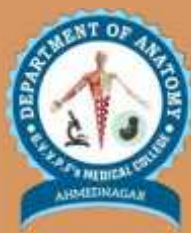




Dr. Vithalrao Vikhe Patil Foundation's

# Medical College & Hospital

Ahmednagar



## SOP For Department Of Anatomy

# 1. Introduction

Department of Anatomy is developed when Dr Vithalrao Vikhe Patil medical college is well established under the long term and prosperous distant vision of Dr Vithalrao Vikhe Patil Foundation in Aug 2004 after fulfilment of all norms and guidelines prescribed by Medical council of India. Being basic science subject it is the first department required and developed accordingly under the eminent guideline and capacity of our first head of department Dr B.R.Zambare sir( from 1.01.2005 to 06.11.2016). Under his tremendous efforts and excellence guidelines department reached to such competent level to give basic knowledge of anatomy. Now every year department is gradually upgraded with the help of experienced faculty so that advanced updated knowledge will be available. Initially main focus was on undergraduates ( 100 intake Capacity till 2010). Later on undergraduates intake capacity increased to 150 since 2011-12 . Meanwhile department developed keeping in mind post graduate as well as Phd students. Now we are confident that we can provide sound knowledge platform to all kind of students with maximum depth of concepts with well experienced faculty members.

## **Appendices :**

### **Maintenance of dead bodies :**

#### **Collection :**

As we know that dead body what we call 'cadaver' is the only source to understand the anatomy practically by doing dissection. Without cadaveric dissection it will be incomplete anatomy. So requirement of enough number of cadaver is most important. we have two sources for this-

- i) Voluntary body donation
- ii) Unclaimed bodies.

We do regular body donation camps to increase awareness of peoples in society towards body donation. Now a days we get averagely 8 to 10 cadavers per year by voluntary donation.

Other source is unclaimed bodies which we get from police station, Shirdi , Ahmednagar. Under the Maharashtra anatomy act 1949 ( Bombay Anatomy act 1949) ,Shirdi

police station after doing Punchnama handover the unclaimed bodies of beggars towards us for teaching and research purpose. By this we get averagely 6 to 8 cadavers per year. So totally approximately 16 to 18 cadavers received per year. So there is no shortage of cadavers for our institution. After receiving cadavers we keep all documentary record for it in department by maintaining Body stock register.

#### **SOP for Unclaimed bodies:**

- First on duty police havaldar from shirdi police station informs to hospital operator regarding bevaras dead body from shirdi police station area. They want to handover it to medical college for education purpose.
- Hospital operator informs to on call faculty member regarding donation of unclaimed body from shirdi police station.
- On duty faculty member call back to shirdi police station and confirms that death is of natural type and what is probable time of death.
- If death is of natural type and within 4 to 5 hours, then on duty faculty member informs and assures them regarding further arrangement for collection of dead body from our hospital team.
- He makes arrangement for ambulance with driver and our departmental two attendants for collection of dead body.
- After arrival at shirdi police station, they send this unclaimed dead body with their reference letter towards Primary health center, Rahata for declaration of death by govt. medical officer and for record purpose.
- Then with that reference letter and punchnama they handover dead body to our attendants and ambulance driver.
- That unclaimed dead body is brought to department of anatomy.
- All police documents kept properly and once again confirmed and signed by on duty faculty member and later on shown to HOD.
- If dead body arrived at odd time then it is kept in Cold storage at 4° temperature.
- On duty faculty member will submit all these documents in department office to concerned technician.
- Concerned technician keep all these documents in record file and do entry in body stock register which is maintained in department and take signatures of concerned on duty faculty member and HOD.

- After completion of all this procedure , embalming is carried out and body is shifted to storage tank which contains 10% formaline solution.

### **SOP for Voluntray Donation:**

- Body donation forms are freely available at department of anatomy during working hours.
- Doners or his/her Relatives can collect this form on their request from our department in working hours.
- Our trained on duty faculty member and concerned technician give all information regarding body donation form and procedure to person who want to donate his/her body and their relatives.
- Relatives can submit that completely filled form with two ID card photo and aadhar card document Xerox copy within next 7 days personally or through relatives or by post also.
- After checking all detailed information , entry is done in office register and abhar patra is handed back to them which is signed by HOD and stating thanks for their great will to donate his /her body to institute for teaching purpose.
- Now whenever death occurs , relatives are asked to call to hospital operators . Service is available 24 hours.
- Hospital operator informs on duty faculty member regarding this voluntary body donation and gives contact numbers of relatives to him.
- On duty faculty member will contact these relatives and confirm regarding natural death and time of death. If death is of natural type and within 4 to 5 hours. He will ask them to arrange Death certificate from their family physician , which confirms cause of death is natural. This certificate is must.
- If all this is assured from relatives then he arranges team for collection of that body.
- Address and contact numbers handed over to team member and asked to collect body within short time.
- Then that body along with some relatives brought to department and kept in cold storage at 4° temperature.
- If Body donation form is not filled previously , then it is asked to relatives to fill it newly with all documents.

- If some relatives are coming from distant place, then on their request body is kept for further 6 to 8 hours in cold storage till relatives come for Antim darshan.
- Once it is over then body is taken for embalming and then shifted to storage tank.
- Relatives informed that afterwards legally body is not allowed to see.
- On request of relatives we arrange for body part like great toe or thumb of donor's body for further religious vidhi.
- Then all documents with death certificate submitted in department office for record purpose.
- The concerned technician do all entries and took signature of on-duty faculty member and then of HOD in body stock register maintained in department.
- On next day relatives are asked to collect Body donation certificate ( abhar patra) duly signed by DEAN and HOD from department office during working hours.
- It is handed over after doing outward entry in office register and taking signature of relatives who is collecting that certificate.

### **Storage :**

Once we receive cadaver either by donation or from shirdi police station i.e. unclaimed, first we do documentary record procedures. If cadaver is received at odd time then we keep it in cold storage at 4° temperature. During working hours our trained dissection attendants under the guideline of on-duty faculty member remove it from cold storage and clean that body and do embalming with embalming solution which consists of formalin, spirit and glycerine. After confirming complete embalming then cadaver is shifted to storage tanks. We have total 9 storage tanks each having capacity of storing 7 cadavers. There are 2 fixed cement tanks and 7 movable S.S. tanks. Within the tank cadavers are kept in 10% formaline solution. All these tanks are regularly checked (once a week) for water level or any fungus growth. If fungus growth is there then we use thymol to control it.

### **Disposal :**

-For disposal of whatever parts remain after dissection at the end of year, first we sort out it. The parts which we can use for revision or museum are kept back in storage drums. Then we hand over small parts (not useful) material through black color plastic bags toward contracted "Bio-clean india private Ltd" agency which work for Ahmednagar corporation.

-This agency vehical comes every day to collect all this waste material removed during dissection time.

-There contract is renewed every year.

-There is provision of inceineration chimney also for disposal of waste product in campus.

-The extremities and boney parts are collected separately and with the help of attendants and vehicle it is buried at burial ground place for further maceration which is present within the campus under guidelines of faculty member.

-The bodies which get decomposed if embalming is not occurred properly dut to vascular pathology, such cadavers also buried at burial place for further maceration under proper guideline.

- After 5 to 6 month regularly that buried place is reopened to see maceration is completed or not.

-If bones are cleared , then such material is brought to department and once again kept for further maceration in maceration tank for 4 to 5 months again.

-When all softtissue is removed , then bones are prepared by further procedure in department which are required for teaching purpose.

### **Preparation of skeleton :**

We try at our level to prepare skeleton in department. First if body get decomposed may be due to unsuccessful embalming due to any vascular problem within cadaver. Such decomposed cadavers are buried at buriel place which is within the campus at one corner for maceration purpose . This place is always under supervisions . After 6 to 8 months we remove it if maceration is completed. All bones with mass brought to department with the help of attendants and under guideline of appointed faculty. This material cleaned with water and again kept in maceration tanks for further maceration. Also the maggots in this tanks helps to clean mass and bones becomes clearly visible. Then we keep all this bones in 10% hydrogen peroxide for 24 to 48 hours for more cleaing and to get rid off bad smell. Bones becomes good looking. Then bones are identified and painted with touchwood and allowed to air dry . Numbers are given to bones so that it will not misplaced.Then we prepare skeletons which are required for teaching purpose.

Also at the end of academic year whatever material remains after dissection , we use to buried it and follows the same procedure as above to prepare bone sets or skeleton.

Accordingly we maintain bone bank in department, in which every year we use to add bones in this bank.

### **Embalming :**

Embalming is must to avoid decomposition and to preserve cadvers for longer time in good condition. Every cadaver is embalmed after receiving and completing documetary record procedure in department. Embalming is done in two ways

- i) By Embalming Machine
- ii) By Natural Gravity method

For embalming we appoint our trained faculty members on monthy rotation. Under the guideline of such trained staff and with help of attendants embalming is carried out. There are two embalming machine in department which are regularly maintained. Near about 8 liters of embalming solution is prepared and filled in machine as follow:

Embalming solution ( 8 Liters )

- Formaline ( 6 lit )
- Spirit ( 1 .5 lit)
- Glycerine ( 0.5 lit)

Embalming is done through either Femoral or carotid artery. Here we ususally do through Femoral artery which is more easier. Every time machine is cleaned with plain water after procedure to avoid blockage due to dried formaldehyde power.

When electricity or machine problem is there , then we follow the natural gravity method, in which big size drum containing 8 lits of embalming solution is kept at higher level so that due to gravity force fluid is injected within cadavers. It takes 12to 14 hours to complete it. By embalming machine procedure is completed within 15 to 20 minutes.

### **Body donation :**

Body donation is an important movement that we should promote it on priority. We do regular body donation camps in society to increase interest of peoples towards body donations. cadaveric dissection is must to understand practical anatomy. We organize our team to arrange for body donation camps as per request by NGO's in society . Our body donation team consist two senior teachers ,two junior teachers ,two attendents and one technician with hospital ambulance and driver. At department level we appoint faculty teachers every month in rotation for body donation work. Their contact details are provided to hospital operators for 24 hours service. During camp importance of body donation ,doughts,myths and body donation procedures are explained with the help of powerpoint presentation by senior Faculty member. At the end we distribute Body donation forms . We explains them how to fill it and necessary documents required during submitting it. Even they can submit it afterwards. We also provide telephonic guidelines on hospital contact numbers with departmental extension numbers (307/308) or directly on personal mobile numbers with help of operator.

At department level we allot duties to faculty members monthwise for body donation work . And accordingly inform to hospital operator every month for 24 hours help in issues regarding body donation.

Body donation forms are available free of cost in our department during working hours. After receiving completely filled form ,first we register it and then Abhar patra is given to them which is signed by HOD. And after actual body donation we give certificate duly signed by Dean and Hod to their close relatives expressing thankful wishes for their great work of donating body to our institute. Gradually the awareness regarding body donation is increasing and peoples giving more response for donating their body. But we have to do continuous efforts to promot them for this great work.

## **2.Vision**

To develop sound platform of knowledge for Undergraduates, Post- Graduates and Ph.D. students using best Combination of an old and an advanced audio-video learning and E - learning teaching modules. So that students will become enough competent for all competitive examinations . Also to promot body donation movement and school visits to museum in such a way that interest of voluntarily doners and school childrens towards medical fraternity will increase in society.



### 3.Mission

- 1) To implicate micro group teaching programs, orals and writing examinations for Undergraduates to make them competent for viva voce and various Competitive entrance Examinations.
- 2) To encourage the interest of undergraduates ,Ph.D students & Teachers for newer research projects & to grapple with newer advanced audio-video E-learning modules.
- 3) To encourage interest of school level students towards medical fraternity by arranging anatomy exhibitions and school visits to Anatomy museum.
- 4) To promote body donation programs in society in all ways to achieve more number of cadavers in future so as to make dissection, teaching , learning and research at ease.
- 5) To promote peoples for organ donations by arranging counseling programs.
- 6) To develop well equipped cadaveric laboratory to enhance confidence & training Purpose of newly budding surgeons.
- 7) To encourage students as well as teaching faculty to use all newly introduced advance E- learning sources and modules digital technology.

### 4.Scope Of Services

Being the basic science subject , anatomy have wide scope in medical sciences. It is backbone of all subjects .As the clear concepts and deep knowledge of anatomy subject will definitely boost up the confidence of medical person practicing at all level in society.

So department of anatomy will have broadly scope at Four level as follow-

- 1) Academic
- 2) Body donation movement
- 3) School visits to Anatomy museum
- 4) Providing material or cadavers for ENT, Orthopedic and Surgery department.

This will help to make anatomical knowledge of students strong and competitive which is beneficial for lifelong. Also in the movement of body donation by increasing awareness and counseling for organ donation in society. So that we can make available ample number of cadavers for dissection,workshops ,research and teaching purpose. Also we can increase number of organ donors in society.

Department of anatomy can play very important role in society for school childrens by arranging museum visits ,so that mind setup of budding childrens will get stimulated and attracted towards medical fraternity and number of doctors will be available more in number in future to provide health services to the peoples in society.

Apart from this department of anatomy can provide temporal bones to ENT Department for doing temporal bone dissection to learn microscopic anatomy of internal ear for budding Ent surgeons .Which will built up enough confidence and accuracy of new surgeons during operation.

Also department of anatomy can provide soft embalmed cadavers for cadaveric laboratory for doing laproscopic workshope to orthopaedic or surgery departments.

Even department of anatomy can help Pathology department to arrange Mock Autopsy workshops for their Post graduate students.

## **5. Role of Department**

- ✓ Department anatomy is involved in teaching Human Anatomy to MBBS, BPTH, BSc nursing & Gnm students.
- ✓ Department can play important role by providing required material for education or research purpose to various other departments like Ent, Orthopedic and Surgery
- ✓ Department can play important role in developing museum at various other departments which can be used as teaching tool.
- ✓ Also, department encourages schools to visit our Anatomy museum so that their interest towards medical field will increase.
- ✓ Department of Anatomy arranges “Body Donation Awerness Programms” in collaboration with various NGO’s and foundations to promote the movement of body donation in society to increase number of cadavers for dissection useful to make anatomy learning more easily.

- ✓ Also along with body donation department can play important role to provide counseling regarding Organ donations in society so that organ donors number will increase easily.

## **6.Infrastructure Of Department**

Department of anatomy is situated on ground floor of Block II . It is widely spread over the area near about 2072.57 sq meter. Dissection hall is located separately on area near about 462 sq meter near by to rest of part of department on ground floor. it is connected by covered steps so that no obstacals for students and staff during rainy or summer season. Department provides all infrastructures required for first Mbbs undergraduates , Post graduates and Phd level education. Department is fulfilled with following infrastructure-.

