

A COMPEHENSIVE GLANCE OF ANATOMY ACTS IN INDIA

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ABSTRACT

Across all sciences humans have always strived to discover inside the human body as well as outside of it. Human body is considered as a miniature cosmos. so if we develop understanding in the structural and functional aspects of human body, it may lead to answers to many enigmatic questions of the cosmos. Therapeutic paradigm is one of them. Priority and Sequence wise structural knowledge leads the functional scene. We being civilized society we follow certain sorts of legitimate protocols to conduct our activities of public or institutionalized interest. This is done to provide well defined definition of the subject under consideration and to safeguard human ethics and values. Since ages, the ancient Indians have highlighted the importance of body and organ donations. The great sage DADHICHI donated his bones for the formation of VAJRA, prime weapon used by lord Indra. Thus this emphasized the need for anatomical sciences in medicine through the use of effective dissections. However, after the Period of historical Renaissance, there was a surge in institutionalized dissections throughout the world. As a result of which various laws were enacted by governments concerning the procurement of bodies for the purpose of scientific dissections. These were later promoted throughout the world through various anatomical acts. After independence in 1947, different Indian states formulated their own anatomy acts that had their own merits and apprehensions. Hence, this summary serves to highlight the various acts throughout history and would serve as a guide to various stakeholders of anatomy viz. Modern medicine, ayush streams, pharmacy, nursing and for others too.

KEYWORDS: Acts, Cadaver, Dissection, Body donation, Anatomy.**INTRODUCTION**

The Anatomy Act of India is a crucial legal framework that governs the procurement and use of human cadavers for medical education and scientific research. Enacted across various states at different times, the Act ensures that medical students, researchers, and institutions have access to cadavers while maintaining ethical and legal safeguards. Before the introduction of the Act, medical institutions struggled with a shortage of cadavers, leading to unethical practices like grave robbing and illegal body trade. Recognizing the need for a systematic and legal way to acquire human bodies, the British administration Introduced the first Anatomy Act in India. modeled after the British Anatomy Act of 1832. Over time, post-independence India modified and adopted these laws across different states to address the needs of modern medical education and research.

Historical background of the anatomy act**1. Global context- india's ancient contributions to anatomy**

While Western anatomical studies are often credited with pioneering human dissection, India was one of the earliest civilizations to practice systematic anatomical research using human cadavers. Sushruta Samhita (circa 600 BCE), an ancient Sanskrit text on medicine and surgery, describes in detail how to conduct human body dissections for medical learning. Acharya Sushruta, considered the father of Indian surgery, provided specific instructions. on how to select and prepare cadavers for anatomical study. In Sushruta Samhita Sharira Stan Chapter-5 viz. शरीरसंख्याव्याकरणशरीर dissectional anatomy has been dealt in detail. This is as follows:

a. Selection of the body for dissection (Cadaver should have following properties)

“तस्मात्

समस्तगात्रमविषोपहतमदीर्घव्याधिपीडितमवर्षशतिकं

निःसृष्टान्त्रपुरीषं पुरुषम्” । (सु. शा. 5/49)

- समस्त गात्रम् : Body should be intact
- अविषोपहतम् : Cause of death should not be Poison.
- अदीर्घव्याधिपीडितम् : Cause of death should not be Chronic disease.
- अवर्षशतिकं : Age should not exceed 100 years.
- निःसृष्टान्त्रपुरीषं पुरुषम् : Fecal matter from the intestine should be removed and cleaned.

b. Preservation of the cadaver

“अवगाहन्त्यामापगायां निबद्धं पञ्जरस्थं मुञ्जवल्कलकुशशणादीनामन्यतमेनावेष्टिताङ्गमप्रकाशे देशे कोथयेत् सम्यक् प्रकुथितम्” । (सु. शा. 5/49)

- अवगाहन्त्यामापगयाम् : Cadaver should be kept in slow flowing river.
- अवहन्ति- thrown down , आपगा – River
- निबद्धं : cadaver should be tied
- पञ्जरस्थं : keep in iron cage
- मुञ्जवल्कलकुशशणादीनामन्यतमेनावेष्टिताङ्गम् : every part of the cadaver should be covered by herbs.
- अप्रकाशे देशे : Cadaver should be kept in shadow.
- कोथयेत् : Cadaver should be immersed in water for putrefaction
- सम्यक् प्रकुथितम् : Cadaver should be kept for proper decomposition

c. Method of dissecting cadavers

“उद्धृत्य ततो देहं सप्तरात्रादुशीरबालवेणुवल्कलकूर्चानामन्यतमेन शनैःशनैरवघर्षयन्स्त्वगादीन् सर्वानेव बाह्याभ्यन्तरानङ्गप्रत्यङ्गविशेषान् यथोक्तान् लक्षयेच्चक्षुषा। (सु.शा. 5/49)

