

Symposium proposal IFAA 2019

Ethics in Anatomical Education: The Nexus between Educator, Student, Donor and Society

Co-chaired by IFAA-FICEM members Jon Cornwall and Sabine Hildebrandt

Summary:

The recognized goals of anatomical education have broadened throughout the last decades to include not only the student's acquisition of knowledge of the structure and function of the human body, but also of professional competencies in self-awareness, reflective practice, and teamwork. The importance of these topics is increasingly illuminated from within dynamic curricula and a changing society, providing challenges for educators who are continually presented with emerging educational and ethical considerations. This symposium will focus on new experiences and studies that support the pursuit and integration of professional competency as a core element of anatomical education, and at the same time highlight the emergence of new challenges within the nexus of interactions between anatomical educators, medical students, body donors and society. Presentations will address various aspects of these relationships.

This 3 hour symposium brings together a international array of experts from Australia, New Zealand, Canada, USA and the UK to deliver material that will potentially guide the development of anatomy education in upcoming years. Findings from the largest and most comprehensive study of dissecting room experience on professionalism and ethical attitudes of medical students will be presented (Stephens and Lazarus). New insights on body donors will be addressed through investigations of different societies' perceptions of anatomical body procurement (Pather, Smith & Farsides). An entirely new set of ethical questions surrounding body donors is revealed in ethical discussions of a new source of anatomical bodies from persons availing themselves of medical assistance in dying, or euthanasia, in Ontario, Canada (Wainman). Likewise, there is an increasing need of discussion focused on the use of digital technologies in anatomy and anatomical education (Cornwall, Jones). Finally, the practical implementation of a learning environment in anatomy conducive to the acquisition of professional competencies in an integrated medical curriculum is discussed on the basis of experiences at Harvard Medical School, Boston (Hildebrandt).

Each speaker will present a 15 minute talk, and this series of presentations will be followed by a one hour discussion on the future of anatomical education through the lens of the topics presented.

The following colleagues have agreed to present their work:

Jon Cornwall

Centre for Early Learning in Medicine, Otago Medical School, University of Otago, Dunedin, New Zealand

Jon Cornwall is currently Education Advisor for the Centre for Early Learning in Medicine at the University of Otago, Dunedin, New Zealand. A member of FICEM, he is interested in body donation and the use of cadaveric material in education, research and healthcare, with specific interest in the application of digital technology in this area. His other research interests lie in the utility of posthumous human assets, including organ donation and the governance of posthumous healthcare information.

Tom Farsides

University of Sussex's School of Psychology, UK

Tom Farsides is a lecturer in the University of Sussex's School of Psychology. His primary research interest is in when, why, and to what extent people care about others' welfare and with what consequences. This encompasses many specific topics including (compassionate) lying and (mercy) killing, as well as more obvious topics such as donation and volunteering.

Sabine Hildebrandt

Boston Children's Hospital, Harvard Medical School, Boston, Massachusetts, USA

Sabine Hildebrandt is an associate professor of pediatrics in the Division of General Pediatrics, Department of Medicine at Boston Children's Hospital, and a lecturer on Global Health and Social Medicine at Harvard Medical School. As an anatomical educator her research interests are the history and ethics of anatomy, and specifically the history of anatomy in National Socialist Germany. Her educational approach integrates anatomy, medical history and medical ethics.

Nalini Pather

School of Medical Sciences, University of New South Wales, Sydney, Australia

Nalini Pather is currently the Chair and Professor of Anatomy at UNSW Sydney. Her contributions to medical and science education have earned her several awards including one from the Australian Government. Nalini leads a research group (Applied Anatomy and Imaging Technologies) that investigates anatomical applications and imaging technology in clinical practice and education. Her interest is in age-related changes from paediatrics to elder-care using next-generation technologies such as mixed reality. Nalini has a special interest in workplace practice, public advocacy and bioethics, and has delivered several public lectures, including on reproductive techniques, the developing brain and technology, and commemorations of body and organ donors.

Claire F. Smith

Brighton and Sussex Medical School (Brighton), Falmer, United Kingdom

Claire F. Smith is Head of Anatomy at Brighton and Sussex Medical School (Brighton), Falmer, United Kingdom. She is a fellow of the Anatomical Society and a member of the Court of Examiners for the Royal College of Surgeons England. She is the lead author on Gray's Surface Anatomy and Ultrasound textbook. Her new book titled the Silent Teacher; the gift of body donation is written for the public. Her research is in understanding the learning experience including: body donation; approaches to learning, learning psychometrics, spatial ability and the use of 3D printing in anatomical teaching.