Lecture Hall – 01

HOD room -01

Teaching faculty Rooms -07

Department office – 01

Attendants room -01

Demonstartion rooms – 02

Modeller room - 01

Histology laboratory with preparation room – 01

Museums - 03

Research laboratory -01

Library cum seminar room – 01

LCD -01

LCD screens -04

OHP -02

Computers -04

Dissection Hall -01

Cold storage -02

Embalming machine – 02

Meat cutting machine - 01

Store room -01

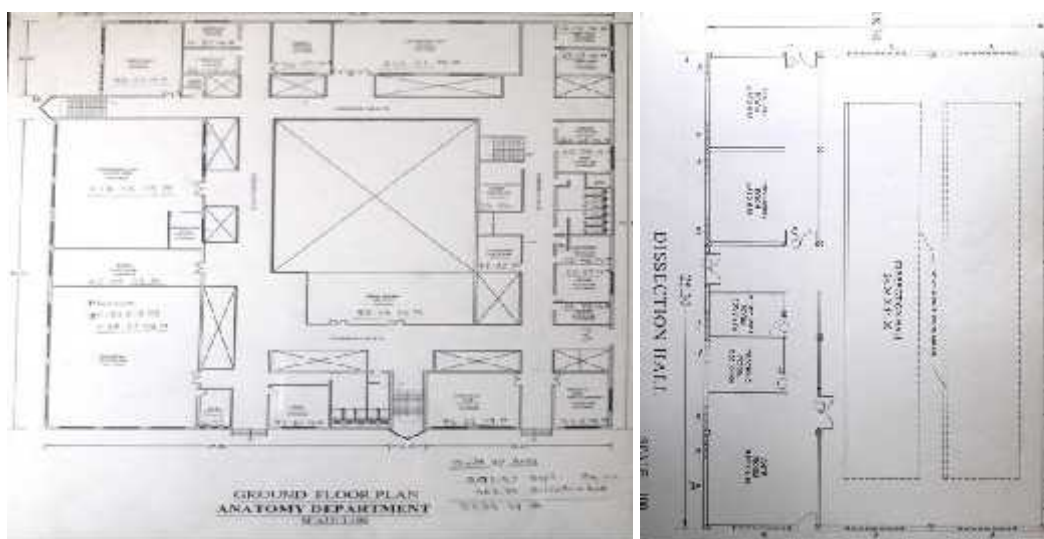
Urinals for students -02

Urinals for faculty members -02

Maceration tank -02

Buriel place for disposal of waste materials

### Department Plan :



**Lecture Hall :**

There is separate big lecture hall having capacity of 250 students at a time. It is named as Dhanwantri Lect hall. It is utilized for First Mbbs teaching and some time CME and Workshop and conferences. It is well equipped with audio-video advanced technology.

size –

It is with LCD which is always there along with Big visible LCD screen. All audio video instruments are there. Internet facility is available. Lecture hall is fully air conditioned. Separate podium is there for teacher. Near about 250 benches are there for seating to students at a time. It is of step down gallery type.

**HOD room :**

Size- 18.58 square meter

In department there is separate room for head of department located centrally. It is well ventilated . It is with attached toilet facility. Additional facilities are as follow –

computer with printer -01

Office table ( size 6 feet X 3 feet) -01

Hod revolving chair with cushion -01

Ceiling Fan -01

Tubelites -02

Curtains -03

Digital watch -01

small office table ( 3feetX 2 feet)

LCD screen -01

Notice board -01

Sofa with chairs for visiting persons – 01 set.

Refridgereter – 01

Still cubboards -02

water air cooler -01

Daily hygienic cleanness responsibility is given to Mr Angre mama. He use to clean room regularly. Also toilets are cleaned daily by sweeper Mr Manoj.

### **Rooms for Teaching Faculty :**

Seating arrangement is done separately for teachers as per their designation. Rooms are well ventilated and aerated. All Rooms have facilities required for teacher. Daily cleanness is done with hypo and phenyl. Resposibilty is given to Mr Angre mama. Regular rounds are taken by Head with staff members to see the cleanness. Rooms for teachers are as follow-

#### **Professor Room**

Size- 17.13 Sq. Mtrs.

Furniture:

Cupborad- Big-1 & small-1, Tube lights-1, Fan- 1, Curtains- 6, Chairs- 4, Table- 2, wall clock-1, Revolving chair-1

#### **Associate Professor Room**

For associate professors two seprate rooms are there. For working purpose they are known as Room no 1 & 2

#### **Room no 1**

Size- 16.10 Sq. Mtrs.

Furniture:

Cupboard- Big-1, Tube lights-2, Fan- 1, Curtains- 2, Revolving chair-1, Chairs- 2, Table- 1, wall clock.

### **Room no 2**

Size- 12. Sq Mtrs

Furniture:

Cupboard- small-1, Tube lights-1, Fan- 1, Curtains- 1, Chairs- 2, Table- 2,

### **Assistance Professor Room**

For assistant professors two separate rooms are there. For working purpose they are known as Room no 1 & 2

### **Room no 1**

Size- 20.89 Sq. Mtrs.

Furniture:

Cupboard- Big-1, small-2, Tube lights-2, Fan- 2, Curtains- 2, Revolving chair-2, Chairs- 4, Table- 2, wall clock-1

### **Room no 2**

Size- 20 Sq. Mtrs.

Furniture:

Cupboard- Big-1, Tube lights-2, Fan- 1, Curtains- 2, Revolving chair-1, Canvas Chairs- 1, Plastic chair-1, Table- 1, wall clock-1

### **Tutor Room**

Size- 25 Sq. Mtrs.

Furniture:

Tube lights-1, Fan- 1, Curtains- 2, Chairs- 3, Table- 3, Wooden stool -2

There is provision of separate ladies and gents urinal for faculty members as well as for students separately.

### **Department Office :**

There is separate office located near to HOD room. All official documents are kept in office. Various documents are filed in different files and stored in cupboard. Different record files have given numbers and arranged in cupboards. There is a separate seating arrangement for office clerk and technician in the office.

size – 13.26 sq met.

Furniture:

Cupboard- Big-2, Small-1, Tube lights-2, Fan- 1, Curtains- 1, Chair- 1, Plastic chair-3, Table- 2, Computer-1, Digital, Wall clock-1, Intercom-1

Daily cleaning is done with all hygienic protection. Responsibility is given to Mr Shyam mama. to keep its maintenance.

### **Attendant Room :**

There is a separate room located next to Hod room.

Size : 25.02 sq mt.

Furniture :

Table – 01 , Fan 01, plastic chairs -02, tubelites -02

### **Demonstration rooms:**

There are two demonstration rooms present in department which can be utilized for carrying demonstrations and small group teaching purpose. They are numbered as Demo room number 1 and 2.

### **Demo room number 1 :**

Size – 68.05 sq mt.

Furniture :



Benches- 40, Tube lights-2, Fan- 5, Curtains- 8 , Blackboard-1, Articulated Skeleton- 1, Basian-1, Podium-1, Chair- 1, Table- 1, X-ray view box- 1, LCD wall mount screen- 1, & OHP- 1, IV stand- 1

Demonstration rooms are used for:

- i. Demonstration & SGD for MBBS students
- ii. Lectures for BPTH, Bsc nursing & GNM students

### **Demo room number 2 :**

Size - 98.36 sq mt.

Furniture :

Benches- 40, Tube lights-4, Fan- 7, Curtains-8 , Blackboard-1, Chair- 1, Table- 1, Podium- 1, X-ray view box- 1, LCD wall mount screen- 1, Articulated skeleton-1, IV stand-1, Examination table-1, Wall clock-1, Dustbins- small-1, & OHP- 1

Demonstration rooms are used for:

- i. Demonstration & SGD for MBBS students
- ii. Lectures for BPTH, Bsc nursing & GNM students

Alternate day cleaning is done with all hygienic protection. Responsibility is given to Mr.Angre and Master Shyam mamas to keep its maintains. Also, weekly round is taken by HOD & senior staff to see the room.

### **Modeller Room :**

There is provision of modeller room . Size of room is 16.43 sq mt.Modellers can seat in that room and do there work. All required POP is provided along with tables and chairs. Referred diagram provided to them for making models. Under guideline of faculty models are prepared.

Size – 16.43 sq mt.

Furniture –

Rack -02, tubelite -01, Table (3 feet x 2feet) -01, plastic chair -02

### **Histology Laboratory :**

There is separate histology lab. which is equipped with all instruments including Monocular and binocular microscopes . There is provision of tables for microscopes with stools for students during practical hours. Teaching faculty and technicians have separate seating arrangement during practical hours. All informative big size histology charts are mounted on wall as well as on slanting tables for revision and small group discussion purpose. Its cleanness is well maintained regularly by appointing separate attendant there.

Size- Practical hall: 218.12 Sq. Mtrs., Preparation room: 18 Sq. Mtrs.,

Furniture:

Blackboard- 1, Stool- revolving- 56 & wooden-25, Tables- 3, Racks- 5, Cup-boards- big size-4 & small- 1, Digital Wall clock-1, Water filter-1, Tubes-6, Fans-10, Chairs-10, Dustbins- small-4, big- 1, Display boards-2, Cupboards-4 & Wooden Cup-boards for storing slides-5

Instruments:

Microscopes: Monocular-130, Binocular-2, Dissecting microscope-5, Projection microscope-1, OHP-1, Slide projector-1, Slides: Total number of histology slides: 1153, Charts- 112 , , X ray view box-1

In charge: Dr. Anita Fating

Technician: Mrs. Sonali Bhadange

Histology lab is used for taking histology practical of MBBS students.

Alternate day cleaning is done with all hygienic protection. Responsibility is given to Mr. Angre to keep the cleanliness of histology lab.

Cleanliness & maintains of microscope & slides is done by Mrs. Sonali Bhadange. Each microscope is checked by maintains department & servicing is done yearly.

Each microscope is covered with green cloth cover. Also, weekly round is taken by HOD & senior staff.

### **Museum :**

Also department have one separate big size museum for gross anatomy specimens and other museum for Embryology specimens and models required for teaching purpose. It is proud to inform that department have unique museum for all 12 cranial nerves dissected in actual specimens and mounted along with informative charts.

### **Gross Anatomy Museum**

It consists of main gross museum, preparation room & bone bank room

In Charge: Dr Namrata Marathe and Mr Rajeshwar Rao

### **Main gross museum:**

Gross museum consists of total 435 numbers of specimens.

They are arranged according to region wise as follow-

1. Superior extremity, 2. Inferior extremity, 3. Thorax, 4. Abdomen, 5. HNF, 6. Neuroanatomy, 7. Osteology, 8. Comparative Anatomy, 9. Variations of different organs

Also, this museum contains two important sections one is History of Anatomy and another section of is of Radiology where X-rays, MRI & CT scans are kept.

Gross anatomy specimens are kept in 10 % formalin solution in acrylic or glass jars. Each jar is labeled & tightly sealed. Jars are kept on racks and each specimen is labeled. We have made description of each specimen in printed format along with their labeling and it is kept in a side bag so that student can read it whenever they visit museum.

**Size:** 233.74 Sq. Mtrs.

### **Furniture:**

Specimens with jar- 435, Tables-7, Examination table-1, Fans- 8, Tubes-15, Stools- Revolving-13 & wooden-18, Curtains-, Black board-1, X-ray view box- 3, Dustbins- small-4,

big- 1, Display boards-3 , Articulated skeleton- 01, Non articulated Skeleton- 2, Chair-1, Racks-45, Charts- 215, Basin-1, Rotational X- ray drum- 3, Step tables -6, Flash card- 350, Catalog files- 558,

X-ray Films- 101, CT scan plates -35, MRI-35, Models-

We distributed the gross anatomy specimens according to region wise in our staff as follow-

Brain – Mr Rao

Head , Neck and Face – Mr GCN raju

Sectional anatomy – Dr Namrata Marathe

Abdomen – Dr Anita Fating

Thorax – Mr Rao

Upper and lower Extremity – Dr Jadhav S D

Osteology – Dr Pawar

Radiology and History of Anatomy – Dr Namrata Marathe

They take care of each specimen by taking weekly visit. They look after the water level, position, color of water, leakage of jar. If the water color is changed or leakage is present then he/she will immediately change the water with the help of servant.

Alternate day cleaning is done with all hygienic protection. Responsibility is given to Mr. Angre to keep the cleanliness of gross museum. Also, weekly round is taken by HOD & senior staff.

### **History of Anatomy:**

Size- 16.36 Sq. Mtrs.

History of anatomy charts: 40

Radiology:

X-ray Films- 101, CT scan plates -35, MRI-35.

**Preparation room:**

Infrastructure: Fan-01, Racks-04, Drums-10, Jars-20, Basin-1, Dust bins-1, Drums- Big-15, Small-1

**Instruments:**

Dissection box- 5, Seizers-10, Thread-3, Gloves- 2 boxes, Buckets-5

**Chemical-** Formalin

This room is used to make specimens and mounting them in jars. We have preserved specimens of heart, lung, brain, liver, kidney etc

**Bone bank:**

In charge: Dr. Anita Fating

Furniture:

Racks-, Fans-, Tube-lights-,

At the end of year after finishing the dissection we prepare bones. Soft tissue attached to bones is removed and these bones are buried in burial ground which is present at one corner of our campus. Soft tissue material is kept in black color bags and this material is handed over to 'Bio-clean System India Private Limited' which works for Ahmednagar corporation. After 3-4 months bones are collected from burial ground and macerated. Then bones are kept in water for 1-2 days and treated with 10% Hydrogen peroxide and cleaned. They are dried in one room for 3-4 days. After that we paint these bones with touchwood and dried for 3-4 days. Bones are segregated, labeled and deposited in departmental bone bank. Bones are kept in separate boxes according to their name and they are given numbers. These bones are used for teaching & research purpose.

**Maintenance:**

Alternate day cleaning is done with all hygienic protection. Responsibility is given to Mr. Angre and Master Shyam mamas to keep the cleanliness of bone bank. Bone boxes are checked by in charge madam for cleanliness. Also, weekly round is taken by HOD & senior staff.

**Embryology museum :**

Size: 65 Sq. Mtrs.

Specimens: 53, Models-195, Genetics charts-22

Incharge – Mr Lingaswamy veermalla

Maintenance :

Specimen jars are checked by incharge for any leakage, decreased water level or change in color of water and he /she takes immediate action.

Alternate day cleaning is done with all hygienic protection. Responsibility is given to Mr. Angre to keep the cleanliness of gross museum. Also, weekly round is taken by HOD & senior staff.

**Cranial nerve museum :**

In Charge: Dr Pawar , Dr Jadhav , Dr Marathe , Mr Lingaswamy.

Size: 65 Sq. Mtrs.

Furniture:

Racks- 11, Tables- 11, Book case-1, Tubes-5, Fans-2, Curtains-2, Basin-1, Stool-1, Blackboard-1, Charts of CNs-80, Specimens- 21

Maintenance :

Alternate day cleaning is done with all hygienic protection. Responsibility is given to Mr. Angre to keep the cleanliness of bone bank. Bone boxes are checked by in charge madam for cleanliness. Also, weekly round is taken by HOD & senior staff.

**Research Laboratory :**

There is research laboratory also in department working for preparation of histology slides and other research purpose which are needed for teaching or project works. It is well equipped with all instruments required for preparation of slides and other project work.

**Infrastructure:**

**Size:** 56.29 Sq. Mtrs.

**Instruments:**

Hot plate-1, Microtome-3, Autoclave-1, Water bath-1, Bacteriological incubator-1, Hot air oven-1, Serological incubator-1, 'L' moulds-16 pairs, Aluminum slide trays- 4, Cover slip box- 3, Slide box-1, Tissue baskets- 29,

**Chemicals:**

Hematoxylin & Eosin stain, Glycerin, DPX, Ethanol, Spirit, Paraffin Wax- 5, H<sub>2</sub>O<sub>2</sub>, HCL.

**Furniture:**

Computer-1, Freezer-1, Tables- 2, Racks- 2, Chairs- 2, Stools- wooden 4, Fan-3, Tube Light-2, Curtains-6

**In charge:** Dr. Namrata Marathe

**Technician:** Mrs. Sonali Bhadange

**Maintenance:**

Alternate day cleaning is done with all hygienic protection. Responsibility is given to Mr. Angre to keep the cleanliness of Research lab.

Cleanliness & maintenance of research lab instrument along with checking of chemicals is done by Mrs. Sonali Bhadange under the guidance of Dr. Namrata Marathe. Also, weekly round is taken by HOD & senior staff.

