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Fax: 04862 229586

# AL-AZHAR DENTAL COLLEGE

(APPROVED BY DENTAL COUNCIL OF INDIA & AFFILIATED TO KUHS)

RUN BY NOORUL ISLAM TRUST

PERUMPILLICHIRA P. O., THODUPUZHA, IDUKKI DIST., KERALA- 685 605

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

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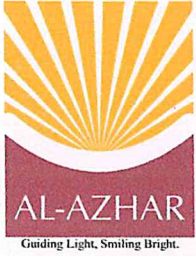
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Prof. Dr. Harvey Thomas MDS  
Principal  
Al-Azhar Dental College  
Thodupuzha - 685 605

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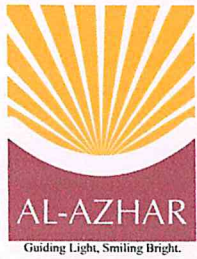
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**CERTIFICATE OF THE HEAD OF INSTITUTION**





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**DR. HARVEY THOMAS M.D.S.**

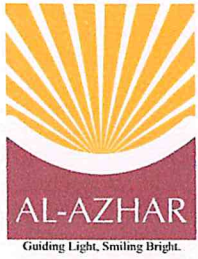
**PRINCIPAL**

## 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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Thodupuzha -685 605





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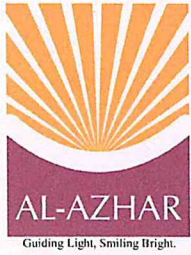
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**PROOF OF PATIENT SIMULATORS FOR  
SIMULATION-BASED TRAINING**





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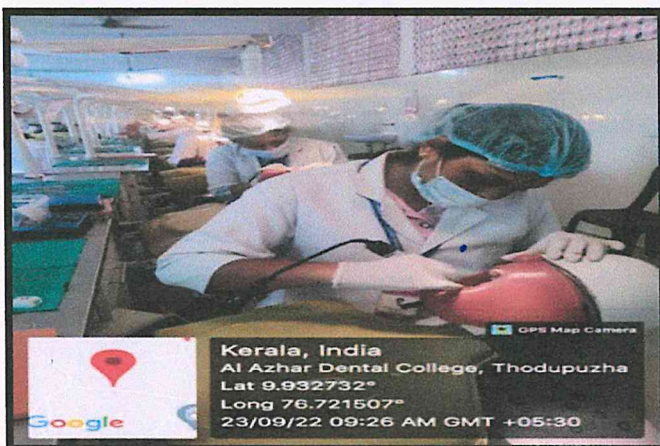
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## DEPARTMENT OF PROSTHODONTICS

### BASIC SKILLS

#### Tooth preparation in Phantom Head Lab:



**TOOTH PREPARATION EXERCISES DONE IN PHANTOM HEAD**



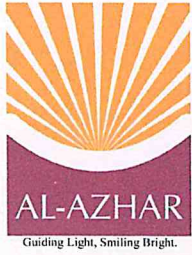
**TOOTH PREPARATION DONE IN NATURAL MOUNTED TOOTH**

Tooth preparation exercises are an essential component of dental education, particularly within the Department of Prosthodontics. These exercises are designed to provide dental students with hands-on experience in preparing teeth for various restorative procedures, such as crowns, bridges, and veneers. The primary objective of tooth preparation exercises is to teach students the proper techniques for removing diseased or damaged tooth structure while preserving as much healthy tooth as possible. This involves understanding the principles of tooth morphology, occlusion, and esthetics to ensure the longevity and functionality of the final restoration. During these exercises, dental students learn to analyze and assess the condition of a patient's teeth, formulate a treatment plan, and execute the necessary tooth preparation steps. They acquire skills in using hand instruments, rotary instruments (such as high-speed and low-speed hand pieces), and various dental materials, including dental burs, abrasives, and impression materials. Students also learn the importance of maintaining proper isolation and moisture control during tooth preparation, as well as the significance of proper ergonomics to ensure patient comfort and reduce the risk of musculoskeletal disorders for the dentist.



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Tooth preparation exercises often involve a combination of didactic lectures, demonstrations, and hands-on practice. Students work closely with experienced faculty members who provide guidance, feedback, and evaluation throughout the process. Simulation models and typhodonts (artificial teeth mounted on models) are commonly used to simulate clinical scenarios and allow students to refine their skills before treating actual patients. These exercises not only focus on technical proficiency but also emphasize critical thinking, problem-solving, and communication skills necessary for effective patient management. They provide dental students with a solid foundation in restorative dentistry, enabling them to deliver high-quality dental care to their patients in the future

## Fabrication of Complete denture/partial denture and RPD designing:



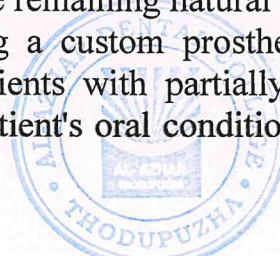
**STUDENTS DOING COMPLETE TEETH SETTING EXERCISES**



**DENTURE DESIGNING EXERCISES DONE BY STUDENTS**

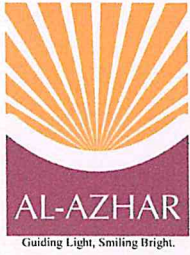
The fabrication of complete dentures and partial dentures, as well as the design of removable partial dentures (RPDs), are crucial aspects of prosthodontics. Complete denture fabrication involves the process of replacing an entire arch of missing teeth with a removable prosthesis. It requires precise impressions, jaw relationship records, and meticulous laboratory procedures to achieve optimal fit, function, and esthetics. Partial denture fabrication, on the other hand, involves designing and constructing a removable prosthesis that replaces one or more missing teeth while utilizing the remaining natural teeth for support and stability.

RPD designing focuses on creating a custom prosthesis that is aesthetically pleasing, functional, and comfortable for patients with partially edentulous arches. This process involves careful evaluation of the patient's oral condition, strategic placement of rests and



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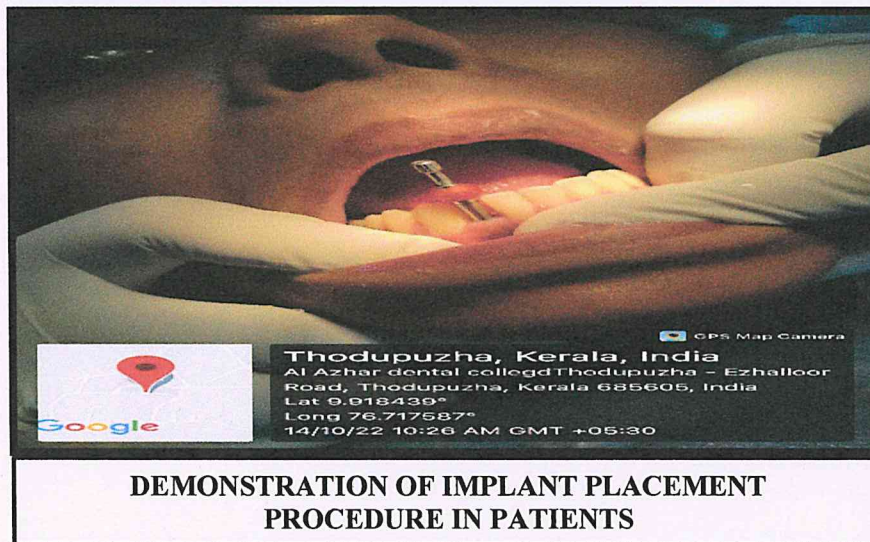
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clasps, and consideration of various factors, such as occlusion, anatomy, and patient preferences. The fabrication of complete dentures and the design of RPDs require a combination of technical expertise, artistic skills, and a comprehensive understanding of prosthodontic principles to deliver optimal patient outcomes.

