



## RESEARCH ARTICLE

### DISSECTION HALL ETHICS: ROLES AND RESPONSIBILITIES

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#### Abstract

Anatomy is the key to various streams of medical profession. To attain proper knowledge of subject, the student must go through the dissection hall in very first year of his professional life. Cadaver always remains the grace of dissection hall, which not only makes the department of anatomy alive but also facilitates practice of clinical techniques for safe clinical practice. Thus, for medical scholars it is must to have some basic ethical knowledge about good conduct in dissection hall and understanding moral values in regards to cadaver. This review highlights the ethics in context to dissection laboratory for being the first place of clinical practice.

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#### Introduction:-

The knowledge and practice of medical ethics constitutes an integral element of professionalism in medical curriculum. For sowing the seed of medical ethics at an early stage in future physicians, dissection room would be the best place. The practice of human dissection begins with the availability of cadaver followed by preservation, utilization for dissection, handling and culminates with respectful disposal of the person. In each of these stages, the precious human cadaver needs to be handled in an ethical manner to set a standard for students.

#### Receiving a cadaver

Being a valuable tool for developing observational skills and knowledge of anatomical relations, cadaver is the first teacher and patient in context of medical profession. It not only facilitates practice of clinical examinations, surgical techniques and procedures but also helps in understanding of variations and their clinical relevance when compared to text books or any source of information.

Even, in ancient times, human body was the source of dissection. Acharya Sushruta has thoroughly elaborated rules and regulations for choosing, handling and procedures of cadaveric dissection.<sup>1</sup> Body donation is the preferred and major source of availability of cadaver worldwide. The history of body donation can be traced long back to Puranas. Rishi Dadhichi donated his body to make weapon Vajra using which demon Vrtrasoor was killed<sup>2</sup>. However, by early 19<sup>th</sup> century, with the rise of medical science and with paucity of cadaver, enslaved, poor, immigrants and theft were targeted for grave robbing. In this sequel the anatomy act was passed in Masschusetts of America in 1831, which permitted the use of unclaimed bodies and also donation of body of deceased by his kin. This act was repealed by Anatomy Act 1924, which was in turn replaced by Human tissue Act 2004<sup>3</sup>. In India, this act was enacted in 1948, to provide unclaimed bodies of deceased persons to hospitals and medical teaching institutions for purpose of anatomical examinations and dissections.<sup>4</sup>

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According to this act, any hospital, medical or teaching institution, which has been approved by state government for medical education, research or treatment, can accept the body. However, an institute has a right to reject the body for any other reason except:

1. Body of a medico-legal case e.g. suicide, homicide, accidental death etc.
2. Postmortem bodies.
3. Body of a person having contagious/ communicable disease e.g. HIV, AIDS, Tuberculosis, Hepatitis B& C etc.
4. Decomposed body.
5. Extreme obese and emaciated body.
6. Body with organ removal (except eyes)/ disabled bodies.
7. Body of a person with skin disease like psoriasis, leprosy, bedsores etc.

Checklist: following documents must require while receiving the donated body.

- ✓ Death certificate by registered medical practitioner/ hospital.
- ✓ Disposal permit- issued by local governing authority i.e. Municipal Corporation.
- ✓ Application by next kin or close relative.

### **Cadaver respect:**

The cadavers are to be treated as gift, either the person donating his body or his kin both are not receiving any financial compensation. For inculcating professional behavior in medical students and to sensitize them about importance of cadaver in enhancing their knowledge, each should be made to take oath before starting dissection. In our institute this cadaveric oath is taken by students:

I do solemnly pledge that

1. I will always treat you with respect and dignity of the highest order, as you are my foremost teacher and patient.
2. I will always respect your privacy and confidentiality.
3. I will use this knowledge for service of humanity.
4. From now onwards, I will do justice to your great sacrifice.
5. I will be grateful to you and your kith n kin for this noble act of life after death.

### **Care of cadaver:**

After paying tribute, the donated body is subjected to pre-embalming treatment. For this, hair should be removed and body must be settled in supine position. To protect the dead body from decomposition and to prevent the spread of infection, body is preserved by injecting embalming fluid, which is made up of formalin, methanol, glycerin, water etc. This fluid is inserted into the femoral / carotid artery for arterial embalming and also into abdominal, pelvic, thoracic and cranial cavities. For long term preservation embalmed cadavers are stored in tanks filled with 10% formalin solution. Thus, well preserved cadavers are used for dissection, research and histological examination.