**Library cum seminar room :**

There is a separate library cum seminar room for department in which all books ( teaching , references & journals) are arranged in separate bookcase. Also arrangement of LCD with

screen and reading tables with chairs for seminars is there. Books are updated as per new editions and new authors. Responsibility is given to Mr GCN raju sir is given for maintaining muster for the records of books. Regular audit of departmental library is done by central library in presence of HOD , clerk and responsible teacher. Every year book exhibition held by central library involving all heads of department with teaching staff and through that exhibition new books are added to central library and then to departmental library.

**Infrastructure:**

**Size-** 33 Sq. Mtrs.

**Furniture:**

Books: 130, Book case- big-2 & small-1, Blackboard- 1, Tables- 3, X ray view box-1, Tubes-3, Fans-3 , Chairs-3, Curtains-4, Dustbins- small-1, LCD wall mount screen- 1, Computer-1

**In charge:** Mr. GCN Raju

Books are issued to department staff as per their requirement. Register is maintained for it. It is checked by HOD regularly.

Alternate day cleaning is done with all hygienic protection. Responsibility is given to Mr. Angre to keep the cleanliness of histology lab. Also, weekly round is taken by HOD & senior staff.

Yearly stock verification of books is done by central library.

**Anthropometric Laboratory :**

Anthropometric laboratory with all necessary instruments is present in department so that anthropometric projects can be carried out in departments easily.

**In charge:** Mr. GCN Raju

**Size:** 33 Sq. Meters.

**Instruments:**



Sr. No	Instruments	Quantity
1	Sliding caliper	3
2	Micrometer for skin fold thickness	1
3	Weighing pan	1
4	Osteometric board	1
5	Weighing machine	1
6	Hammer	1
7	Gouch	2
8	Chisel	2
9	Amputation saw	2
10	Anthropometric Tape	2
11	Goniometer	1
12	Spreading caliper	2
13	Craniotome	1

Charts-7

Furniture:

Big size table -01,Fan -01,chairs -06,Cupboard -01

Instruments are issued to department staff as per their requirement. Register is maintained for it.

Alternate day cleaning is done with all hygienic protection. Responsibility is given to Mr. Angre to keep the cleanliness of lab. Also, weekly round is taken by HOD & senior staff.

### **Dissection Hall :**

There is provision of separate dissection hall of 462 sq mt. It is located near by to department separately. It is connected to department by covered steps so that during rainy and summer season there is no problem for students and staff members to approach toward it. It is constructed in such a way so that enough light and air is present at any time in any season. Dissection is carried out as per the scheduled timetable here by Mbbs students. Even

prosections for paramedical faculty students can be carried out here as per schedule. This hall can be utilized by orthopaedic department for small cadaveric laproscopic workshops on Sundays and public holidays. There is separate Ante room with 16 washbasins with soaps for hand cleaning and washing after dissection for students. There is a separate washbasin facility for staff members after doing dissection. Separate 156 Lockers are provided to students for keeping their required dissecting instruments and books in dissection hall. Separate room is provided for cold storage (size – 4.85mt x 5.85mt) and embalming (size 4.85 x 5.85mt) with dressing table.

Size – 463 sq mt.

Furniture –

Infrastructure:

Dissection tables: Big- 20. Small-5, Storage tanks- Movable: 7, Fixed-2, Lockers- 156, Cane chair-1, Table- 3, X- ray View box-1, Examination table-3, Skeleton with I v stand-4, Digital wall clock-1, Mike system with sound-1, Big Cup-board-1, Rack-1, Plastic chairs-10, Blackboard-1, Fans-16, Tube lights-11, Revolving stool- 175, Wooden stool-1, Intercom connection-1, Big dustbins-17. Small dustbins-30, Big trays-6, Small trays-23, Basins-, Water glass-2, Spoon-2, Buckets- big- 5 & small 5, Notice board-1, Stretcher-1, For Surface marking mummified body-1, Curtains-22, basins- 18, Electric fans-14, Charts- 39

Instruments:

Meat cutting machine-1, Embalming machine-2, Cold storage- 2, Charts-60, Bone cutter, Chisels-, Hammer-, Bone cutting saw-, Dressing trolley, Gum boots-, Goggles-, Gloves- Rubber-, Use & throw-. Surgical Cotton bundles-, Threads-. Glucon D Packs-, Forceps-, Sizzlers-, Scalpel-, Surgical blades-, Shaving blades-, Needles 21 no-, Surgical Mask-,

**Chemicals:**

Formalin-10 drums /year, Hypo- 10 liters per month, Soaps-10-20 per month, Hand wash-5-7 bottles, Sanitizer-5 liter/month, Soap powder- 2 kg/ month, Betadin bottle- 1-2 bottles/year, Glycerin-, Savelon- 3 liters/ month, Spirit and Glycerine - 3 bottles & Phenyl- 5 liters/month

**Working procedure:**

Dissection hall is used by MBBS students for dissection of cadavers, by BPTTh students to see dissected parts during their practical time.

For dissection halls strict rules are followed by students. Mobiles & photography is not allowed inside dissection hall.

We give to all students every year 'cadaveric oath' to teach them to give due respect towards cadavers throughout year and 'Abhivandana' program at the end of year to express thankfulness to cadavers as due to them only dissection is possible which makes anatomy more easier.

At the end of the year from the remains of the cadavers we procure bones, specimens for museums and we keep organs in our organ bank. Organs from the organ bank are used for research study by our teachers and also from other college.

Soft tissue which remain after dissection is kept in black color bags and this material is handed over to 'Bio-clean System India Private Limited' which works for Ahmednagar corporation.

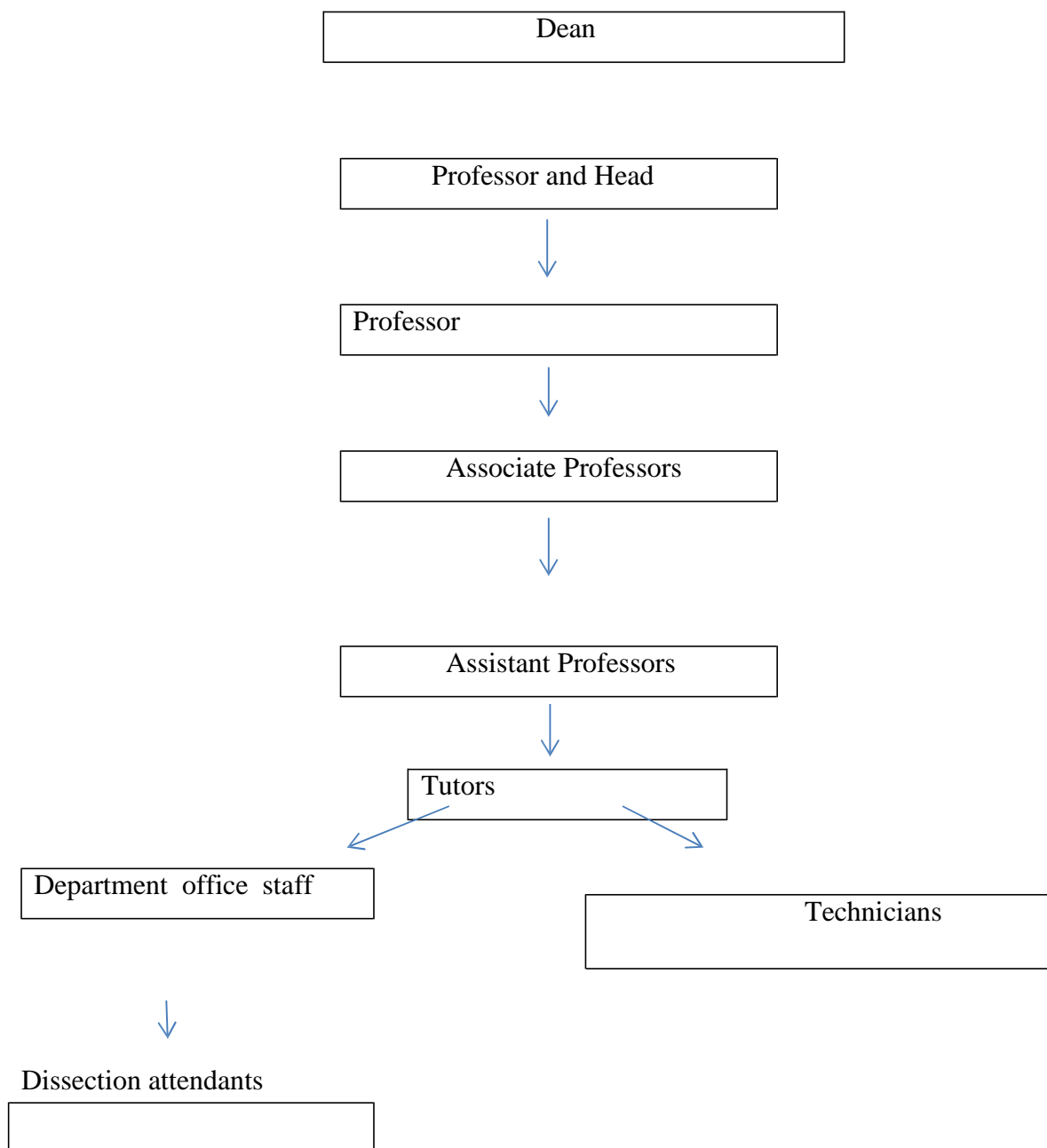
The extremities with mass tissues are separated and in vehicle with help of attendants buried at burial ground for maceration purpose. Bones are prepared from it later on.

### **Formalin:**

We required formalin for embalming procedure, for preserving cadavers & specimens. Yearly we required 10 drums of 200 liters. We use manual pump for pouring formalin from big drums into buckets. Then it is used for various procedures. While working with formalin all safety precautions are taken.

Mr Balu chavan And Mr Gaikwad Manoj take daily care of cleanliness of dissection hall. Hypo and phenyl is used to clean the dissection hall. Time to time round is taken by Head for cleanliness and maintainance of dissection hall.

## 7. Organization



## 8. Duties and Responsibilities

This medical college being affiliated with Maharashtra university of health sciences ( MUHS) it is mandatory to follow all the rules and regulation described by university time to time along with Board of governance and Maharashtra medical council. There are lot of duties and responsibilities concerned for continuous upgradation of medical education.

### **Duties and responsibilities of Professor and Head:**

-First to understand all rules and regulations governed by MUHS concerned regarding first MBBS teaching programs , various mandatory inspections for affiliations ,evaluation of progress and facilities concerned with medical or paramedical faculties.

-Also to understand and to be in touch with whatever new upgradations in rules and regulations occurring at Board of governance , new delhi.

- To clarify all doubts in consultation with Dean sir regarding any act, law governed by Muhs or Medical council of india or Maharashtra medical council.

- To decide the department level policies regarding teaching programm and discipline for undergraduates.

-Also to decide the disciplinary rules for departmental teaching as well as non teaching staff.

-To promote students by various activities to improve teaching and learning performance.

-To increase interest of faculty members towards not only teaching but towards research also and to encourage staff moral to learn new advanced teaching learning modules.

-To promote teaching faculty as well as students to carry out more projects . So that research mind will get stimulated at earier level.

- To schedule teaching programs for MBBS , Bpth, Bsc and GNM nursing students as per latest guidelines given by respective councils.
- To decide various internal assessment examinations/departmental practice examination / part submission schedule and to allot duties of staff members for it.
- To allot body donation work responsibilities to various staff members monthly. To guide faculty regarding body donation work. To arrange body donation camps with due permission of Dean sir for increasing interest of peoples towards body donation.
- To inform dean sir time to time regarding progress of department activity or any new work done at department level.
- Always to think in positive way to improve the progress of department and staff and to implement new advanced things at department level and to fulfil vision and mission.
- To arrange welcome or send off functions at department level. Also to arrange small poojas for various festival at department level to boost up moral of staff members.
- To attend college council meetings regularly and to pass necessary information to departmental staff members.
- To take departmental meeting as per need to discuss or evaluate departmental teaching program or regarding any other departmental issues or disciplinary matter.
- To Perculate all information coming from Dean office to departmental staff members.
- To decide and implement various responsibilities for faculty members , technicians , clerk and attendants.
- To decide and allow leaves, vacations for various faculty members and to arrange his/her work to other faculty as per need.
- To take departmental round regularly to see and evaluate cleanliness or maintenance of any part if required.
- To follow all circulars coming from Dean office or student section or HR office. Accordingly to deput concerned faculty as per guidelines from dean sir to carry out any work allotted by him regarding Examination or NAAC or various other accreditation committies.

- To keep proper communication with all staff members for smooth working in department in our presence or absence.
- To understand and discuss staff members difficulties to encourage and to improve his/her performance in department level.
- To promote faculties to attend various conferences , CME and workshops for latest academic upgradation and to do maximum publications in various indexed journals.
- To keep interdepartmental communication for vertical and horizontal integrated teaching newly implemented from academic year 2019-20.

#### **Duties and responsibilities of Professor :**

- To plan various policies regarding teaching and discipline for students and to discuss with HOD for its final implementation.
- To do work in coordination with head of department .
- To cooperate head of department for any work in department as per his /her guidelines.
- To carry out all responsibilities given by Head of department.
- To help junior faculties to solve their problem regarding teaching or research work.
- To promote and help junior faculties in publishing papers in various indexed journals.
- To keep good relation and cooperation with junior staff so that they will feel free to take guideline at any time and departmental healthy environment will be created.
- To explain responsibilities to junior staff in consultation with head of department.
- To help head of department to carry out all policies and plans decided by him in department. If required to give suggestion for particular things where he/she feels.
- To develop department as per Head of departments expectation.
- To carry out Heads responsibilities in his absence in department may be due to outside deputation for work or examination or not feeling well.

-To inform head regarding all activities in his absence whenever he joins on duty.

### **Duties and responsibilities of Associate professors :**

-To keep coordination among senior teaching faculty and junior teaching faculty members.

-To understand all academic and administrative responsibilities allotted to him/her.

-To discuss with professors for any difficulties . Also to discuss new innovative ideas with higher chairs for its proper implementation.

-To keep respectful approach towards higher chairs in department and to follow all rules and regulations implemented by HOD in department.

-To complete all teaching and administrative responsibilities allotted to him/her in proper /punctual way.

-To increase interest not in teaching but in research work also.

-To involve in various projects, to attend various conferences ,workshops, to present maximum papers in such events.

- To involve in publications of papers in various indexed journals

-To do any departmental work allotted by senior teaching faculty without denying it.

### **Duties and responsibilities of Assistant professor**

-To carry out all academic ,administrative responsibilities allotted to him by HOD.

-To give maximum devotion in work to develop department in all ways.

-To come up with new innovative ideas and discuss with senior teaching faculty for its proper implementation.

-To promote undergraduates for doing academic as well as extracurricular activity.

-To support Tutors to carry out their allotted work.



- To keep proper reputation in front of seniors and juniors and students .
- To show always interest in any type of work allotted by seniors or during working with Senior teaching faculty members.
- To involve in teaching , research , conferences , CME and workshops.
- To keep respectful approach toward not only higher teaching faculties but also towards nonteaching staff in department.

### **Duties and responsibilities of Tutors:**

- To Understand their duties and responsibilities to carry out properly.
- For any clarification can discuss with senior members in department.
- To involve maximum in undergraduate teaching carrying out demonstrations and practicals.
- keep good reputations with undergraduate students of every batch. Try to understand students difficulties and try to solve at their level or discuss with head or professors for solving students difficulties at all level.
- Take care of undergraduates as family member , so that students will feel more comfortable.
- Always observe and try to learn new things from the senior faculties then it may be academic or administrative .
- Always show devotion in your work.
- Always take guidelines from seniors to develop yourself.