Georgina Stephens

Department of Anatomy and Developmental Biology, Monash University, Melbourne, Australia

Georgina Stephens is an Assistant Lecturer in the Department of Anatomy and Developmental Biology, Monash University where she teaches gross and clinical anatomy in medical, allied health and biomedical courses. Her research interests include medical and anatomical education.

Bruce Wainman

Education Program in Anatomy, and Professor, Pathology and Molecular Medicine, McMaster University, Hamilton, Ontario, Canada

Bruce Wainman is the Director of the Education Program in Anatomy at McMaster University as well as the Director of the Surgical Skills Laboratory and Professor of Pathology and Molecular Medicine. Professor Wainman researches the role of augmented and virtual reality on learning, interprofessional education in anatomy, course evaluation using Q-methodology and the intersection of organ and tissue donation with body bequeathal.

Abstracts:

Nalini Pather

Anatomy: a mirror for society and a challenge to normative ethics

As a discipline, anatomy holds a peculiar position in history and society, and often mirrors the ethical conscience of its time. This is reflected in its earliest and sometimes unlawful beginnings, which entwined stories of human body snatching with injustices to the most vulnerable such as the poor, and those in legal custody. This paper argues that anatomy has retained this unique position amongst the biomedical sciences as a bearer of society's ethical conscience.

As with the advent of printing in 15th century that heralded a change in the practice of the discipline and the move to adopting a modernistic thought framework, so too the emergence of next-gen technologies like mixed reality and 3D printing has placed the discipline at the centre of ethical and legal conundrums that reflect changing post-modern society. This change in society's thinking emerges in the practice of anatomy and its nexus with other disciplines. Artists, for example, through all of time have used imagery of the human body, dissection, and of anatomical education to reflect the realities and hopes of the people of its times. In a post-modernistic world, it is no wonder that exhibitions of the human body captivate the general public. As with the public dissections of 16th and 17th century, anatomy again challenges the 'normative' ethic of its time.

The paper draws on historical perspectives of the discipline and a cross-sectional analysis of the attitudes of stakeholders in anatomy exhibitions for public awareness, training, and art. The paper posits that the unwritten role of anatomists and of the discipline is to challenge the normative ethic of the culture of the time and to contextualise the difficult question society faces: what is good, and who decides.

T. Farsides and C. F. Smith: What are people's "concerns" when contemplating body donation?

To date, most discussions about "the ethics of body donation" have tended to be primarily 'top-down'; informed mainly by philosophical frameworks or by various experts' proclamations about "what is important", e.g., patients' autonomy, consent, the integrity and trustworthiness of the donation system, etc.

In this talk, we report provisional findings from a study taking a different tack by prioritising potential donors' own accounts of their "interests" and "concerns". Consistent with existing knowledge, donation seems motivated by a combination of "altruism" and a belief that cadavers are simply physical matter with no on-going relationship with individuals' "persons", "selves", "spirits", or "souls". People's accounts nevertheless reveal important complexity and variation around these main themes. People differ in how they want to be altruistic and towards whom, with one important concern being to balance desires to serve 'the general good' and desires to avoid or reduce distress to specific loved ones. Similarly, people differ in how they conceptualise their dead bodies,

from ‘just meat’ - that anyone can do with what they will - to ‘sacred gifts’ - that should be used only by particular people in particular ways.

We believe that such conceptions have important implications for how “ethical practice” should be conceptualised and implemented, i.e., in ways that differ from the priorities derived primarily from ‘top-down’ approaches.

G. Stephens: An Ethical Dilemma? How donor dissection influences medical students’ perceptions of ethics

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Donor dissection as anatomy pedagogy remains debated. While short-term anatomy knowledge gains may not be impacted by dissection, studies suggest that student anxiety levels are. Although donor dissection may impact professional development such as teamwork, studies exploring what else students learn from dissection are limited. A potentially rich lens to explore the role of donors in dissection may be medical ethics. To improve the knowledge base related to anatomy education and medical ethics, we evaluated the longitudinal impacts of donor dissection on medical students’ perception of ethics.

A longitudinal qualitative study was undertaken at an Australian university where student responses to online discussion forums and interviews were analysed using framework analysis.