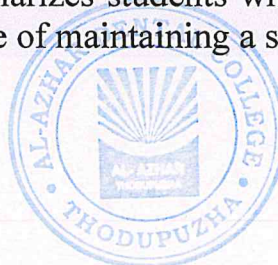
## ADVANCED SKILLS

### Model Implant Surgery and Guided Implants:



**DEMONSTRATION OF IMPLANT PLACEMENT  
PROCEDURE IN PATIENTS**

The demonstration of implant placement procedures in patients is a pivotal part of dental education, particularly for dental students interested in implant dentistry. These demonstrations aim to provide students with a firsthand experience of the surgical aspects involved in placing dental implants. Under the guidance of experienced faculty members, students observe and learn about various stages of the implant placement process, including treatment planning, implant selection, surgical site preparation, implant placement, and suturing techniques. These demonstrations allow students to understand the principles of implant surgery, such as assessing bone quality and quantity, achieving primary stability, and ensuring proper implant positioning for optimal functional and esthetic outcomes. Observing live procedures also familiarizes students with the use of surgical instruments, suturing materials, and the importance of maintaining a sterile environment.



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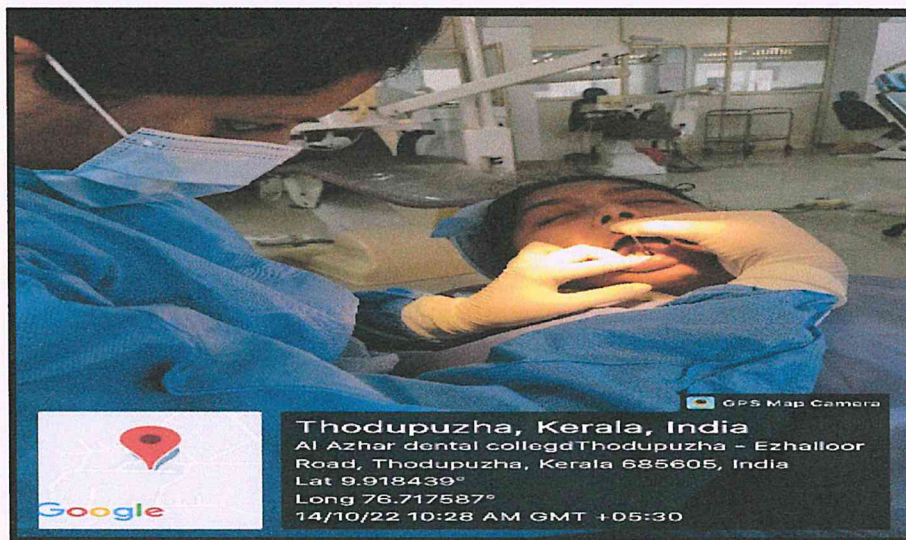
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By witnessing these demonstrations, dental students gain valuable insights into the complexities and nuances of implant placement, fostering their knowledge and confidence in providing implant-based treatment options to patients in the future.



**DEMONSTRATION OF GUIDED IMPLANT DONE IN PATIENTS**

Guided implant procedure demonstrations are an integral part of dental education, providing dental students with a comprehensive understanding of the advanced techniques used in implant dentistry. These demonstrations involve the utilization of computer-guided technology to plan and execute implant placements with precision and predictability. Through these demonstrations, students observe the step-by-step process of virtual treatment planning, including the analysis of cone-beam computed tomography (CBCT) scans, prosthetic considerations, and implant selection.

They witness the fabrication of surgical guides based on the digital treatment plan, which aid in accurate implant placement. The demonstrations also showcase the clinical aspects of guided implant surgery, including aseptic techniques, flap design, osteotomy preparation, and final implant insertion. By observing guided implant procedure demonstrations, dental students gain valuable insights into the advantages of this technology, such as improved accuracy, reduced surgical time, and enhanced patient outcomes. This exposure equips them with the knowledge and skills necessary to incorporate guided implant techniques into their future practice, offering patients the benefits of advanced implant dentistry.



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Thodupuzha - 685 605





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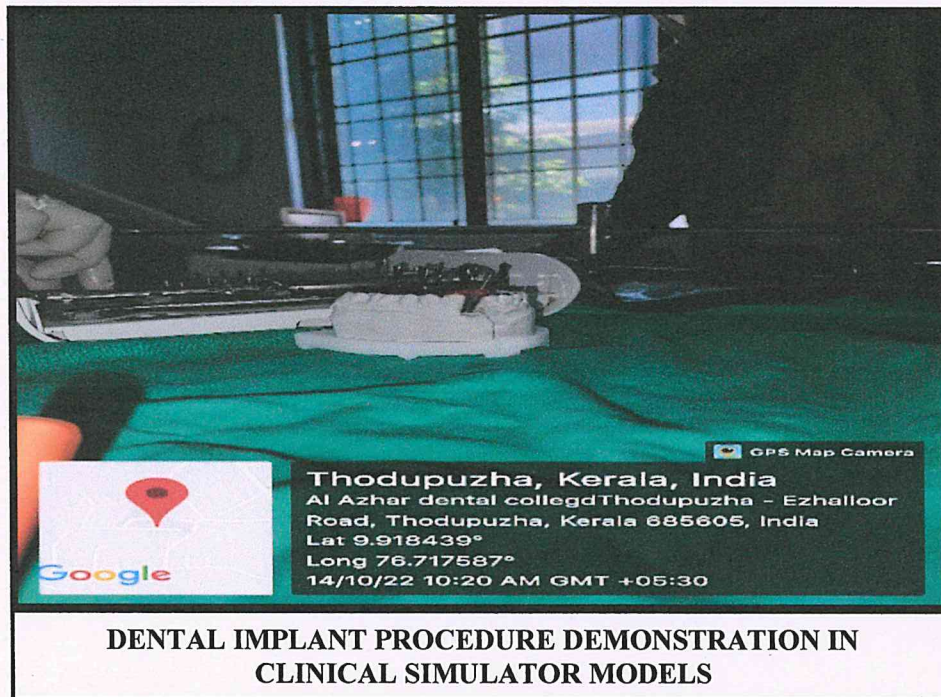
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## Demonstration of Dental Implants performed in Simulator Models:

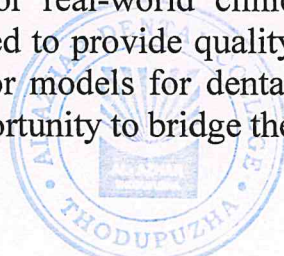


**DENTAL IMPLANT PROCEDURE DEMONSTRATION IN  
CLINICAL SIMULATOR MODELS**

Dental Implant procedure demonstration in clinical simulator models plays a crucial role in the education and training of dental students. These models provide an invaluable hands-on experience that allows students to develop the necessary skills and confidence before performing the procedure on real patients. By working with clinical simulator models, dental students can familiarize themselves with the implant placement techniques, understand the anatomical structures of the oral cavity, and practice using the required instruments.

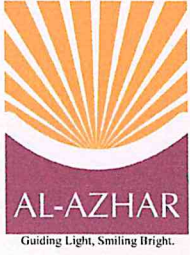
They can learn proper drilling techniques, implant positioning, and the subsequent steps involved in securing the implant. Moreover, these models allow students to simulate different clinical scenarios, enabling them to anticipate and manage potential complications that may arise during the procedure.