## 10. List of Records & Registers

### Records:

We keep all departmental documents in proper labelled files. For this we have made various files for records and arranged in numberwise in office cupboards. Under the proper guidelines clerk and technician do filing of documentation.. So that whenever needed document become available for reference. The files for various records are as follow.

### Dept. Of Anatomy File List

Sr. No.	Name of the File
1.	Paper Publication File
2.	Dept . Staff Record File
3.	Liabrary Record File
4.	Store requirement File
5.	Appointment Order File
6.	MCI Record File ( Form – B )
7.	Dept . Equipment File
8.	Purchase Order File
9.	Bsc. Nursing Schedule File
10.	Bsc. Nursing Record File
11.	GNM Record File
12.	1 <sup>st</sup> MBBS University Question Paper File

13.	1 <sup>st</sup> MBBS Preliminary Question Paper File
14.	1 <sup>st</sup> MBBS Terminal Question Paper File
15.	1 <sup>st</sup> MBBS Unit Test Record File
16	1 <sup>st</sup> MBBS Student Record File
17.	1 <sup>st</sup> MBBS Student Leave form File
18.	1 <sup>st</sup> MBBS Student Attendance File
19.	1 <sup>st</sup> MBBS Lecture Schedule
20.	1 <sup>st</sup> MBBS University Result File
21	1 <sup>st</sup> BPTTh Record File
22	1 <sup>st</sup> BPTTh Schedule File
23	1 <sup>st</sup> BPTTh Question Paper File
24	Office Circular File
25	Monthly Attendance Staff Record File
26	University Circular File
27	Letter to Dean Office File
28	College Council & Journal Club Meeting
29	Ethical Comittiee File
30	Aavak Javak File
31	Notice Board Circular File
32	Conference & Work shop Record File

### Dept. Of Anatomy NAAC File List :-

	<b>Name of the File</b>
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<b>Sr. No.</b>	
1.	Recognition of faculty ( Membership / Editor /Peer – reviewer )
2.	Students enrichment program
3.	List of Teaching Methods
4.	Strength , Weakness , Opportunities and challenges ( SWOC )
5.	Contribution of the department in Generating new knowledge
6.	Beyond Syllabus Scholarly activities
7.	Faculty extension activities
8.	Alumini
9.	Department Infrastructure
10.	Faculty Awarded
11.	Diversity of Staff
12.	Students name that cleared defence service examination
13.	Diversity of Students
14.	Students Profile Programme wise
15.	CME organised by Anatomy
16	Interdisciplinary Programs offered by Anatomy
17.	Faculty Recharging strategies ( conferences/ workshop / CME/ MET )
18.	Curriculum / Syllabus of the Anatomy ( MUHS ; Nashik )
19	Areas of Consultancy
20.	Ongoing & Completed project by faculty
21	Research Facilities ( Dept. information )
22	Research Thrust area
23	Support Staff
24	Faculty Profile

25	BOS file
26	Research Award Recognitions
27	Publications
28	Result File
29	1 <sup>st</sup> Class / Distinction File
30	MCQ Question Paper File
31	PG Teacher / Guide
32	Departmental Time Table Record
33.	Name list of Students

### **Registers:**

Various registers are maintained in department for prompt working and to get proper reference in future. These are as follow-

1. For Cadavers entry –Body stock register.
2. For Museum Visitors
3. For Library
4. For Bone bank
5. For Student Breakage
6. For Attendance of MBBS Students: Lectures & Practicals and demonstrations
7. For Anthropometric Instruments
8. For Staff leaves
9. For Staff daily dept. attendance register
10. Departmental outward register

### **Lists of Forms:**

Following are various forms available in department which are certified by HR office. These forms are required to keep records of various activity.

1. Body donation form
2. Leave form
3. Get pass
4. Inden forms/ book
5. Requirment form.
6. D P Book
7. Abhar Patra certificate
8. Cadaveric oath certificate
9. Exam Remuneration forms

## **11. Maintenance**

Maintenance is administerd under the guidelines of Administrative officer. He appoints various supervisors for planning and controlling the works of mamas and mavashis for cleaning purpose.

Department of anatomy have 4 male servants for maintenance of department & they work under Assistant Administartive Officer and supervisors.

### **Maintenance of Passage or veranda:**

Cleaning of Anatomy department starts at 8am. There is one female servant & she cleans the porch along with staircase two times in a day. They are superwised and guided by one superwiser appointed by A.O.

### **Departmental maintenance :**

Departmental cleaning schedule is distributed in between four male servants as follow:

- ✓ Two servants are for dissection hall cleaning & mainteince along with removing of bodies from tanks & putting inside tank after dissection daily.
- ✓ One servant is for cleaning & mainteince of Histology lab, museums & 2 demonstration rooms.

- ✓ One servant is for cleaning & maintenance of HOD Room & other staff rooms, office room, library & research room.

For cleaning of wash rooms separate sweeper is there & he cleans it daily twice.

### **Maintenance of Dissection hall:**

Dissection hall is cleaned daily two times. Cadavers are removed 30 min before dissection from the tanks & they are kept in formalin tank after dissection daily.

They clean all tables, stools & floor daily with 1% hypochloride solution. Gloves & remainance of dissection are kept in separate colour coded drums and this material is handed over for disposal to 'Bio-clean System India Private Limited' which works for Ahmednagar corporation alternate day. Every year contract is renewed.

They check the water level of all tanks alternate day & do the needful under the supervision of incharge faculty. Also, they clean all the basins daily. Daily soaps are provided in ante room on wash basins to students for cleaning hands after completion of dissection.

There is separate wash basin for staff member with all facilities. All are cleaned twice by dissection attendants.

Cold storage, Bone cutter machine & embalming machine maintenance done every 6 months for smooth functioning by maintenance department and electrical department.

### **Safety measures in dissection Hall –**

Rubber Hand gloves, Gum Boots, disposable plastic gloves, surgical gloves, Plain glass goggles for eye protection, plastic gowns and Face masks are used by dissection attendants during handling chemical like formaline for various procedures and during handling cadavers.

### **Maintenance of Histology lab:**

Cleanliness & maintenance of microscope & slides is done by trained technician Mrs. Sonali Bhadange. Each microscope is checked by maintenance department & servicing is done yearly.

Each microscope is covered with green cloth cover to avoid exposure to dust after completion of every practical class.

#### **Maintenance of Museums:**

We distributed the work in between our staff and they take care of each specimen by taking weekly visit. They look after the water level, anatomical position, colour of water, leakage of jar. If the water colour is changed or leakage is present then he/she will immediately change the water with the help of servant. Alternate day cleaning is done with all hygienic protection. Also, weekly round is taken by HOD & senior staff .

#### **Maintenance of Staff rooms Office:**

These rooms are cleaned daily by servants in the morning. He clean the floor, furnitures & dustbin daily. Maintenance of fans, tubelight, freeze, cooler & wall clocks is done according to need.

#### **Maintenance of Demonstration rooms:**

Alternate day cleaning is done of these rooms. Maintenance of fans, tubelight, & wall clocks is done according to need. Care is taken of all audio-video aids present in this rooms.

## **12.Equipments , chemicals and stationary**



Various equipments in departments are as follow-

**Histology Laboratory:-**

- 1) Monocular Microscope – 130
- 2) Binocular Microscope -- 02
- 3) Dissecting Microscope -- 05
- 4) Double Demo Eye Piece – 02
- 5) Projection Microscope ( Acculab ) – 01
- 5) 35 mm slide projector -01
- 6) Wide Field Pointer Eye piece -04

**Research Laboratory:-**

- 1) Autoclave -- 01
- 2) Centrifuge Machine –01
- 3) Hot Air Oven –01
- 4) Hot plate - 01
- 5) Incubator – 01
- 6) Incubator ( Bacteriological ) --01
- 7) Thermostatic Water Bath –01
- 8) Microtome – 03
- 9) Wax melter -02
- 9) Refrigerator -01

**Anthropometric Laboratory:-**

- 1) Anthropometric Tape – 01
- 2) Goniometer 360 degree –01
- 3) Harpenders Calliper ( for skin fold thickness) –01

- 4) Mollison Carniophor combined -- 01
- 5) Sliding Caliper Martin Type – 01
- 6) Spreading Caliper pointed – 01
- 7) Vernier Caliper – 01
- 8) Weighing Machine Cap 5 kg -- 01
- 9) Weighing Machine Adult – 01

#### **Dissection Hall :-**

- 1) Bone Cutting Saw –10
- 2) Bone Meat Cutting Machine -- 01
- 3) Cadavarous Injector -- 02
- 4) Dissection Instrument Box -- 01
- 5) Brain cutting Knife -02
- 6) Bone Cutter -06
- 5) Mortury Chamber – 02
- 6) Dressing Trolly – 01
- 7) Stainless Steel Storage Tank – 07
- 8) Cement tanks -02
- 9) Hammer – 05
- 10) Amputation Saw – 01
- 11) Chisel Fibre Handle – 05
- 12) Gauch --- 05

#### **Chemicals :**

- 1) Formalin

- 2) Glycerine
- 3) Spirit
- 4) Haematoxylin Stain
- 5) Eosin Stain
- 6) Alcohol
- 7) Hydrochloric Acid
- 8) Nitric Acid
- 9) Ethanol
- 10) Propanol
- 11) Hydrogen peroxide
- 12) Hand Wash
- 13) Sanitizers
- 14) Hypochlorite Solution
- 15) Phenyle
- 16) Iodine
- 17) Glucon -D
- 18) Soaps

**Stationary:-**

- 1) A4 Paper
- 2) Registers
- 3) Carbon Papers
- 4) Exam Answer Sheets
- 5) Suppliments
- 6) Files
- 7) Pens
- 8) HB Pencils
- 9) Erazers
- 10) Sharpeners

- 11) Gum Bottles
- 12 ) Punching Machine
- 13 ) Stapler
- 14) Marker Pens
- 15) Dusters
- 16) Pencil cells
- 17) Tixo tapes
- 18) Office tray
- 19) Table Bells
- 20) Office Pen stands
- 21) Stamp pads with ink
- 22) Dhobhi Ink

## **13.Teaching Program**

Department Anatomy conduct Teaching program for first year students of MBBS, BPTb, BSc Nursing & GNM.

### **Teaching program for first year MBBS Students:**

We follow the MCI & MUHS syllabus.

Before 2019 we were following old curriculum. We were teaching anatomy according to region wise . We were preparing time table for lectures, dissections, demonstrations & histology practicals. We display our time table on notice board for students & copy of it was given to teachers.

### **Examination:**

We were conducting part end examination for our students. We were conducting theory as well as practical examination.

According to MUHS guideline there were terminal & prelim examinations for internal assesment. University examinations were conducted by MUHS, as college is affiliated to MUHS

From 2019 New Competency based medical education (CBME) syllabus is implicated by MCI & we are following the same from 2019.

Competency based undergraduate curriculum for first year i.e. phase one students include:

- One month Foundation course
- After that only regular subject teaching will start which includes vertical & horizontal integrated teaching, temporal coordination & early clinical exposure(ECE), AETCOM module & self directed learning (SDL).
- For Antomy AETCOM module 1.1 and 1.5 is applicable for formative as well as summative examination.

For ECE , we use to identify clinical topic concerned with region on which students are doing dissection. Patient oriented presentation is arranged with the help of clinical departments with permission of dean sir and Concerned department Heads.

For SDL we use to give new topic at the end of week to students. So students will try to learn themselves on Sunday. Then feedback will be taken on Monday by teachers during dissection or demonstartions in small group discussion. Along with this various topics for seminars distributed to students randomly and asked to prepare PPT and to present it infront of faculty members and all students.

For 2019 batch we prepared whole one year syllabus schedule & submitted it to MUHS. We follow that schedule only.

For smooth conduction of teaching program we are preparing our time table region wise. We prepared time table of lectures, dissection, histology practical, demonstration, ECE, Integrated teaching along with teachers allotment. Also, it is displayed on notice board for students & schedule copy is given to each teacher.

ECE teaching is carried out with co-ordination of para clinical & clinical departments. HOD & senior professor of our department decides the topic for ECE for that month. After that , HOD will contact HOD of that particular department for their suitable time. HOD of

Anatomy department will send letter to that department HOD & it will be carried out. Same protocol we follow for horizontal & vertical integration program.

ATCOM module consists of 5 modules. Module 1.1 & 1.5 are with Anatomy.

Module 1.1 What does it mean to be a doctor ?

Concerned with this following are the competencies-

- a) Enumerate and describe professional qualities and role of physician
- b) Describe and discuss the commitment to lifelong learning as an important part of physician growth.
- c) describe and discuss the role of physician in health care system
- d) Identify and discuss physician's role and responsibility to society and the community that she /he serves.

Module 1.5 : The Cadaver as our first teacher

Concerned competency is as follow-

- a) Demonstrate respect and follows the correct procedure when handling cadavers and the other biologic tissues.

For this we conduct 'Cadaveric oath' at the beginning of curriculum to explain students to give due respect to cadavers and 'Abhivandana' at the end of year to express thankfulness towards cadavers

### **Dissection:**

Department of anatomy has a separate & airy dissection hall on ground floor.

We distribute 150 students on 12 dissection tables. Twelve or thirteen students will share one table along with one cadaver. Each day dissection topic is displayed on black board as per the decided schedule.

We divide these students in 4 batches having either 37 or 38 students & for each batch one teacher is allotted. He/She will give the instructions to the students & takes the follow up of dissections. Our senior teacher go to table to see the dissection & any difficulty in dissection they do the help to teachers & students. Also, senior teacher takes the question –answer session every day to see whether students are reading or not during dissection time. This

encourages them to read & gives confidence to face viva. During this process we notify students who are slow learners. Then we HOD, senior professor & batch teacher discuss about that & we do his/her counselling & helping to improve performance. For gross anatomy, we kept a separate journal for students & it is completed by students before part end examination. This journal is checked & signed by batch incharge teacher. At the end of year it is certified by HOD and is must during appearing for university practical examination

### **Histology practical:**

For histology practical , we have three batches for histology practicals of 50 students per batch. Tuesday, Wensday & Thursday are the histology practical days. One of the senior professor is incharge of histology practical & each batch has one batch teacher. Before the starting of the histology practical, senior professor takes the briefing of that practical. Then students are asked to see central table slides carefully & after that they will focus the slide which are provided to them. Students try to identify the slide & structure layer by layer. If they got difficulties they will call teacher & solve the problem. In between surprise test & revisions are kept to make them alert during all practicals.

### **Examinations:**

Department of anatomy conducts part end examination (Theoy & Practical). Till 2018 there were 2 internal assesment examination- Terminal & Prelim

But since 2019, according to new curriculum of MCI & MUHS there will be 3 internal examinations before university examination. There schedule is fixed.

First internal in month of December, Second in month of March & Third in month of July which is the preliminarary examination.

### **BPTH:**

For first year BPTH students we conduct lectures, demonstration & prosection. Each faculty is involved in teaching.

### **BSC Nursing & GNM**

We conduct 50 lectures for these students. We prepare separate teaching schedule considering first mbbs schedule. Each faculty is involved in teaching.

## 14.Learning & Evalution

### Learning:

#### MBBS Students

We take the diadatic lectures, Dissection, Demonstration, Histology practicles.

Diadatic lectures are for Genral Anatomy ,Gross anatomy, Histology , embryology and Genetics. Distribution of diadatic lectures per week is as follow:

Topic	Lecture hours
Gross Anatomy	4
Histology	1
Embryology	1
Total	6

Dissection, Histology practical & Demonstration distribution per week is as follow

Topic	Hours
Dissection	9
Histology practical	6
Demonstration	2
total	17

#### Dissection :

We maintain disipclin in our dissection hall. Mobiles are not allowed in dissection hall & no photography.