### **Dissection etiquette:**

Dissection is an art, which requires skill, care, patience and practice. Cadaver is a rare gift and dissecting without preparation not only results in destruction of structures but also we loss opportunity to learn from cadaver. Thus, before proceeding to dissection one must have:

- ✓ Thorough reading of dissection manuals- to look for the structures exposed in the region of dissection.
  - ✓ The suitable tools and techniques should be used for detailed exposure of area and to reduce time.
1. Pencil/marker to mark on skin surface
  2. Probe for tearing tissues and vessels
  3. Scalpel with blade - to cut skin, fascia, tissue and vessels.
  4. Forceps - toothed, plane and pointed for blunt dissection, to grasp, lift and hold the tissue.
  5. Scissors- straight or curved to cut tough structures like tendon, ligaments etc.
  6. Saw- manual or electrical to cut the bones.
  7. Bone cutting forceps- to cut ribs, spines and processes of bones.
  8. Chisel and hammer- to cut strong bones by stroke or hitting.

### **Safety measures:**

Before interacting with cadaver one must follow these safety measures-

1. Dress should not drag on cadaver, it is recommended to wear old clothes, tops with short sleeves or use separate cloths for dissection hall and to wash them properly.
2. Apron must be worn compulsorily to avoid contact with embalming fluids.

3. Gloves to be used to prevent exposure to chemicals, otherwise, it is the best to use naked hand for palpation or feeling the difference between various structures.
4. Contact lenses must not wear in dissection hall or anatomy museum, since chemicals produced vapors that can be absorbed by lenses. It is good to wear goggles that may prevent entrance of foreign body into eyes.
5. Long hair to be secured in place with pins or clips before approaching the dissection table. Bangles, rings, wrist bands and watches must be strictly restricted.
6. Do not place hand / elbows on dissection table for support.
7. While doing dissection, dignity of cadaver must be maintained by covering body parts that are not being dissected.
8. Cover the cadaver with chemical soaked clothes to prevent drying of exposed parts.
9. Use of camera, cell phones, and photography equipments must not be permitted in dissection hall.
10. Edibles, chewable and drinks should not be allowed at cadaver.
11. Washing and sanitization must be done before leaving the hall.

**Biomedical Waste Management:**

While doing dissection and preserving viscera and bones, a lot of biohazard waste has been produced in form of body parts, blood, blood products, body fluids, discarded gloves and sharps, which need to be disposed off to avoid any contamination. Thus, anatomy laboratory must follow the guidelines of biomedical waste management rules accordingly:

Laboratory staff is responsible for proper packaging, handling and processing waste, and for that wearing disposable gloves and long sleeved aprons is compulsory.

1. All hazardous chemical waste must be collected in leak proof containers with tight fitting lids, and must be labeled with content.
2. Bio waste bins must be located under each table and these must not carry other waste; these are hard walled containers having double biohazard waste bag inside it.
3. No waste can be kept beyond a period of 48 hours.
4. Liquid must be kept in leak proof containers. Sharp objects like scalpel, needles, and lancets must require separate handling and must be placed in puncture resistant containers.
5. General waste like paper or solid waste must be segregated separately.
6. Drains should not be used for disposal of waste/ chemicals.
7. Deep burial/ funeral with utmost respect and care must be done for remains of cadaver.

**Discussion:-**

Undoubtedly, dissection hall experience not only provides an opportunity for the students to nurture the medical ethics in their early curriculum but also it evokes the student's memories, speculations, and fears about serious illness. Moreover, it helps in developing a spatial and tactile appreciation for the fabric of human body that cannot be achieved by computerized learning aids. Attitude developed during dissection may influence interactions with future patients and families. Hence, dissection on cadavers is a landmark, to recognize emotional issues that students may confront and to guide them towards becoming human physician.

**Conclusion:-**

In conclusion, cadavers facilitate a medical student's first exposure to the complexities of the human body structures and relationships. The dissection hall provides a direct encounter with harsh realities of life and death which budding the doctor will inevitably face in their prospective career because a physician not only needs sound knowledge and competitive skills but also the right attitude to practice one's profession with full respect and dignity. Hence, it is every medical student's duty to give utmost respect to the cadaver and maintains discipline during their dissection classes to nurture the seed of professionalism in their traits and likewise to serve the humanity with the fragrance of their ethicality.

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