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AL-AZHAR DENTAL COLLEGE

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2.3.2. Institution facilitates the use of clinical skill laboratory/ simulation based learning

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CERTIFICATE OF THE HEAD OF INSTITUTION



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DR. HARVEY THOMAS M.D.S.

PRINCIPAL

TO WHOMSOEVER IT MAY CONCERN

This is to certify that, Student-centric methods are used for enhancing learning experiences by Experiential learning / Integrated/interdisciplinary learning/ Participatory learning / Problem solving methodologies / Self-directed learning / Patient-centric and Evidence-Based Learning / Learning in the Humanities / Project-based learning / Role play details are mentioned.

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REPORT ON TRAINING PROGRAMMES IN CLINICAL SKILL LAB/SIMULATOR CENTRE



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REPORT ON TRAINING PROGRAMMES

DENTAL MATERIALS CLINICAL SKILL LAB OR SIMULATOR CENTRE

a) INTRODUCTION:

The science of Dental Material has undergone tremendous changes over the years. Continued research has led to new material systems and changing concepts in the dental field. Interlinked with various specialized branches of chemistry, practically all engineering applied sciences and biological characteristics, the science of dental material emerged as basic sciences in itself with its own values and principles.

b) AIMS:

Aim of the course is to present basic chemical and physical properties of Dental materials as they are related to its manipulation to give a sound educational background so that the practice of the dentistry emerged from art to empirical status of science as more information through further research becomes available. It is also the aim of the course of Dental materials to provide with certain criteria of selection and which will enable to discriminate between facts and propaganda with regards to claims of manufactures.

c) OBJECTIVES:

To understand the evolution and development of science of dental materials. Impart knowledge of physical and chemical properties and advantages and disadvantages of various materials used in dentistry. Acquire knowledge of biomechanical requirements of particular restorative material and its application & limitations. Laying down standards or specifications of various materials to guide to manufacturers as well as to help professionals. Search for newer and better materials which may answer our requirements with greater satisfaction. To understand and evaluate the claims made by manufactures of dental materials. At the end of the course the student should have the knowledge about the composition, properties, manipulative techniques and their various commercial names. The student should also acquire skills to select and use the material appropriately for laboratory and clinical use.

d) NEED FOR THE COURSE:

The profession has to raise from an art to a science, the need for the dentist to possess adequate knowledge of materials to exercises his best through knowledge of properties of different types of materials. There is growing concern of health hazards due to mercury

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toxicity, inhalation of certain vapors or dust materials, irritations and allergic reaction to skin due to contact of materials. The Dentist must acquire wider knowledge of physical, chemical and biological properties of the various materials used in the mouth because they may cause irritation of oral tissues. pH of some of the restorative materials causes inflammation and necrosis of pulp which is a concern and the patient should be protected from these. Certain criteria of selection are provided that will enable the dentist to discriminate between facts and propaganda which will make a material biologically acceptable.

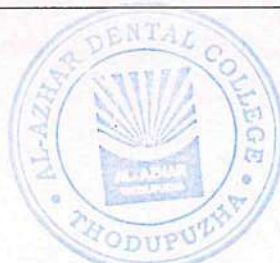
e) SCOPE:

Dental materials are employed in mechanical procedures including restorative dentistry such as Prosthodontics, Endodontics, Periodontics and Orthodontics. There is scarcely a dental procedure that does not make use of dental materials in one form or another and therefore the application of dental material is not limited to any one branch of dentistry. Branches such as minor surgery and Periodontics require less use of materials but the physical and chemical characters of materials are important in these fields. The toxic and tissue reaction of dental materials and their durability in the oral cavity where the temperature is between 32 & 37 degree centigrade, and the ingestion of hot or cold food ranges from 0-70 degree centigrade. The acid an alkalinity of fluids shown pH varies from 4 to 8.5. The load on 1 sq. mm of tooth or restorative materials can reach to a level as high as many kilograms. Thus the biological properties of dental materials cannot be separated from their physical and chemical properties.

Exercises to be done by each student:

SI No	Exercise
1.	Impression material Manipulation, making impressions, identify setting time and defects. (Comparative studies included).
2.	Gypsum Products Manipulation pouring impressions-identify setting time and working time and relation of working time with reference to proportion of water, change in temperature and spatulation time
3.	Self-cure and heat cure acrylic resin-manipulation and curing.
4.	Cements-manipulation and studying setting time and working time for luting, base and restoration.
5.	Silver Amalgam-manipulation, trituration, condensation and studying setting and working time.