We distribute 150 students on 12 dissection tables. Tweleve or thirteen students will share one table along with one cadaver. Each day dissection topic is displayed on blackborad.



We divide these students in 4 batches having either 37 or 38 students & for each batch one teacher is allotted. He/She will give the instruction to the students & takes the follow up of dissections. Our senior teacher go to table to see the dissection & any difficulty in dissection they do the help to teachers & students. Also, senior teacher takes the question –answer session every day to see whether students are reading or not during dissection time. This encourages them to read & gives confidence to face viva. During this process we notify students who are slow learners. Then we HOD, senior professor & batch teacher discuss about that & we do his/her counselling & helping to improve performance. For gross anatomy, we kept a separate journal for students & it is completed by students before part end examination. This journal is checked & signed by batch incharge teacher. At the end of year it is certified by HOD. This complete journal duly signed by HOD is must during appearing for university examination as per the university rules.

### **Slow learner students :**

We identify during didactic lectures , dissection , practicals and demonstrations the slow learners by observing student's body language , by observing his/her attention level during teaching time , by asking feed back questions immediately on taught topic or by asking some tricky questions and the end by seeing his/her performance in theory/practical examination. If they are lagging in this , then they are identified as slow learners . We provide separate counselling to such students to find out his/her difficulty. Then different measures are taken to improve them at all level , like asking to sit on front benches, asking them sudden question on current topic or asking them to do personally dissection during practical, by giving some extra assignment , involving them to present seminars etc.

### **Histology practical:**

For histology practical , we have three batches for histology practicals of 50 students per batch. Tuesday, Wednesday & Thursday are the histology practical days. One of the senior professor is incharge of histology practical & each batch has one batch teacher. Before the starting of the histology practical, senior professor takes the briefing of that practical. Then students are asked to see central table slides carefully & after that they will focus the slide which are provided to them. Students try to identify the slide & structure layer by layer. If

they got difficulties they will call teacher & solve the problem. In between surprise test & revisions are kept.

### **Demonstration classes:**

Demonstration classes are mainly for osteology but we also teach important topics such as neuro-anatomy, abdomen etc. there are 4 batches for demonstration which contain either 37 or 38 students. One teacher is allotted to each batch. Bone set is compulsory for students.

### **Evaluation:**

We conduct part end examination in the form of theory & viva which exposes them to writing skill, time management and different types of question. We check the papers & tell them their mistakes & how they can improve performance in next examination.

As per MCI & MUHS guidelines, till 2018 there were 2 internal assessment examination- Terminal & Prelim. After that university examination was there.

But since 2019, according to new curriculum of MCI & MUHS there will be 3 internal examinations before university examination. Their schedule is fixed.

First internal in month of December, Second in month of March & Third in month of July which is the preliminary examination.

### **Internal assessment examination :**

Internal assessment will be calculated as per guidelines. University examination will be conducted in month of September.

Internal assessment examination theory examinations are of 100 marks and practicals are of 50 marks for Ist and II<sup>nd</sup> internal assessment examination. For Preliminary examination which is like university examination, theory is of 200 marks ( each paper I and Paper II of 100 marks ). The practicals are of 100 marks.

On this three examination internal assessment marks are calculated out of 80 marks (40 theory & 40 practical). In which students have to procure 50% marks to become eligible for university examination along with attendance 75% & 80% in Theory and practicals respectively. Those students who will not pass this eligibility criteria will get retained and not allowed to appear for university examination.

**Additional Extra internal assessment examination:**

Additional Extra internal assessment examination will be conducted after preliminary examination for those students who were not able to appear any internal assessment examination due to medical problem after the confirmation and permission by grievance committee.

**University Examination :**

University examination will be conducted in month of September. For this university declares proper timetable on there web site.

For Theoy examination students have to appear at Theory centres at other colleges declared by university. The practical examinations are conducted at own college department. For this University appoints Two internal and two external examiners . One of senior internal examoiner is appointed as convenor for that examiner , who is responsible for that examination . Out of two external one is from within the state and other is from other state/ deemed university as per the availability. Staying arrangement for examiners is done as per the university guidelines. Remuneration for practicals and TA & DA is given to External examiners as per university guidelines. Internal examiners are eligible for remuneration only. Separate convenor's alloawance is given to convenor, who is senior internal examiner from college.

**Results :**

During university practicals the results are prepared every day and submitted online to university software immediately on that day from 12.00pm to 5.00pm. One duplicate copy of result signed by all examiner is submitted to Dean office and other to registrar , Muhs which is lateron submitted to Muhs by college appointed clerk after completion of all practical examinations. Within three weeks result is declared by Muhs. Mean while Theory papers are evaluated by eligible approved teachers appointed by muhs at CAP centres decided by Muhs. There also after evaluation ,scrutiny of marks done and submitted online on university software.

## **Standard operating procedure for Dissection Hall**

- Usually one teacher is given responsibility for control and smooth functioning of dissection hall activity.
- Being very important and more activities in dissection hall one junior assistant is allotted to help senior responsible person in dissection hall.
- Two attendants allotted for cleaning and other helping purpose under the guidance of senior teachers including maintenance of dissection hall regularly.
- Following are most important activities carried out in dissection hall.
  - 1. Dissection of cadavers by phase –I students
  - 2. Prosection for paramedical students
  - 3. Receiving of cadavers
  - 4. Embalming
  - 5. Storage of cadavers
  - 6. Section taking for learning purpose.
  - 7. Storage of Organs/specimens
  - 8. Disposal of remains at the end of year.

## **1. Sop for dissection by phase –I students:**

- When newly admitted students enters in dissection hall usually after dean address in afternoon, all are asked to seat on one side.
- Allotment of roll number is done. Also students are allotted there dissection tables as per there roll numbers and asked not to change this seating arrangement throughout year.
- Once all students get settled down on their allotted dissection table number. Welcome speech is given by HOD and introduction of all staff members is done.
- All rules regarding discipline in dissection hall is instructed by senior teachers which should be followed throughout years. Instructions are –
  - to take care of hairs and nails
  - To wear formal decent dress codes for boys and girls
  - To wear black shoes for boys and sports shoes to girls
  - To fold long sleeves up to elbow jt. for boys and to wear rubber band / hair band for girls with long hairs.
  - Requirement of dissection box with instruments and cunning ham manual volume (required volume only)
  - Requirement and to procure bone sets individually or among two students only.
  - Any type of photography is strictly prohibited. Mobiles are not allowed.
  - Respectful behavior with teachers and attendants for any help.
- Time table and all teaching activities in department are explained properly. Then campus visit is arranged to have campus orientation with the help of one teacher from each departments of phase I

- Information regarding required books is given. On next 2-3 days Medical book sailor is introduced and arrangement of copies of books is done to show the students required available books and instruments.
- For first 10 to 15 days students are asked to sit as per allotted arrangement on their dissection tables and asked to read first introductory pages of cunning ham volume -I
- On second day batch teachers are allotted and introduced to batch once again. Batch teachers are rotated after completion of two region dissection.
- One teacher per four tables as per availability allotted as batch teacher who will guide students through year for dissection, histology practical and any other difficulties.
- For small group discussion i.e. demonstration four teachers are allotted per 37 students.
- All senior teachers will be present during dissection hours in dissection hall to help batch teachers and students for any difficulties. They will take round on all tables.
- Region wise time table will be prepared and displayed in notice board by one responsible senior teacher after discussion and confirmation by HOD.
- Once schedule is confirmed, hard copies of this schedule is given to each teacher to know his activity properly. One copy is displayed in office notice board and one copy in student notice board.
- Day wise dissection scheduled topic is written by clerk on black board every day for easy lookout.
- All students are asked to follow this schedule strictly so as to finish dissection in time.
- Before starting of actual dissection, cadaveric oath is given to all students which explains importance of cadavers and due respect to cadavers. Then actual dissection schedule starts. First information and function of all instruments explained by batch teachers and then incision is taken to explain technique and skill of dissections. All safety pre cautioned during dissection explained well to avoid unwanted injuries.

- At the end of every region revision, part end examination is arranged to have practice of oral viva.

### **SOP for emergencies in Dissection Hall:**

- Emergencies can occur in dissection hall –
  - Student may fall down due to giddiness may be due to hypoglycemia, medical illness, allergy to formalin or first fear of cadavers.
  - nausea due to formalin
  - skin allergies due to formalin
  - sudden contamination of eye with formalin
  - cut injuries during routine dissection or during handling of meat cutting machine
- Whenever students fall down, with the help of wheel chair he/she brought to ventilated area under Fan.
- Tightened Apron is made loose. With the help of senior persons his/her vital signs are checked. Short history is taken regarding morning breakfast, any treatment going on for present illness, sweating and monitored further for some time,
- If looking like hypoglycemia, then immediate Glucon D with clean water and available sweets in form of biscuits/chocolate is given to maintain sugar levels. If he/she felt better and improved with this then some more rest is given and then asked to join the table.
- Cases of nausea are counseled not eat excess in breakfast or avoid oily food. If not cured referred to medicine OPD for underlying illness treatment.
- If history of previous illness and little worsened condition then emergency ambulance is called from hospital and case is informed to CMO casualty immediately to check it on prior basis for further line of treatment. He/she will be accompanied by either roommate or table colleagues.

- If sudden contamination by strong formalin in eyes, then immediately asked to wash eyes with running clean water for more time, so formalin may get diluted will stop irritation. If it is more irritating after first aid treatment then asked to report to ophthalmology department for further guidelines.
- Cases of skin allergies identified and referred to skin department for further guidelines.
- Cases of first fear of cadavers given counselling, not to worry about it and assured that slowly this fear will go on.
- Cases of cut injuries given first aid treatment of cleaning by antiseptic solution and dressing and asked to take T.T. injections from casualty on that day only.
- If cut injury is of large scale and looking like serious, then referred to surgery department for further treatment.
- Intercom facility is available continuously in dissection hall for contacts in various parts of department and hospital.

## **2. SOP for Prosection for paramedical course students:**

- Apart from phase I MBBS course teaching, paramedical students from physiotherapy, B.Sc and General nursing students also taught anatomy for prescribed hours.
- For BPTH course total 210 hours (150 didactic & 60 practical) are allotted and for B.Sc course 30 lectures and for General nursing 23 lectures are allotted.
- As dissection is not a part of their curriculum, so already dissected parts done by phase I MBBS students preserved in storage tanks for teaching purpose. This dissected part are shown as per schedule to this students which is called prosection.
- After every prosection Attendant will keep that dissected parts back in storage tanks.
- Examinations are also arranged on this dissected part for this paramedical course students especially for BPTH students.

## **3. SOP for Receiving of cadavers:**



- As we know that dead body what we call 'Cadaver' is the only source to understand the anatomy practically by doing dissection. Without cadaveric dissection it will be incomplete anatomy. So requirement of enough number of cadavers is most important. We have two sources for this-

- i) Unclaimed bodies
- ii) Voluntary body donation

- We do regular body donation camps to increase awareness of peoples in society towards body donation. Now a day we get averagely 8 to 10 cadavers per year by voluntary donation.
- Other source is unclaimed bodies which we get from police station, Shirdi, Ahmednagar. Under the Maharashtra anatomy act 1949 (Bombay Anatomy act 1949), Shirdi police station after doing Panchnama handover the unclaimed bodies of beggars to us for teaching and research purpose. By this we get averagely 6 to 8 cadavers per year. So, totally approximately 16 to 18 cadavers are received per year by us. After receiving cadavers we keep all documentary record for it in department by maintaining Body stock register.

#### **SOP for Unclaimed bodies:**

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- First on duty police havaldar from Shirdi police station informs to our hospital operator regarding bewares (i.e. unclaimed) dead body. They want to handover it to medical college for education purpose.

- At department level we make duty list of faculty for every month in rotation for body donation work. Their contact details are provided to hospital operators for 24 hours service. We send name of faculty & his/her details who is on duty to the operator on the 1<sup>st</sup> day of that month.
- Hospital operator informs to on call faculty member of department of anatomy regarding donation of unclaimed body from Shirdi police station.
- On duty faculty member call back to shirdi police station and confirms that death is of natural type and what is probable time of death.
- If death is of natural type and within 4 to 5 hours, then on duty faculty member informs and assured them regarding further arrangement for collection of dead body from our hospital team.
- He makes arrangement for ambulance with driver and our departmental two attendants for collection of dead body.
- After arrival at Shirdi police station, they send this unclaimed dead body with their reference letter towards Primary health center, Rahata for declaration of death by govt. medical officer and for record purpose.
- Then Xerox copy of reference letter to PHC , Panchnama & dead body are handover to our attendants and ambulance driver.
- That unclaimed dead body is brought to department of anatomy.
- All police documents are kept properly, once again confirmed and signed by on duty faculty member. Later on all documents are shown to HOD.
- If dead body arrived at odd time then it is kept in Cold storage at 4° temperature.

- On duty faculty member will submit all these documents in department office to concerned technician.
- Concerned technician keep all this documents in record file and do entry in body stock register which is maintained in department and take signatures of concerned on duty faculty member and HOD.
- This body stock record book is certified by HOD at the end of every academic year.
- After completion of all this procedure, embalming is carried out and specific number (sequence number/year) in sequence written on manjarpat cloth with election ink is stitched to ear for identification purpose.
- Then body is shifted to storage tank which contains 10% formalin solution.
- This body is under observation for next six to seven days to see whether embalming is done proper and body is preserved well or not.
- If embalming is not proper may be due to internal pathologies, then it get Putrefied. Such cadavers smells very badly and we have to buried deeply in burial ground immediately with the help of garage department by arranging vehicle for transport up to burial ground.
- These storage tanks are always under observation of dissection hall in charge for proper maintaince of cadavers
- If there is fungal growth or water become dark yellow means formalin strength is reduced, then water has to be changed for such tanks and new strong formalin has to be add into them.
- If relatives afterwards came in search of their missing nearby to confirm the received body from police station through police permission letter, we allow to see the received cadavers. If they confirmed with birth marks ,then after informing to police station we

return it to their relatives. We took detailed information and signatures of relatives who are taking that body for further vidhis.

### **SOP for Voluntary Donation:**




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- Body donation forms are freely available at department of anatomy during working hours.
- Donors or his/her relatives can collect this form on their request from our department in working hours.
- Our trained on duty faculty member and concerned technician give all information regarding body donation form and procedure to person who want to donate his/her body and their relatives.
- Relatives can submit that completely filled form with two ID card photo and aadhar card document Xerox copy within next 7 days personally or through relatives or by post also.
- After checking all detailed information, entry is done in office register. Abhar patra is handed back to them which is signed by HOD and stating thanks for their great will to donate his /her body to institute for teaching purpose.
- Now whenever death occurs, relatives are asked to call to hospital operator immediately within max 4 to 5 hours. Service is available 24 hours.
- Hospital operator informs on duty faculty member regarding this voluntary body donation and gives contact numbers of relatives to him.
- On duty faculty member will contact this relative and confirms regarding natural death and time of death. If death is of natural type and within 4 to 5 hours then he will ask them

to arrange Death certificate from their family physician, which confirms cause of death is natural. This certificate is must.

- If all this is assured from relatives then he arranges team for collection of that body.
- Address and contacts numbers handed over to team member and asked to collect body within short time.
- We provide our facilities of transport free of cost up to 75 km distance. If distance is more then we ask relatives to arrange their own vehicle. As technically it is difficult to go and come back within time.
- Then that body along with some relatives brought to department and kept in cold storage at 4° temperature.
- If Body donation form is not filled previously, then it is asked to relatives to fill it newly with all documents.
- If some relatives are coming from distant place, then on their request body is kept for further 6 to 8 hours in cold storage till relatives comes for Antim darshan.
- Once it is over then body is taken for embalming and specific numbered manjarpath cloth written by election ink mentioning number and year is stitched to ear for identification purpose. Then body is shifted to storage tank.
- Relatives informed that afterwards legally body is not allowed to see.
- On request of relatives we arrange for body part like great toe or thumb of donor body for further religious vidhi.
- Then all documents with death certificate submitted in department office for record purpose.

