The new technique to improve the study of the anatomy cross-sectional of the head

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The anatomy of the head is complex and very difficult to understand. There are many structures to observe as bones, articulations, muscles, nerves, arteries, veins and organs with a complicated relationship. Many clinical and surgical procedures and non-invasive imaging techniques of computed tomography (CT) and magnetic resonance (MR) are performed in this region, as well as needle electromyography and local injection procedures in aesthetic plastic surgery. The conventional layer-by-layer, superficial-to-deep anatomical dissections no more are sufficient techniques to satisfy the modern teaching of anatomy. So, the cross-section anatomy has gained more importance as the better way to study the spatial relations in the body with a minimal distortion. The anatomical difficulty to observe small structures, the necessity of several clinical and surgical interventions in this region and the help for the students to better understand the CT and MR, support the development of this work. Our purpose was to obtain slices of the head and maintain them immersed in formaldehyde, protected of the destructive action of manipulation by the students during practical classes. We used three heads of male Brazilian corpses previously fixed in formaldehyde, whose age and ethnic group are not known. From these heads were obtained sections in the transversal, sagital and frontal planes by a electric saw in Laboratory of Anatomy of FMRP-USP, with 15 mm of thickness.: Each slice was inserted into a thin perforated flat box of transparent acrylic and they were organized, keeping the original shape of the head in anatomical order to facilitate the observation and comprehension of the structures. For this, we inserted all box into an also transparent acrylic major box filled with 10% formaldehyde. It allows the students to easily remove and observe the head sliced in its original and usual shape and also to analyze the internal structures by pulling the slices without altering the integrity of the preparations. These heads prepared by a cross-section are kept in our Laboratory for longer periods, providing an economy of cadaverous materials and optimization of the technician's work. These sliced heads can be used by the students who are studying anatomy to facilitate the anatomical comprehension of the graduation teaching program, and also medical residents that look for solve some doubts according to the cross-section anatomy, or to help the understandings of the imaging techniques such as CT and MR. This low cost and easy execution technique can be applied at any other segment of the body with all advantages already described.