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REPORT ON TRAINING PROGRAMMES

CONSERVATIVE CLINICAL SKILL LAB OR SIMULATOR CENTRE

INTRODUCTION

a) OBJECTIVES

i. Knowledge and Under Standing:

The graduate should acquire the following knowledge during the period of training,

1. To diagnose and treat simple restorative work for teeth.
2. To gain knowledge about aesthetic restorative material and to translate same to patient needs.
3. To gain the knowledge about endodontic treatment on the basis of scientific foundation.
4. To carry out simple endodontic treatment.
5. To carry out simple luxation of tooth as its treatment and to provide emergency endodontic treatment.

ii. SKILLS:

He should attain following skills necessary for practice of dentistry

1. To use high and medium speed hand pieces to carry out restorative work.
2. Posses the skill to use and familiarize endodontic instruments and materials needed for carrying out simple endodontic treatment.
3. To achieve skills to translate patients esthetic needs along with function.

iii. ATTITUDES:

1. Maintain a high standard of professional ethics and conduct and apply all these in all aspects of professional life.
2. Willingness to participate in CDE programme to update knowledge and professional skill from time to time.
3. To help and participate in implementation of national oral health policy.
4. He should be able to motivate the patient for proper dental treatment and maintenance of oral hygiene should be emphasise which will help to maintain the restorative work and prevent future damage.

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Exercises to be done by each Student:

Sl No.	Practical Exercise												
1.	Identification and study of hand cutting instruments chisels, gingival margin trimmers, excavators and hatchet.												
2.	Identification and use of rotary cutting instruments in contra angle hand pieces burs (Micromotor)												
3.	Preparation of class I and class II MOD'S class V amounting to 10 exercises in plaster models												
4.	Exercises on phantom head models(Typhodonts) which includes tooth preparation, base and varnish application, matrix and wedge placement followed by amalgam restoration												
	<table> <tr> <td>Class I</td> <td>5</td> </tr> <tr> <td>Class I with extension</td> <td>2</td> </tr> <tr> <td>Class II</td> <td>10</td> </tr> <tr> <td>Class II MODS</td> <td>2</td> </tr> <tr> <td>Class V and III for glass ionomer</td> <td>4</td> </tr> <tr> <td>Class V for amalgam</td> <td>2</td> </tr> </table>	Class I	5	Class I with extension	2	Class II	10	Class II MODS	2	Class V and III for glass ionomer	4	Class V for amalgam	2
Class I	5												
Class I with extension	2												
Class II	10												
Class II MODS	2												
Class V and III for glass ionomer	4												
Class V for amalgam	2												
5.	10 exercises on mounted extracted teeth. Tooth preparation, base application, matrix and wedge placement, and restoration with amalgam												
	<table> <tr> <td>Class I</td> <td>2</td> </tr> <tr> <td>Class I with extension</td> <td>2</td> </tr> <tr> <td>Class II</td> <td>4</td> </tr> <tr> <td>Class V</td> <td>2</td> </tr> </table>	Class I	2	Class I with extension	2	Class II	4	Class V	2				
Class I	2												
Class I with extension	2												
Class II	4												
Class V	2												
6.	Management of deep caries a) Pulp capping : Direct/ indirect on extracted teeth												
7.	Demonstration of Light cure composite and Glass ionomer Restorations												
8.	Cast Restoration – Inlay preparation: Class I 1 To prepare Wax patterns Class II 2+1 MOD To Prepare Wax patterns Class V 1 (posterior)												

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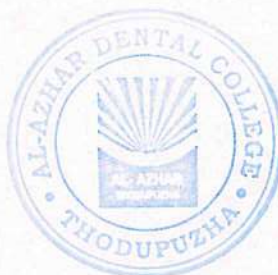
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9.	Pulpotomy on extracted posterior teeth
10.	Endodontic exercises. Root canal access preparation on upper extracted central incisor, Determination of working length Demonstration of instrumentation and Obturation of root canal space. Restoration of access preparation


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REPORT ON TRAINING PROGRAMMES