The use of clinical simulator models ensures a safe and controlled environment for students to refine their skills, receive feedback from instructors, and build the necessary dexterity and precision. Ultimately, the dental implant procedure demonstrations in clinical simulator models prepare dental students for real-world clinical settings, instilling in them the competence and confidence required to provide quality dental care to their future patients. The utilization of clinical simulator models for dental implant procedure demonstrations offers dental students a unique opportunity to bridge the gap between theoretical knowledge



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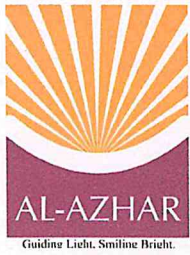
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and practical application. These models provide a realistic simulation of the oral environment, allowing students to practice various aspects of the implant procedure, such as incision techniques, bone preparation, and implant placement. By repeatedly performing these steps on clinical simulator models, students can refine their motor skills, develop a deep understanding of the procedure, and gain the necessary confidence to perform it successfully in a clinical setting. The hands-on experience gained through these demonstrations helps dental students to become proficient in dental implant procedures, ensuring their readiness to provide effective and safe treatment to their future patients.



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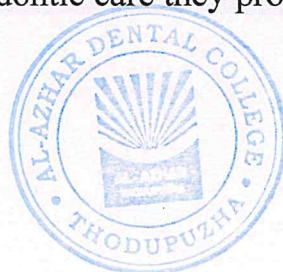
## DEPARTMENT OF CONSERVATIVE AND ENDODONTICS

### BASIC SKILLS

#### (a) Basic procedures in extracted teeth access opening:



The demonstration of the root canal treatment access procedure holds immense importance for dental students as it equips them with essential skills and knowledge required to effectively manage and treat dental pulp and periapical infections. Through this procedure, students learn the meticulous process of gaining access to the root canal system, locating and cleaning the infected pulp tissue, and shaping and filling the canals to prevent reinfection. This hands-on experience helps students understand the complex anatomy of the root canal system, develop proficiency in using specialized instruments, and master the techniques for irrigation and obturation. By mastering the root canal treatment access procedure, dental students are able to provide effective relief from pain and infection, preserve natural teeth, and contribute to the overall oral health and wellbeing of their patients. Furthermore, this demonstration plays a crucial role in instilling confidence in students, enabling them to perform root canal treatments with precision, efficiency, and successful outcomes, ultimately improving the quality of endodontic care they provide in their future dental practices.



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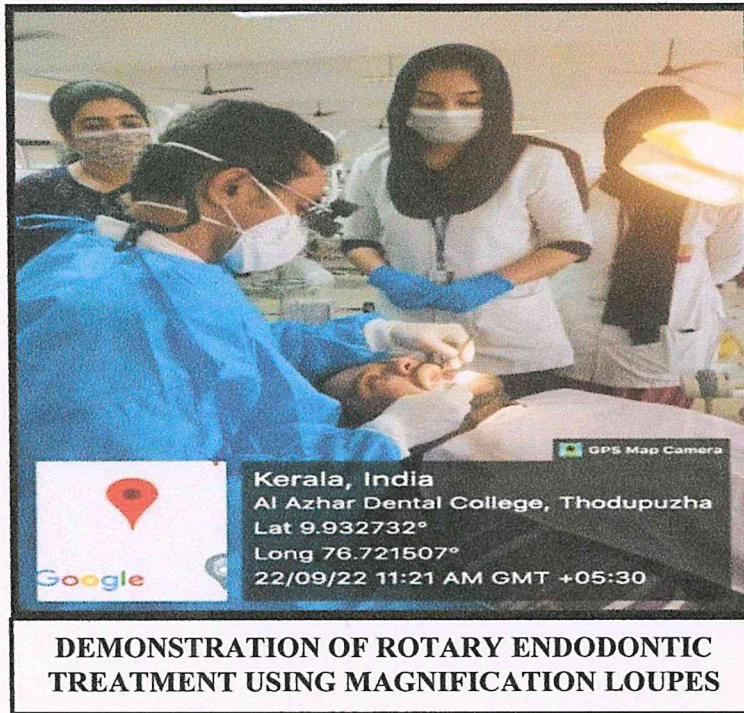
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## **(b) Magnification loupes:**



Use of magnification loupes in dentistry increased the potential to enhance the operator's visual acuity, enabling better diagnosis and treatment. Magnification increases the focal length in order to see small objects accurately, which in turn increases the working distance between the eye and the object allowing, extra-ocular muscles to remain more relaxed and a dentist to maintain normal posture.

## **(c) Contemporary Rotary Endodontics:**

The goal is to make participants proficient in contemporary rotary endodontics and to integrate the treatment protocols with confidence in their practice. To make the participants familiar with global standards of Endodontic practice. To Provide 'Pre-Clinical Training' To Refine Practical Skills and Achieve Competence in Modern Endodontic Concepts. To Provide In-Depth Evidence Based Core Knowledge Of The Concepts And Approach In Advanced And Complicated Endodontics.



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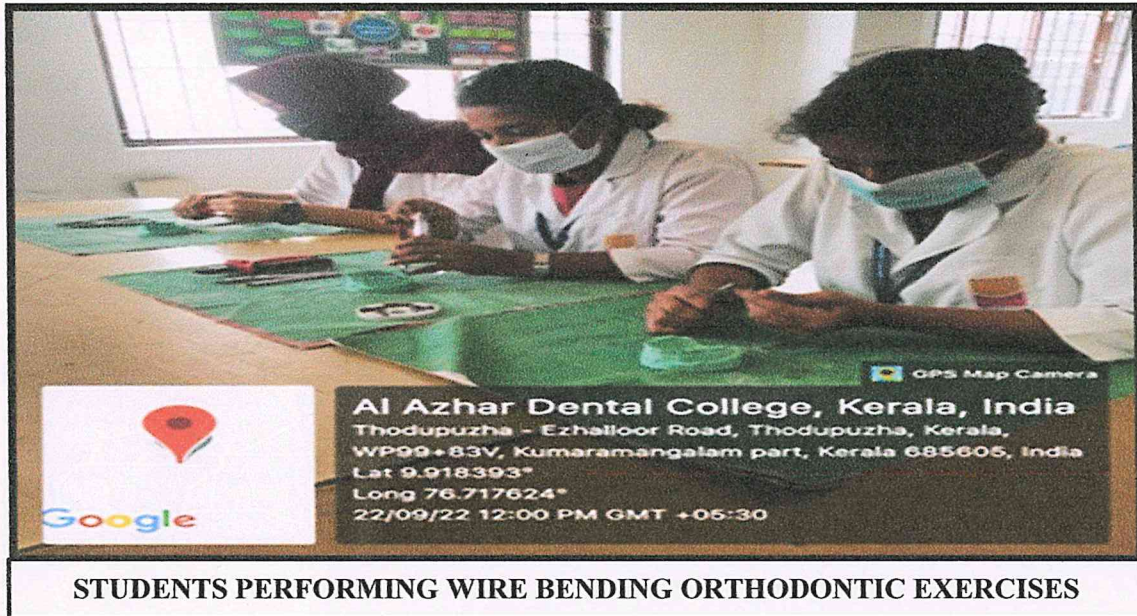
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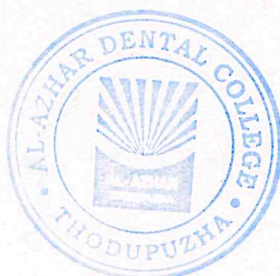
## DEPARTMENT OF ORTHODONTICS

### BASIC SKILLS

#### (A) Wire bending Exercises:



Wire bending exercises are crucial for dental students as they enhance manual dexterity skills required in orthodontic procedures. These exercises help students develop precise control over their hand movements, improving their ability to manipulate orthodontic wires accurately. Wire bending exercises also promote spatial awareness and hand-eye coordination, vital skills needed for successful orthodontic treatment planning and execution. By mastering wire bending techniques, dental students gain the confidence and proficiency necessary to deliver high-quality orthodontic care to their patients.



