



## Dose Check Frequently Asked Questions

### What is Dose Check?

Dose Check is a feature that informs operators of CT devices when scan settings would likely exceed pre-assigned dose thresholds (either CTDI<sub>vol</sub>, DLP, or both). These dose thresholds are established by the healthcare provider based on their practice. This allows users to confirm correct settings, prior to scanning, which might otherwise lead to unnecessary high levels of radiation exposure. Dose Check compares the estimated exposure from current scan settings to two different thresholds prior to scanning: Notification Values and Alert Values.

### What are Notification Values?

Notification Values (NV) apply to individual groups of scans. Examples of groups are a single helical scan, multiple groups of axial scans where a scan parameter may differ between the groups. When Dose Check determines that the current scan settings would exceed one of the user-defined NV, a Dose Notification pop-up is presented to the operator notifying them that the scan will exceed the NV. The user can then either change the scan settings, or continue with the current settings by entering a diagnostic reason in the Dose Notification pop-up and selecting confirm.

### What are Alert Values?

Alert Values (AV) apply to an entire exam. A single AV value can be defined and an additional value based on an age threshold can be defined. When Dose Check determines that the current scan settings would cause the accumulated exposure to exceed the AV value, a Dose Alert pop-up is presented to the operator notifying them that the scan will exceed the AV. The user can then either change the scan settings, or continue with the current settings by entering an AV Exceeding User name, password, and diagnostic reason in the Dose Alert pop-up and selecting confirm.

### What GE CT scanners will have Dose Check? What about my new CT scanner?

Dose Check is installed at no cost on your new and compatible existing GE CT systems. It will also be part of the standard configuration for all new GE CT systems produced worldwide.

GE Healthcare plans to release CT Continuum Pack software updates with Dose Check on these scanners throughout 2011 and 2012:

Discovery CT750 HD

LightSpeed VCT series

Optima CT660

BrightSpeed series

LightSpeed 16 series (select models)

Discovery CT590 RT

Optima CT580 RT

Optima CT580 W

Brivo CT315/325

## What do I need to do?

Please refer to the operator documentation for your system, specifically the Learning and Reference Guide or User Manual for reference:

1. Assign a Dose Check Administrator for your site. The Dose Check Administrator will be responsible for determining the dose check settings for your system(s)
2. Determine the appropriate Notification Values and Alert Values for your practice. One resource you may want to consult in setting these values is a recent publication by the American Association of Physicists in Medicine regarding Dose Check. You can find this on their website at [www.aapm.org](http://www.aapm.org). A copy is also included with the Dose Check installation kit with your system. Please note that due to these values being clinical decisions, GE Healthcare personnel cannot determine the Notification Values and Alert Values for your practice. However, based upon U.S. FDA request, all CT manufacturers are pre-populating the Alert Value to a CTDI<sub>vol</sub> value of 1000 mGy.
3. Designate personnel as the EA3 (Enterprise Authentication) Administrator who will be responsible to set Groups, User and Group roles. The GE Healthcare Field Service Engineer who completes your installation can provide guidance for the set up. Designate personnel that will be responsible for building protocols and then enter your Notification Values in your site protocols. Designate one person for the AV Exceeding User role in your department.
4. Set up training sessions on Dose Check for all of your operators. Review the concept and operation of Dose Check with each operator. GE Healthcare has included several training programs to help with this task. These materials can be found at <http://www.gehealthcare.com/LowerDoseByDesign>. We suggest having your Dose Check Administrator lead this training. (Note, you will not need to train all of your operators on how to configure Dose Check, only on the operation during scanning.)

## What training materials are available and how can I get them?

Materials below are delivered during the Dose Check installation. Computer based training material and the Dose Check Quick Guide are available at <http://www.gehealthcare.com/LowerDoseByDesign>

- Multi -language Operator's Manual
- Dose Check Training Video & Dose Check Tutorial CDs
- Dose Check Quick Guide for console-side reference

## What should my staff expect?

Your operators should allow time for training prior to scanning after the Dose Check installation. Thirty (30) minutes should be sufficient to review the computer-based training and Operator's Manual. A Dose Check Quick Guide is also available.

## How do we know if Dose Check has been installed?

Your GE Healthcare Field Service Engineer will notify you before and after installation. In addition, he/she will attach a Dose Check sticker to each operator's console and leave a new Dose Check mouse pad upon installation as visual reminders.

## How do I set the Notification Values and Alert Values?

Please review the training materials.

**Are the Notification Values factory preset?**

No. Checking of Notification Value at CTDI<sub>vol</sub> is pre-set, but Notification Values in protocols will be set to None (N). Your site physicist and/or radiation safety officer in collaboration with the radiologist, should have an understanding of the current dose levels of your scanning protocols and the maximum dose threshold that should not be exceeded in your site's clinical practice.

**Are the Alert Values factory preset?**

Per the U.S. FDA's request, the CTDI<sub>vol</sub> Alert Value is preset to 1,000 mGy CTDI<sub>vol</sub>. You may choose to change this value if appropriate. You may also choose to set up a second Alert Value that is used when the patient age is less than a predetermined age you have set up.

**Do I control the Notification Values and Alert Values?**

Yes, the Dose Check Administrator has control of the Alert Values. Notification Values are set in scan protocols and are controlled by personnel that are authorized to make protocol changes.

**Can the GE Apps Specialist or FE set the Notification / Alert Value for the customer?**

No, the Dose Check Administrator is responsible for setting these values.

**Is there a cost for Dose Check?**

No, Dose Check is being installed on your scanner(s) free of charge.

**Where can I find more information about other dose lowering solutions from GE?**

In addition to Dose Check, GE Healthcare offers many other features to help you lower dose. You can find details at [www.gehealthcare.com/LowerDoseByDesign](http://www.gehealthcare.com/LowerDoseByDesign). GE Healthcare is committed to helping you lower radiation dose while maintaining high image quality. In addition to Dose Check, GE is also developing a dose recording and reporting system to help you track levels administered over time.

Other capabilities designed to help you provide excellent low dose care for your patients and available on select systems (new or upgrade) include:

- ASiR™ - An advanced iterative reconstruction technology.
- SnapShot™ Pulse - A prospectively gated diagnostic cardiac scan that enables lower dose studies compared to traditional retrospectively gated cardiac acquisitions.

**How can my staff and I get more training on dose reducing techniques?**

Training in dose lowering techniques for both physicians and technologists is available through GE Healthcare's Doctor-to-Doctor Low Dose Symposiums, Webinars, and Masters Series courses. These techniques apply to all scanner models. TiP Application training is also offered. Please contact your GE Healthcare representative for more information. CE credits are available on most courses.

**How can I get Dose Check on non-GE scanners?**

Dose Check is an industry wide initiative put in place to encourage dose awareness, help prevent higher than expected dose exams, and eventually lead to lower dose rates on all CT scanners. Contact the manufacturer of your non-GE scanners to find out when the update will happen.