



AAPM Dose Check Education Slides

NeuroLogica Corporation, a subsidiary of
Samsung Electronics Co., Ltd.

The information in these slides is for NeuroLogica BodyTom[®] Dose Check workflow.
The format and function is the same for CereTom[®], just the popup colors are different.



Disclaimer

The individuals involved in the production of this document along with the AAPM, ACR, ASRT, MITA, the FDA and the Image Gently Alliance and the Image Wisely Alliance do not endorse any of the specific products mentioned in these slides. Any screenshots of particular products are included for instructional purposes only.



Disclaimer

- Screen captures are **examples** of a common (or latest) software version only and all software versions are not represented
- The information contained herein is current as of the date shown on the title slide
- Modification of the content of these slides is **not allowed**.



User Access Controls

- We default all values to a CTDI_{vol} of 1000 mGy and DLP of 5000 mGy.cm.
- Dose Notification limits are per series and Dose Alert limits are for the overall patient study.



Configuring Dose Notifications

The screenshot shows a software interface with three tabs: "Dose Check", "Dose Configuration", and "Dose Report". The "Dose Configuration" tab is active. It contains three main sections:

- Dose Check Type:** Two radio button options: "Dose Notification" (selected) and "Dose Alert".
- Scan Type:** Four radio button options: "All", "Axial", "Helical", and "Dynamic".
- Dose Limit:** Two input fields:
 - CTDIvol (mGy): 500
 - DLP (mGy.cm): 1000

Dose Notifications are set for each of the Axial, Helical, and Dynamic scan types or overall (All) values can be defined. These limits are checked for each individual scan series in a protocol.



Configuring Dose Alerts

The screenshot shows a software interface with three tabs: 'Dose Check', 'Dose Configuration', and 'Dose Report'. The 'Dose Configuration' tab is active. It contains three main sections:

- Dose Check Type:** Two radio buttons are present. 'Dose Notification' is unselected, and 'Dose Alert' is selected.
- Scan Type:** Four radio buttons are present. 'All' is selected, and 'Axial', 'Helical', and 'Dynamic' are unselected.
- Dose Limit:** Two input fields are present. The first is labeled 'CTDIvol (mGy)' and contains the value '500'. The second is labeled 'DLP (mGy.cm)' and contains the value '1000'.

Dose Alerts are set for the entire Patient Study. When creating a protocol, if any series will go over a Dose Notification limit, we indicate that in the protocol itself in a different color.



Acknowledging Notifications

Dose Notification

DOSE NOTIFICATION

The following list of acquisitions exceeds the allotted radiation exposure per scan. Please review the list and press 'Continue' to proceed with scanning, or 'Cancel' to make adjustments.

Name	Range(s)	CTDIvol (mGy)	DLP (mGy.cm)	CTDIvol Alert Value	DLP Alert Value
Axial Scan 1	0 - 500	23.66	1183	500 mGy	1000 mGy.cm

Diagnositic Reason for Continuing



Acknowledging Dose Alerts

Dose Alert

DOSE ALERT
A dose alert value will be exceeded!

The following list of acquisitions will exceed the allotted accumulated radiation exposure per examination.
Please review the list and press 'Continue' to proceed with scanning, or 'Cancel' to make adjustments.

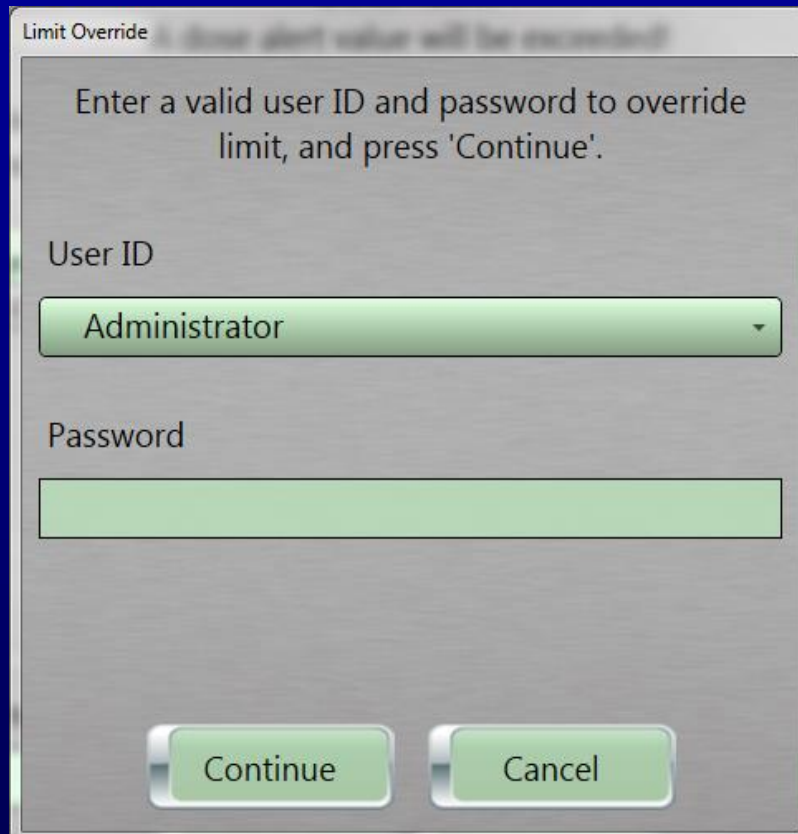
Name	Range(s)	CTDIvol (mGy)	DLP (mGy.cm)	CTDIvol Alert Value	DLP Alert Value
Axial Scan 1	0 - 500	47.32	2366	500 mGy	1000 mGy.cm

Diagnostic Reason for Continuing

To override a Dose Alert, an administrator user must indicate why and sign in with his or her credentials.