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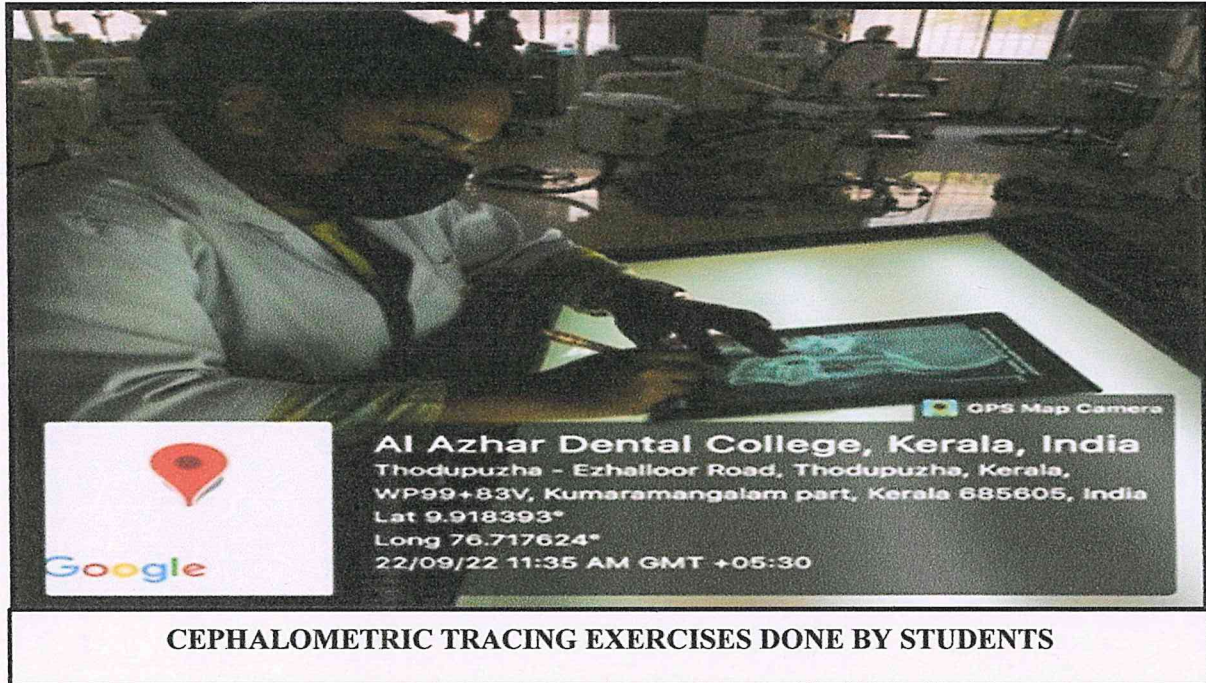
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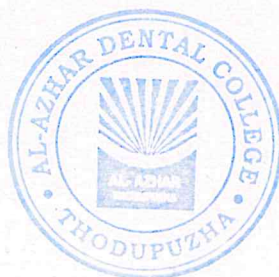
## ADVANCED SKILLS

### (A)Cephalometric tracing:



Cephalometrics can help orthodontists determine whether malocclusions are due to skeletal or alveolar deviations, and in patients with skeletal discrepancy, cephalometrics can identify if this is due to dento-alveolar compensation or dysplastic development. Hence the departments ensure proper directions for the students towards this diagnostic aid.

Cephalometrics exercises are essential for dental students as they provide a comprehensive understanding of craniofacial growth and development. These exercises enable students to analyze and interpret radiographic images to assess facial proportions, skeletal relationships, and dental structures. By mastering Cephalometrics, students can diagnose various orthodontic problems and formulate effective treatment plans. Cephalometrics exercises also help students improve their critical thinking skills by evaluating and comparing cephalometric measurements and identifying abnormalities. Ultimately, these exercises equip dental students with the knowledge and skills needed to provide accurate diagnosis and appropriate orthodontic interventions for their patients.



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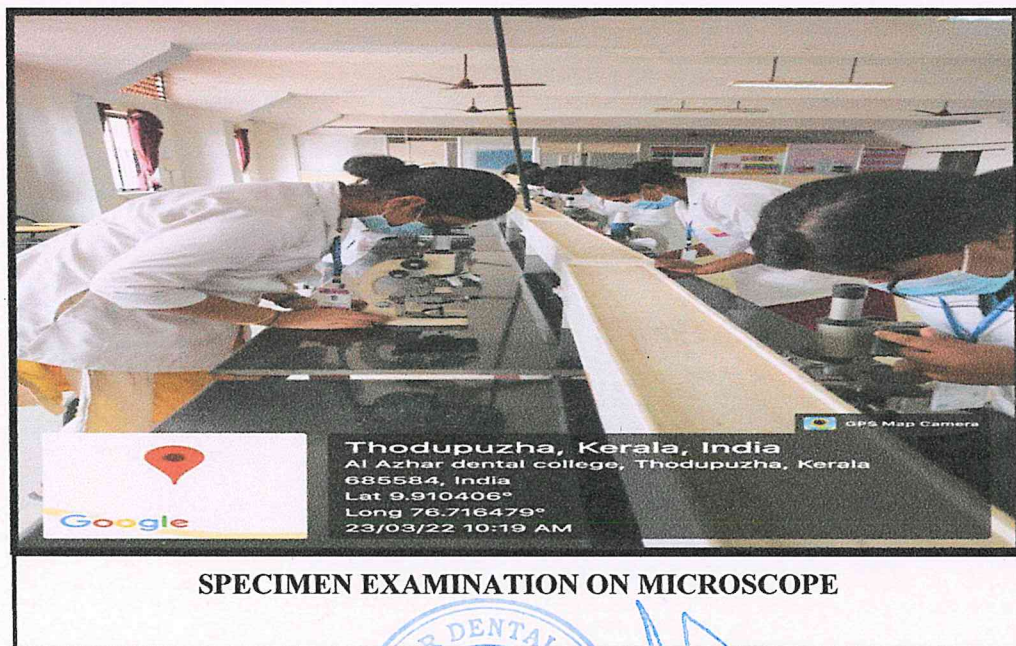
## DEPARTMENT OF ORAL PATHOLOGY

### ADVANCED SKILL

#### (a) FNAC and Biopsy Specimen Discussion

Fine-needle aspiration cytology (FNAC) is a well-established tool for investigating many head and neck conditions. Its use in patients with major salivary gland swelling continues to be a matter of controversy amongst some head and neck surgeons. Many patients with malignant salivary gland neoplasms present with almost no symptoms suggesting malignancy, and it has therefore been recommended that FNAC should be used as a routine preoperative diagnostic test before surgical excision.

The aim of cytological examination is to determine whether the tumor process is inflammatory and/or reactive, benign, or malignant, and if possible to give a specific diagnosis. Oral biopsy is considered essential for diagnosis of diseases of the oral mucosa, and subsequent treatment planning. Failure to diagnose oral disease may have profound implications for both the patient and the dentist. Dentist can play an important role in the prognosis of the oral cancers by referring the patient to higher centers. Dentist can make a considerable contribution to a decrease in its incidence by identifying high risk patients and educating them in healthy habits.



