Dose assessment for interventional radiologists

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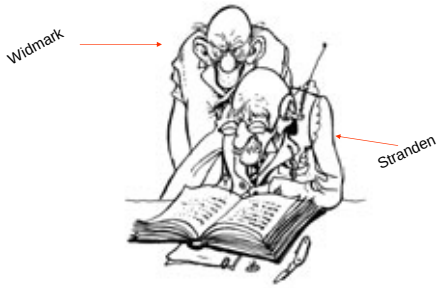


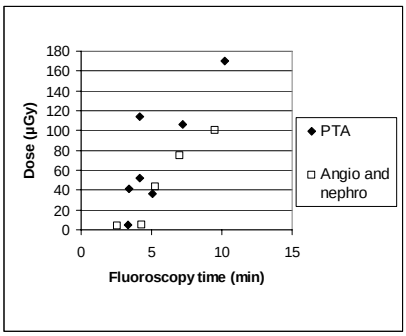
Background

- Some interventional radiology procedures require a large number of images and extended fluoroscopy times
- Severeal important influencing factors on dose to the radiologist
- Large variation between individual procedures and between different hospitals

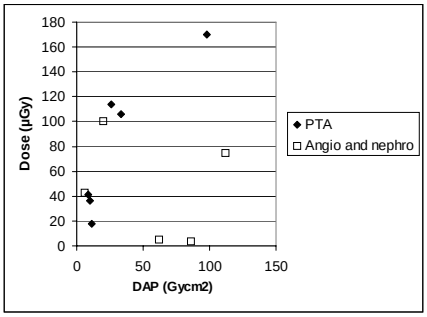
Dose measurements for individual procedures

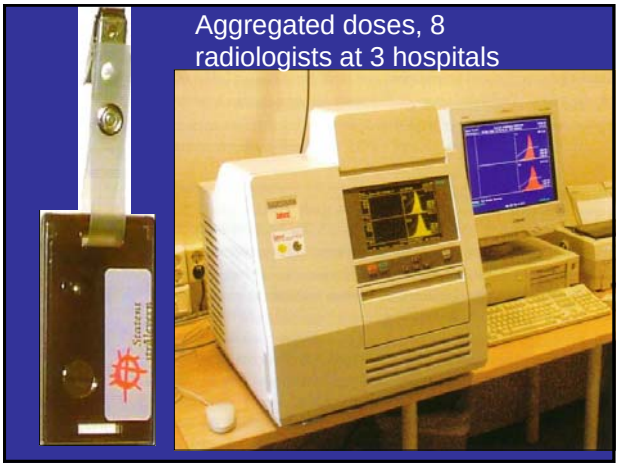
EDD-30, Unfors

Doses for individual procedures vs fluoroscopy time

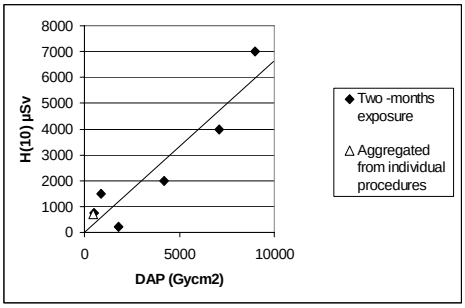


Doses for individual procedures vs DAP





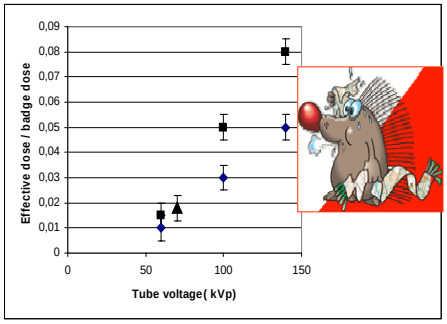
Aggregated doses vs DAP



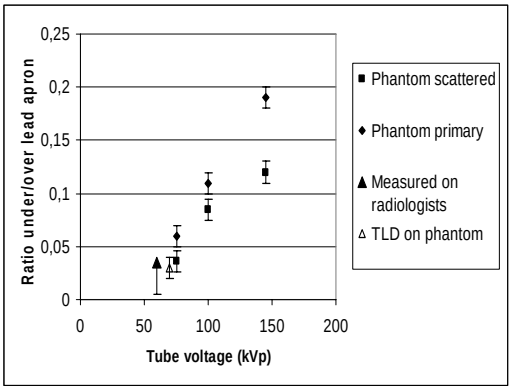
Effective dose

Phantom measurements

Effective dose/badge dose vs tube voltage
(Badge over apron)

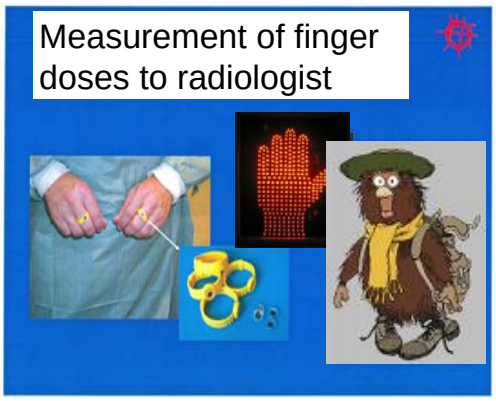


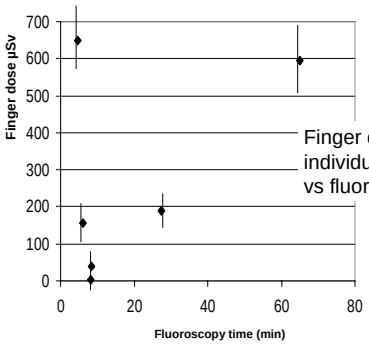
H(10) over apron vs H(10) under apron



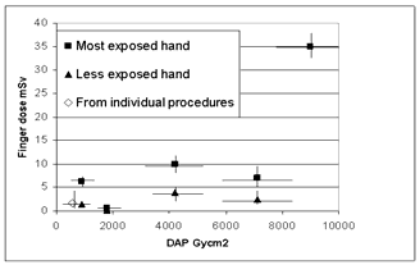
Finger doses

Measurement of finger doses to radiologist



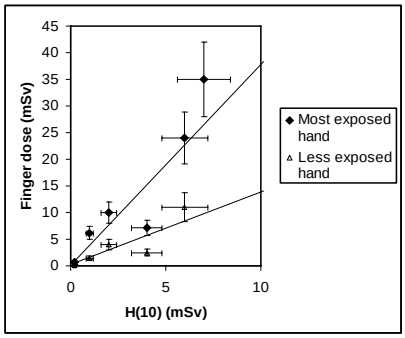


Finger doses for individual procedures vs fluoroscopy time

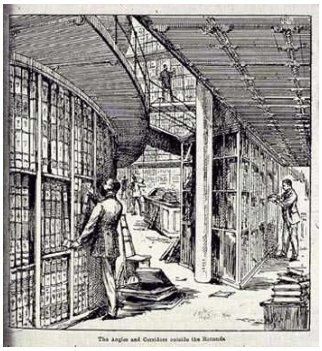


Aggregated finger doses vs DAP

Aggregated finger doses vs H(10)



Summary of results and conclusions



- Very good correlation between DAP and aggregated badge doses, H(10) for dosimeter worn outside the apron
- About 0.7µSv per Gycm^2
- Not very good correlations for individual procedures
- Effective dose about 2% of H(10) when protective apron and thyroid shield is used
- Finger dose correlates well with H(10) and DAP
- Dosimeter worn outside the apron is a good screening device for finger doses (and doses to the lens of the eye)
- Relatively high finger doses remain undetected when the badge is worn under the apron.