ORTHODONTICS CLINICAL SKILL LAB OR SIMULATOR CENTRE

INTRODUCTION

a) SCHEME OF STUDY

The undergraduate study of orthodontics spans over second year, third year and fourth year. In second year the emphasis is given for basic and preclinical wire bending exercises and appliance fabrication

b) AN OUTLINE OF THE COURSE CONTENT

Preclinical basic wire bending exercises enable the candidate to get accustomed with the orthodontic wire, learn the basic skills of wire bending, learn how to construct various components of removable appliances and to acrylicise various removable appliances.

c) OBJECTIVES:

- Enhance theoretical knowledge and clinical skills
- Develop a comprehensive curriculum that covers the fundamental concepts and principles of orthodontics.
- Provide dental students with a strong foundation in the diagnosis, treatment planning, and management of orthodontic cases
- Facilitate hands-on training and practical experiences to improve clinical skills, including orthodontic appliance fabrication and placement.
- Foster a culture of continuous learning through regular seminars, workshops, and case discussions to stay updated with the latest advancements in orthodontics.

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d) SKILLS

- **Diagnosis and Treatment Planning:** Ability to accurately diagnose orthodontic cases, analyze patient records, and formulate effective treatment plans.
- **Clinical Skills:** Proficiency in performing orthodontic procedures, such as orthodontic appliance placement, adjustments, and removal, as well as the ability to manage common orthodontic emergencies.
- **Orthodontic Appliance Fabrication:** Competence in fabricating and modifying orthodontic appliances, including fixed braces, removable appliances, and functional appliances.
- **Cephalometric Analysis:** Proficiency in interpreting cephalometric radiographs and applying cephalometric analysis techniques to assess craniofacial growth and treatment outcomes.
- **Oral Health Examination:** Ability to conduct a comprehensive oral health examination, including assessing malocclusions, occlusion relationships, and skeletal discrepancies.
- **Research and Evidence-Based Practice:** Understanding of research methodologies, ability to critically evaluate scientific literature, and utilization of evidence-based practices in orthodontic treatment planning and decision-making.

Exercises to be done by each Student:

Sl No.	TOPIC
1)	Basic wire bending exercises Straightening of wire Equilateral triangle Square Rectangle Circle U-V
2)	Pre clinical wire bending exercises (Mandatory) <ul style="list-style-type: none">• C - clasp• Full clasp• Triangular clasp• Adams clasp

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	<ul style="list-style-type: none">• Finger spring• Double cantilever• Coffin spring• Short labial bow• Long labial bow• Split labial bow• Spring• U loop buccal canine retractor• Helical canine retractor• Self supported canine retractor <p>Pre clinical wire bending exercises (Desirable)</p> <ul style="list-style-type: none">• Palatal canine retractor• T spring• Reverse labial bow• Roberts retractor
	<p>Appliance fabrication Hawley's appliance any one of the habit breaking appliance</p> <ol style="list-style-type: none">a. Tongue guard applianceb. Oral screen <p>Desirable appliances</p> <ol style="list-style-type: none">a) Hawley' s appliance with Anterior bite planeb) Hawley 's appliance with PBP and z springc) Catalans applianced) Expansion appliance

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REPORT ON TRAINING PROGRAMMES

PROSTHODONTICS AND CROWN & BRIDGE CLINICAL SKILL LAB OR SIMULATOR CENTRE

INTRODUCTION


Primary Aim:

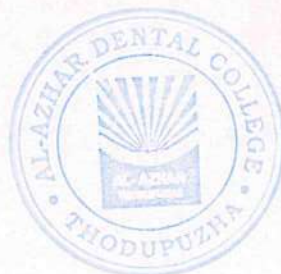
The aim of Prosthodontic curriculum is to enable students to manage prosthodontic patients with minimal supervision. As such, students are expected to develop the necessary core skills for gathering diagnostic information, developing a sequential treatment plan, and performing basic prosthodontic procedures by using sound clinical judgments. The Prosthodontics curriculum is organized to provide an overview of Removable Prosthodontics (complete and partially edentulous patients), Fixed Prosthodontics. It also includes an integrated introductory course in Implant Dentistry. This course is a continuum of the ongoing Prosthodontic series of courses, extending from the Pre-clinical through the clinical experience. Each lecture will be structured to provide a review of the basic fundamentals of the lecture topic, a discussion of

the application of these fundamentals to patient treatment, and an update on the latest technological advances/treatment modalities.

Main objectives:

- Upon completion of Prosthodontic courses, students are expected to develop following competencies:
- To conduct a structured interview with the patient (and/or patient companies) to define patients' chief
- complaints and needs.
- To take a complete medical and dental history.
- To perform extraoral and intraoral examination
- To fill the patient's record in details.
- To formulate a sequential treatment plan.