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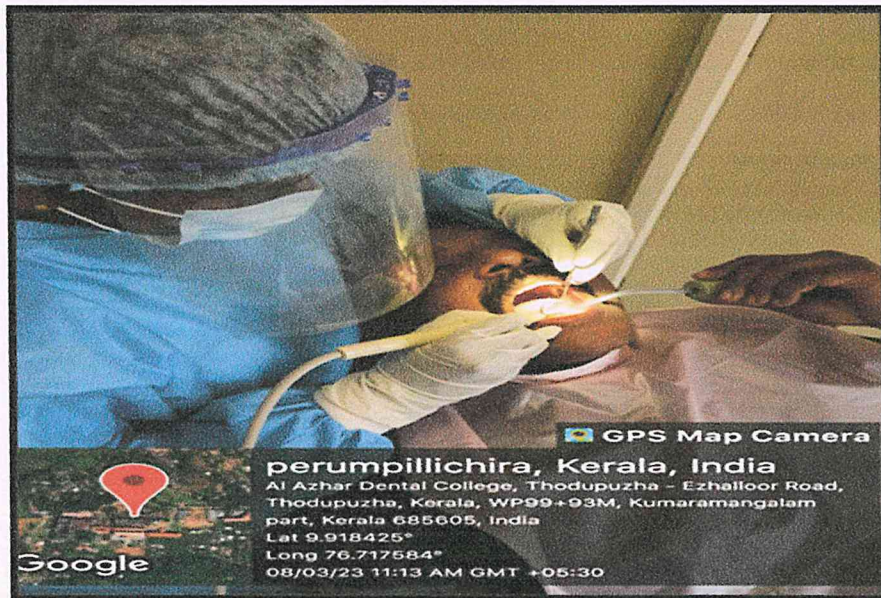
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## DEPARTMENT OF PERIODONTICS

### BASIC SKILLS

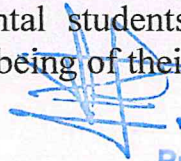
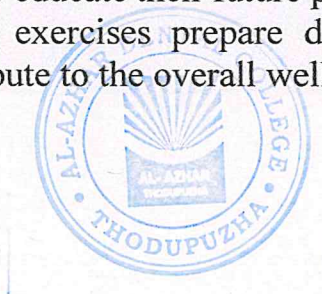
#### (a) Training for scaling:



**DEMONSTRATION OF ORAL PROPHYLAXIS IN PATIENTS**

Dental scaling is a common procedure therefore learning to handle and operate the equipment correctly is important. Performing dental scaling incorrectly or with too much force can damage the tooth. It can also cause damage to the soft tissues, leaving the patient with discomfort and at risk of infection. This training provides idea about how to handle instruments effortlessly with minimum patient discomfort.

Oral prophylaxis exercises hold great importance for dental students as they play a vital role in promoting and maintaining oral health. Through these exercises, students learn and practice the techniques necessary for thorough teeth cleaning, plaque and tartar removal, and gum care. By mastering oral prophylaxis, students acquire the skills to prevent and manage common oral diseases, such as dental caries and periodontal conditions. Additionally, these exercises allow students to develop effective patient communication and education strategies, enabling them to educate their future patients about proper oral hygiene practices. Overall, oral prophylaxis exercises prepare dental students to provide comprehensive preventive care and contribute to the overall well-being of their patients



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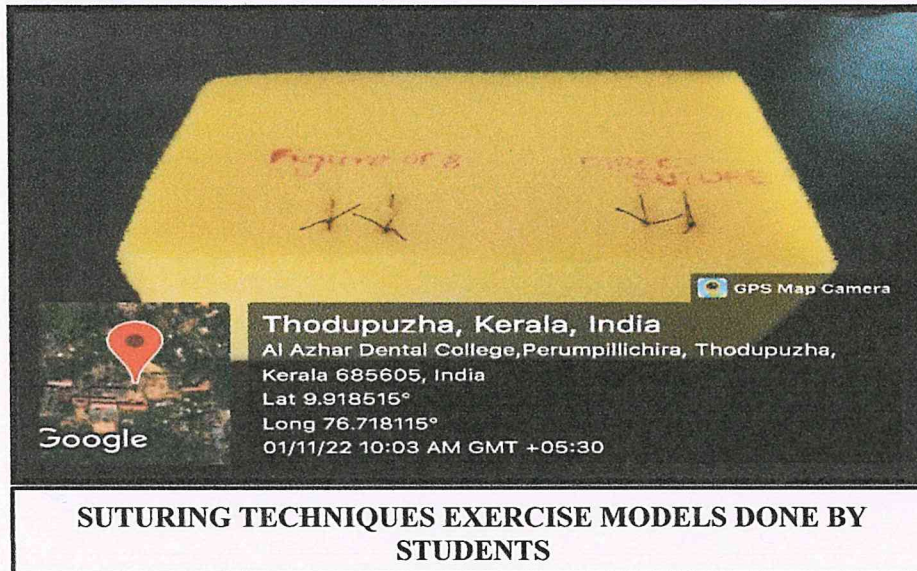
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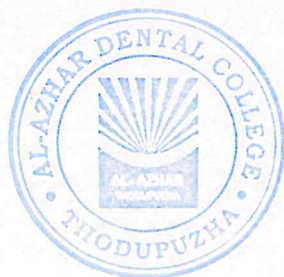
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## (b) Suturing Techniques:



Enhance the suturing skills of medical trainees. A simplified suturing model is constructed for the preclinical training purpose. This enables the students to practice various suturing techniques at different tissue planes. Helps the medical students to perform a live procedure in a more skilled way.

Suturing techniques exercises hold significant importance for dental students in the department of Periodontics. These exercises provide hands-on training and practice in mastering the art of suturing, which is essential in periodontal surgery and soft tissue management. Through these exercises, students learn different suturing techniques, including interrupted sutures, continuous sutures, and mattress sutures, among others. Mastering suturing techniques allows dental students to achieve optimal wound closure, promote proper healing, and minimize postoperative complications. Additionally, suturing exercises help students develop dexterity, precision, and a keen eye for detail, enabling them to deliver high-quality periodontal care to their patients. Ultimately, these exercises prepare dental students to become competent periodontal surgeons capable of performing precise and aesthetically pleasing sutures in clinical practice.



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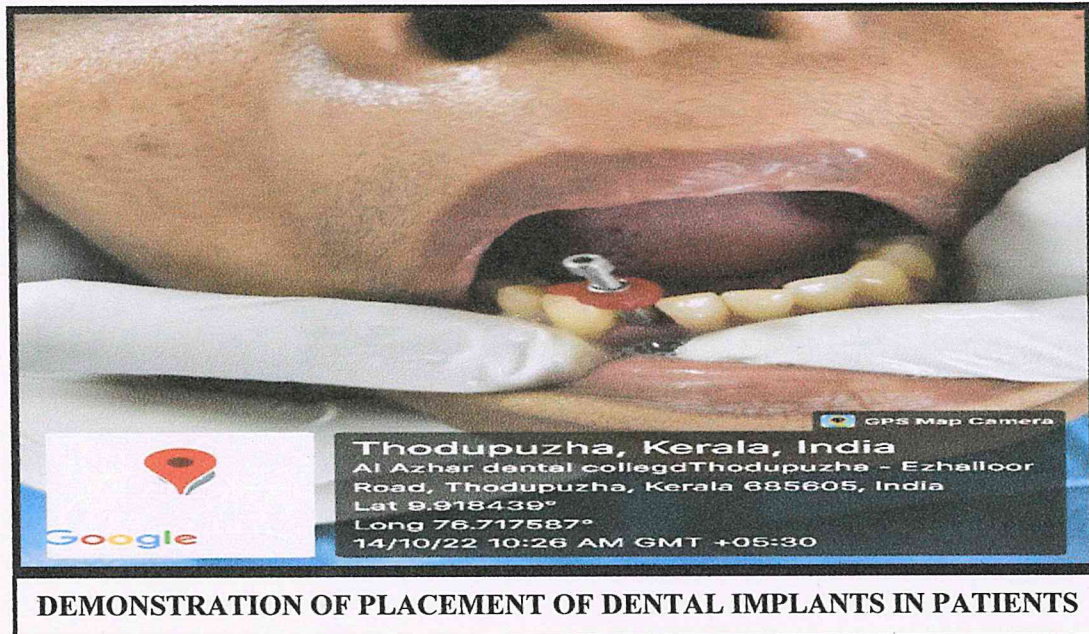
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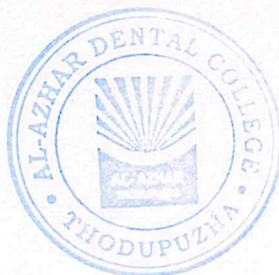
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## (c) Basic Implantology :



