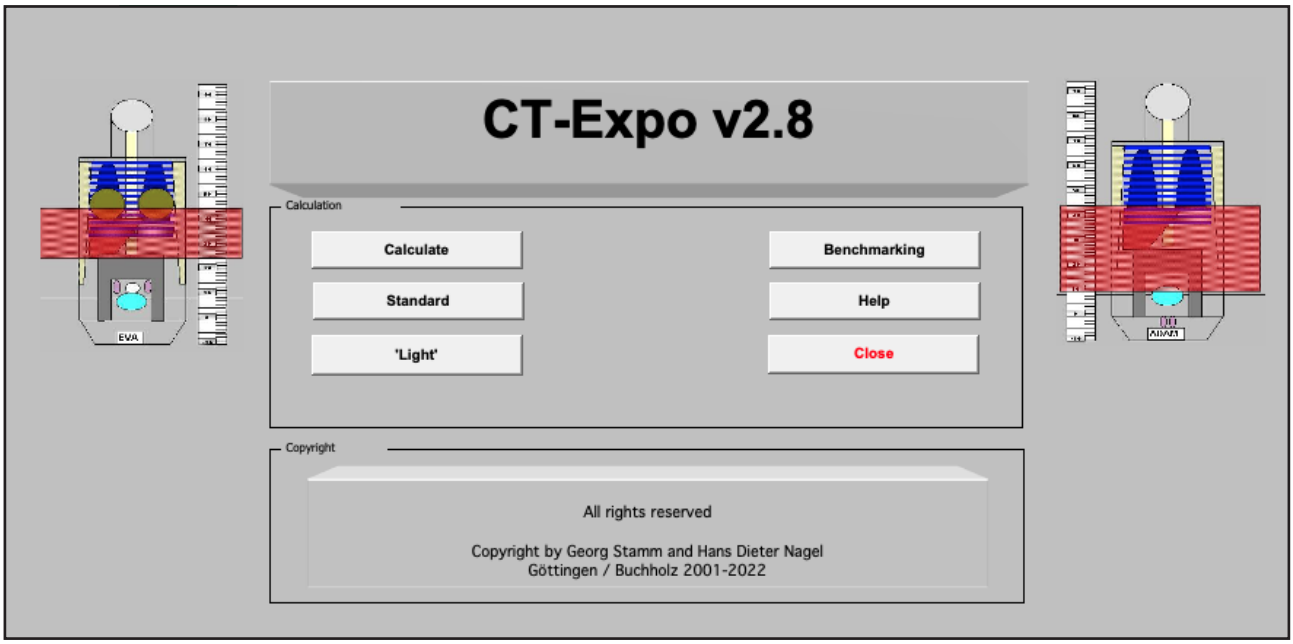
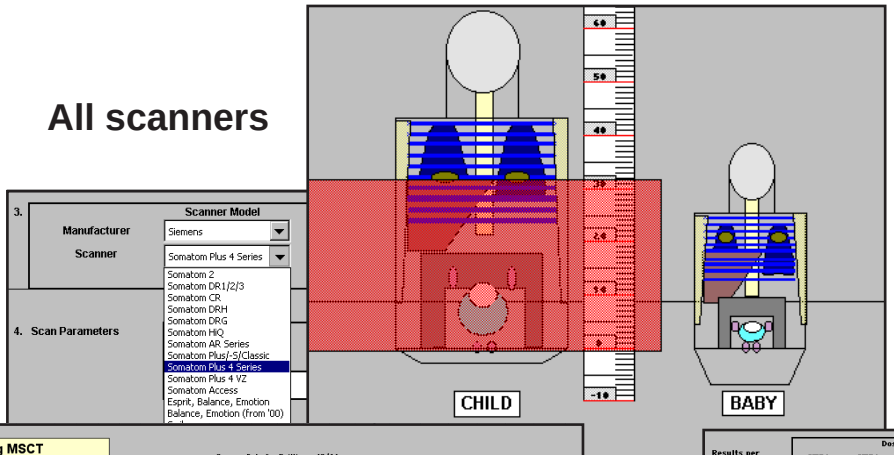
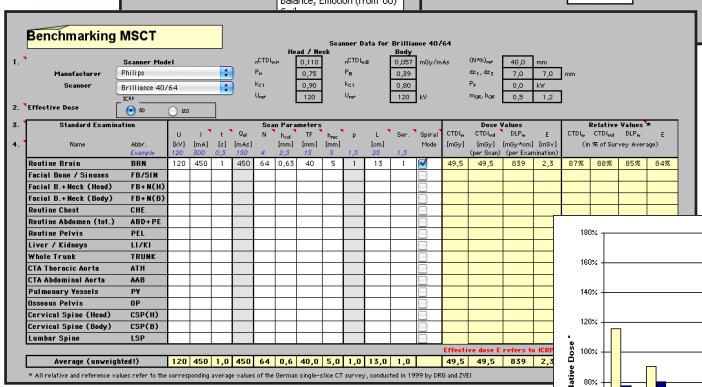