- उद्धृत्य ततो देहं सप्तरात्रात् : begin dissection after seven days.
- उशीरबालवेणुवल्कलकूर्चानामन्यतमेन : apparatus materials
- शनैःशनैरवघर्षयन् : dissection should be performed by slow scraping.
- त्वगादीन् सर्वानेव बाह्याभ्यन्तरानङ्गप्रत्यङ्गविशेषान् यथोक्तान् लक्षयेच्चक्षुषा : Skin, external organs and internal organs should be observed carefully.

Unlike later periods when religious cum royal orderly restrictions prevented human dissection, Sushruta emphasized direct observation of the human body as crucial for medical knowledge as is evident now by earlier discussion.

2. Evolution of Anatomical Studies in India and Beyond

- **Ancient Egypt (3000 BCE):** Egyptian embalmers had advanced knowledge of human anatomy, but dissection was mainly for mummification rather than medical study.
- **Greece (400 BCE):** Hippocrates and later Herophilus conducted early anatomical research, but cultural taboos often restricted human dissection.
- **Medieval Europe (500-1500 CE):** The Catholic Church banned human dissection. leading to reliance on animal studies instead of human anatomy.
- **Renaissance (1500):** Anatomists like Andreas Vesalius in Europe challenged traditional beliefs, leading to modern anatomical studies.
- **British India (1800s):** Colonial medical colleges faced difficulties obtaining cadavers. leading to the first legalized anatomical studies under British rule.

3. Evolution of the anatomy act in india

- **Ancient India (600 BCE-1200 CE):** Anatomical knowledge thrived under Sushruta and Charaka, but later religious restrictions curbed cadaver dissection.
- **British Colonial Period (1800s):** The British introduced Western medical education. necessitating cadaver-based learning, leading to grave robbing and illegal trade.
- **Post-Independence (1947-Present):** States implemented the Anatomy Act to regulate cadaver procurement legally.

Objectives of the anatomy act

The Anatomy Acts of India serve several key purposes:

- **Regulated procurement of cadavers** - It provides a legal mechanism for acquiring unclaimed bodies for medical education.
- **Prevention of Illegal Practices** - The Act prevents body trafficking and unethical procurement of cadavers.
- **Encouraging voluntary body donation** - It allows individuals to donate their bodies for medical research and education.
- **Ethical handling of cadavers**-The Act mandates dignified and lawful procedures for handling dead bodies.
- **Customization for state implementation** - Since public health is a state subject, each state has its own modifications of the Act.

Key provisions of the anatomy act**1. Collection and Use of unclaimed bodies**

- If a person dies in a hospital, prison, or public place, and no one claims the body within 48-72 hours, it may be legally transferred to a medical institution.
- The waiting period for claiming the body differs by state (ranging from 24 to 72 hours).
- Before handing over the body, police verification is mandatory to ensure it is truly unclaimed.

2. Voluntary body donation

- Individuals can pledge their bodies for donation by signing a legal document.
- Family members may also donate a deceased person's body, provided there is no documented objection.
- NGOs and social organizations assist in body donation programs in many states.

3. Use in Ayurvedic, Siddha and Unani Education

- Some states explicitly allow Ayurvedic, Siddha, and Unani medical institutions to use cadavers. Tamilnadu has specific guidelines for handling cadavers in traditional medicine research.

4. Prohibition of commercial trade

- Buying or selling human cadavers is strictly prohibited.
- Medical institutions must maintain records of received cadavers to prevent misuse.

Importance of the anatomy act for medical education**1. Addressing cadaver shortages**

- The Act ensures that medical students have access to cadavers for learning human anatomy.
- Without proper legal mechanisms, medical institutions would struggle to obtain cadavers ethically.

2. Advancing medical research

- Cadaver studies improve surgical techniques, forensic science, and disease research.

3. Promoting ethical practices

- The Act eliminates illegal body trade and ensures transparent procedures.

4. Encouraging a body donation culture

- States like West Bengal and Maharashtra have strong public awareness campaigns promoting body donation.

