



**ANKARA UNIVERSITY FACULTY OF VETERINARY
MEDICINE DEPARTMENT OF ANATOMY**



Preparation and Preservation Techniques For Anatomic Specimens Introduction

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What is Anatomic Specimen?

- These are the specified samples obtained from the organic materials (tissue, organs, body parts, bones etc) with a specific anatomic equipments-devices and by the proper anatomical techniques in order to prevent decomposition and to use in anatomical sciences.
- In Latin → Preparatio → To prepare
- In English → Preparation, sample, model
- But generally known as «Anatomic specimen»



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What is Anatomic Specimen?

- Main Goals to prepare an Anatomic Specimen:
 1. For Education
 2. For Demonstration
 3. For Scientific Researches
 4. For forensics and criminalistic investigations
 5. Just for prestige



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What is Anatomic Specimen?

- Whether animal or plant, living organisms start to deteriorate very rapidly after death.
- While anatomists prepare anatomical specimens from dead organisms, they try to **delay** this deterioration.
- Please note !! **It is not possible to stop decaying** completely. With the current techniques we can only **delay** (100 years, 1000 years, etc.)
- Decomposition → triggered by cell enzymes released after death, resulting in a deterioration and destruction of the organic structure.
- Decaying or Degradation → can be used for the decomposition of biological materials.
- Putrification → Spoilage, deterioration of tissue integrity, organs muddy and disappear.



Common Objective for All Anatomic Preparation Techniques

- No matter what the sample is, it is intended to remove tissue fluids (blood, lymph, oil, etc.) in the body or replace it with a specified chemical (whole or part of the body or organ etc.).
- **Tissue fluids are tried to be decreased below 2%.**



Aims & Scope for This Lecture

- Main aim is to give detailed information about the preparation and preservation of anatomic specimens.
- Preliminary preparation of students for upper-level courses and clinical practices by improving hand skills through the use of anatomical or clinical instruments, equipments and devices.
- To gain students 3 dimensional way to think, touch and reconstruct the anatomical structures that they can only see in the books theoretically.
- To put forward creativity by preparing aesthetic and original exhibition materials.
- To raise the awareness of **ethical rules and principles** among the students by obtaining and processing organic materials and cadavers after an ethical consent and preparing anatomical specimens.



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At The End of This Lecture

- All students will have detailed information about the preparation and preservation of anatomic specimens at the end of this semester.
- **Besides;**
- An extra chance for the students to improve their Anatomy knowledge that have been taken in Anatomy-I lectures and practices.
- Students will obtain detailed knowledge about various anatomical structures, organs, systems, their natural postures and their normal anatomical form in the body by touching, preparing or designing.



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Throughout This Lecture...

- All terminology is conveyed to students in Latin Language in anatomy classes. And this terminology is common for the entire scientific world. Therefore students can improve themselves in terms of anatomic terminology.
- From the point of view of the student; anatomical structures which has been known only as meat and bone until now, have a spesific Latin counterpart and term.



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Throughout This Lecture...

- Visual teaching methods and interactive application techniques will be used.
- **When applying the techniques of anatomical preparation;**
- You will see that the blood is going to spread over you. You have to deal with unpleasant smells. It will be vitally important to pay attention to biological pollution and to obey biosafety regulations.
- You will decide whether you are really going to be a veterinarian.
- **Anatomy is the base for Veterinary Medicine.** A person who does not know anatomy can not make a conscious operation, diagnose or treat a patient.



Throughout This Lecture...

- We will use all kinds of animals' bones, joints, muscles, organs etc.
- You must work not only in class hours, but also in your free time with your workshop group to accomplish your specimen preparation.
- It is imperative to wear medical gloves or work gloves, masks, medical caps, plastic boots, safety goggles.
- 1 written midterm + 1 homework instead of final exam.



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Major Techniques for Preparation of Anatomic Specimens (Listed Orderly)

1. Preparation and preservation of osteological specimens
2. Anatomic perfusion methods and specimen types
3. Taxidermy techniques for stuffed animals
4. Specimens prepared with organic glass technique
5. Air-Drying Method
6. Freeze-Drying and Natural Drying Method
7. Embalming Technique and Mummification
8. Latex Injection Techniques
9. Corrosion Cast Techniques
10. Alkid Resin Method
11. Silicone, Polyester & Epoxy Plastination Techniques
12. Artificial Anatomic Models, Mannikins and Specimens



Students should do the list below:

- Everybody should make their final decision about this lecture.
- Is this lecture convenient and suitable for you?
- If not, please don't hesitate to drop this lecture on the drop-add week.
- The medical clothes and equipments should be obtained by the students this week. You'll use these for entire career of your veterinary profession.

THANK YOU 😊



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