- The concerned technician does all entries and took signature of on duty faculty member and then of HOD in body stock register.
- On next day relatives are asked to collect Body donation certificate (abhar patra) duly signed by respected DEAN Sir and HOD from department office during working hours.
- It is handed over after doing outward entry in office register and taking signature of relatives who is collecting that certificate.

Dr. Pradyumn V. Kulkarni Foundation  
डॉ. प्रद्युम्न विठ्ठल कुर्कारने

## वैद्यकीय महाविद्यालय व रुग्णालय

### शरीररचनाशास्त्र विभाग

दिनांक: \_\_\_\_/\_\_\_\_/\_\_\_\_
पान: \_\_\_\_/\_\_\_\_

## आभार पत्र

प्रति,  
श्री. /सौ.

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महाराज,

आपले दिनांक \_\_\_\_/\_\_\_\_/20\_\_\_\_ चे देहदानासंबंधीचे प्रतिज्ञा पत्र मिळाले त्यावरून आपणांस मृत्यूनंतर आपले शरीर आमच्या महाविद्यालयास दान करावयाचे आहे हे समजले. आपल्या या असीम त्यागाबद्दल अनेक धन्यवाद. आपल्या नातेवाईकांनी आपल्या देहदानासाठी हरकत नसल्याची संमती देवून केलेल्या सहकार्याबद्दल त्यांनाही धन्यवाद.

कळावे,

**प्राध्यापक व विभागप्रमुख,**  
**शरीररचनाशास्त्र विभाग.**

शासकीय दूर वैद्यकीय सल्ला, एम.आय.डी.सी. बागाच गुल, अमरावली

फोन नं. : (०२२१)-२२२०८०६२, २२२०८०६१, ०२२११०६११, फॅक्स नं. : (०२२१) - २२२०८०६२

डॉ. विठ्ठलराव विखे पाटील फाउंडेशनचे  
**वैद्यकीय महाविद्यालय व रुग्णालय**  
**शरीररचनाशास्त्र विभाग**

**आभार पत्र**

डॉ. पी. पी. एच. / एच. बी. एच. / शरीररचनाशास्त्र विभाग /

महोदय,

आपले / आपली / यडील / भाऊ / बहीण / पती / पत्नी / आई / श्री. /

सौ. यांनी आपला बहुमूल्य देह या संस्थेस देहदान म्हणून दिलेला आहे. देहदान हे सर्वात श्रेष्ठ दान आहे. ह्या देहाचा उपयोग प्रथम वर्ष विद्यार्थ्यांना ज्ञानार्जनासाठी होणार आहे. त्यांनी केलेल्या बहुमूल्य देहदानासाठी ही संस्था आपली सदैव ऋणी राहील. सदर देहदानाबद्दल संस्था आपली अत्यंत आभारी आहे.

आपले आभारी,





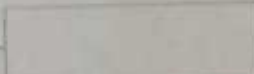

**प्राध्यापक व विभाग प्रमुख**  
 शरीररचनाशास्त्र विभाग,  
 डॉ. वि. विखे पाटील वैद्यकीय महाविद्यालय व रुग्णालय,

**अधिकाता**  
 डॉ. वि. विखे पाटील वैद्यकीय महाविद्यालय व रुग्णालय,  
 विठ्ठलराव, अहमदनगर.

दिनांक: / / २०

सामाजिक न्याय हेतु डॉ. पी. पी. एच. / एच. बी. एच. / शरीररचनाशास्त्र विभाग  
 फोन नं. : (०२०२२) - २२२२२२२२, २२२२२२२२, २२२२२२२२, फॅक्स नं. : (०२०२२) - २२२२२२२२


**Relative are requested to Honor the Donor's Last Wish after his Death.**


<b>Relative -1</b>	<b>Relative -2</b>
Name:- _____	Name:- _____
Relation:- _____	Relation:- _____
Contact No:- _____	Contact No:- _____
Address:- _____	Address:- _____
Signature:- 	Signature:- 

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ORL WITHAL RAO VIHAR FOUNDATION'S  
**MEDICAL COLLEGE & HOSPITAL**  
 Waghod, Ahmednagar - 414111, Tel: 02041 7778842, Mob: 994986233  
**Department of Anatomy**  
**BODY DONATION CARD**

Reg. No: \_\_\_\_\_ / 20\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/20\_\_\_\_

Name: \_\_\_\_\_

Age: \_\_\_\_\_ Sex: Male / Female

Contact No: \_\_\_\_\_

Address: \_\_\_\_\_

Photo

मी माझ्या जवळपास माझा देह मृत्युसंसार होई. मिते फटील वैद्यकीय महाविद्यालय व हॉस्पिटल, अहमदनगर  
 या संस्थेला वैयक्तिक व संपीर्ण कार्यासाठी देणू इच्छित आहे.  
**We Respect the Body Donation.**

Donor's Signature \_\_\_\_\_ Prof. & Head  
 Dept. of Anatomy

#### 4. SOP for Embalming:

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- Embalming is must to avoid decomposition and to preserve cadavers for longer time in good condition.
- Every cadaver is embalmed after receiving and completing documentary record procedure in department.
- Embalming is done in two ways:
  - i) By Embalming Machine
  - ii) By Natural Gravity method (if electricity supply/machine problem)
- For embalming we appoint our trained faculty members on monthly rotation. Under the guideline of such trained staff and with help of attendants embalming is carried out.
- There are two embalming machine in department which are regularly maintained. Near about 8 liters of embalming solution is prepared and filled in machine.
- Embalming solution (8 Liters):
  - Formalin (6 lit)



- Spirit (1 .5 lit)

- Glycerin (0.5 lit)

- Embalming is done through either Femoral or carotid artery. Here we usually do through Femoral artery which is easier.
- Every time machine is cleaned with plain water after procedure to avoid blockage due to dried formaldehyde powder.
- When electricity or machine problem is there, then we follow the natural gravity method, in which big size drum containing 8 liters of embalming solution is kept at higher level so that due to gravity force fluid is injected within cadavers. It takes 12 to 14 hours to complete it. By embalming machine procedure is completed within 15 to 20 minutes.
- After that, we keep the cadaver in storage tank.
- We provide the facility of embalming if required for those dead body which have to travel long distance.

## **5. SOP for Storage of Cadavers**

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- Once we receive cadaver either by donation or from Shirdi police station i.e. unclaimed, first we do documentary record procedures.
- If cadaver is received at odd time then we keep it in cold storage at 4° temperature.
- During working hours our trained dissection attendants under the guideline of on duty faculty member remove it from cold storage, clean that body and do embalming with embalming solution.
- Embalming solution consists of formalin, spirit and glycerin. After confirming complete embalming then cadaver is shifted to storage tanks.
- We have total 9 storage tanks each having capacity of storing 7 cadavers.

- There are 2 fixed cement tanks and 7 movable S.S. tanks. Within the tank cadavers are kept in 10% formalin solution.

#### **Maintenance of tanks:**

- All tanks are regularly checked (once a week) for solution level or any fungus growth. If fungus growth is there then we use thymol to control it.
- Tanks are cleaned after 4-5months. First we take out all cadavers from the tank. Each cadaver is washed by clean water. Tank is washed with soap powder & water. After proper cleaning of tank, it is filled by 10% formalin & bodies are kept in tank.

#### **Safety measures:**

1. Persons shall wear disposable gown, long pants, safety glasses or goggles and appropriate gloves when working with cadavers.
2. Closed toed Gum shoes (no sandals or open-toed shoes)
3. Additional barriers like safety glasses, masks, and face shields should be wearing when ever required.
4. Gloves are to be worn while cleaning the tank. Gloves are to be disposed of when overtly contaminated or torn, and removed when work with cadaveric materials is completed or when the integrity of the glove is compromised.
5. Hands must be washed thoroughly with soap and water following removal of gloves.
6. Do not touch electronics, door knobs, models, x-rays etc. with soiled gloves.
7. All attendants are asked to take TT injections as per schedule.

#### **6. SOP for Meat cutting Machine:**

- One meat cutting machine is present in dissection hall.
- It is mainly for taking various sections of body as per need to learn anatomy.
- Only trained mama is allowed to operate machine.

- Time to time cleaning and maintenance done from maintenance department of College.
- First planning of section is done with the help of dissection hall in charge, senior teachers as per need.
- Marking is done on that part and explained to mama in what plane section is to be taken.
- Necessary adjustment is done on machine by trained person and then under supervision of teachers, various sections are taken.
- During sectioning all safety measures precautions are taken. No one is allowed to stand nearby of machine.
- After sections machine is again cleaned.

#### **7. SOP for Storage of organs/specimens:**

- Organs are needed for study, revision and examination purpose.
- During the process of dissection this organs and specimens are collected and stored in storage tanks separately.
- Amongst this all, good specimens and organs are preserved for longer duration in storage tank first and then in separate big drums on which labeling is done for easy identification.
- These organs and specimens are utilized for various teaching, examination and project purpose.
- Every year destroyed organs and specimens are replaced by other new good organs and specimens.

## 8. SOP for Disposal of cadaveric parts:

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- For disposal of whatever parts remains after dissection at the end of year, first we sort out it. The parts which we can use for revision, examination or museum are kept back in storage drums in 10% formalin solution.
- Then we hand over small parts (not useful) material through black color plastic bags toward contracted “Bio-clean India private Ltd” agency which work for Ahmednagar corporation.
- This agency vehicle comes every day to collect all this biomedical waste material removed during dissection.
- Their contract is renewed every year.
- There is provision of incineration chimney also for disposal of waste product in campus.
- The extremities and bony parts are collected separately and with the help of attendants they are buried at well protected burial ground place for further maceration which is present within the campus under guidelines of faculty member.
- The bodies which get decomposed if embalming is not occurred properly due to vascular pathology, such cadavers also buried at burial place for further maceration under proper guideline.
- After 5 to 6 month regularly that buried place is reopened to see maceration is completed or not.
- If bones are cleared, then such material is brought to department and once again kept for further maceration in maceration tank for 4 to 5 months again.
- When all soft tissue is removed, then bones are prepared by further procedure in department which is required for teaching purpose.

## SOP for Preparation of Bones:

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- We try at our level to prepare skeleton in department.
- First if body gets decomposed may be due to unsuccessful embalming due to any vascular problem within cadaver. Such decomposed cadavers are buried at burial place which is within the campus at one corner for maceration purpose.
- This place is always under supervisions. After 6 to 8 months we remove it if maceration is completed.
- All bones with mass brought to department with the help of attendants and under guideline of appointed faculty this material cleaned with water and again kept in maceration tanks for further maceration.
- Also the maggots in this tanks helps to clean mass and bones becomes clearly visible.
- Once again all bones with mass washed in clean running water and mass tried to remove from bones. If needed then again we keep it back in maceration tank.
- After removing almost all mass from bones , we keep it to dry under fan ( sunlight is avoided as bones get cracks )
- Then we keep all this bones in 10% hydrogen peroxide for 24 to 48 hours for more clearing and to get rid of bad smell. 1 lit Hydrogen peroxide (30%) in 50 lit of water.
- This procedure is under continuous supervision. Bones are observed in between to see progress of action of hydrogen peroxide. Excess exposure is avoided as bones get brittle.
- Then bones are identified and once again dried under fan for one to two days and then painted with touchwood and allowed to air dry.
- Numbers are given to bones and kept in departmental bone bank. Also, at the end of academic year whatever hard material remains after dissection we get, we buried it and follows the same procedure to procure bones.

- This bones from departmental bone bank can be utilized for teaching, museum and project purpose under the guideline of bone bank in charge.

### **SOP for Body donation Camp**

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- Body donation is an important movement that we should promote it on priority.
- We does regular body donation camps in society to increase interest of peoples towards body donations. Cadaveric dissection is must to understand practical anatomy.
- We organize our team to arrange for body donation camps as per request by NGO's in society.
- Our body donation team consist two senior teachers, two junior teachers, two attendants and one technician with hospital ambulance and driver.
- At department level we appoint faculty teachers every month in rotation for body donation work. Their contact details are provided to hospital operators for 24 hours service.
- During camp, importance of body donation, doubts, myths and body donation procedures are explained with the help of Power Point presentation by senior faculty member.
- At the end we distribute body donation forms. We explains them how to fill it and necessary documents required during submitting it. Even they can submit it afterwards.
- Sometimes local media peoples are also invited by organizing NGO to give its broad coverage , where interactive interviews are given to peoples doubts regarding donations
- We also provide telephonic guidelines on hospital contact numbers with departmental extension numbers (307/308) or directly on personal mobile numbers with help of operator.

- At department level we allot duties to faculty member's month wise for body donation work and accordingly inform to hospital operator every month for 24 hours help in issues regarding body donation.
- Body donation forms are available free of cost in our department during working hours.
- After receiving completely filled form, first we register it in our body donation book. After that Abhar patra which signed by HOD is given to them.
- We give body donation certificate after actual body donation which is dully signed by respected Dean Sir and HOD to their close relatives expressing thankful wishes for their great work of donating body to our institute.
- Gradually the awareness regarding body donation is increasing and peoples giving more response for donating their body.
- But we have to do continuous efforts to promote and involve them in more number for this great noble work.



## **SOP of Dead Body Stock Register**

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- Department of Anatomy maintains the dead body stock record which is checked by every month by senior faculty & HOD.
- At the end of every academic year body stock register is verified and certified by HOD with the help of technician and senior teacher.
- Following information is filled in this register
  1. Body number ( number /year)
  2. Date of body received
  3. Name (Donated body)/ unclaimed
  4. Sex- M/F
  5. Panchanama/ Death certificate
  6. Name of the Police station/ Hospital
  7. Names of the driver/ Attendant
  8. Name & signature of on duty faculty
  9. Name & signature of HOD
  10. Balance of dead bodies
- Also entries are done if any cadaver is buried /utilized for dissection / handed over to other most needed nearby medical college for academic education purpose only.
- Physical verification of dead bodies has been done on 30 & 31 December every year by HOD & all faculty members.

## **DISSECTION HALL SAFETY RULES**

- The following is a list of rules that is designed to ensure safety for who are working in dissection hall.
  - Failure to follow these safety rules may result in immediate removal from the dissection hall.
  - In addition, violation of the rules may result in a referral to the Dean Office for disciplinary action.
1. Treat all specimens and cadavers with respect.
  2. Access to the dissection hall is only to faculty, working departmental staff and 1st year students.
  3. Photography and videos of human cadavers are NOT permitted under any circumstances. It will be considered a serious disciplinary offence for a student to take pictures or possess pictures of the College's human cadavers.
  4. Eating, drinking, or gum chewing is not permitted anywhere in the interior of the of the dissection hall.
  5. During dissection -closed-toe shoes, gloves, apron and name plate must be worn.
  6. No ornaments, mobiles in dissection hall.
  7. Gloves must be disposed of properly before leaving the lab.
  8. When students are not using the scalpel, the scalpel must me place with the blade down on table.
  9. Use extreme care when using sharp instruments. Keep all dissection instruments in the dissection box.
  10. Dispose of scalpel blades ONLY in biohazard containers.

