

Radiation Exposure in Computed Tomography

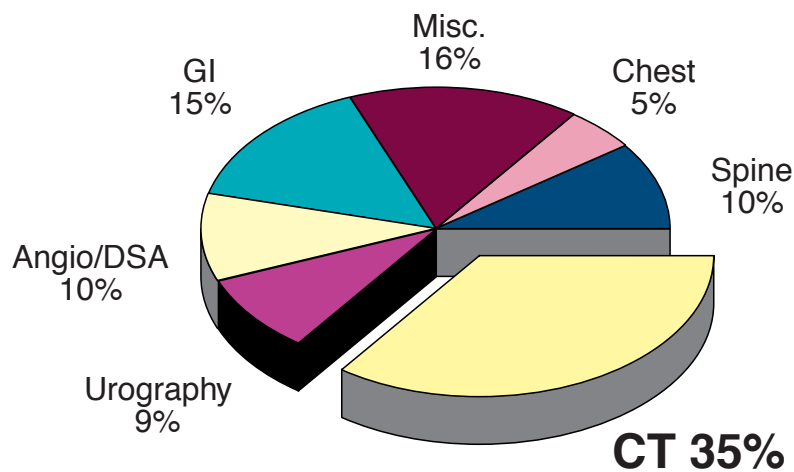
**Fundamentals, Influencing Parameters, Dose Assessment,
Optimisation, Scanner Data, Terminology**

4th Revised and Updated Edition

Edited by Hans Dieter Nagel

with contributions from

M. Galanski
N. Hidajat
W. Maier
H.D. Nagel
Th. Schmidt



Collective Effective Dose (in Germany)

RADIATION EXPOSURE IN COMPUTED TOMOGRAPHY: Fundamentals, Influencing Parameters, Dose Assessment, Optimisation, Scanner Data, Terminology

Edited by: H. D. Nagel

Published by: European Coordination Committee of the Radiological & Electromedical Industries, c/o ZVEI
Fachverband Elektromedizinische, Technik Stresenmannallee 19, D-60596 Frankfurt, Germany
85 pp. (2000) US\$27.81, 25.00 Euros (Softback)

This is the second edition of this book, but is the first in English. (1st Edition: December 1999 in German, 2nd Edition: October 2000 in English). In this, the editor, Hans Nagel, was assisted by Paul Shrimpton, from the National Radiological Protection Board. The language remains slightly teutonic, but as you get into the book, it grows on you and has led to a very readable tome. It runs to some 90 pages of A4 with six pithy chapters, one appendix giving basic dose data for CT scanners, a brilliant glossary of terms (essential reading for anyone new to CT) and a good list of references.

The chapters cover all aspects of radiation exposure in CT. A flavour of the content can be given by listing the chapters:

1. A few remarks on radiation exposure in CT
2. Fundamentals of CT dosimetry
3. Dose values from CT examinations
4. Factors influencing patient dose in CT
5. Low-dose CT in clinical routine
6. Dose measurements, reference values, examples.

Non physicists should not be put off by the use of the word 'dosimetry'. This is perhaps one of the most easily readable books connected with dosimetry that I have seen. Explanations of CTDI, CT dose quantities and many more are clearly laid out in simple terms. An extensive review of the factors influencing CT dose is provided, but also means of reducing dose are reviewed in a separate chapter. The pros and cons of lowering the

mAs setting are discussed and examples of good organ shielding given. The authors have not overlooked the requirement for proper application of medical indications as perhaps the best way to reduce dose.

Physicists will enjoy the last chapter with many worked examples of dose calculations utilising many of the equations described in earlier chapters.

Who should read this book? Well obviously everyone who is working with CT including radiologists, physicists and radiographers (X ray technicians). A copy should be in every radiology department and should be required reading for all radiologists in training. In terms of continuing professional development, perhaps that includes all practicing radiologists as well!

Unfortunately the book does not have an ISBN number and so will not be easily obtained from bookshops. It can be obtained from COCIR c/o ZVEI Fachverband Elektromedizinische Technik Stresenmannallee 19, D-60596 Frankfurt, Germany. E-mail cocir@zvei.org. At 25.00 Euros it is very good value.

R. H. Corbett
Hairmyres Hospital
Dept of Diagnostic Radiology
East Kilbride, Glasgow G75 8RG

Please note:

The 4th revised and updated edition is available now with major modifications concerning:

- ◆ scanner dose data
- ◆ multi-slice CT
- ◆ automatic dose control
- ◆ reference values
- ◆ surveys on CT practice
- ◆ international data on scanner densities and examination frequencies

The 4th edition can be obtained from:

SASCRAD, Buchholz, Germany

Contact: e-mail: info@sascrad.de

Price: 25.00 Euro per copy plus delivery fee (direct selling by mail-order) + 7% VAT; no delivery fee is requested for orders of at least 10 copies.