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Exercises to be done by each Student:

Sl. No.	Practical Exercise
1)	Impression and Model Preparation
2)	Preparation of special trays in shellac base plates - trimmed margin. Maxillary & Mandibular
3)	Special tray in self cured acrylic resin. Maxillary & Mandibular
4)	Preparation of heat cured acrylic permanent bases. Maxillary & Mandibular
5)	Preparation of Self cured acrylic temporary bases Maxillary & Mandibular
6)	Preparation of occlusion rims
7)	Articulating the model in Mean value articulator
8)	Teeth arrangement in Mean value articulator (Class I) - 5 Numbers
9)	Processing trial denture in heat cured acrylic- 1
10)	Repair of fractured Denture
11)	Fabrication of heat cured acrylic Partial Dentures - (Kennedy class I, class II, class III & class IV)
12)	Surveying a Model (Demo Only)
13)	Preparation of wax pattern on models for cast RPD (Kennedy class I & class II,)
14)	Preparation of wax pattern on models for cast RPD (Kennedy class III & class IV,)demo only
15)	Preparation of Obturators
16)	Preparation of Full Crowns on Large sized teeth-Anterior all ceramic and Posterior PFM
17)	Preparation of full crowns on Typhodont Anterior Teeth on phantom head

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REPORT ON TRAINING PROGRAMMES

HUMAN ANATOMY BASED CLINICAL SKILL LAB OR SIMULATOR CENTRE

a. GOAL

The students should gain the knowledge and insight into, the functional anatomy of the normal human head and neck, functional histology and an appreciation of the genetics basis of inheritance and disease, and the embryological development of clinically important structures. So that relevant anatomical and scientific foundations are laid down for the clinical years of the BDS course.

b. OBJECTIVES

i) Knowledge and Understanding

At the end of the 1st year BDS course in Anatomical Sciences the undergraduate student is expected to:

(1) Know the normal disposition of the structures in the body while clinically examining a patient and while conducting clinical procedures.

(2) Know the anatomical basis of disease and injury.

(3) Know the microscopic structures of the various tissues, a pre- requisite for understanding of the disease processes.

(4) Know the nervous system to locate the site of lesions according to the sensory and or motor deficits encountered.

(5) Have an idea about the basis of abnormal development, critical stages of development, effects of teratogens, genetic mutation and environmental hazards.

(6) Know the sectional anatomy of head neck and brain to read the features in radiographs and pictures taken by modern imaging techniques.

(7) Know the anatomy of cardio- pulmonary resuscitation.

ii) Skills

1. To locate various structures of the body and to mark the topography of the living anatomy.

2. To identify various tissues under microscope.

3. To identify the features in radiographs and modern imaging techniques.

4. To detect various congenital anomalies.

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C. INTEGRATION

By emphasizing on the relevant information and avoiding unwanted details, the anatomy taught integrally with the other basic sciences and clinical subjects not only keeps the curiosity alive in the learner but also lays down the scientific foundation for making a better doctor, a benefit to the society.

This insight is gained in a variety of ways:

- i. Lectures and small group teaching
- ii. Demonstrations
- iii. Dissection of the human cadaver
- iv. Study of dissected specimens
- v. Osteology
- vi. Surface anatomy on living individual
- vii. Study of radiographs & other modern imaging techniques
- viii. Study of histology slides
- ix. Study of embryology models
- x. Audio- visual aids

Throughout the course, particular emphasis is placed on the functional correlation, clinical application & on integration with teaching in other bio dental disciplines.

D) AN OUTLINE OF THE COURSE CONTENT:

General anatomy: Introduction of anatomical terms and brief outline of various systems of the body.

- i. Regional anatomy of head & neck with Osteology of bones of head & neck, with emphasis on topics of dental importance.
- ii. General disposition of thoracic, abdominal & pelvic organs.
- iii. The regional anatomy of the sites of intramuscular & intravascular injections, & lumbar puncture.
- iv. General embryology & systemic embryology with respect to development of head & neck.
- v. Histology of basic tissues and of the organs of gastrointestinal, respiratory, endocrine, excretory systems and gonads.
- vi. Medical genetics.