Comparative analysis of the anatomy act across indian states**1. Bihar Anatomy Act, 1961****Definitions**

- **Approved institution:** Hospitals or medical and teaching institutions approved by the state government for conducting post-mortem

examinations, anatomical dissections, and operative surgery practices.

- **Unclaimed body:** The body of a deceased person not claimed by near relatives or persons of the same caste, creed, or religion within a prescribed time.

Procedures

- Unclaimed bodies in hospitals, prisons, or public places are to be reported to authorized officers, who then arrange for their transfer to approved institutions for medical purposes.

Penalties

- Individuals obstructing the transfer of unclaimed bodies or disposing of them to defeat the Act's provisions may face fines or imprisonment.

Source: Bihar Anatomy Act, 1961

2. Karnataka Anatomy Act, 1957**Definitions**

- **Approved institution:** Hospitals or medical and teaching institutions approved by the state government for anatomical examinations and dissections.
- **Unclaimed body:** Bodies of deceased persons not claimed by near relatives within a prescribed time.

Procedures

- Similar to Bihar, unclaimed bodies are reported to authorized officers for transfer to approved institutions for anatomical studies.

Penalties

- Obstruction or unauthorized disposal of unclaimed bodies can lead to penalties, including fines or imprisonment.

Source: Karnataka Anatomy Act, 1957

3. Punjab Anatomy Act, 1963**Definitions**

- **Approved Institution:** Hospitals or medical and teaching institutions approved by the state government.
- **Unclaimed Body:** Bodies not claimed by near relatives within a specified time frame.

Procedures

- Unclaimed bodies are to be handed over to approved institutions for anatomical examination and dissection.

Penalties

- Penalties are imposed for obstructing the Act's provisions, similar to other states.

Source: Punjab Anatomy Act, 1963

4. Orissa Anatomy Act, 1975

Definitions

- **Approved institution:** Hospitals or medical and teaching institutions approved by the state government.
- **Unclaimed body:** Bodies not claimed by near relatives within a prescribed time.

Procedures

- Unclaimed bodies are reported to authorized officers and transferred to approved institutions for anatomical purposes.

Penalties

- Obstruction or unauthorized disposal of unclaimed bodies can result in fines or imprisonment.

Source: Orissa Anatomy Act, 1975

5. Meghalaya Anatomy Act, 2017

Definitions

- **Approved institution:** Hospitals or medical and teaching institutions approved by the state government.
- **Unclaimed body:** Bodies not claimed by near relatives within a specified time.

Procedures

- Unclaimed bodies are to be handed over to approved institutions for anatomical examination and dissection.

Penalties

- Penalties are imposed for obstructing the Act's provisions, including fines and imprisonment.

Source: Meghalaya Anatomy Act, 2017

Commonalities across states

Objective

All Acts aim to provide unclaimed bodies to medical and teaching institutions for anatomical examination, dissection, and related purposes.

Definitions

Approved institutions: Typically defined as hospitals or medical and teaching institutions approved by the respective state governments.

Unclaimed bodies: Generally refer to bodies not claimed by near relatives within a prescribed time frame.

Procedures

Unclaimed bodies are reported to authorized officers and transferred to approved institutions for medical and educational purposes.

Penalties

Obstruction or unauthorized disposal of unclaimed bodies can lead to fines and/or imprisonment.

Variations Noted:

Time frame for claiming bodies: The prescribed time within which a body must be claimed by near relatives varies between states.

Definitions of "near relative": While most states include immediate family members, the exact definition can differ.

Ethical and Legal challenges

1. Lack of public awareness

Many people are unaware of body donation programs

2. Religious and Cultural barriers

Some communities believe body donation disrupts religious rituals.

3. Bureaucratic hurdles

The claim verification process can be slow, delaying cadaver availability.

International comparisons

Comparing the Anatomy Act of India with similar legislation in other countries reveals significant variations in approaches to body donation and the use of cadavers for anatomical study. Here's a breakdown of key points:

Key areas of comparison

Legislation structure

- In India, Anatomy Acts are primarily state-level legislation, leading to variations across the country. This contrasts with countries like the UK, which have centralized national legislation (e.g., the Human Tissue Act 2004)
- The USA utilizes the Uniform Anatomical Gift Act, which provides a model for state legislation, but also results in some state-specific differences

Body donation consent

- Variations exist in who can give consent for body donation. In India, emphasis is placed on "near relatives, with definitions varying by state
- In many Western countries, the concept of "next of kin" is broader, and individuals can also make advance directives for their own body donation.