Five themes related to ethics in anatomical education were identified: 1. Dignity, 2. Beneficence, 3. Consent, 4. Justification for versus the necessity of dissection and 5. Dichotomy of objectification and personification. The dominant themes of students’ ethical perceptions changed with time, with a shift from a focus on aspects of the donor as a person, toward the utility of the donor in anatomy education.

The impact of donor dissection on students’ perceptions of ethics is complex. The longitudinal approach presented here suggests a strong impact of donor dissection on priming students’ focus on medical ethics, but this changing over time. This research suggests that donor dissection has impacts on students beyond simple anatomical knowledge acquisition and advocates for formal integration of medical ethics with anatomy education.

Bruce Wainman: Euthanasia and Body Bequeathal

The recent legalization and widespread acceptance of medical assistance in dying (MAiD) or euthanasia in numerous jurisdictions in the late 20th century has led to an entirely novel and growing supply of cadavers for education and research. In our laboratory at McMaster University in Ontario, Canada the number of MAiD bodies has grown to 5% of total intake in only two years and MAiD recipients are five times more likely to donate their bodies than the general population. The ethical and practical issues of this new stream of bodies need to be considered. The history of the use of euthanized humans in anatomy is truly horrific however the modern incarnation of euthanasia as a

preferred means for terminating one's life when faced with unbearable physical and existential suffering has little to do with the state-sponsored murder of the past. Numerous questions remain such as are we interfering with the free-choice of the donors by supporting their decision to prematurely end their difficult life to fulfill a higher cause? The ethical and practical issues of this new stream of bodies in general, and specifically within the context of Ontario, Canada, will be the subjects of this talk.

Sabine Hildebrandt:

Creating a Learning Environment in Anatomy Conducive to the Acquisition of Professional Competencies in Medicine: Experiences at Harvard Medical School

In anatomical dissection, students cannot only learn the structure and function of the human body, but also acquire professional competencies such as teamwork, interpersonal skills, self-awareness, and the ability to reflect on and practice medical ethics. The fulfillment of this wide potential can present a challenge in anatomy courses that are part of an integrated foundational medical curriculum, thus much shorter than traditional courses and in need of additional coordination with other parts of the curriculum. This new reality, together with students' increasing awareness of the stresses within medical education, led to efforts at Harvard Medical School to implement practical steps towards an optimal learning environment in anatomy.

These steps were based on the principles of trauma-informed care: trustworthiness and transparency; peer support; collaboration; empowerment; safety; and cultural, historical, and gender sensitivity. At the center of the concept for anatomy at Harvard Medical School stand the relative interactions between anatomical educators, medical students and body donors. Essential prerequisites for the implementation of this work were support by the medical school academic leadership and administration, and the effort of highly motivated students who contributed content in team-building exercises, facilitated coordination among faculty within the different parts of the curriculum, and served as peer-teachers.

Specific interventions started before the course, with a faculty development session on the philosophy of the course and a letter to the students inviting them to share their thoughts on anatomy. The responses to this letter were addressed during introductory plenary sessions, and the students were familiarized with the anatomy course through a pre-dissection lab visit, an introductory guide and a module on the history and ethics of anatomy. During the 10 week course, team-building activities were scheduled, and self-reflection was encouraged through written exercises, voluntary life-body drawing and the offer of weekly discussion sessions with faculty.

These activities were met by students with responses varying from neutral to enthusiastic, and this first attempt at implementation has supported the identification of areas that need further adjustment. The interventions were easy to introduce and, anecdotally, appeared to promote open and trusting relationships among students, and between students and faculty.

Jon Cornwall

The Impact of Digital Technology on Anatomy Education

Digital technology is influencing how many teaching institutions use bodies donated to science, with medical imaging procedures, photographs, 3D printing, and genomic information all being increasingly utilised with respect to donated human material. This increase in digitisation affects elements of information acquisition and communication that were not previously common concerns, including ease of data sharing, size and type of data bases, authorisation of information transfer, commercialisation of information, and incidental findings arising from exome analysis. At present there is a lack of empirical evidence to guide appropriate utilisation of this digital information including how acquisition, utilisation, distribution, and destruction of such data should take place. The increasing use of digital technology with bodies donated to science raises questions on the nature of informed consent in a digital age, how family involvement in consent processes should be shaped, about anonymity and information sharing, and how potential commercialisation of data should be addressed.