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Exercises to be done by each Student:

1. Simple epithelium
2. Compound epithelium
3. Glandular epithelium
4. Connective tissue
5. Cartilage
6. Bone
7. Muscle
8. Neuron – Optic Nerve - Peripheral Nerve
9. Ganglia
10. Blood vessels
11. Lymphatic tissue – Lymph node, - Spleen, - Thymus, - Tonsil
12. Skin – Thin skin, Thick skin
13. Placenta & Umbilical cord
14. Trachea & lung
15. Spinal cord, Cerebellum, Cerebrum
16. Cornea & Retina
17. Thyroid & Parathyroid gland
18. Suprarenal & Pituitary glands
19. Kidney, Ureter, Urinary bladder
20. Ovary, Corpus luteum, Testis
21. Tongue – filiform, fungiform, circumvallate papillae
22. Salivary glands – Mucous – Serious – Mixed
23. Liver, Pancreas

PRE-CLINICAL EXERCISES OF DISSECTION PROCEDURES

24. Introduction to dissection
25. Scalp
26. Superficial dissection of face – muscles of face
27. Side of the neck & Posterior triangle
28. Back of the neck – suboccipital triangle
29. Anterior triangle
30. Deep dissection of the neck – Thyroid gland parathyroid gland trachea, oesophagus, Brachiocephalic trunk, Subclavian artery Bracheiocephalic vein Thoracic duct. Cervical pleura Neurovascular bundle of the neck,


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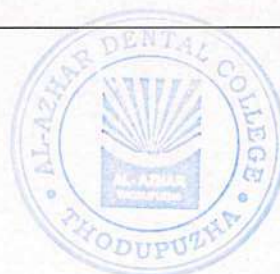
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Sympathetic chain, Scalene muscles; Cervical fascia
31. Lymph nodes & lymph vessels of head & neck
32. Prevertebral region – Vertebral artery – Vertebral vein
33. Deep dissection of face – Facial artery – Other vessels -
Nerves
34. Structures in the cheek & lips
35. Eyelid & lacrimal apparatus
36. Parotid region
37. Cranial cavity –meninges Dural folds, Venous sinuses
38. Anterior cranial fossa
39. Middle cranial fossa – Pituitary gland
40. Posterior cranial fossa
41. Orbit – structures in the orbit
42. Temporal and infratemporal regions
43. Submandibular region
44. Mouth and pharynx
45. Soft palate and Auditory tube
46. Cavity of the nose
47. Larynx
48. Tongue
49. Organs of hearing & equilibrium – External ear – Middle ear – Internal ear
50. Eye ball
51. Joints of the neck
52. Spinal Cord
53. Introduction to brain
54. Meninges of brain
55. Blood vessels of brain
56. Base of brain
57. Hind brain –Medulla
58. Hind brain – Pons
59. Hind brain – Cerebellum
60. 4th ventricle
61. Midbrain
62. Cerebral hemispheres


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63. White matter of cerebrum

64. 3rd ventricle

65. Lateral ventricle

66. Thalami – Optic tract

67. Deep dissection of cerebral hemisphere & Internal capsule

68. Deep nuclei and connections of thalamus

PRE-CLINICAL EXERCISES BASED ON DEMONSTRATION OF SPECIMENS:

69. Thoracic wall, Pericardium, Coronary Arteries

70. Lungs

- Pleural cavity
- Diaphragm

71. Abdomen

- Peritoneal cavity
- Organs in abdominal & pelvic cavities

TRAINING BASED ON CLINICAL PROCEDURES:

72. Intramuscular injections:

- Deltoid muscle
- Gluteal region
- Quadriceps femoris


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Thodupuzha - 685 605





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AL-AZHAR DENTAL COLLEGE

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73. Intravenous injections:

- Median cubital vein
- Cephalic vein
- Basilic vein
- Long saphenous vein
- Short saphenous vein

74. Arterial pulsations:

- Superficial temporal
- Facial
- Carotid
- Brachial

- 57
- Radial
 - Femoral
 - Dorsalis pedis
 - Lumbar puncture

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REPORT ON TRAINING PROGRAMMES

HUMAN PHYSIOLOGY BASED CLINICAL SKILL LAB OR SIMULATOR CENTRE

1) GOAL

The broad goal of the teaching undergraduate students in Physiology aims at providing the student comprehensive knowledge of the normal functions of the organ systems of the body to facilitate an understanding of the physiological basis of health and disease.