This training is designed to expand student's treatment capabilities to include treatment planning and placement of dental implants. Upon completion of this training, the clinician will be able to identify suitable patient cases and would have the basic skills needed to develop a systematic approach to treatment planning an implant case. Participants will gain valuable hands-on experience through practical exercises. Implant exercises play a crucial role in the training of dental students, equipping them with the necessary skills to excel in the field of implant dentistry. These exercises provide a hands-on opportunity for students to practice the surgical placement and restoration of dental implants. Under the guidance of experienced faculty, students learn the step-by-step process of implant placement, including bone preparation, implant selection, and surgical techniques. They also gain proficiency in prosthetic aspects, such as impression taking, abutment selection, and final restoration. Through repeated practice, dental students develop dexterity, precision, and critical decision-making abilities, enabling them to provide high-quality implant treatment to patients in the future. These exercises form an essential part of dental education, fostering competence and confidence among students in the complex and rewarding field of implant dentistry.



Prof. Dr. Harvey Thomas MDS  
Principal  
Al-Azhar Dental College  
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# AL-AZHAR DENTAL COLLEGE

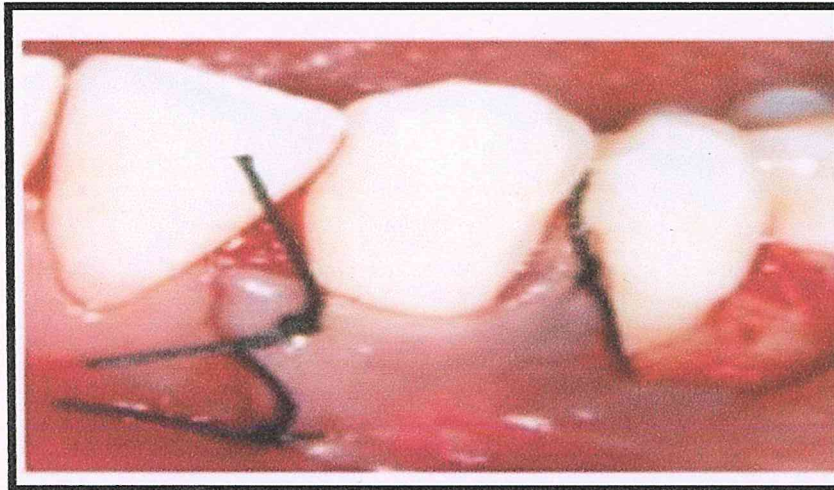
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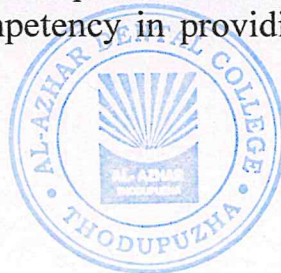
## ADVANCED SKILLS

### (a) Periodontal Flap Surgery:



**DEMONSTRATION OF PERIODONTAL FLAP SURGERY**

The main objective of Periodontal Flap surgical procedures is to allow access for the cleaning of the roots of teeth and the removal of the periodontal pocket lining. Training familiarize students with the outcome of surgery and provide a clear understanding of wound healing (review of evidence), familiarize with the rationale, techniques and materials of suturing commonly used in flap surgery. Improve/sharpen basic surgical skills for routine flap. Periodontal flap surgery demonstration exercises serve as invaluable training tools for dental students, imparting essential knowledge and skills in the field of periodontics. These exercises involve the simulated demonstration of periodontal flap surgery, a surgical procedure performed to access and treat the underlying structures affected by periodontal disease. Dental students gain hands-on experience in creating and manipulating flaps, exposing the root surfaces, and accessing and removing diseased tissues. They also learn various suturing techniques to ensure proper wound closure and promote optimal healing. These exercises provide an opportunity for students to understand the importance of maintaining a sterile and controlled surgical environment while honing their dexterity and precision. By observing and participating in these demonstrations, dental students acquire the proficiency necessary to perform periodontal flap surgery confidently and effectively, contributing to their overall competency in providing comprehensive periodontal care to patients.



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Principal  
Al-Azhar Dental College  
Thodupuzha - 685 605



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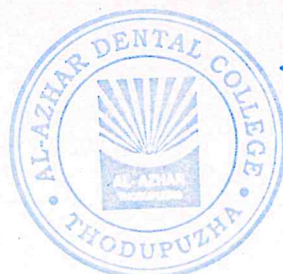
## DEPARTMENT OF ORAL AND MAXILLOFACIAL SURGERY

### BASIC SKILLS

#### (a) Model suturing training techniques:



Knowledge of the suture, needles (type, size, shape), instruments, and techniques are absolutely necessary in order to be a competent surgeon. The techniques used for suturing are deceptively difficult. This study creates awareness on different suture techniques and improves the knowledge about suturing techniques which are absolutely necessary to become a competent surgeon. Suturing techniques exercises hold significant importance for dental students in the Surgery Department, as they are essential skills required for various dental procedures. These exercises provide hands-on training in mastering different suturing techniques, ensuring optimal wound closure and promoting effective healing. Dental students learn the proper selection of suture materials and instruments, as well as the correct handling and placement of sutures. By practicing these techniques, students develop dexterity, precision, and the ability to adapt to different clinical scenarios. Suturing exercises also emphasize the importance of maintaining a sterile surgical field and minimizing the risk of infection.



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Principal  
Al-Azhar Dental College  
Thodupuzha - 685 605



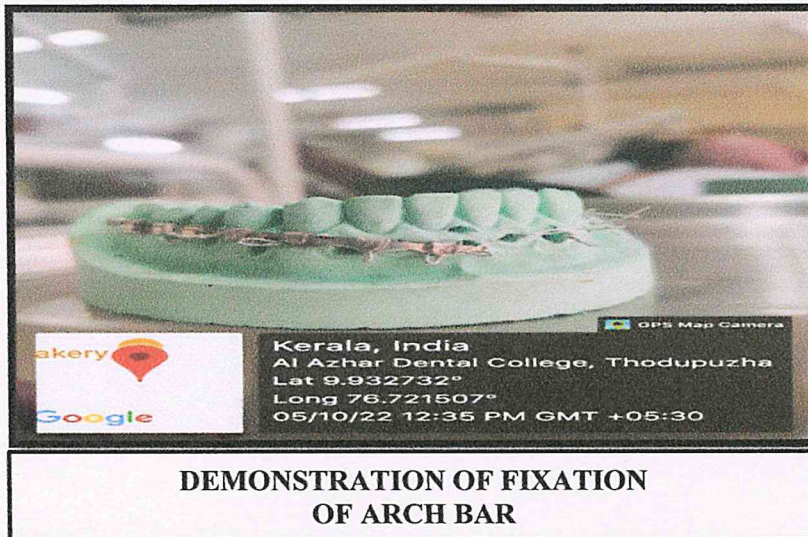
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## (b) Arch bar fixation:



Arch bars are regularly used in the management of dentoalveolar and minimally displaced fractures of the maxilla or mandible and luxation or avulsion of teeth by maxillofacial surgeons. Highly competent clinical practice requires skill in the cognitive, affective and psycho-motor domains. To train students in preparing the patient and to place a precise incision and handle the instruments effortlessly. Arch bar fixation training exercises play a crucial role in the education and training of dental students. These exercises provide students with practical experience and enhance their skills in managing maxillofacial trauma cases. By simulating real-life scenarios, such as fractures of the jaws requiring stabilization, arch bar fixation training allows students to develop proficiency in the placement and adjustment of arch bars. This training not only promotes manual dexterity but also instills confidence in dental students to handle complex cases involving the immobilization of fractured jaws. Moreover, it familiarizes them with the necessary instruments, techniques, and protocols for arch bar fixation, ensuring they are well-prepared to provide optimal patient care in the future. Ultimately, incorporating arch bar fixation training exercises into dental education programs equips students with the necessary knowledge and practical skills to address and treat maxillofacial trauma effectively.



