Papers for the underlying work are at [Medical Dosimetry Group - Current work \(ukhsa-protectionservices.org.uk\)](https://ukhsa-protectionservices.org.uk)

# Effective Dose

- Estimate average organ dose ( $D_T$ ) for all organs – measure or calculate
- Apply organ/tissue weighting factors ( $w_T$ ) from ICRP 103 (previously ICRP 60)
- Sum over all organs



Organ (T)	$w_T$	
	$w_{T,103}$	$w_{T,60}$
Oesophagus	0.04	0.05
Thyroid	0.04	0.05
Lungs	0.12	0.12
Skin	0.01	0.01
Breast	0.12	0.05
Stomach	0.12	0.12
Liver	0.04	0.05
Colon	0.12	0.12
Gonads	0.08	0.2

$$E = \sum_{\text{organs}} (w_T \cdot D_T)$$

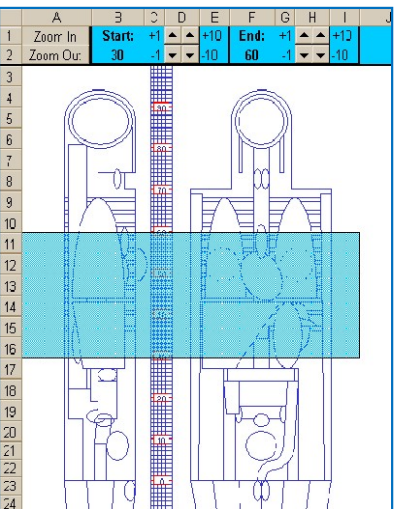
^ Apply quality factor: for X-rays = 1



# Monte Carlo organ Dose Conversion Co-efficient (DCC) project

Extensive work on various modifications of MIRd phantom – including for quality control, organs and composition

## NRPB 18+DJ specific implementation



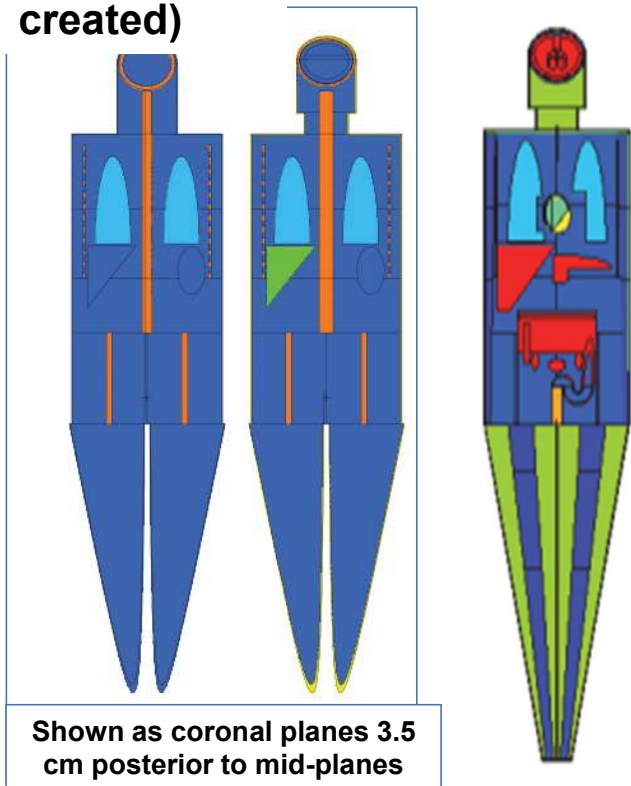
**NRPB SR250**

## MIRD with modifications

NRPB 18+DJ (re-created)

HPA 18+

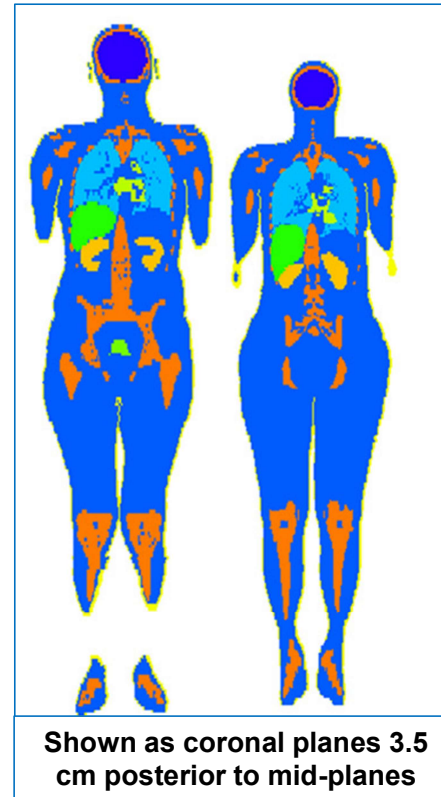
HPA 18+



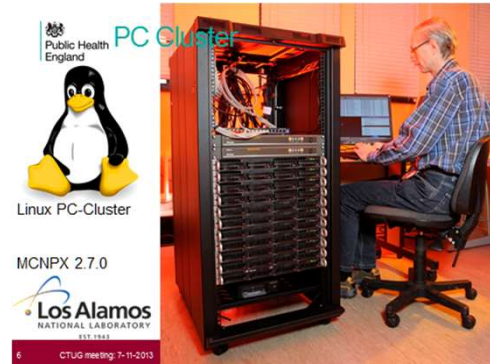
Shown as coronal planes 3.5 cm posterior to mid-planes

## ICRP Computational Reference (Voxel) Phantoms - Adults ICRP Publication 110

Adult Male Adult Female



Shown as coronal planes 3.5 cm posterior to mid-planes



Medical Dosimetry Group  
- Current work ([ukhsa-protectionservices.org.uk](http://ukhsa-protectionservices.org.uk))