2) OBJECTIVES

i. Knowledge

At the end of the course, the student will be able to:

1. Explain the normal functioning of all the organ systems and their interactions for well co-ordinated total body function.
2. Assess the relative contribution of each organ system towards the maintenance of the milieu interior.
3. List the physiological principles underlying the pathogenesis and treatment of disease.

ii. SKILLS

At the end of the course, the student shall be able to:

- 1) Conduct experiments designed for the study of physiological phenomena.
- 2) Interpret experimental and investigate data.
Distinguish between normal and abnormal data derived as a result of tests which he/ she has performed and observed in the laboratory.

iii. Integration

At the end of the integrated teaching the student shall acquire an integrated knowledge of organ structure and function and its regulatory mechanisms.

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Exercises to be done by each student:

Training Programmes Exercises conducted in Human Physiology based Clinical Skill Lab or Simulator Centre:

1. Introduction to lab procedures
2. Normal & abnormal constituents of urine
3. Introduction to clinical chemistry
4. Estimation of blood urea
5. Estimation of serum protein
6. Estimation of blood sugar
7. Estimation of serum creatinine
8. Estimation of serum albumin

Demonstration of various Biochemistry based Analysis:

1. Electrophoresis
2. Chromatography
3. GTT charts
4. LFT charts

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REPORT ON TRAINING PROGRAMMES

GENERAL PATHOLOGY BASED CLINICAL SKILL LAB OR SIMULATOR CENTRE

A) AIM:

At the end of the course the student should be competent to: Apply the scientific study of disease processes, which result in morphological and functional alterations in cells, tissues and organs to study of pathology and the practice of dentistry.

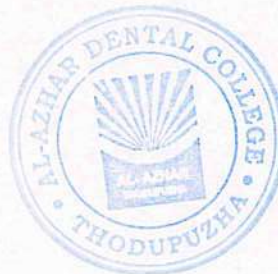
B) OBJECTIVES:

Enabling the student

1. To demonstrate and analyze pathological changes macroscopically explain their observations in terms of disease processes.
2. To integrate knowledge from the basic sciences, clinical medicine and dentistry in the study of Pathology.
3. To demonstrate understanding of the capabilities and limitation of morphological pathology in its contribution to medicine, dentistry and biological research.
4. To demonstrate ability to consult resource materials outside lectures, laboratory and tutorial classes.



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Exercises to be done by each Student:

a) Anti coagulants, Blood indices

b) PCV & ESR

c) Demonstration of armamentarium and it's uses:

