

## Cadaver Dissection in Anatomy: The Ethical Aspect

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Rec date: Jul 10, 2015; Acc date: Sep 10, 2015; Pub date: Sep 15, 2015

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### Abstract

Cadaveric dissection is an integral part of medical education and the basis of anatomy for first M.B.B.S. students. The dead human body has failed to elicit much theological interest, and until recently, little ethical interest. Dissection of cadavers is a time honored part of medical education. Undergraduate and postgraduate students do dissection as a part of learning human anatomy. Cadavers are obtained from the forensic mortuary declared as 'unclaimed body' or through donated bodies that includes voluntary donation during life or their after by the relatives. However, use of human tissue for research and the use of human cadavers for teaching and training purposes are surrounded by ethical issues. In this paper we will be discussing the ethical issues in relation to the use of cadaver i.e. respect for human body even after life.

**Keywords:** Ethics; Dissection; Cadaver; Anatomy

### Introduction

Ethical constraints in relation to a cadaver do not cross the mind of medical professionals as it may seem strange to devote attention to the value to be ascribed to the dead body or to ethical issues surrounding the dead body or a cadaver. After all, it appears that there are few ethical issues surrounding dead bodies in comparison with living bodies, whereas in living people the ethical constraints are undoubtedly present. The most important book in the history of medicine is an anatomical treatise published in 1543, 'De humani corporis fabrica', based on dissections of the human body. The illustrations in the seven volumes of this work by Andreas Vesalius are exquisite for their beauty, complexity and humanity [1].

Prior to Vesalius anatomical texts were based largely on dissections of animals. Leonardo Da Vinci not being an anatomist had made beautiful pictures of the human body. His paintings were very descriptive and the entire anatomy of the human body was given a three dimensional approach with his art. In ancient ages cadavers were exhumed by unlawful means to study human anatomy. However, cadaver dissection was not new in the time of Vesalius, where there was a physician-teacher performed dissection in the theatre surrounded by the students [1,2]. Cadaveric dissection has been the paradigm of anatomy teaching since the Renaissance, and defining experience of medical teaching since the 16th and 17th centuries [3,4]. In addition, the practice of cadaveric dissection helps students to grasp the three dimensional anatomy and concept of innumerable variations [5]. Through dissection, students are able to get the feel of the human tissues and structures of the human body. It has also been called the "sharp end" of medical education [6]. Because of current arguments on balancing learning outcomes, problems related to the use of human cadaver, teaching methods and resources, many recent curricula in anatomy have introduced a shift towards greater use of alternative modalities of teaching involving cadaveric plastination, non-cadaveric models and computer-based imaging [7,8]. Cadavers are required for studying the human anatomy in all disciplines of medical science. As

medical institutions of various specialized disciplines have overgrown, the need for cadavers has also increased proportionately [9].

### Ethics and Cadaver Dissection

The first principle is that of autonomy. According to this, each individual should have autonomous control over the disposition of his or her body after death. Emphasis here is on what an individual decrees should or should not be done with his or her body at death, despite social need or public interest. This is a principle that has been overlooked far more frequently than it has been followed. In fact, it was ignored until the 1950s or 1960s at the earliest, and it continues to be ignored in many societies where bodies for dissection and organs for donation are scarce. The use of unclaimed bodies has become so much an integral part of the anatomical ethos that the ethical dimensions provided by the autonomy principle have been generally ignored. Ethical concerns in dissection of cadavers: Anatomical dissection is a time honoured part of medical education [4]. However, like the use of human tissue for research purposes, the use of human cadavers for teaching and training purposes is surrounded by ethical uncertainties [7-14]. The main ethical concern of cadaver dissection lies in respect to human life.

### Dissection Hall Etiquettes

The students in our country have got enormous opportunity of dissecting cadavers and learning themselves, especially in government medical colleges, where there are morgues for medicolegal autopsy purposes. Therefore, it is a great opportunity to participate in a rich tradition and experience a privilege shared by only few. Cadavers are referred to as 'human anatomical specimens' [15], a description that seems inadequate for such a valuable gift to medical education. Working with human material requires respect and sensitivity [16]. The following guidelines and rules will help the students and the teachers understand their responsibilities regarding the use of human tissues and dissection hall mannerism.

## Human anatomical gifts

As stated earlier that the most of our cadavers were obtained through 'body donation'. Persons donating their body receive no financial compensation; this is truly their ultimate gift [17]. Hence, it is imperative that proper respect be given to the cadavers. Any disrespect for the cadaver will be a disgraceful act as a human being [18]. The teachers and the students should observe professional conduct while in the dissection hall and outside of the hall, particularly if anyone wants to discuss anything related to the cadaver.

## Care of cadavers

The cadaver should be kept moist at all times. The cadaver is covered with gauze rolls dipped in embalming fluid. The students should only uncover the area they are studying.

## Dissection hall access

The dissection hall should have limited access and needs to be locked when not in use. Only students enrolled in the course are allowed in the dissection hall.

## Laboratory safety

Cadavers are embalmed with a fluid containing glycerin, ethyl alcohol and phenol. Physical contact of one's skin and clothing with the cadaver should be avoided. The students are required to wear disposable gloves at all times while working in the dissection hall. Non-latex/powderless gloves should be available for dissection. A white coat/apron should be worn while working with the cadaver. Contact lenses should not be worn in the dissection hall, because the lenses can absorb chemical vapors. If anyone must need to wear contact lenses, he/she is required to purchase and wear vapor proof goggles. Only textbook and dissection manual are allowed in the dissection hall. All backpacks or other personal items should be left at a corner. Food and drinks are not allowed in the dissection hall. Proper use and handling of the dissection instruments should be carefully maintained. The ventilation system in the hall is designed to remove air at the level of the cadaver and to reduce exposure to the embalming chemicals and odors. The ventilation system should remain on at all times. The door to the hall should be closed at all times.

## Preservation of the tissues and organs

All tissues removed from the cadaver must be collected and placed in the designated containers or tray. No body parts, tissue, etc. should be removed from the dissection hall. The excess liquid that has accumulated on the dissection table should be drained into the bucket located under the table.

Anatomy is the true essence of basic subjects which gives the medical student their very first exposure to human body and helps them overcome their inhibitions. Just as dissection remains an essential technique to teach three-dimensional concepts, the dissection hall is an ideal place to introduce concepts of humanistic care [14]. The dissection hall evokes the students' memories, speculations, and fears about serious illness in themselves, their families, and loved ones. The

attitude of the teaching faculty in administering to the students' needs as they undertake the emotionally charged task of dissection can provide a model for how the students will respond, in turn, to the hopes and fears of their patients and to their own reactions to dying. This approach will allow students to implement and practice humanistic values immediately, laying a foundation for their clinical training [18].

Cadaver being our First teacher and without its availability Medical Education would come to a standstill. This effort was made because of due respect to BODY DONORS for their magnanimous and selfless act, as without even knowing to whom they are offering their body and the students not being aware of the name of the donors they are doing it for the furtherance of medical education and research.

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