Figures - Jan Jansen

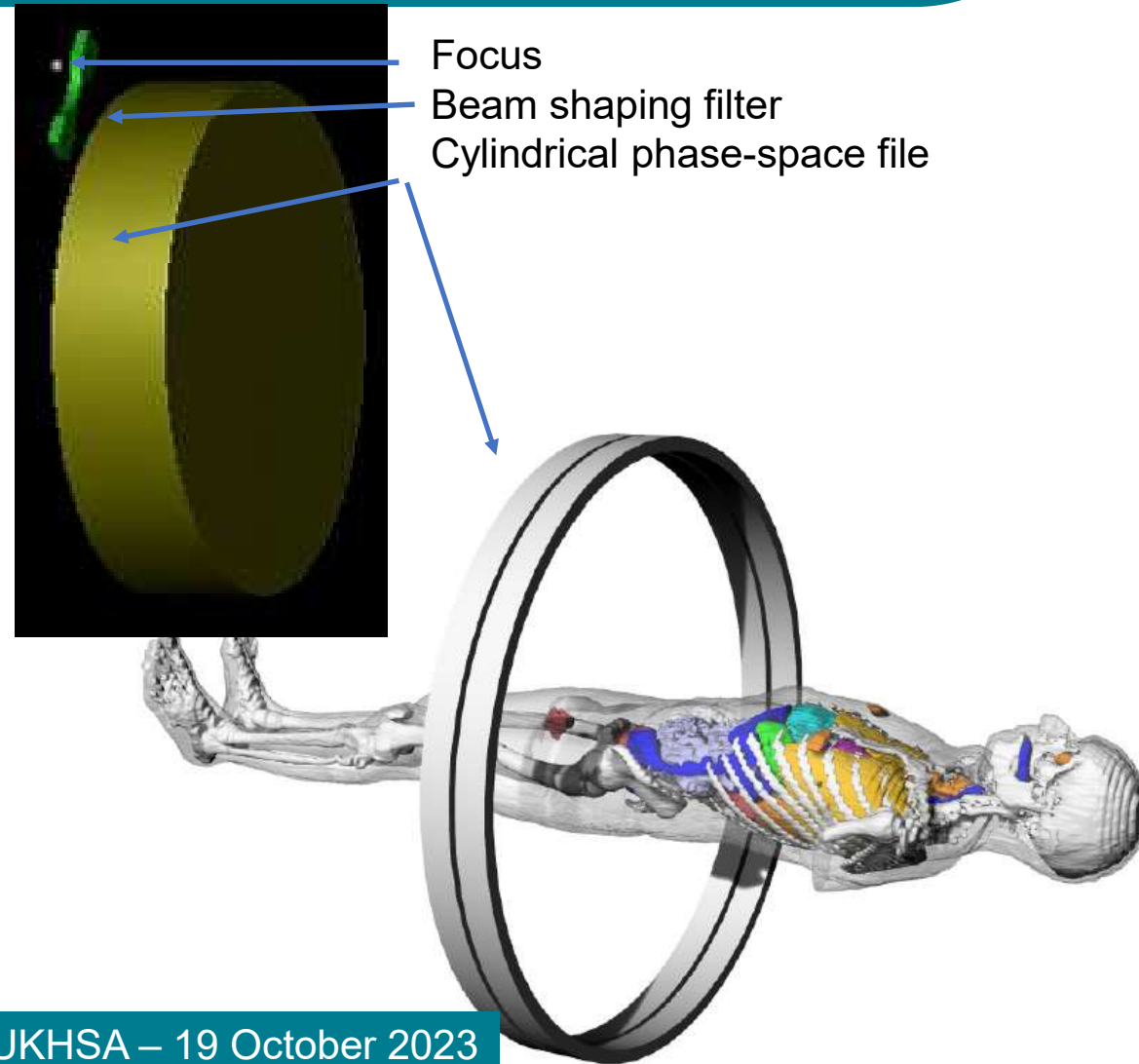
# Information to UKHSA under NDA\*: 'Contemporary CT models'

\* NDA: non-Disclosure Agreement

Manufacturer RPB/ImPACT	CT Model	Potential (kV)	Beam shaping filter	Fan size
	Brightspeed 16 Elite	80, 100, 120, 140	Large, small	—
General	Discovery CT750 HD	80, 100, 120, 140	Large, medium, small	—
Electric (GE)	Optima CT660	80, 100, 120, 140	Large, small	—
	Lightspeed VCT	80, 100, 120, 140	Large, medium, small	—
Philips	Brilliance CT 64	80, 120, 140	—	—
	Brilliance iCT 256	80, 100, 120, 140	Body, head, baby	—
	Somatom Definition	80, 100, 120, 140	Body, head	Full, Small
	Somatom Emotion 6	80, 110, 130	—	—
Siemens	Somatom Sensation 16	80, 100, 120, 140	Body, head	—
	Somatom Sensation 64	80, 100, 120, 140	—	—
	Somatom Sensation Open	80, 100, 120, 140	—	—
Toshiba	Aquilion 16	80, 100, 120, 135	Dose reduction, large, small	—

## UKHSA Set-Up Monte Carlo method

- First Monte Carlo simulation with the CT scanner in a fixed position and writing the photons hitting the cylinder to a phase space file
- Rotate these photons by an arbitrary angle
- Transport these photons through an ICRP reference voxel phantom, or free-in-air, or 16 cm or 32 cm CT dosimetry phantom
- Tally the absorbed organ dose and the CTDI dose
- Normalize the absorbed organ doses by dividing to the  $CTDI_{free-in-air}$
- Transfer the phantom through the gantry with voxel size steps



# UKHSA Calculator, E/DLP

## Current work

Most recent work utilises the ICRP Adult male and female voxel phantoms, a wide range of scanners and operating characteristics, and the application of ICRP Report 103 weighting factors.

The work is documented in the following papers:

Shrimpton PC, Jansen JT, Harrison JD.