Acknowledging Dose Alerts contd.



Limit Override

Enter a valid user ID and password to override limit, and press 'Continue'.

User ID

Administrator

Password

Continue Cancel

The image shows a 'Limit Override' dialog box with a title bar that reads 'Limit Override' and a subtitle 'Dose alert values will be overridden'. The main text asks the user to 'Enter a valid user ID and password to override limit, and press 'Continue''. Below this, there are two input fields: 'User ID' and 'Password'. The 'User ID' field is a dropdown menu currently showing 'Administrator'. The 'Password' field is an empty text box. At the bottom of the dialog, there are two buttons: 'Continue' and 'Cancel'.

Once the diagnostic reason why and the proper override sign in is made, the scan can take place. We log this action in the logs and in the audit trail for traceability.



Turning off Dose Alert Feature

The screenshot shows a software interface with three tabs: 'Dose Check', 'Dose Configuration', and 'Dose Report'. The 'Dose Configuration' tab is active. It contains two main sections: 'Dose Check Type' and 'Scan Type'. In the 'Dose Check Type' section, 'Dose Alert' is selected with a radio button, while 'Dose Notification' is unselected. In the 'Scan Type' section, 'All' is selected with a radio button, and 'Axial', 'Helical', and 'Dynamic' are unselected. Below these sections is a 'Dose Limit' section with two input fields: 'CTDIvol (mGy)' containing the value '500' and 'DLP (mGy.cm)' containing the value '1000'. Red boxes highlight the 'Dose Check Type' and 'Dose Limit' sections.

Turn off Dose Alert by setting CTDIvol (mGy) and DLP (mGy.cm) values by setting them to zero (0) and clicking 'Save.' As CTDIvol and DLP are empty, there is no longer a limit. An audit log is written detailing that dose alert feature was removed, by whom, and date and time.



Location of alert/notification log

The screenshot displays the 'System Configuration' window, specifically the 'Audit Trail Viewer' tab. The interface includes a navigation menu at the top with options like 'General Settings', 'User Accounts', 'DICOM Servers', 'DICOM Settings', and 'Audio Configuration'. Below this, there are sub-tabs for 'Dose Configuration', 'Windowing Presets', 'Audit Trail Viewer', and 'Image Orientation'. The main area is titled 'Output' and contains a table with the following columns: Description, Type, User ID, Date, and Time. The table lists five entries for 'DOSE_CHECK' events, all performed by the 'Administrator' user on 04/14/2015. Each entry includes a detailed description of the alert, such as 'Dose Alert given to user, continue accepted. Info: Study UID: [2.16.840.114379.4000.1.20150414.103157.9830]'. Below the table, there is a search and filter section with a calendar for '2015 April', 'From' and 'To' date pickers, an 'Audit Type' dropdown menu set to 'DOSE_CHECK', and a 'User ID' dropdown menu. On the right side of this section, there are buttons for 'Clear', 'View', 'Export', and 'Export All'. A 'Close' button is located at the bottom center of the window.

Description	Type	User ID	Date	Time
Dose Alert given to user, continue accepted. Info: Study UID: [2.16.840.114379.4000.1.20150414.103157.9830] Description: Configured Helical : [CTDIvol: 500, DLP: 1000] Selected CTDIvols: [Helical: 149.78]	DOSE_CHECK	Administrator	04/14/2015	11:10:30
Dose Alert given to user, continue accepted. Info: Study UID: [2.16.840.114379.4000.1.20150414.103157.9830] Description: Configured Helical : [CTDIvol: 500, DLP: 1000] Selected CTDIvols: [Helical: 189.16]	DOSE_CHECK	Administrator	04/14/2015	11:17:59
Dose Alert given to user, continue accepted. Info: Study UID: [2.16.840.114379.4000.1.20150414.154621.6160] Description: Configured Helical : [CTDIvol: 500, DLP: 1000] Selected CTDIvols: [Helical: 204.76]	DOSE_CHECK	Administrator	04/14/2015	15:50:23
Dose Alert given to user, continue accepted. Info: Study UID: [2.16.840.114379.4000.1.20150414.155401.6730] Description: Configured Helical : [CTDIvol: 500, DLP: 1000] Selected CTDIvols: [Helical: 102.38]	DOSE_CHECK	Administrator	04/14/2015	15:56:40
Dose Alert given to user, continue accepted. Info: Study UID: [2.16.840.114379.4000.1.20150414.155401.6730] Description: Configured Helical : [CTDIvol: 500, DLP: 1000] Selected CTDIvols: [Helical: 102.38]	DOSE_CHECK	Administrator	04/14/2015	15:58:08

The Audit Trail is used to store and view all Dose Check and other system setting changes. Any administrator can search for specific occurrences or view all Dose Checks logged. You can export the records using the buttons on right hand side.