



COCIR

SUSTAINABLE COMPETENCE IN ADVANCING HEALTHCARE

European Coordination Committee of the Radiological, Electromedical and Healthcare IT Industry

CT Manufacturer's Voluntary Commitment Regarding CT Dose COCIR deliverable on Commitment 4 "Provision of specific training curricula"

1. Concept of Commitment 4: Provision of specific training curricula

CT manufacturers are committed to make a significant contribution to ensure the appropriate, safe and effective use of imaging equipment by the clinical user:

- The offering of vendor specific equipment training curricula to the CT user, and through user programs that help CT operators optimizing the patient dose settings on their scanners, and the offering of continuing professional education optional training.
- Keeping the vendor's equipment training curricula updated with the recent developments that lead to dose reduction and dose transparency. Examples include new product features about dose reporting via DICOM SR, IHE REM, and the Dose Check feature.
- Being a committed stakeholder, the CT manufacturers are contributing to HERCA related initiatives, such as EMAN, that focus on a cooperative concerted action by all stakeholders for developing a better practice in the management of ionizing radiation dose in CT environments. CT manufacturers welcome invitations to these initiatives.

Training and awareness on dose reduction is a broad process that involves more stakeholders to work together on practical approaches that can step up and maintain an active dose reduction policy in daily practice. The CT Manufacturers appreciate the contribution from HERCA in raising awareness and promoting dose management in hospital facilities through education and training.

2. COCIR CT commitments deliverable

Manufacturers provide training in the use of their equipment. This includes the normal usage of the equipment, and the special features such as setting up protocols and using dose reduction features. Examples include Instructions for Use, both on paper and as on-line help, Computer based training, on-site and off-site training, telephone support, hands-on training, and industry standard educational material.

In addition to manufacturer developed training, professional societies, academic institutions, and healthcare providers share the responsibility to develop and offer educational material on the use of CT imaging in the healthcare setting. This educational material should include the principle of ALARA and how to optimize the dose delivered while still meeting the unique clinical needs of the patient and the institution's accepted practices.

The following examples illustrate the commitment by both the CT Manufacturers' and various stakeholders in promoting dose awareness and the principle of ALARA.



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As a coordinated effort between the Society of Pediatric Radiology, Alliance for Radiation Safety in Pediatric Imaging, and CT Manufacturers, specific and general training for pediatric CT use was developed and made available to users through the Image Gently campaign. These resources are publically available to any user at the following link:

<http://www.pedrad.org/associations/5364/ig/index.cfm?page=369>

Additionally, the IAEA provides extensive resources on the use of radiation in medicine including CT specific considerations:

https://rpop.iaea.org/RPOP/RPoP/Content/InformationFor/HealthProfessionals/1_Radiology/ComputedTomography/index.htm

The COCIR group is also in communication with HERCA and EMAN WG-1 related to the education and training of individuals involved in CT imaging. We appreciate HERCA's initiative to sponsor a multi-stakeholders approach by inviting organizations such as ESR and EFRS.

Lastly, CT Manufacturers are committed to delivering training both on dose awareness and product features related to dose optimization. General dose awareness and optimization training is addressed by various training platforms and modules across the CT Manufacturers and may not be tied directly to product development timelines. However, when new CT systems or features are developed training is made available that describes their operation and the dose impact of operator decisions as applicable. Examples of recent manufacturer specific training items are listed below:

A. Dose Awareness

GE Healthcare – CT Low Dose Webinar Series – Continuing education credit courses available online. Example topics include "CT Radiation Dose – Current Issues and New Techniques", "Fundamentals of CT and Radiation Dose", and "Techniques for Reducing CT Radiation Dose".

Philips – Classroom dose and dose modulation training in specific geographies for technicians, doctors and physicists.

Siemens – "Easy Guide to Low Dose" and "How to ..." flyers are available to provide detailed information about dose in general, but also to support the user to utilize dose reduction techniques in daily clinical routine.

Toshiba – We refer to the document "Ten things you need to know about CT dose" which is available on the following link:

<http://www.toshiba-medical.eu/en/Our-Product-Range/CT/Dose/>

B. System/Feature Specific

GE Healthcare – ASiR (Adaptive Statistical Iterative Reconstruction) live training module – Consisting of instruction on applying ASiR during CT scanning and its potential impact on dose.



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Philips – iDose4 classroom and onsite training including introduction to iterative reconstruction technique and its application in clinical CT.

Siemens – Web-based E-training for the most recent software version (*syngo* CT2011A FASTCARE), which includes a specific training for dose reduction feature (e.g. CARE kV and CARE Dose4D).

Toshiba – As an integral part of clinical application training onsite, dose reduction tools including AIDR 3D, ^{SURE}EXPOSURE 3D, etc. are provided.

C. Training Delivery

GE Healthcare, Philips, Siemens and Toshiba – As a part of new system installation typical on-site training would be 1-2 weeks with an Applications Specialist. On-site refreshing training available based on customer needs.

D. Further information

Further information on educational options described, please refer to each company portal:

GE Healthcare http://www3.gehealthcare.com/en/Global_Gateway

Select appropriate country / language, then select "Education" and "Computed Tomography".

Toshiba: <http://www.toshiba-medical.eu/en/>

Philips: <http://netforum.healthcare.philips.com> and <http://www.theonlinelearningcenter.com>

Siemens: <http://healthcare.siemens.com/education/med-imag-therapy>

Conclusion

Manufacturer's training is designed to support customer facilities in an effort to improve operating knowledge and increase the skill level of personnel. These programs consist of a variety of delivery mechanisms that allow hands-on and didactic training to reinforce skills needed to operate equipment. Manufacturer training uses Operator Manuals to demonstrate information on dose optimization tools and dose reduction strategies as well as information on dose related displays, indices, and where dose information is located. Additional delivery mechanisms may include, but are not limited to, onsite training, classroom instruction, remote instructor-led training and observation, online tutorial self-help, telephone support, white papers and publications, seminars, peer to peer physician training, and industry association educational material.