[Updated estimates of typical effective doses for common CT examinations in the UK following the 2011 national review.](#)

Br J Radiol. 2016;89(1057):20150346. doi: 10.1259/bjr.20150346. Epub 2015 Nov 6.

Jan TM Jansen and Paul C Shrimpton.

[Development of Monte Carlo simulations to provide scanner-specific organ dose coefficients for contemporary CT.](#)

Physics in Medicine and Biology, 2016 Jul 21;61(14):5356-77. doi: 10.1088/0031-9155/61/14/5356. Epub 2016 Jun 30.

Jan TM Jansen, Paul C Shrimpton, John Holroyd and Sue Edyvean.

[Selection of bone dosimetry models for application in Monte Carlo simulations to provide CT scanner-specific organ dose coefficients.](#)

Physics in Medicine and Biology, 2018 Jun 19;63(12):125015. doi: 10.1088/1361-6560/aac717.

Jan TM Jansen, Paul C Shrimpton and Sue Edyvean.

[CT scanner-specific organ dose coefficients generated by Monte Carlo calculation for the ICRP adult male and female reference computational phantoms.](#)

Physics in Medicine and Biology, 2022 Nov 16;67(22). doi: 10.1088/1361-6560/ac9e3d.

Jan TM Jansen, Paul C Shrimpton, and Sue Edyvean.

[Development of a generalized method to allow the estimation of doses to the ICRP reference adults from CT, on the basis of normalized organ and CTDI dose data determined by Monte Carlo calculation for a range of contemporary scanners.](#)

Physics in Medicine and Biology, 68 (2023) 035022. doi:10.1088/1361-6560/abc2a8.

Shrimpton PC, Jansen JT, Harrison JD.

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> Br J Radiol. 2016;89(1057):20150346. doi: 10.1259/bjr.20150346. Epub 2015 Nov 6.

## Updated estimates of typical effective doses for common CT examinations in the UK following the 2011 national review

Paul C Shrimpton<sup>1</sup>, Jan T M Jansen<sup>1</sup>, John D Harrison<sup>1</sup>

Affiliations + expand

PMID: 26544160 PMID: PMC4985946

### Abstract

**Objective:** To investigate the impact of ev (ICRP) recommendations concerning calc values for common CT examinations with

**Methods:** Monte Carlo simulations have i models and 5 virtual reference adults. Ser coefficients were derived for common exa mathematical phantoms and voxel phantc 1990 and 2007 formulations for E. Update from the 2011 UK survey.

## E/DLP factors E from ICRP 110 Voxel phantoms

Table 4. Mean values of effective dose/dose-length product (E/DLP) by CT examination and definition of effective dose estimated in relation to the International Commission on Radiological Protection adult reference computational phantoms (as mean data for adult male/adult female) and a range of scanners operating with standard (medium) applied potentials

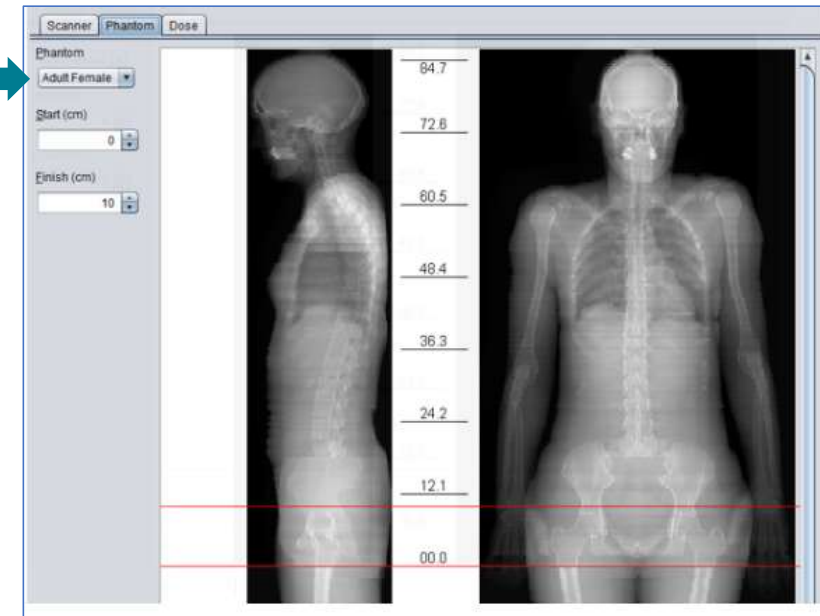
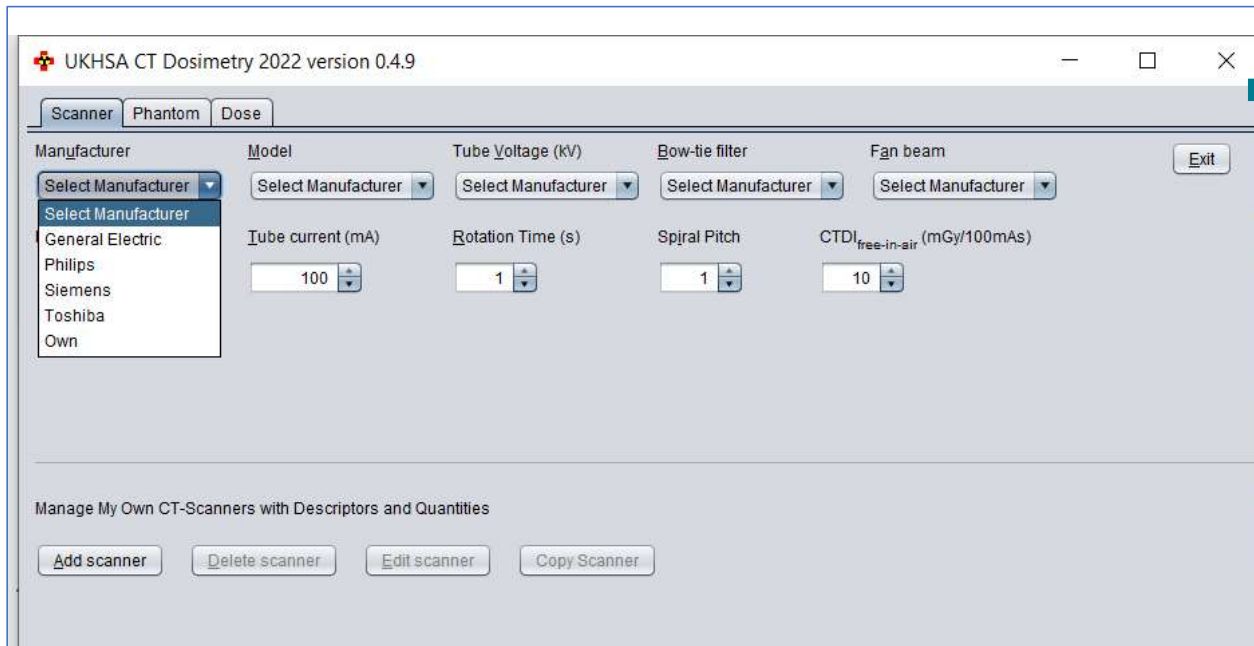
Examination (indication) <sup>9</sup>	Mean E/DLP (mGy cm) <sup>9</sup>		
	H <sub>E</sub> <sup>18</sup>	E <sub>60</sub> <sup>19</sup>	E <sub>103</sub> <sup>13</sup>
Head (acute stroke)	0.0012 (5.4%)	0.0022 (4.9%)	0.0020 (5.4%)
Cervical spine (fracture)	0.0030 (4.9%)	0.0048 (4.0%)	0.0057 (3.8%)
Chest (lung cancer)	0.026 (4.7%)	0.023 (5.2%)	0.027 (4.5%)
Chest—high resolution (interstitial lung disease)	0.025 (4.6%)	0.024 (5.2%)	0.027 (4.4%)
CTA (abdominal aorta/blood vessels)	0.022 (5.0%)	0.021 (5.5%)	0.024 (4.5%)
CTPA (pulmonary embolism)	0.025 (4.6%)	0.024 (5.2%)	0.027 (4.4%)
Abdomen (liver metastases)	0.022 (5.0%)	0.021 (5.5%)	0.024 (4.5%)
Abdomen and pelvis (abscess)	0.019 (5.3%)	0.020 (5.1%)	0.020 (4.8%)
Virtual colonoscopy (polyps/tumour)	0.019 (5.3%)	0.020 (5.1%)	0.020 (4.8%)
Enterocolysis (Crohn's disease)	0.019 (5.3%)	0.020 (5.1%)	0.020 (4.8%)
Kidney-ureters-bladder (stones/colic)	0.020 (5.7%)	0.020 (5.2%)	0.018 (5.2%)
Urogram (tumour/stones/colic)	0.020 (5.7%)	0.020 (5.2%)	0.018 (5.2%)
Chest-abdomen-pelvis (cancer)	0.020 (5.0%)	0.020 (5.1%)	0.021 (4.7%)
Whole body	0.0096 (5.2%)	0.0096 (5.2%)	0.0093 (5.0%)

