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REVA #2: Computed Tomography (CT) of Embalmed Cadaver

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Abstract

This protocol describes the procedures and parameters for computed tomography (CT) of embalmed human cadavers.

Image Attribution

Coronal plane of bone-enhanced CT scan of cadaver (SR060). Data collected by Noa Nuzov on 06/06/2025.

Guidelines

N/A

Materials

1. Siemens SOMATOM Definition Flash Dual-Source CT Scanner
2. Disinfectant wipes

Safety warnings

This protocol might include items and/or substances that may pose hazards (e.g., chemical, physical, biological, or otherwise) to your health upon use or exposure. Before engaging in the processes described in this protocol, familiarize yourself with and follow the safety data sheets, manufacturer safety recommendations, and local regulations.

Ethics statement

Be sure to seek approval for or an exemption from human subjects research from your local regulatory body(ies) as required by local and/or institutional regulations before initiating studies.

This study was determined to be exempt from IRB oversight by the Case Western Reserve University Institutional Review Board (IRB) because it involved de-identified cadaveric tissue and no protected health information was collected from the donors.

Before start

See the protocol for embalming and preparing a human cadaver for imaging (**dx.doi.org/10.17504/protocols.io.kxygx4wm4l8j/v1**), including placing it in a vacuum-sealed bag on a dissection cart for transport. On the day of the scan, before transporting the cadaver, ensure that the vacuum seal bag is still tight and no air has entered the bag; if air has entered the vacuum seal bag, use an electric vacuum to remove it.

Section 1: CT Scan

1 Remove the secondary opaque bags.

2 Place the cadaver (in a vacuum-sealed mattress bag) on the CT scanner bed in the supine position with the head closest to the scanner's bore. Use the sheet that is under the cadaver for transfer.

3 Perform a "scout" scan to confirm the position of the cadaver.

3.1 The cadaver should be positioned as straight as possible.

3.2 The legs should be straight. If they are bowed or the knees are bent, a velcro strap, rope, or any fabric without metal can be used to tie the legs together.

3.3 If the cadaver is not oriented properly on the scout scan, return to the scanner and adjust its position.

4 Select the desired field of view using the scout scan.

4.1 Scan from the top of the head to the bottom of the toes, and as wide as possible to capture the entire rib cage.

5 Scan the sample with a slice thickness of 0.3 mm and the number of pixels in the X and Y directions as 512 by 512. In an axial cross section, the pixels are isotropic, but their physical size will vary depending on the width and height of the field of view.

6 Transfer the cadaver to a dissection cart to be transported from the CT room.

7 Use disinfectant wipes to clean the CT scanner bed, control panels, and any other surfaces that were touched by the cadaver or other personnel.

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