



## Pathology & Biology Section – 2005

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### **G85 Multislice Computed Tomography In Forensic Pathology**

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Imaging in forensic pathology has been known for more than one hundred years, but used very little and only in selected cases such as shootings and battered child syndrome, in which cases traditional x-ray technique has been applied. The goal of this presentation is to introduce routine multislice computed tomography (CT) in forensic pathology.

This presentation will impact the forensic community and/or humanity by demonstrating how computed tomography can be a useful tool as a standard examination before autopsies.

The material consists of more than 1,000 consecutive cases which, before traditional postmortem examinations, were scanned in a CT-scanner (Siemens Somatom Plus4Exp). The results were compared with the results of the autopsies. The examiner records the results of the scanning and provides the description and the pictures to the autopsy pathologist, who then records his results.

All data are stored in optical discs or CD-ROM, and relevant expositions are developed and generated in 3-D images. The scanning procedure is very short – a few minutes – but the generation of the pictures takes approximately 20-40 minutes per case.

The preliminary evaluation shows that the method is especially valuable to demonstrate foreign bodies such as bullets and artificial joints etc., fractures of the skeleton and larynx, and also intracranial hemorrhages and hemorrhages from rupture of large vessels such ruptured aneurysms of the aorta. In some cases, radiographic calcification of the coronaries is so marked that it suggests the cause of death to be coronary insufficiency.

In the authors' opinion, the new method has come to stay in forensic pathology – in the future combined with MR-scanning which covers the soft tissue examination better. Since the method is non-invasive it is more in accordance with the increasing resistance to classic postmortem examinations.

The new non-invasive technique may also appeal to the hospital pathologist, due to the fact that when it has become routine the technique can replace many postmortem examinations in hospitals.

**Computed Tomography, Virtopsy, CT-Scanning**