CTA, CT angiography; CTPA, CT pulmonary angiography; H<sub>E</sub>, effective dose equivalent.

<sup>9</sup>Mean values for medium applied potentials (110 or 120 kV), as representative of mean settings observed for the 2011 review,<sup>9</sup> averaged over 12 scanners and 17 combinations of bow-tie filter or fan beam collimation, with associated % relative standard deviations in parentheses. Data for the head and cervical spine refer to measurements of DLP in the small (16-cm diameter) standard CT dosimetry phantom, whereas all other results refer to the large (32-cm diameter) phantom.

# UKHSA CT Calculator – Current Status

- Written in JAVA, Netbeans, Swing
- ‘Alpha test group’ from CTUG 2023 ~ 10 people
  - We sent version out – they gave feedback
  - Considerable amount of testing and refining and internal review
- Latest version sent out (yesterday!)





### UKHSA CT calculator user instructions (for test version 0.4.9)

On opening the software, you must agree to the disclaimer to continue using the program.

#### Performing a dose calculation on an existing scanner

Start at the **Scanner** tab. From the top row select a manufacturer, model, tube voltage, bow-tie filter and fan beam. (The fan beam option is primarily to allow for the Siemens Definition dual tube. For other scanners it is standard)



Next, select the appropriate input **Dose Method**:

• CTDI <sub>free-in-air</sub> :	If you have a CTDI value measured free-in-air at the isocentre. You will also need to provide details for the tube current, rotation time and spiral pitch.
• CTDI <sub>vol,body</sub> :	If you have a CTDI <sub>vol</sub> value based on a 32-cm body phantom
• CTDI <sub>vol,head</sub> :	If you have a CTDI <sub>vol</sub> value based on a 16-cm head phantom

These three ways are to give flexibility for use of the scanner calculator.