(i) Neubauer's Counting chamber

(ii) Haemoglobinometer

(iii) W.B.C Pipette

(iv) Wintrobe Tube

(v) Urinometer

d) Cytologic Techniques- FNAC and buccal smear

e) Study of anaemias- Microcytic, Macrocytic and Dimorphic blood picture

f) Study of Acute leukemias- Any one type

g) Study of Chronic Leukemias- Any one type

(2) Histopathology Slides & Specimens: 20 Hours

a) Tissue Processing, Staining

b) Histopathology Slide Demonstration

(i) Acute appendicitis,

(ii) Granulation tissue,

(iii) Fatty liver

(iv) CVC lung, CVC liver, CVC spleen

(v) Kidney amyloidosis

(vi) Tuberculosis,

(vii) Actinomycosis,

(viii) Rhinosporidiosis

(ix) Squamous cell papilloma,

(x) Transitional cell papilloma,

(xi) Pleomorphic adenoma


(xii) Basal cell carcinomas

(xiii) Squamous cell carcinoma

(xiv) Osteosarcoma,

(xv) Osteoclastoma,

(xvi) Fibrosarcoma


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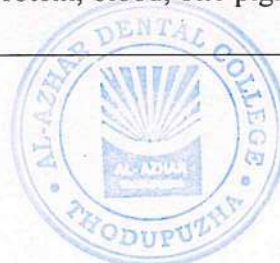
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(xvii) Malignant melanoma,
(xviii) Ameloblastoma,
(xix) Adenocarcinoma
(xx) Pleomorphic adenoma
(xxi) Metastatic carcinoma in lymph node
(xxii) Capillary and cavernous haemangioma
(xxiii) Fibroma
(xxiv) Neurofibroma
(xxv) Lipoma
(xxvi) Osteoma, chondroma
c) Specimen discussion and demonstration
(i) Acute Appendicitis.
(ii) Tuberculosis Lymphnode.
(iii) Fatty liver.
(iv) Infarction spleen.
(v) Chronic Venous Congestion (C.V.C.) Liver
(vi) Squamous papilloma
(vii) Basal cell carcinoma
(viii) Lipoma
(ix) Squamous cell carcinoma
(x) Malignant Melanoma
(xi) Adenocarcinoma
(xii) Osteosarcoma
(xiii) Osteoclastoma.
(xiv) Gangrene.
(3) Various Clinical based Procedures conducted:
(i) Determination of Haemoglobin percentage
(ii) Blood grouping.
(iii) Total Leukocytecount
(iv) Bleeding time , Clotting time
(v) Peripheral blood smear staining and study
(vi) Differential leukocyte count.
(vii) Urine examination- for sugar, ketone bodies, protein, blood, bile pigments and bile salts- any one standard test

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REPORT ON TRAINING PROGRAMMES

GENERAL MICROBIOLOGY BASED CLINICAL SKILL LAB OR SIMULATOR CENTRE

Exercises to be done by each Student:

(1) Demonstrations:

- a) Morphological forms of microbes
- b) Different morphological forms of bacteria, viruses, fungi, parasites.
- c) Sterilization Methods – Specified techniques – their uses.
- d) Culture Media – transport media
- e) Special staining techniques, stained preparations – dark ground microscopy.
- f) Demonstration of bacteria in stained clinical material.
- g) Demonstration of viruses – Permanent preparations morphology, inclusion bodies.
- h) Demonstration of parasite – in blood smear – in stool – in urine.
- i) Demonstration of common fungi – candida – Dermatophytes.

(2) Pre-clinical Exercises performed individually

- a) Simple staining of bacteria
- b) Gram's staining – isolated bacteria – Clinical materials.
- c) Ziehl-Neelsen staining – prepared and fixed smears.
- d) Collection of materials for culture – pus, blood.

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(3) List of practical materials slides for demonstration:

- a) Staphylococcus
- b) Streptococcus
- c) Gonococcus
- d) Pneumococcus
- e) Mycobacterium Tuberculosis
- f) Mycobacterium leprae
- g) Anthrax
- h) Cl. Tetani
- i) Spirochaetes
- j) Gram Negative Bacilli
- k) Candida
- l) Actinomyces

(4) Slides for Practical Exercises:

a) Grams stains:

- (i) Staphylococci
- (ii) Gram negative bacilli
- (iii) Mixture of any two organisms
- (iv) Gram stain of the oral cavity

b) Alberts stain-Kleb's Löffler's Bacilli(KLB) culture, slide

c) Ziehl-Neelson's stain -Sputum positive for AFB



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(5) Media for Demonstration:

Un-Inoculated Media:

- (i) Nutrient agar plate
- (ii) Blood agar plate
- (iii) Chocolate agar plate
- (iv) Macconkey agar plate
- (v) Glucosecitrate broth (Blood culture bottle)
- (vi) Lowenstein Johnson's Media slope
- (vii) Loefflers serum slope
- (viii) Sabourauds slope
- (ix) Milk agar plate
- (x) Robert Cooked Meat broth

Inoculated Media:

- (i) Nutrient agar with Staphylococci
- (ii) Blood Agar with Alpha Haemolytic Streptococci
- (iii) Blood Agar with Beta Haemolytic Streptococci
- (iv) Potassium Tellurite with growth of C.diphtheriae
- (v) Milk agar with staphylococci
- (vi) Antibiotic sensitivity plate



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REPORT ON TRAINING PROGRAMMES

GENERAL MICROBIOLOGY BASED CLINICAL SKILL LAB OR SIMULATOR CENTRE

Exercises to be done by each student:

1. Introduction-equipments used in dispensing pharmacy, prescription-parts and model prescription.
2. Demonstration of common dosage forms used in clinical practice
3. Mixtures-one example (Expectorant/Salicylate) of simple and diffusible (Bismuth Kaolin/chalk) mixtures.
4. Emulsion-Types and example (Liniment turpentine/Shark liver oil) of emulsion
5. Powders -Toothpowder
6. Mandl's paint/Gum paint percentage dilution-concept and calculations with suitable examples.
7. Mouthwashes-Alkaline, antiseptic, astringent
8. Toothpastes
9. Prescription writing for 15 general conditions commonly encountered in clinical practice. eg. Bronchial asthma, hypertension congestive heart failure, angina pectoris, peptic ulcer, bacillary dysentery, diabetes mellitus, diabetic coma, osteoarthritis, anaphylaxis, status asthmaticus, Status epilepticus, iron deficiency & pernicious anaemia
10. Dental prescriptions for about fifteen dental conditions commonly encountered in practice eg. Acute necrotising ulcerative gingivitis, acute herpetic gingivitis/stomatitis, acute gingival abscess, pericoronal abscess (impacted teeth), dental caries, aphthous ulcers, hypersensitive dentine, dentoalveolar abscess, xerostomia, acute toothache, post-operative pain, post extraction pain with swelling, oral candidiasis, acute tonsillitis/ pharyngitis, common cold, scurvy.

