

Unique '3D Printed Anatomy' Heralds New Era For Medical Training



A new anatomical kit containing body parts produced by 3D printing and which "look like the real thing", is set to revolutionise medical education when it goes on sale later this year.

Created by a team of experts from Monash University in Australia the '3D Printed Anatomy Series' is believed to be the first commercially available resource of its kind.

Although the kit contains no human tissue, it provides all the major parts of the body useful for learning anatomy of the head, neck, chest, abdomen, and limbs. The 3D printed series can be produced quickly and lasts longer compared to cadavers which deteriorate easily, hence the kits are a very cost-effective training tool, according to Professor Paul McMennamin, Director of the Centre for Human Anatomy Education at Monash University.

Cadavers requested to medical schools have long been used to teach students about human anatomy. "However, many medical schools report either a shortage of cadavers, or find their handling and storage too expensive as a result of strict regulations governing where cadavers can be dissected," Prof. McMennamin noted.

"Without the ability to look inside the body and see the muscles, tendons, ligaments, and blood vessels, it's incredibly hard for students to understand human anatomy. We believe our version, which looks just like the real thing, will make a huge difference."

Even when cadavers are available, they are often expensive and have an unpleasant smell because of the embalming process. That's why, McMennamin pointed out, some students don't feel comfortable working with them.

The 3D printed series is produced by scanning actual anatomical specimens with either a CT or a surface laser scanner. The scanned body parts are then 3D printed either in a plaster-like powder or in plastic, ensuring high resolution, accurate colour reproductions.

"Radiographic imaging, such as CT, is a really sophisticated means of capturing information in very thin layers, almost like the pages of a book," McMennamin explained. "By taking this data and making a 3D rendered model we can then colour that model and convert that to a file format that the 3D printer uses to recreate, layer by layer, a three-dimensional body part to scale."

Source: [Monash University](#)
Image credit: Monash University

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