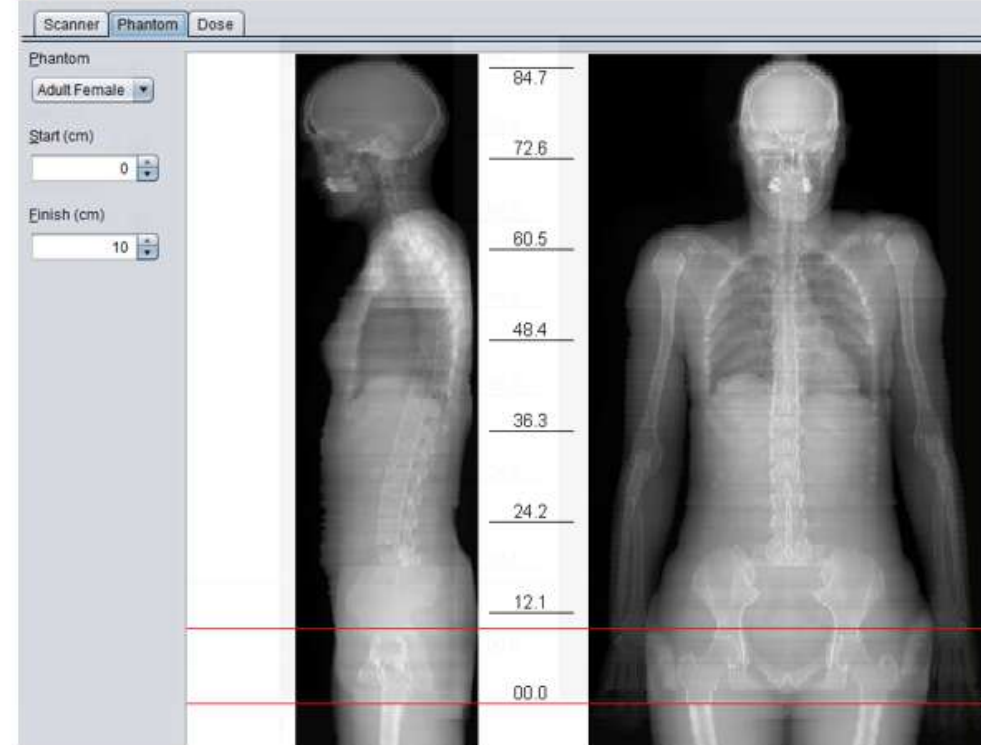
Then move to the **Phantom** tab and select the appropriate adult phantom – adult male (AM) or adult female (AF).

Enter the start and end positions using the input fields

Or click on the image to set the start and end points of the scan:

- Left-click to select the start position
- Right-click to select the end position.

UKHSA CT Dosimetry 2022 version 0.4.9



UKHSA CT Dosimetry 2022 version 0.4.9

Scanner Phantom Dose

Manufacturer	Model	Tube Voltage (kV)	Bow-tie filter	Fan beam	
Select Manufacturer	Select Manufacturer	Select Manufacturer	Select Manufacturer	Select Manufacturer	Exit
General Electric					
Philips					
Siemens					
Toshiba					
Own					

Tube current (mA)	Rotation Time (s)	Spiral Pitch	CTDI <sub>free-in-air</sub> (mGy/100mAs)
100	1	1	10

Manage My Own CT-Scanners with Descriptors and Quantities

Add scanner Delete scanner Edit scanner Copy Scanner

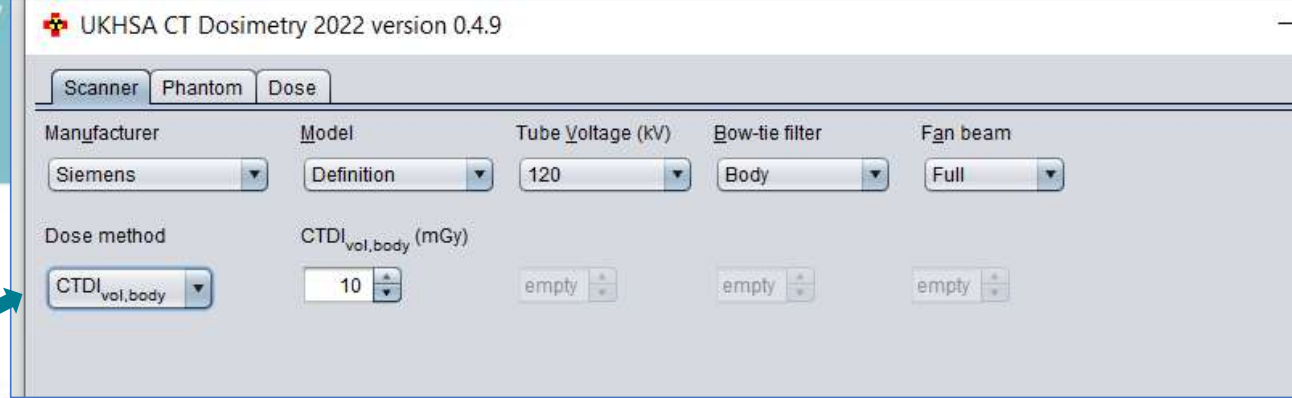
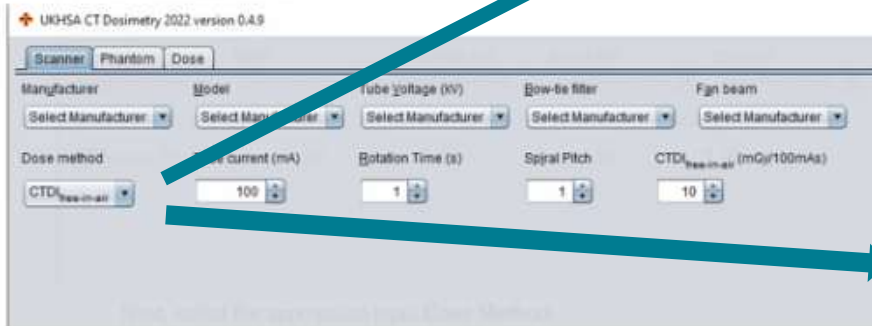


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- **CTDI<sub>vol, head</sub>**: If you have a CTDI<sub>vol</sub> value based on a 16-cm head phantom