Handling of unclaimed bodies

- Procedures for handling unclaimed bodies differ significantly. Some countries have strict timeframes and protocols, while others have more flexible approaches.
- India has variability between states in the clarity of definition of "unclaimed bodies", and the time frames associated with them.

Scope of use

- The scope of permitted uses for cadavers also varies. Some countries allow for a wider range of uses, including research and therapeutic purposes, while others focus primarily on anatomical education.

- There is a discussion within India, about the inclusion, or exclusion of "therapeutic use of cadavers within the anatomy acts.

Ethical considerations

- Increasingly, international legislation is emphasizing ethical considerations, including respect for the deceased and their families, and ensuring transparency in the use of cadavers.
- The importance of documented consent, and respect for cultural and religious beliefs are growing factors in all countries.

International examples

United kingdom

- The Human Tissue Act 2004 provides a comprehensive framework for the donation and use of human tissue, including cadavers.
- It emphasizes informed consent and ethical oversight.

United states of america

- The Uniform Anatomical Gift Act provides a basis for state laws on body donation.
- It allows individuals to make advance directives for their own body donation.

Canada

- Canadian legislation varies by province, with laws such as the Human Tissue Gift Act.
- These laws generally emphasize informed consent and respect for the deceased.

Australia

- Australia also has state based legislation, concerning the use of human tissue.
- They also have a strong emphasis on informed consent, and ethical considerations.

Key Differences and Considerations

- The level of centralization in legislation.
- The breadth of definitions for "next of kin."
- The clarity of procedures for handling unclaimed bodies.
- The inclusion of therapeutic uses of cadavers.
- The level of uniformity of the laws within each country.

It's important to note that ethical considerations and societal attitudes toward body donation are constantly evolving, leading to ongoing changes in legislation.

Future recommendations

1. Stronger public awareness campaigns

One of the biggest challenges in body donation is lack of awareness and social stigma. Many people in India remain uninformed about voluntary body donation and its benefits for medical education and research. Misconceptions, religious concerns, and fear of

disrespect prevent individuals from pledging their bodies after death.

To counter this, public awareness campaigns must be strengthened through media outreach, community programs, and educational initiatives. Government bodies, NGOs, and medical institutions should collaborate to:

- Conduct seminars, advertisements, and social media campaigns to educate people about the importance of body donation.
- Encourage religious and community leaders to support body donation and clarify misconceptions.
- Establish registration centers where people can pledge body donation easily.

States like West Bengal and Maharashtra have already demonstrated the effectiveness of such programs, leading to a higher rate of voluntary donations.

Mohan foundation: This organization actively promotes organ and body donation awareness through seminars, advertisements, and social media campaigns. They collaborate with community leaders to dispel myths and encourage donations.

Ellora vigyan mancha: Based in Assam, this NGO works to spread scientific temper and encourages body donation for medical research, organizing awareness programs to educate the public.

2. Simplified legal procedures

Currently, the process of donating bodies involves multiple bureaucratic hurdles, especially when family members wish to donate a deceased relative's body. Police verification, hospital documentation, and transportation formalities often cause delays, discouraging donors.

To simplify the process

- Digitalized registration systems should be introduced for those who wish to pledge their bodies.
- Hospitals should have dedicated donation coordinators to assist families.
- The waiting period for unclaimed bodies should be uniform across all states.

3. Better Storage & Transportation infrastructure

Many medical colleges lack proper facilities to store and transport cadavers efficiently. Bodies sometimes decompose before reaching institutions, leading to wastage.

Improvements should include

- Setting up regional cadaver banks for better distribution.
- Equipping medical colleges with advanced preservation techniques like embalming and refrigeration.

4. Encouragement of Ayurveda & Siddha Research

Ayurveda and Siddha practitioners also require anatomical knowledge, but regulations on cadaver usage in traditional medicine are unclear. By legally incorporating Ayurveda & Siddha research into the Anatomy Act, these fields can benefit from structured cadaveric study, enhancing India's holistic medical education.

CONCLUSION

The Anatomy Act of India plays a vital role in ensuring legal, ethical, and systematic procurement of human cadavers for medical education and research. Despite state-wise differences, the core principles remain the same. Bihar, like other states, follows the framework to ensure a structured, ethical approach to cadaver use. Moving forward, stronger public awareness and streamlined donation processes can further enhance India's body donation system.

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