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DENTAL COUNCIL OF INDIA

BDS COURSE REGULATIONS 2007



DENTAL COUNCIL OF INDIA

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Uncomplicated extraction of teeth
 Transalveolar extractions and removal of simple impacted teeth
 Minor oral surgical procedures
 Management of Oro-facial infections
 Simple orthodontic appliance therapy
 Taking, processing and interpretation of various types of intra oral radiographs
 Various kinds of restorative procedures using different materials available
 Simple endodontic procedures
 Removable and fixed prosthodontics
 Various kinds of periodontal therapy

ORAL MEDICINE & RADIOLOGY

- Able to identify precancerous and cancerous lesions of the oral cavity and refer to the concerned speciality for their management
- Should have an adequate knowledge about common laboratory investigations and interpretation of their results.
- Should have adequate knowledge about medical complications that can arise while treating systemically compromised patients and take prior precautions/ consent from the concerned medical specialist.
- Have adequate knowledge about radiation health hazards, radiations safety and protection.
- Competent to take intra-oral radiographs and interpret the radiographic findings
- Gain adequate knowledge of various extra-oral radiographic procedures, TMJ radiography and sialography.
- Be aware of the importance of intra- and extra-oral radiographs in forensic identification and age estimation
- Should be familiar with jurisprudence, ethics and understand the significance of dental records with respect to law

PAEDIATRIC & PREVENTIVE DENTISTRY

- Able to instill a positive attitude and behaviour in children towards oral health and understand the principles of prevention and preventive dentistry right from birth to adolescence.
- Able to guide and counsel the parents in regards to various treatment modalities including different facets of preventive dentistry.
- Able to treat dental diseases occurring in child patient.
- Able to manage the physically and mentally challenged disabled children effectively and efficiently, tailored to the needs of individual requirement and conditions.

ORTHODONTICS & DENTOFACIAL ORTHOPAEDICS

- Understand about normal growth and development of facial skeleton and dentition.
- Pinpoint aberrations in growth process both dental and skeletal and plan necessary treatment
- Diagnose the various malocclusion categories
- Able to motivate and explain to the patient (and parent) about the necessity of treatment
- Plan and execute preventive orthodontics (space maintainers or space regainers)
- Plan and execute interceptive orthodontics (habit breaking appliances)
- Manage treatment of simple malocclusion such as anterior spacing using removable appliances
- Handle delivery and activation of removable orthodontic appliances
- Diagnose and appropriately refer patients with complex malocclusion to the specialist

PERIODONTOLOGY

- Diagnose the patients periodontal problem, plan and perform appropriate periodontal treatment
- Competent to educate and motivate the patient
- Competent to perform thorough oral prophylaxis, subgingival scaling, root planning and minor periodontal surgical procedures
- Give proper post treatment instructions and do periodic recall and evaluation
- Familiar with concepts of osseointegration and basic surgical aspects of implantology

PROSTHODONTICS AND CROWN & BRIDGE

- Able to understand and use various dental materials
- Competent to carry out treatment of conventional complete and partial removable dentures and fabricate fixed partial dentures
- Able to carry out treatment of routine prosthodontic procedures.
- Familiar with the concept of osseointegration and the value of implant-supported Prosthodontic procedures

CONSERVATIVE DENTISTRY AND ENDODONTICS

- Competent to diagnose all carious lesions
- Competent to perform Class I and Class II cavities and their restoration with amalgam
- Restore class V and Class III cavities with glass ionomer cement
- Able to diagnose and appropriately treat pulpally involved teeth (pulp capping procedures)
- Able to perform RCT for anterior teeth
- Competent to carry out small composite restorations
- Understand the principles of aesthetic dental procedures

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