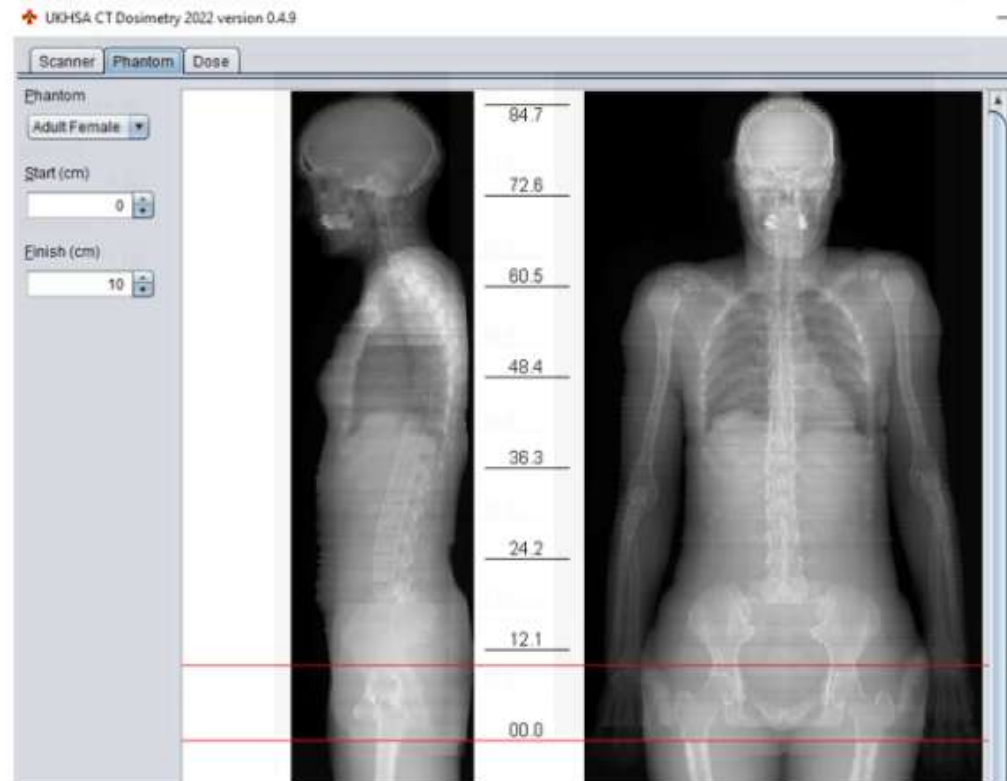
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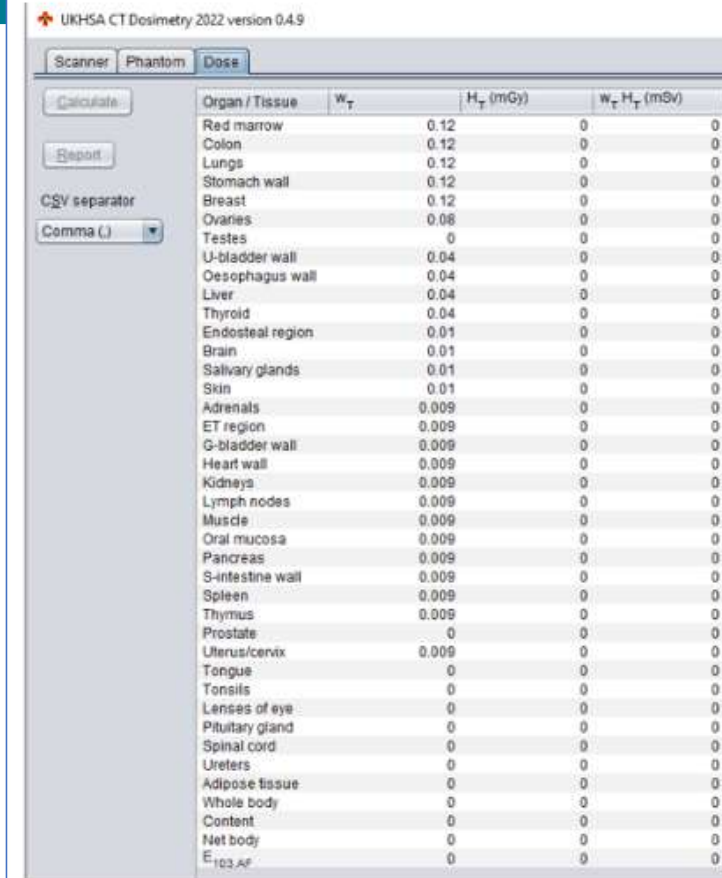
Enter the start and end positions using the input fields

Or click on the image to set the start and end points of the scan:

- Left-click to select the start position
- Right-click to select the end position.



Finally, select the **Dose** tab to perform a dose assessment. Press the **calculate** button to see the dose assessment for each individual body organ and the pseudo effective dose for the appropriate phantom in the bottom row.



To calculate an effective dose, you need to perform the calculation for both the male and female phantoms and then average both pseudo effective dose values.

To save the dose assessment click the **Report** button. This will generate a .csv file with the results. You can select the CSV separator to be either a comma or semi-colon depending on the required format. To view in Excel, the comma option should be selected.

# Adding your own scanner

- Information needed for each combination of “Scanner/kV/beam shaping filter/fan beam”
  - CTDI in air
  - CTDI in head and body phantom
    - (centre and periphery)



## Adding a scanner (i.e. a “scanner/kV/bow-tie filter/fan-beam” combination)

To do this select the **Add scanner** button and you will see the screen below:

PHE CTdose22 CTDI Form

Descriptor	Text	Quantity	Value
Model	<input type="text"/>	CTDI <sub>free-in-air</sub> (mGy/100mAs)	10
Tube voltage (kV)	<input type="text"/>	CTDI <sub>32,centre</sub> (mGy/100mAs)	0
Bow-tie filter	<input type="text"/>	CTDI <sub>32,periphery</sub> (mGy/100mAs)	0
Fan beam	Standard	CTDI <sub>16,centre</sub> (mGy/100mAs)	0
		CTDI <sub>16,periphery</sub> (mGy/100mAs)	0

## Managing your own scanner information

Manage My Own CT-Scanners with Descriptors and Quantities

The software allows you to add and manage data for your own scanners.