11. At the end of the dissection period, wash your hands with hand soap and water at the designated sink area.
12. The cadaver tanks must be closed at the end of each dissection.
13. If any student, splash preservative fluid, disinfectant, or specimen fragments into your eyes immediately notify your teacher for assistance in thoroughly rinsing them with the water.
14. Teacher will coordinate first aid efforts, including notification to senior professor who will call for emergency medical assistance if needed.
15. If you should cut, puncture, or wound yourself with any instruments, notify your teacher for assistance in thoroughly washing the wound.

**SOP for mentainance of dissection Hall:**

- Two attendants are separately allotted for cleaning and to take cares of cadavers other help in dissection hall.
- Every morning first they do dry mop and then wet mop to clean all dissection hall.
- Availability of water is confirmed early in morning, if not then informed to person concerned with civil department for necessary arrangement.
- All cadavers required for dissection are removed every day from tank by mamas early in morning and again kept back in tank in afternoon.
- All biomedical waste is collected in black coloured plastic bags and proper coordination is done with biomedical waste collection vehicle and handed over to them for further disposal from Ahmednagar Corporation.
- If any machine is not working properly then maintenance call form is sent to concerned department through Administrative Officer.
- Every week soaps and disposable gloves and required other stationary things collected from central store and medical store through proper protocol.

# **STANDARD OPERATING PROCEDUR FOR THE** **ANATOMY MUSEUM**

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2. Universal Precautions
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1. Region wise jar maintenance
2. Catalogues and coding the jars

## **I – Mission & Establishment**

### **1. Anatomy Education-**

The museum of anatomy department is the benchmark of our renowned College. It is a treasure of Anatomy Department where all aspects of anatomy can be studied, appreciated & applied to our medical knowledge & training. It holds a large collection of anatomical specimens and models, radiological films, genetics charts and embryology models etc.

Anatomy museum situated on first floor of college within the premises of the anatomy dept. established in 2004 and it is been serving all the health care professionals & school students. It is a big space fully ventilated, well illuminated & Informative.

### **2. Appointment of Museum council Members-**

The Museum Council bearing chairman and the members (anatomy department faculties) appointed by Chairman (Head of Department). The members of Museum council will select and finalise the specimens / exhibits to be displayed in the museum .Apart from this The council members will look after the access to the museum by the medical students (MBBS, BPth, B.Sc. –Nursing and GNM Students) and visitors, separate registers were maintained for each course and visitors .The register for visitors will have feedback from them which will be useful for the further development of the museum.

Museum council members will maintain a record of wet specimens Added and replaced on yearly basis according to region wise .Any of the activities and specimen mounted in the museum should come under the purview of the council members.

### **3. Annual meetings –**

Annual meetings will be held by our chairman, Museum council .The council is very particular & keen to keep this museum updated with the latest equipment & learning material

for which we shall always remain highly thankful & obliged. This Standard Operating Procedures document will be dated approved for a period of three years. It must then be re-reviewed and approved. Amendments may be agreed upon by members at the annual meeting of the museum council.

And our (museum council) mission is to enhance the anatomy learning through the museum with the help of wet specimens and other teaching material provided for the budding health professionals.

## **II -Policies and Procedures**

### **1. Authorized access to human anatomical specimens-**

In this Policies and Procedures Manual, the term “Human Anatomical Specimens” is defined as donated whole human bodies, or portions thereof derived from the cadavers, which are used for education, research, and related scholarly purposes.

After the approval of the museum council the specimens are dissected properly and mounted in the jar made by acrylic sheet. The size of jar and the formalin solution used for mounting also selected by the council.

Method of preservation of specimens: The Specimens are preserved in 10% formalin solution

Method of display of specimens: The specimens are displayed in Acrylic jars in small and big size as per need.

### **2. Preparation of human anatomical specimens-**

- Museum specimens are generally mounted in acrylic jars using centre plates or rods to which the specimen is fixed or sutured.
- Use of Perspex sheets as a centre plate requires the use of power tools (saw, drills, vice etc.), which in turn require time and skill to produce good results.
- A more feasible alternative would be polyethylene terephthalate (PET, PETE or polyester) that is commonly used for carbonated beverage and water bottles.

PET provides sufficient alcohol and essential oil barrier properties, generally good chemical resistance (although acetones and ketones will attack PET) and a high degree of impact resistance and tensile strength.

- These bottles are translucent, thin and inert, and can easily be cut with scissors or a blade in order to adapt properly to the size of the jar.
- These sheets can be easily cut, sutured to the specimens (multiple if needed) and does not visually hinder the display. For a smaller jar, a hinge-like preparation of these plastic bottles gives a stable support to the specimen. The Plastic sheets may be covered by a black polythene sheet to enhance the contrast of the specimen being displayed.
- The PET sheets used in our department for mounting specimens have not lost integrity, colour or contour over a period of 12 months.
- For highlighting different components of a specimen, colored gem clips, thermocol balls, beads and pins were used.
- To obtain the best results, specimens must be immersed in a fixative immediately. Kaiserling's technique advocates the use of a solution of formalin, water, potassium nitrate, and potassium acetate for fixation, the immersion in ethyl alcohol to restore colour and preservation in a solution of glycerine, aqueous arsenious acid, water, potassium acetate and thymol.
- The use of 10% neutral-buffered formalin as a fixative has given us satisfactory results to preserve the specimen. Formalin fixative should be replenished to ensure that the fluid does not dry out as it may lead to deposition of paraformaldehyde crystals on the specimen.
- These simple techniques of mounting when supplemented by clinical, radiographic and histopathological photographs alongside make for a wonderful museum display

### **III -Gross Anatomy Teaching & Museum Procedures**

#### **1. Access to Teaching Museum Facilities-**

- Access to the museum is permitted to designated students, staff and faculty. These individuals will have access during times specified by each facility.
- Visitors: Visitors are allowed in the facilities at any time, except by permission of an accompanying faculty member or designated staff, or permission from Chairman Museum council or their appointed representative.
- Visitor's register: A register should be kept outside to get the opinions and views from the visitors after their visit to the museum
- Code of conduct: All individuals requesting access to the museum must promise to follow the rules governing in use of museum specimens for learning and research
- Required Training: Entrants to the Museum are required to have taken all training on the Museum techniques associated with the work involved.
- All students must be informed prior to enter the museum that any non-educational video or photography of any type of anatomical specimen in the anatomy museum is not allowed under any circumstances.
- Video or still photography by faculty or students is permissible for educational purposes only or to document findings related to research using the following guidelines
- Students or faculty are informed that under no circumstances should videos or photographs be allowed to be put on to the public internet or any other public venue. They can only be used within the institutions password protected intranet that is only accessible by students, faculty, and designated staff (i.e. for video editing).
- Videos or photographs used for educational purposes must not display any identifiable features such as tattoos and face (full or side profiles).
- Activities not permitted in the Museum: eating, drinking, applying cosmetics including lip balm, handling contact lenses, gum chewing.
- NOTE: Food or drink cannot be stored within the museum. Contact lenses: it is encouraged that students, faculty, and staff not wear contact lenses in the museum and potential hazards should be made clear.
- For the purpose of studying anatomy, we have assigned various sections in the museum. They are:



1. Comparative anatomy section
2. Embryology section
3. Cross-sectional anatomy section
4. Special osteology section
5. Section on teratology
6. Section on Genetics
7. Other rare anatomical variations

➤ VARIOUS INFORMATIVE FACILITIES AVAILABLE IN THE MUSEUM ARE

\*Total no of wet specimens: more than 500 specimens with 450 catalogues

\*Models: Total no of gross anatomy models more than 106

\*Total no of embryology models more than 95

\*Radiology display:

X-Rays plate 100

C-T-Scan films 35

MRI films 35

\* Osteology:

1. Total number of articulated skeletons 9
2. Total number of disarticulated skeletons 35
3. total no of disarticulated individual bones more than 300

\*REGULAR SECTIONS

The formalin-fixed specimens are arranged in six sections:

1. Thorax
2. Abdomen and pelvis
3. Upper extremities

4. Lower extremities
5. Head & Neck
6. Neuroanatomy

## **2. Universal Precautions-**

- Two attendants are allotted for cleaning and maintenance purpose.
- Attendant will always present in museum.
- If any jar is broken and unfortunate injury is happened then in emergency first aid kit is made available for treatment purpose.
- If it is of serious grade then it is referred to Casualty by calling Ambulance.
- Additional barriers (safety glasses, masks, face shields) should be added when appropriate for use against anticipated splashes or splatters to the face.
- Special at-risk individuals: Persons with medical conditions (allergies, pregnancy) or who are at increased risk of acquiring infection are not allowed inside the museum
- Museum safety procedures will be provided in writing and verbally communicated to every incoming group of students or visitors prior to the first museum visit.
- Gloves: are to be worn when hands may contact potentially infectious materials, contaminated surfaces or equipment. Gloves are to be disposed of when overtly contaminated, and removed when work with cadaveric materials is completed
- Hands must be washed thoroughly with soap and water following removal of gloves
- Spills from the jars and accidents that result in overt exposures to infectious materials are to be reported immediately to the museum in charge

## **3. Injuries in the Museum**

- If serious illness or injury occurs to the students or visitors should report immediately .shift them immediately to the location where aid is needed, specific location within the building, type of problem, individual's condition, sequence of events, and medical history if known. Have somebody stay with the person until help arrives.
- Do not move the person keep him still and comfortable. Once help arrives, stay out of the way unless assistance is requested.

- All injuries in the museum must be reported immediately to the faculty, staff or Council members. In all cases, a written report, documenting the injury should be made according to Environmental Health and Safety protocol in place at each facility.

#### **IV- Maintenance & Tracking the specimens**

##### **1. Museum and Region wise jar maintenance**

- As per the guidelines from the museum council, Museum cleaning is being done by the attenders on rotation basis, all the racks and shelves in the museum are cleaned twice in a month.
- The museum council members were asked to check the level of formalin in the jars, the turbidity of fluid and if any replacement is required with the permission of council the specimen is replaced and recorded in the register.
- Proper cleaning should be done using disinfectants and do not use the spray directly on the exhibits /specimens that might damage it.
- A Maintenance log book should be kept for regular check on cleaning by the museum attenders and they should take care of the lights, fans to be switched off after the visiting hours
- After the visiting hours the last person who leaves the museum should make sure that all the windows are closed
- Proper care should be taken while cleaning, any damages occur at the time of cleaning should be informed to the council members in time.
- Museum attenders should take care of themselves by wearing gloves and mask at the time of cleaning

##### **2. Catalogues and coding the jars-**

- Catalogue and Specimen tracking :- All the specimens in the museum should be labelled properly
- Its informative separate catalogue is maintained with 15 copies of each in every rack.
- It is useful to describe that particular specimen so that the students /visitors will get more information and will have better understanding.

# **Standard Operating Procedure for Anthropometry Lab**

## **Index**

1. Introduction
2. Equipment
3. Calibration
4. Procedures
5. Care and Maintenance

## **1. Introduction**

- Anthropometry is the study of the measurement of the human body in terms of the dimensions of bone, muscle, and adipose (fat) tissue.
- Measures of subcutaneous adipose tissue are important because individuals with large values are reported to be at increased risks for hypertension, adult-onset diabetes mellitus, cardiovascular disease, gallstones, arthritis, and other disease, and forms of cancer

## **Purpose of Anthropometrics**

- Actual stature, weight, and body measurements including skinfolds, girths, and breadths will be collected for purposes of assessing growth, body fat distribution, and for provision of reference data.
- Measurements of stature and weight will allow for a revision of the growth charts which are based in part on data collected in Study.
- Anthropometric measurements such as skin folds and circumferences will allow analysis of the relationship between obesity and risk of disease.

## **2. Equipment**

The equipment and supplies necessary for body measurements are as follows:

1. Weighing machine (Adult)-01
2. Weighing machine (Capacity 5kg)-01
3. Goniometer 360(metallic)-01
4. Mollison's Craniophore-01
5. Anthropometric tape, hook-01
6. Harpenden calliper-01
7. Sliding(Martin's) caliper-01
8. Vernier Calliper-01
9. Gouge-01
10. Spreading caliper-01
- 11 .Osteometric board -01

#### **Equipment Calibration Log**

- Daily equipment checks and calibrations of the anthropometric equipment done before its use.
- Skinfold calipers, the infant measuring board, the weight scale, and all require daily checks before the first examination session each day.

#### **4. Procedures**

##### **1. Weighing machine (Adult):**

Have the sampled person stand on the center of the weight scale platform. Record the weight

##### **2. Weighing machine (Capacity 5kg):**

Have the sampled child put on the center of the weight scale platform. Record the weight

##### **3. Goniometer:**

- It is necessary that a single notation system is used in goniometry. The neutral zero method (0 to 180- degree system) is the most widely used method.

- The same goniometer should always be used to reduce the chances of instrumental error.
- The part of the body to be measured using a goniometer should be reasonably exposed and free.
- The range of motion of each joint should be measured in isolation, to avoid trick movement (simultaneous movement of another joint) and muscle insufficiency which may alter the reading.
- Both active and passive range of motion should be measured and recorded respectively.

#### 4. Mollison Craniophore:

- To place the skull in the Frankfurt line, the craniophore is also equipped with a block containing a pointer that moves in the horizontal and vertical planes, allowing allocating the bottom verge of the orbit.
- The Frankfurt plane is allocated by horizontal lines running on the skull's lateral surface, from the bottom contour of both orbits to the upper contour of the acoustic external foramen.
- The Frankfurt line also runs through the bottom edge of the left orbit and the upper edge of the external acoustic meatus.
- In order to recurrently place all analyzed skulls in the frontal view (Norma frontalis) the skulls were suspended with the upper verge of the metal spigot lodged in the external acoustic meatus, which was established as the upper edge of the orbit.
- On the skulls, the frontal view bregma point (b) was marked, which is necessary for further studies.

#### 5. Anthropometric tape:

Most anthropometric tape measures were first intended circumference measurement. "Diameter" indicates that the tape will have secondary set of numbers, usually

on the reverse side of the tape that shows the diameter calculation that corresponds to length measurement. This number is irrelevant for body measurement.

#### 6. Harpenden (Skinfold) Calipers:

- Before each examining session, the calipers should be "zeroed." Check to make sure the pointer is clearly reading zero. If not, loosen the flat screw on top of the dial, turn the dial slowly and gently until the pointer reads zero and then turn the screw tight again.
- Gently pull the skinfold away from the body.
- The Caliper should be placed perpendicular to the fold, on the site marked, dial up, at approximately 1 cm below the finger and thumb.
- While maintaining the grasp of the skinfold, allow the Caliper to be released so that full tension is placed on the skinfold.

#### 7. Sliding (Martin's) caliper:

- A sliding caliper featuring a double sided measuring scale from 0 to 230 mm and two measuring arms (with rounded and sharp ends).
- The slot of the sliding section (containing an arresting bolt) features a highlighted index that provides the measured value.
- The instrument is designed to determine selected dimensions of the head (e.g. morphological facial height, nasal height and width, the distance between the inner/outer eye corners, lower jaw height, mouth width, physiognomical ear length, etc.), hand width, foot width, etc.
- The rounded ends serve for measurements carried out on live bodies, while the sharp ends are used for determining the dimensions of skeletal material

#### 8. Vernier calipers:

- Vernier calipers are measuring tools used mainly for measuring linear dimensions.

- These calipers come handy in measuring the diameter of circular objects.
- Their circular jaws fit securely on either side of the circumference of round objects.
- Vernier calipers have two types of scales- a fixed main scale and a moving Vernier scale.
- The main scale is normally in millimeters or 1/10th of an inch.
- Vernier calipers score well over standard rulers because they can measure precise readings up to 0.001 inches.
- Vernier scales is used along with the Vernier caliper for accurate measurements.