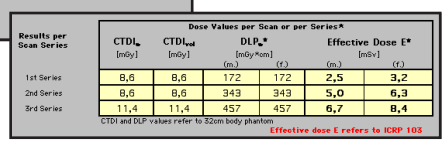
All scanners



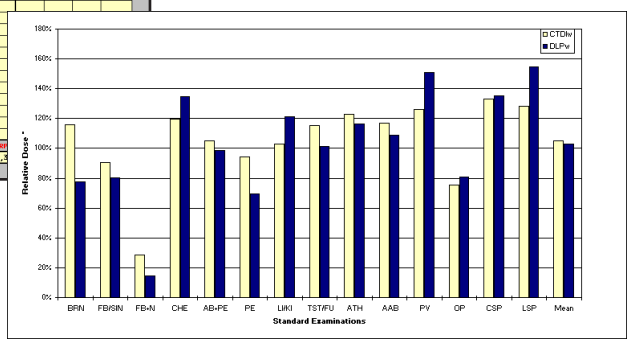
All age groups



Benchmarking



Dose assessment



CT-Expo

Description:

CT-Expo is an MS Excel application written in Visual Basic to calculate patient dose values resulting from CT examinations. CT-Expo is based on computational methods which were used to evaluate the data collected in the German surveys on CT practice. A comprehensive description of the underlying methods is given in the book 'Radiation Exposure in Computed Tomography' *.

CT-Expo allows the calculation of the following dose quantities:

- Weighted CTDI
- Volume CTDI
- Size-Specific Dose Estimate (SSDE)
- Dose-length product
- Organ doses
- Effective dose(ICRP 60 and ICRP 103)

Special features:

In contrast to similar programs for CT dose assessment, CT-Expo offers a variety of unique features:

- Dose calculation for all age groups (adults, children, infants)
- Separate calculation for each gender
- Applicable for all existing scanner models
- Correction of scanner-specific influences
- Takes into account overbeaming effects of single and multi-slice scanners
- Takes into account overranging effects in spiral scanning mode
- Takes into account dose modulation effects (longitudinal and 3D)
- Standardized and free dose assessment
- Assessment of the dose contribution resulting from the scan projection radiographs
- Simplified dose assessment from $CTDI_{vol}$ and DLP data
- Comparison with results from German survey on CT practice in 1999
- Comprehensive benchmarking section including guidance on dose optimization
- Regular updates of scanner data base

References:

- A comprehensive description of the software and its applications has been published (in German) in RoeFo 12/2002 (p. 1570 - 76).
- A validation of the computational methods has been published in Eur Radiol 07/2004 (p. 1275 - 84).

System requirements:

- PC: at least Windows 95, Excel 97
- Mac (PPC): at least OS 7.5, Excel 98
- Mac (Intel): at least OS X 10.5 , Excel 2011

Content:

- CD with CT-Expo application
- PDF manual
- Registration form

Rates:

- Single copy: 50 Euro plus delivery fee
- Five copies: 175 Euro plus delivery fee
- Updates: 10 Euro (five copies: 35 Euro)
- Future upgrades with extended functionality at reduced rates for registered users

Available: Since autumn 2001

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A demo version with reduced scanner spectrum, but full functionality is available on request; distribution only per e-mail or download from:

http://www.sascrad.com/information/downloads/

** Nagel HD (ed.), Galanski M, Hidajat N, Maier W, Schmidt Th. Radiation Exposure in Computed Tomograpy, 4th edition. Hamburg: CTB Publications, 2002 (Price: 25.00 Euro plus delivery fee, contact: drhdnagel@sascrad.com)*