### Adding a scanner (i.e. a “scanner/kV/bow-tie filter/fan-beam” combination)

To do this select the **Add scanner** button and you will see the screen below:

PHE CTdose22 CTDI Form

Descriptor	Text	Quantity	Value
Model	<input type="text"/>	CTDI <sub>free-in-air</sub> (mGy/100mAs)	10
Tube voltage (kV)	<input type="text"/>	CTDI <sub>32,centre</sub> (mGy/100mAs)	0
Bow-tie filter	<input type="text"/>	CTDI <sub>32,periphery</sub> (mGy/100mAs)	0
Fan beam	Standard	CTDI <sub>16,centre</sub> (mGy/100mAs)	0
		CTDI <sub>16,periphery</sub> (mGy/100mAs)	0

Provide details of the scanner model, tube voltage, bow-tie filter and fan beam used. These are free text fields.

You then need to provide the results of dose measurements made at these settings. All measurements should be scaled to a nominal tube current of 100 mAs and carried out at the same settings:

CTDI <sub>free-in-air</sub> (mGy/100mAs)	CTDI free-in-air at the isocentre
CTDI <sub>32,centre</sub> (mGy/100mAs)	CTDI in a standard 32-cm body phantom - at the centre
CTDI <sub>32,periphery</sub> (mGy/100mAs)	CTDI in a standard 32-cm body phantom - at the periphery (four points around the periphery, give the average value)
CTDI <sub>16,centre</sub> (mGy/100mAs)	CTDI in a standard 16-cm body phantom - at the centre
CTDI <sub>16,periphery</sub> (mGy/100mAs)	CTDI in a standard 16-cm body phantom - at the periphery (four points around the periphery, give the average value)

**You need all these measurements to be able to add a scanner/kV/bow-tie filter/fan beam combination.** (This is preferable. However, if CTDI phantom data is only available for head or body phantom then the program performs an interpolation.)

# UKHSA CT Calculator

- A version for Beta testing ~ 2026 (more volunteers?)
- Final version – mid/end 2026?
  - Java version will be available for free download
- Then ... Open Source? / a developer group / data files available
- Managing expectations
  - Not all singing, all dancing, and slick
  - **We are looking at a basic program, reasonably easy to use, bug free, fool-proof**
  - No other scanners are included, apart from the source ones
    - You can add your own “scanner/kV/beam shaping filter/fan beam” using CTDI in air, and in both head and body phantoms
    - To give a close fit / interpolation to one of the 102 Monte Carlo modelled “**scanner/kV/beam shaping filter/fan beam**” combinations

## CT Calculators – UKHSA, ICRP

- UKHSA CT dose calculator- ongoing. 'Alpha' version (based on newer scanner models and ICRP Voxel phantoms.). A small user group of DR medical physicists giving support. Java based program. Users can input data for their own scanner. Expected 2026?
- ICRP Task Group 113 Reference Organ and Effective Dose Coefficients for Common Diagnostic X-ray Imaging Examinations. Computed Tomography Working Group. Monte Carlo calculations for a CT scanner web-based calculator – ongoing. Consultation expected 2026, Report expected 2026 /2027
  - See web page for more information [ICRP](#)
- Key differences between UKHSA and ICRP CT calculators.
  - ICRP: adult and paediatric, web based, no arms, a generic scanner, includes theoretical ATCM

# UKHSA calculator versus ICRP (TG 113) calculator

UKHSA Calculator	ICRP calculator (ICRP TG 113 Dose Conversion coefficients in diagnostic Imaging)
Java	Web based
Adult ICRP voxel phantoms M/F (ICRP computational reference phantoms. ICRP 110 specification)	Adult M/F (ICRP 110) and Paediatric 5 ages, M/F (ICRP 143) ICRP voxel phantoms
~ 12 scanners; range of kV, beam shaping filters	One reference scanner model*; range of kV and filters *(a virtual physical scanner based on Monte Carlo dose profiles of UKHSA scanner set)
→ 102 Monte Carlo datasets	→ 76 Monte Carlo datasets (not including ATCM files)
Phantoms used with arms	Phantoms used without arms
Can enter CTDI data <sup>^</sup> for own scanner, to enable use of appropriate MC dataset ( <sup>^</sup> air, head and body for all scanner/kV/beam shaper/fov combination requirements)	Enter average CTDI <sub>vol</sub>
Dose response function models for bone - Active Marrow (AM) and Shallow Marrow (SM): UKHSA: Johnson et al & Jansen et al	Dose response function models or bone - Active Marrow (AM) and Shallow Marrow (SM): ICRP: according to ICRP 116 (based Johnson et al and Jansen et al)
lymph node (according to UKHSA: ICRP 110)	lymph node (ICRP 110 and ICRP 143)
Still at alpha testing.	Still undergoing extensive checking / cross checking
Available ~ 2026 ?	Available ~2026/2027 ?

# 5<sup>th</sup> UK CT Dose Survey



Survey data from 2019

UK Health  
Security  
Agency

Guidance

## National Diagnostic Reference Levels (NDRLs) from 8<sup>th</sup> July 2025

Updated 14 June 2022

Contents

1. Introduction
2. National DRLs for computed tomography
3. National DRLs for general radiography and fluoroscopy
4. National DRLs for dental radiography
5. National DRLs for screening mammography
6. National Dose Reference

### 1. Introduction

The following tables list the National Diagnostic Reference Levels (NDRLs) for the UK. National Dose Reference Levels for radiotherapy planning CT scans are also listed.

The NDRL values should be considered by employers when setting their local DRLs as required by the [Ionising Radiation \(Medical Exposure\) Regulations 2017](#) and the [Ionising Radiation \(Medical Exposure\) Regulations \(Northern Ireland\) 2018](#) (as amended).

The UK National DRLs are based on body region examined and, where appropriate, the clinical requirement for the examination.

