

**Editorial****3D-VIRTUAL DISSECTION TABLE: WE DID NOT IMAGINE HOW MUCH IT WILL BE USEFUL FOR TEACHING ANATOMY AND CLINICAL ANATOMY****Fabrice Duparc***Rouen University, France*

Thanks to the national program for the development of numeric tools in education and Engineering in Health (IDEFI-REMIS), our laboratory received in 2015 the 3D-Virtual Dissection Table Anatomage\*. We progressively used it for teaching Anatomy and Clinical Anatomy, in association with our « classical » previous tools: board and chalks drawing for building anatomy, lectures, slides, books and e-books. The request for anatomical dissections is more and more frequent, by students of course, but also by residents, fellows and professionals for continuous education.

Pre-graduate level: The anatomists are more and more required for teaching to medical students, but also in multiples institutes: physiotherapists, ergotherapists, orthophon-

ists, nurses, neurosciences, etc. We can prepare programs on the 3D-table, with specific objectives determined with the responsible persons of these different professional schools.

Post-graduate: This category is actually the most important increasing part of our activity, and the laboratory of Anatomy needs to be available for all the demands. Two types of formations are required: revisions in Anatomy and technical skills training.

Revisions in Anatomy may be requested by all the categories of health professionals: examples: sports medical doctors asked for updating their knowledge about elbow anatomy and biomechanics, physiotherapists asked for a special session about the muscles of back. The sessions were organized with 3D presentation of Anatomy, anatomical scans could be related to scans of medical imaging (US, MRI and CT), with permanent reference to the anatomical basis of pathology and treatment, and pre- and post-evaluations for validation.

Technical skills: Several possibilities are provided. As an example, articular punctures, or regional or intradural anesthesia, can be repeated ad libitum, with layer by layer assessment of the crossed structures, spatial orientation, then presentation on scans. The effect of simulation of the technique and of the associated risks allows repeating the procedure until the future professional has a complete and safe skill, like a pilot after training within a plane simulator.

We could have been afraid about the risk of stopping the donation bodies program, but this has not been confirmed. The opposite solution has been the new evolution: the donated bodies to science are now really more used for technical training, but not for simply showing Anatomy. The two solutions are not exclusive each to each other. As an

example, teaching the 3D Anatomy of the forearm and hand, and showing on a dissected hand the sheath and flexor tendons for demonstrating the clinical testing of the hand is a very complete presentation of Anatomy and Clinical Anatomy at the same time. For the sessions in specialization curriculum, both the 3D-virtual dissection for showing and the bodies dissection for training are used.

The use of the 3D-virtual Dissection table has been associated with the building of a Medical Training Center, and the 3D table may be connected to the rooms and auditorium for lectures and training sessions. As a nice example, a very hyper specialized international course about larynx re-innervation has been organized, with live surgery sessions followed by dissection sessions: the plan of the dissection could be completely explained and showed on the 3D-table before the training surgeons trained on head and neck specimens

in dissection room, with permanent possibility to go back to the virtual presentation.

Evaluation: this last but fundamental part of teaching is our current concern. We are now developing tutorials and examination programs. Tutorials are adapted to the lectures for providing to the students a 3D presentation of the 1D pictures with used, permanently available, with questions and answers sections for self-evaluation that can be repeated until the complete knowledge is acquired. These types of tutorials may be available on the website of the University for the students. A program for evaluation can be addressed for any category of professional in health, and any level, beginner or experienced practitioner.

Despite numerous publications about the « Visible Man » and presentation in congresses, we did not imagine the impact of this new tool in our daily for teaching anatomy, and really encourage our colleagues and their Universities to invest in this actual and permanently available updated new tool.