

REVIEW ARTICLE

ANATOMY AND ITS IMPACT ON CURRENT EDUCATION AND THERAPEUTICS - A REVIEW

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Introduction

The study of Anatomy involves the study of Body structure. Anatomy as a subject has advanced leaps and bounds due to advances in imaging. Studying anatomy is not just for preclinical period. The recent and future advances, along with medicine is changing the way anatomy is being translated to the student¹.

Educational perspective: The subject of Anatomy is taught in Undergraduate, Postgraduate and Phd Scholars. Some important issues are, the much awaited educational breakthroughs have a direct impact on the way anatomy is taught for both undergraduate students as well as postgraduates.

Anatomical knowledge is a fundamental component of medical science. Anatomical studies done by Leonardo da Vinci enabled him see a clearer picture the way body functioned. It also enabled an understanding of the structures which are below the surface. When Vesalius published “De Humani Corporis Fabrica”⁽¹⁵⁴³⁾ “Descriptive anatomy” became a discipline on its own. That work opened new vista’s for documenting human structure in detail ably facilitated by meticulous Cadaver dissection. some of the newer therapeutic and diagnostic modalities have happened due to advances in research in Anatomy.

E-Learning (computer simulation) is becoming popular in teaching anatomy. Earlier students use to be taught anatomy through the use of human cadavers. The knowledge imparted through this has been shown to be better than E-Learning as shown in the research

work done by Cary Roseth, Associate professor of educational psychology at Michigan State University. This research (Anatomical Sciences Education) is the only study which is also scientifically correct directly compared the effects of cadaver-based and computer-simulation teaching on students' learning. Their findings indicated that “educational technology can enhance anatomy instruction but is unlikely to fully replace cadavers”. The digital representations did not work as well as the cadaver. Newer insights with more Evidence based studies may help to solve this issue.

Therapeutic and Diagnostic Implications.

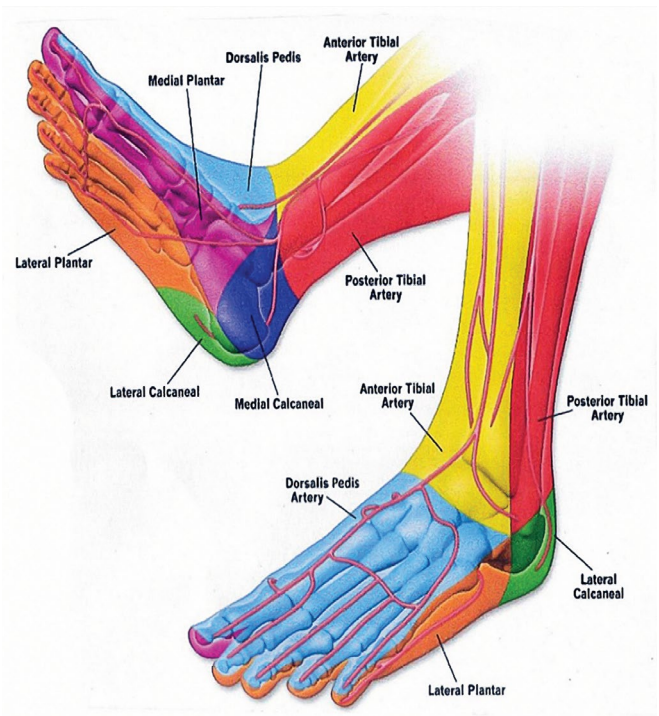
Imaging Techniques: Innovative developments and improvements are occurring regularly in imaging studies. Interventional techniques are also making giant strides like Robotics and Minimally Invasive, reconstructive and microsurgical techniques. The new modalities of treatment have been helped by research describe the appearance of the relevant anatomical structures and organs. The interpretation essentially needs the Anatomical knowledge.

Concept of Angiosome: Taylor and Palmer conceptualized the body in to 3-dimensional vascular territories. These territories are supplied by specific source arteries and drained by specific veins². The structural unit made up of skin, subcutaneous tissue, fascia, muscle, and bone which are fed by a specific artery and drained by specific vein is known as “Angiosome”. According to Taylor and Palmer the

entire body can be divided into 40 angiosomes. The angiosomes are linked by a compensatory collateral web, or "choke vessels". Peripheral vascular Diseases as a new branch has gained stature due to this concept. The premise on which it works is that revascularization of the source artery to the angiosome might result in better wound healing and limb salvage rates. Direct revascularization (DR) of arteries feeding the angiosome (wound area) is more successful in complete wound healing than indirect revascularization³. This has been shown in a larger cohort studies have confirmed this. The Angiosome model and direct revascularisation (DV) has revolutionised the field of plastic surgery.

To summarise Anatomy is the basis of entire medical education including diagnostics and therapeutics. Making the teaching of Anatomy more interesting is the need of the hour. Integrated and Innovative teaching methods will go a long way in the educational journey of aspiring medical professionals.

Angiosome Concept- Lower Limb



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