## National DRLs for computed tomography

Table 1. Adult CT examinations


Examination	Clinical Indication	Scan region / technique	CTDI vol per sequence (mGy)	DLP per complete examination (mGy cm)	Year NDRL adopted
Head(1)	Acute stroke	All sequences	47	790	2022
Paranasal sinuses(1)	Sinus disease	All sequences	12	160	2022
Cervical spine(1)	Fracture	All sequences	16	400	2022
Neck, chest, abdomen and pelvis(1)	Cancer	All sequences		850	2022
Chest(1)	Lung cancer	All sequences	8.5	290	2022
Chest and Abdomen(1)	Lung cancer	All sequences		470	2022

# New CT survey to update current CT NDRLS

- Simpler approach than previous survey
- Median of local audit data. (No individual patient data)
- Numbers (adults) contributing to local audit/exam
  - > 100 ignore weight completely
  - <100 broad weight filtering
  - < 20 not enough
- Same exams as current NDRLs
  - added head CTA and perfusion
- Including paediatric
  - exams match existing NDRLs (head and chest)
  - Head – age, chest weight categories
  - Number limit doesn't apply – please send what you can
- Launch ~ Nov 2025
- 1<sup>st</sup> deadline end March (review data)
  - Hoping much of this data is already audited and available

# Fifth CT Survey

B40

5th UK CT Dose Survey													
													
<b>Your Information</b>													
Contact name:													
Contact e-mail:													
<b>Hospital and Scanner Information</b>													
Hospital Name:													
Local CT scanner identifier:													
Scanner manufacturer:													
Scanner model:													
Scanner type (select from dropdown):													
Number of detector rows (eg. 16, 32, 64, 128, etc):													
<div style="display: flex; justify-content: space-between;"> <div style="width: 20%;"> <p><b>Dose data from local dose surveys</b></p> <p>This should be the physical number of detectors, not slices captured.</p> </div> <div style="width: 20%;"> <p>Scouts, control scans, bolus tracking scans, etc. should all be excluded from here.</p> </div> <div style="width: 20%;"> <p>FBP = Filtered Back Projection IR = Iterative Reconstruction HIR = Hybrid Iterative Reconstruction MBIR = Model-Based Iterative Reconstruction AI = Artificial Intelligence / Deep learning algorithms</p> </div> <div style="width: 20%;"> <p>Enter the total DLP for the entire exam</p> </div> </div>													
<b>Comments</b>													
Please provide any additional information you think may be helpful to this survey													
<b>Adult body examinations</b>													
Body region (clinical indication)	Local protocol name	Median number of scan acquisitions	CTDI phantom	AEC	Reconstruction Method	Number of patients	Median Total DLP (mGy.cm)	Acquisition 1					
								Contrast	Median Scan length (cm)	Median CTDIvol (mGy)	Median DLP (mGy.cm)		
Abdomen and pelvis (Abscess/collection)													
Cervical spine (C-spine) (Fracture)													
Chest – high resolution (Interstitial lung disease)													
Chest-abdomen-pelvis (CAP) (Cancer)													
Colonography/Virtual colonoscopy (VC) (Polyps/tumour)													
CT pulmonary angiography (CTPA) (Pulmonary embolism)													
Kidney-ureters-bladder (KUB) (Stones/colic)													
Neck, chest, abdomen and pelvis (Cancer)													
Paranasal sinuses (sinus disease)													
Thorax (Lung nodule identification/follow up)													
Thorax and abdomen (Lung cancer)													

# Fifth CT Survey

30	Neck, chest, abdomen and pelvis (Cancer)																			
31	Paranasal sinuses (sinus disease)																			
32	Thorax (Lung nodule identification/follow up)																			
33	Thorax and abdomen (Lung cancer)																			
34	Urogram (Stones/colic or tumour)																			
35																				
36																				
37	Adult head examinations																			
38																				
39	Body region (clinical indication)	Local protocol name	Median number of acquisitions / CTP frames	CTDI phantom	AEC	Reconstruction Method	Number of patients	Median Total DLP (mGy.cm)	Acquisition 1											
40	Head CT (Acute stroke)								Contrast	Median Scan length (cm)	Median CTDIvol (mGy)	Median DLP (mGy.cm)								
41	CT angiography (CTA)																			
42	CT perfusion (CTP)																			
43																				
44																				
45	Paediatric examinations																			
46																				
47	Body region (clinical indication) (age/weight group)	Local protocol name	Median number of scan acquisitions	CTDI phantom	AEC	Reconstruction Method	Number of patients	Median Total DLP (mGy.cm)	Acquisition 1											
48	Head (trauma) (0 - <1y)								Contrast	Median Scan length (cm)	Median CTDIvol (mGy)	Median DLP (mGy.cm)								
49	Head (trauma) (1 - <5y)																			
50	Head (trauma) (5 - <10y)																			
51	Head (trauma) (10 - <15y)																			
52	Chest (suspected tumour) (0 - <5 kg)																			
53	Chest (suspected tumour) (5 - <15 kg)																			
54	Chest (suspected tumour) (15 - <30 kg)																			
55	Chest (suspected tumour) (30 - <50 kg)																			
56	Chest (suspected tumour) (50 - <80 kg)																			
57																				
58																				

Scouts, control scans, bolus tracking scans, etc. should all be excluded from here. For CTP, Include the median number of frames included in the CTP exam

FBP = Filtered Back Projection  
 IR = Iterative Reconstruction  
 HIR = Hybrid Iterative Reconstruction  
 MBIR = Model-Based Iterative Reconstruction  
 AI = Artificial Intelligence / Deep learning algorithm

Enter the total DLP for the entire exam

Scouts, control scans, bolus tracking scans, etc. should all be excluded from here.

FBP = Filtered Back Projection  
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total DLP for exam



UK Health  
Security  
Agency

# UKHSA Update – CTUG 2025

Sue Edyvean, Jan Jansen, John Holroyd

- CT Calculators – UKHSA and ICRP (Jan Jansen, SE, JH)
- New CT survey to update CT NDRLs (John Holroyd, JS, SE)