9. Gouge: Used to clean the bones

10. Spreading Caliper:

- Spreading Caliper with pointed ends provides accurate measurement of the distance between two points, where one or both points may not be on a flat surface.
- This Large Spreading Caliper can also be used for the measurement of Anterior-Posterior chest depth.

10. Osteometric Board :

- This is used to measure the length of long bones.
- Before using it all proper calibration is checked.
- Wooden plate is used to mark as end point to be measured.

## **5. Care and Maintenance**

### **Cleaning of Equipment**

- At the beginning of each stand and during the stand as necessary, wipe the surfaces of the sliding calipers, skinfold calipers, and tape measures with alcohol.
- Clean the equipment with alcohol at the end of each examining day.



# **SOP for Teachers /Teaching rooms cleaning and**

## **Maintenance**

➤ In the department there are three types of rooms-

- i) For Teaching and non teaching staff
- ii) For Teaching
- iii) Departmental store.

### **i) Rooms For teaching and Non-teaching staff-**

In this category following rooms are available-

- Professor and Head of Department room -01
- Departmental office -01
- Associate professor room -02
- Assistant professor room – 04
- Tutor rooms - 05
- Non –teaching staff room-01

- All these rooms are present on one floor i.e. ground floor of Block –I where anatomy department is situated.
- For these rooms cleaning one mama is allotted
- His work is monitored by senior teachers including Head of department and clerk/technician of department regularly.
- Every day morning cleaning by dry mop and wet mop is done.
- Every teacher will take care of his/her room regarding lights and Fan in sight the room.
- Non-teaching, HOD and Office room will be monitored by Clerk/Technician.

- At the end of day, during closing of department mama will once again confirm regarding switching off the light and fan buttons.
- At the end of day care to shut down computers in office and HOD room will be taken by clerk.
- Regarding any difficulty concerned room staff inform in office and then through HOD , maintenance call form is sent to concern maintenance authority through proper protocol
- Time to time feedback is taken by clerk/technician and HOD regarding any maintenance of department.

## ii) **Rooms for Teaching :**

- There are two rooms in department which are utilized for small group teaching (SGT)
- Previously these rooms were called as Demo rooms.
- Teaching room I -
  - Size – 98 sq.m
  - Benches –40
  - Tube lights-04
  - Fans-07
  - LCD wall mount Screen-01
- This room is utilized for teaching to paramedical courses BPTH and Nursing students also.
- Teaching Room – II
  - Size – 68 sq.m.

- Benches –35
- Tube lights-02
- Fans-05
- LCD wall mount Screen-01

- Every day morning dry mop cleaning is done by allotted mama.
- Twice a week wet moping of these room is done by allotted mama.
- Mama will take care of lights and fans during working time and during closure of department.
- His work will be monitored by Mr Lingaswamy sir.
- Histology lab and Research Lab cleanliness work is monitored by Dr Marathe N.
- Museum cleanliness work is monitored under supervision of Mr Rao R.
- Library and Anthropometric lab care cleanliness work is monitored by Mr GCN Raju.
- Any maintenance notified by mamas or concerned responsible teacher is sent through Maintenance call form signed by Concerned teacher and HOD signature to concerned Authority for repair.
- Time to time follow up is taken for concerned maintenance.
- Monthly twice round is taken by Head of Department with concerned teacher and mama to look out the infrastructure and cleanliness.
- There is provision of Male and Female urinals for staff and students on the floor of department of anatomy
- Maintenance of urinals is taken by sweepers under guideline of supervisors.
- Also the cleanliness of passage is done by separate mamas and Mavashis supervised by Supervisor who work under the power of A.O.

**iii) Departmental store :**

- There is one room allotted for storing of extra and unrequired materials in the department.
- It is situated near Gross anatomy museums.
- It is under supervision of Head of department, technician and Mamas.
- All things kept in this room including various Jars inspected time to time for its usage
- Every year at the end things which are not required are listed and transferred or handed over to Central store for its further process.
- Its cleanliness is done under supervision as per need.
- It is always closed and opened whenever needed.

# **Standard Operating Procedure For Bone Bank**

- In department one separate section is created for the purpose of record of all bones in department called as 'Bone Bank'
- One teacher is made in charge to take care of all activities under Bone bank.
- He will maintain record of all bones utilized for various purpose in department in one separate record book.
- He / She will also help to prepare new bones from the remains of dissected parts at the end of Year.

## **Preparation of bones:**

1. At the end of year after completion of full dissection we keep some good specimens for museum/revision/examination purpose and unused or unrequired parts are buried on well protected burial ground within campus for decomposition purpose regularly.
2. Even when if any cadaver is not embalmed well due to any reason get putrefied also buried at burial ground and utilized to prepare bones from it for study purpose in bone bank.
3. After 3-4 yrs buried specimens are reopened, the decomposed material is collected and brought back to department.
4. It is then put in running water for cleaning purpose and kept in clean water for some days to become smooth.
5. Then they are shifted to other tank (containing cow dung and drainage water for maggot formation) for maceration purpose around 6-8 months.

6. Once maggots get formed, they will eat all flesh keeping hard boney parts behind.
  - Location of tank-on the terrace of dissection hall, so that bad smell will not disturb routine activity.
  - Continuous watch is kept with the help of attendants on this maceration procedure.
7. If the procedure is not completed then we can extend same for next 2-3 months.
8. After that all material is washed under running water, bones are cleaned from soft tissues and dried for 4-5 days( sunlight exposure is avoided)
9. Then all bones are kept in tank for hydrogen peroxide wash for 48-72 hours depending on need and again dry it.
10. After hydrogen peroxide wash all bones looks good and are off from bad smells.
11. After complete drying we give a touchwood paint over bones. Then they are suitable for handling for study purpose.
12. After completing this procedure, numbering of bones is done for record purpose.

### **Storage of bones:**

13. Then these bones are kept collectively in bone bank.
14. Record is maintained with bone bank in charge as number of each bone, issue of these bones to teachers for teaching purpose or research/project purpose.
15. Whenever required these bones are utilized for study purpose and for teaching purpose.
16. Yearly we plan to add new bones as possible as to this bone bank, so that our stock will increase.

## **Standard operating procedure for Histology practical**

- Usually one senior teacher is appointed by Head of department as an in charge of histology section.
  - She / He has to arrange all lectures, practical & examination with the help of batch teacher after discussing schedule with head of department.
1. Histology practical is conducted for 150 students from Monday to Wednesday.
  2. Each practical day 50 students accommodated batch wise (A, B&C) in histology lab; so three days of histology practical per week.
  3. Material required for each practical:-  
  
Histology journal (Muhs), histology manual (diagram book), histology textbook, H&E pencil & eraser.
  4. Before beginning of each practical, technician takes round to check working condition of all microscopes and takes care of all microscopes with time to time repairing of defective microscopes.
  5. Separate attendant is allotted to take care of histology laboratory, who cleans histology lab regularly and take care of all instruments in lab.

6. During each practical, practical briefing is taken to explain slides of practical by histology in charge senior teacher, followed by mounting of demonstration slides.
7. Practical slides are given in one folder to study and practice on microscope to group of 8 students during practical 2 hours duration.
8. During practical hour histology in charge and batch in charge interact with students to explain slides and to solve their difficulties as in adjusting microscope.
9. At the same time slides of previous practical are displayed on one side for revision and also for those who were absent for last practical and we call students according to their roll number to see it till end of practical.
10. In between during practical time 'revision test' is taken to evaluate student and to increase confidence of students to identify the slide.
11. At the end of practical these folders are collected back as per allotted numbers.
12. Signature is taken during handing over and returning of folder for discipline purpose.(missing/breaking)
13. If there is any breakage of slide, responsible student is then counseled & trained about handling slides.



14. During last 30 minutes of practical; journals for previous practical are corrected by respected batch teacher. Wrong diagrams were asked to redraw and students are allowed to draw diagrams of same day practical in journal.
15. Attendance is taken compulsorily at the end of practical hours and record is maintained separately.
16. After this students are asked to cover the microscope and leave the practical hall.
17. At the end of year servicing of microscopes done for cleaning and replacement of spare parts of damaged/faulty microscope through management.

# **SOP For Departmental Library**

## **Index**

1. Resources
2. Collection
3. Access and circulation management
4. Donation I Gift I Damage policy
5. Conservation policy
6. Statistics
7. Audit
8. Vision

**Definition:** A room containing collections of books, periodicals, for use or borrowing by the members of our department

## **1. Resources:**

Procurement of learning resources constitutes the primary responsibility of library. The Library makes a systematic effort in building up the collection development by identifying, evaluating, selecting, processing and making it available to the users. Since this collection building requires a huge sum of money and has long-lasting repercussions, it is very much essential that libraries have a well thought out collection development policy.

- Printed books from the publishers
- Compact Discs

## **2. Collection:**

The Library aims to acquire collection materials in support of teaching, learning and research.

- Materials are selected on the basis of their subject content, following the collection development policies which are agreed in consultation with the academic community.

Total collection: 125

Special collection:

Complementary: 38

Donated (Books): 48

### **3. Access and circulation management**

#### **Accessioning**

- Every document added to the library collection will have an AccessionNumber. This is a unique number for that document. These numbers are assigned in a bound register called Accession Register
- The details are entered into the register

#### **Circulation management**

Major activities of the circulation section are:

- Issue and return of books
- Attending the user query for effective interpretation of library rules and regulations
- Registration of new members
- Sending reminders to overdue documents
- Maintenance of circulation module of library management, maintenance and updating of all data related to library users
- Maintaining records related to loss of the book(s)
- No due issuing
- Assisting the user's for accessing
- Managing counter operations during weekends/holidays
- Attending the users query for effective interpretation of library rules and regulations
- Granting permission to outsiders to use the library
- Generating reports and statistics for the circulation
- Library orientation information

### **Circulation Timings:**

<b>Sl. No.</b>	<b>Description</b>	<b>Timing</b>
1	Weekdays ( Monday to Friday)	09:00 a.m. -05:00 p.m.
2	Saturday	09:00 a.m. -01:00 p.m.
3	Weekends and Public Holidays	No Issue

### **Issue / Return Procedures**

Issue/Return of library materials is the routine operation of any library. The proper sequence of activities for issue and receipt of library books is defined as follows:

- **While Issuing Book:**

- A quick glance is cast while issuing the book for any damage
- Details into issue register are entered
- The books are handed over to the users.

- **While receiving the books:**

- A quick glance is cast while receiving the book for any damage
- Due dates are checked for necessary action
- The books are sent to stack for shelving.

### **Membership**

- All the faculty members are entitled to the membership of the library

#### **4. Donation I Gift I Damage policy Gifts/**

##### **Donations:**

Books/journal gifted/ donated from the individuals are accepted and accessioned and Placed along with other books for references.

Some books donated by individuals are accepted based on the physical condition of the book.

##### **Damage policy**

No book in damaged condition will be accepted by the users on return. Damaged books will have to be replaced by the borrower.

The new book of same edition or higher edition has to be replaced if the issued book has lost.

#### **3. Conservation policy**

##### **Library Rules & Regulations**

1. No member will be allowed to avail library facility without valid ID card.
2. Users should maintain peace in the library & should not disturb other readers in the library otherwise library facility will be withdrawn.
3. Unauthorized removal of books or damaging the property of library or misbehavior with library in-charge staff shall be considered as an act of indiscipline, which will call for strict action.
4. Books must be return on or before the due date otherwise the Books will not be reissued
5. In spite of repeated reminders, if the book is not returned, the borrowing facility may be withdrawn for a period decided by the authority.
6. While entering the library, users are not allowed to keep all the belongings with the

7. One should take care of cleanliness of the library.
8. One should not disturb the arrangements of the library furniture.
9. Books issued on ID card are only for reference
10. Outsiders are not allowed in the library without the permission of the authority concerned.
11. Mobile use is strictly prohibited in Library.
12. It is mandatory for all members who are using facilities to follow the library rules & regulations. For any dispute or problem, Library in-charge may be contacted.
13. Library in-charge is available for any assistance you may need in using the library resources, facilities & services. Library will welcome any suggestion for better use of library facilities.

## 6. Statistics

### Library Collection Statistics (Subject wise) as on 31-07-2021 (Last audited)

Subject	Total Vols.	Subject	Total Vols.
<b>Faculty of Anatomy</b>		<b>Faculty of Anatomy</b>	
Embryology	(5) 5	Radiology	(2) 2
Gross	(48 ) 63	Surgery	(3)4
Histology	(16) 17	Reference books	(1)
Osteology	(3)5	Dissection atlas & Mannual	(13) 19
Neuroanatomy	(6)9		

## 7. Audit

- Every 3 to 6 months

## **8. Vision**

To explore and implement innovative services to deliver information and scholarly resources that can be accessed easily in the department.

### **Cleanliness and maintenance:**

- One attendant is appointed along with in charge of library.
- Clerk is also directed to help in charge of library as per need.
- Every day morning library is cleaned by attendant.
- Central library peoples will do audit randomly to see departmental library books.
- Central library arranges books exhibitions usually at the starting of new academic year and ask for reference of new books.
- On requesting central library provides whichever book required.



# Standard operating procedure for Research lab:

- .One teacher is appointed in research lab to take care of all activities in research laboratory.
- One separate attendant is there to take care of cleaning and one technician to take care of all instruments present in lab.
- If any instrument not working properly found by technician and in charge teacher then it is reported to maintenance department through Head of department for its repairing.
- Timely as per need required chemicals list made by technician sent to purchase department through head of department, dean sir and central store incharge.

In Research lab along with other research histology slides are prepared and the procedure is as follows:

## **Tissue processing-**

- **Collection of tissue**

1. Tissue for slide preparation is obtained, usually collected from mutton shops. It should be freshly cut without any chemical process. Can be taken from Guinea pigs, rats or dogs if available.
2. Fixation of tissue in **formalin 10% for 48 hrs.**
3. Wash the tissue in running water for 15 min.

- **Dehydration stage**

4. Put the tissue in **70% alcohol** for 1 hour.
5. Transfer the tissue in **80% and then 90% alcohol** for 1 hour each.

6. Then transfer the tissue to absolute alcohol I for 1 hr and absolute alcohol II for 1 hr each.

- **Dealcoholisation /cleaning**

7. Transfer then to Xylene I for 1 & 1/2 hour and Xylene II for 1 &1/2 hour each.

- **Embedding the tissue**

8. Now put in the paraffin wax bath for 1 hour and shift to another wax bath for 1 hour again.

- **Paraffin block making**

9. Paraffin blocks are prepared with L moulds.
10. Blocks are dried and then cut on microtome in sections (5-6u).
11. Cut sections are put in hot water bath and sections are taken on slide, dried and taken for staining.

- **Haematoxylin & Eosin Staining**

1. Put the dried slide in Xylene solution I for 2 minute and then to Xylene solution II for 2 min.
2. Then the slide is shifted to absolute alcohol I for 2 min and absolute alcohol II for 2 min.
3. Slide is put in 90% alcohol, 80% alcohol and 70% alcohol each for 2 min each.
4. Slide is now washed under running water and now it is ready for staining.
5. Slide is inserted in haematoxylin stain for 5-6 minutes.
6. Put the slide in acid alcohol (just deep and take out).
7. Wash the slide under running water for 5 minutes to remove excess stain.

8. Slide is now inserted in eosin stain for 1-2 minutes.
9. Shift the slide from 70%, 80% and 90% alcohol for 2 min each.
10. Then again to absolute alcohol I and II for 2 min each.
11. Transfer to Xylene I and II for 2 min each for clearing.
12. Now the slide is ready for mounting.
13. Mount the slide with DPX mount and put coverslip without creating bubbles.
14. Now the slide is ready for visualization under microscope.