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Al-Azhar Dental College  
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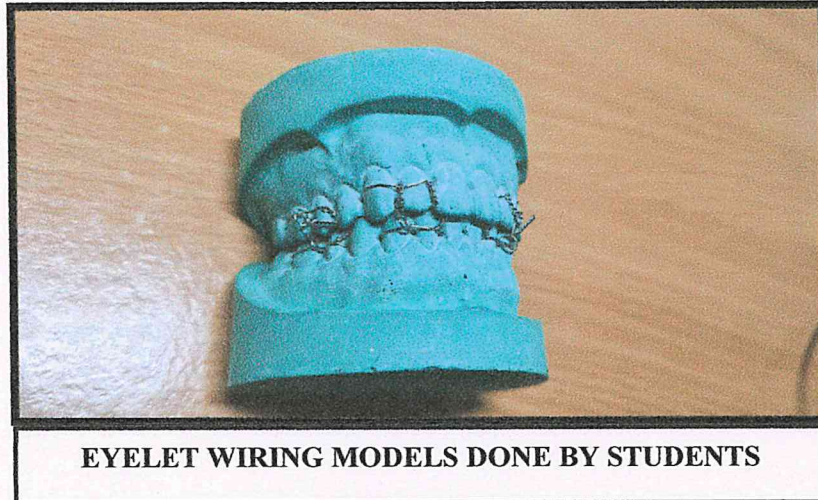
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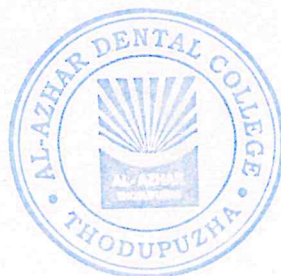
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## (c) Eyelet Wiring



Eyelet wiring exercises hold significant importance in the training of dental students, particularly in the field of oral and maxillofacial surgery. These exercises provide students with hands-on experience in the management of mandibular and maxillary fractures, allowing them to develop crucial skills in proper wire placement and fixation techniques. By practicing eyelet wiring, dental students gain proficiency in achieving stable occlusion and facilitating the healing process of fractured jaws. Additionally, these exercises help students understand the biomechanical principles underlying the use of eyelet wires and their interactions with other fixation methods. This knowledge is vital for effective treatment planning and execution in real clinical scenarios. Furthermore, eyelet wiring exercises instill confidence in dental students, preparing them to handle complex cases requiring the stabilization of fractures and ensuring that they are well-prepared to provide comprehensive care to their patients in the future.



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Principal  
Al-Azhar Dental College  
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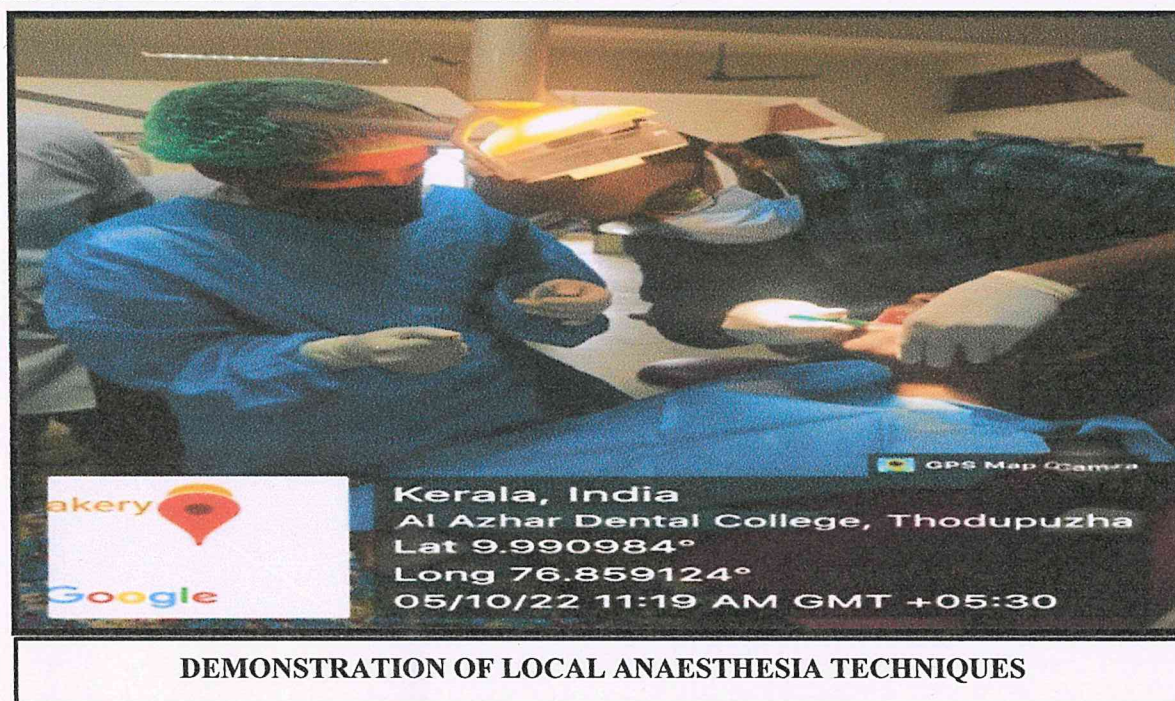
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## (d) Local anesthesia training techniques:



Pain control in dentistry presents one of the greatest challenges. The injection of the local anesthesia is the most reported cause for fear and discomfort of dental patients. This training provides the safe and effective way of delivery of these drugs, including needle gauge, traditional and alternative injection techniques, and methods to make injections more comfortable for patients. In addition, the future of local anesthesia in dentistry. The importance of local anesthesia techniques for dental students cannot be overstated, as they play a fundamental role in ensuring patient comfort and facilitating effective dental procedures. Local anesthesia is essential for pain control during various dental treatments, including extractions, fillings, root canal therapy, and periodontal procedures. Dental students must learn the art and science of administering local anesthesia to ensure safe and effective pain management. Through rigorous training and practice, students acquire knowledge of anatomy, nerve innervation, and the pharmacology of local anesthetic agents. They develop skills in proper injection techniques, including aspiration and precise deposition of anesthetics.



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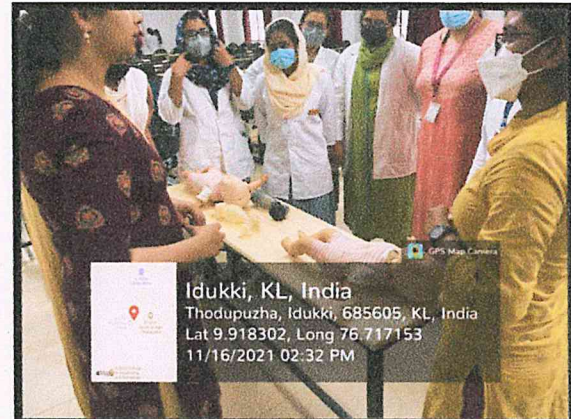
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## (e)BLS Training:



**BASIC LIFE SUPPORTING  
TECHNIQUES**



**BLS PRACTICE SESSIONS**

Trains participants to promptly recognize several life-threatening emergencies, give high-quality chest compressions, deliver appropriate ventilations and provide early use of an AED. Become familiar with basic life support techniques used in response to common emergencies. BLS (Basic Life Support) training holds immense importance for dental students as it equips them with life-saving skills and knowledge to respond effectively during medical emergencies. Dental offices are not exempt from unexpected medical events, and being prepared to handle them can be critical. BLS training teaches students how to recognize and assess emergency situations, including cardiac arrest and respiratory distress, and respond promptly with appropriate interventions. Dental students learn cardiopulmonary resuscitation (CPR) techniques, such as chest compressions and rescue breathing, as well as how to use automated external defibrillators (AEDs) if available. By undergoing BLS training, dental students become confident and competent in initiating immediate and effective emergency care, which can potentially save lives. Furthermore, this training emphasizes the importance of teamwork, communication, and maintaining a calm and composed demeanor in high-pressure situations. Ultimately, BLS training ensures that dental students are prepared to handle medical emergencies in their practice, providing a safer environment for both their patients and themselves



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Principal  
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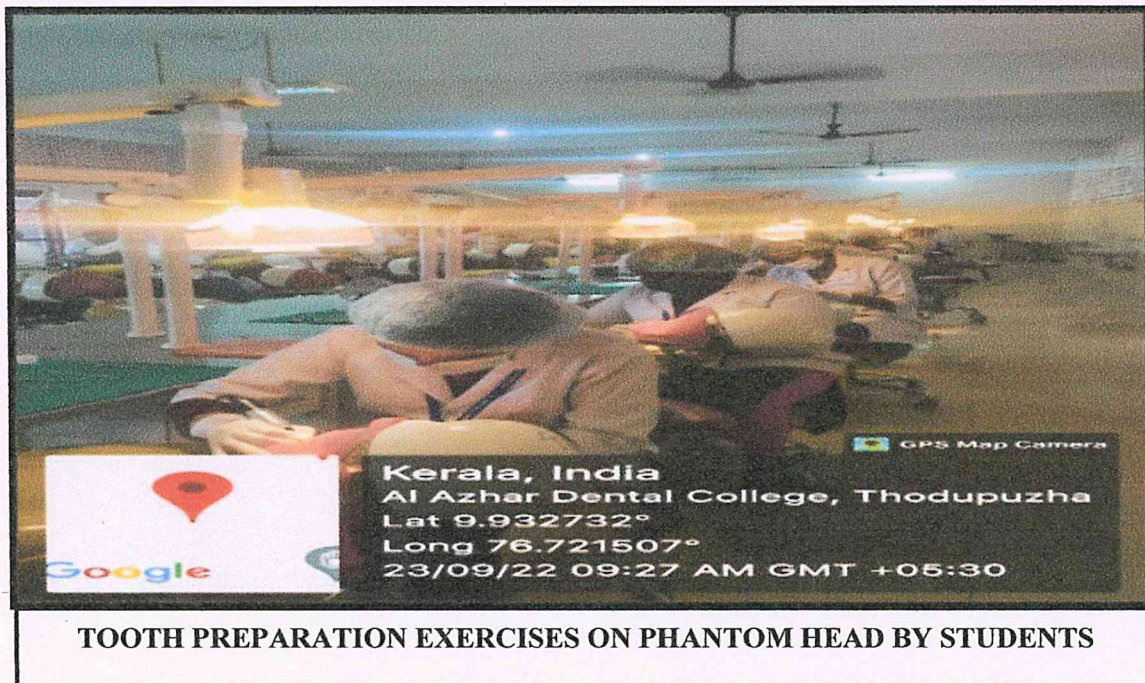
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## DEPARTMENT OF PEDODONTICS

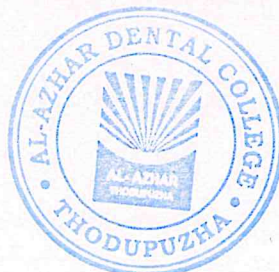
### BASIC SKILLS

#### (a) Phantom head lab :



**TOOTH PREPARATION EXERCISES ON PHANTOM HEAD BY STUDENTS**

Phantom heads provide an efficient way to teach preclinical students dental procedures safely while increasing their psychomotor skills considerably. Phantom heads have been the cornerstone of learning in operative dentistry. The phantom head is affixed to a dental operating unit with a torso, in a manner that allows adjustment of position to allow the students to work in a seated position as they would be in a clinical setting. Phantom heads replicate the real-life clinical environment including positioning of the operator and the patient, performing dental procedures with an assistant, and infection control procedures. These exercises allow students to develop their clinical skills in a safe and controlled environment. By practicing on a simulated dental model, students can refine their techniques, such as tooth preparation, restoration placement, and pulp therapy, before treating real patients. Phantom heads provide a platform to replicate real-life scenarios, enabling students to learn effective communication and behavior management strategies specific to pediatric dentistry.



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Al-Azhar Dental College  
Thodupuzha - 685 605



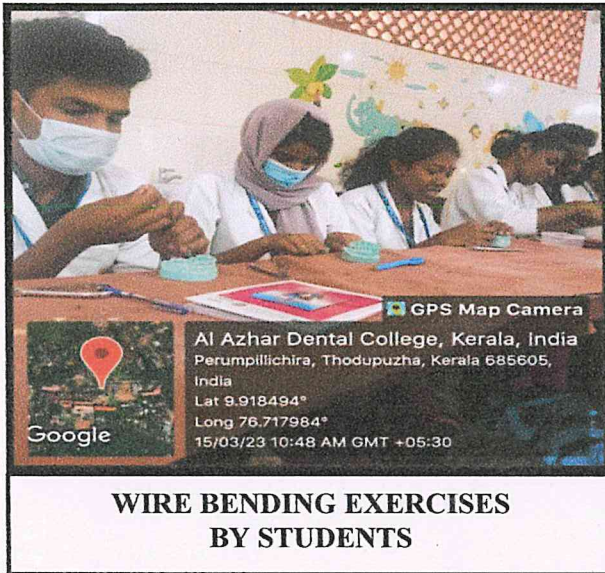
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## (b) Habit breaking appliances fabrication :



By doing the habit breaking appliance and discussions on their uses helps the students to lead to the goal of habit appliances, beyond breaking bad habits like tongue-thrusting and thumb-sucking, is to prevent individuals from positioning their teeth in odd and unnatural positions that may lead to an open bite, an overbite, or protruding teeth. The importance of habit-breaking appliance making in dental students cannot be overstated, as it enables them to address and correct harmful oral habits in patients effectively. Dental habits such as thumb sucking, tongue thrusting, and bruxism can lead to dental problems and misalignments, requiring intervention to prevent further complications.

Through the process of habit-breaking appliance making, dental students learn how to design and fabricate custom appliances tailored to individual patients' needs. These appliances, such as thumb/finger guards or tongue cribs, are specifically designed to discourage and deter the harmful habit. Dental students gain practical experience in taking accurate impressions, creating precise models, and constructing appliances that fit comfortably and function effectively.




Prof. Dr. Harvey Thomas MDS  
Principal  
Al-Azhar Dental College  
Thodupuzha-685 605



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## ADVANCED SKILLS

### (a)Pulpotomy and Pulpectomy Exercises :



The demonstration of pulpectomy and pulpotomy exercises holds immense importance in the education of dental students in the department of pedodontics. These procedures involve the treatment of dental pulp-related issues in children, making it crucial for students specializing in pediatric dentistry to gain hands-on experience. Through live demonstrations, students can observe the step-by-step process of performing pulpectomy and pulpotomy, understand the tools and techniques involved, and develop a comprehensive understanding of the treatment protocols specific to pediatric patients. Demonstrations provide an invaluable opportunity for students to witness the intricacies of these procedures, including the proper isolation of the tooth, the removal of infected tissue, and the precise placement of medicaments. This hands-on learning experience enhances students' clinical skills, helps them develop confidence in their abilities, and prepares them to deliver quality dental care to young patients in the future.



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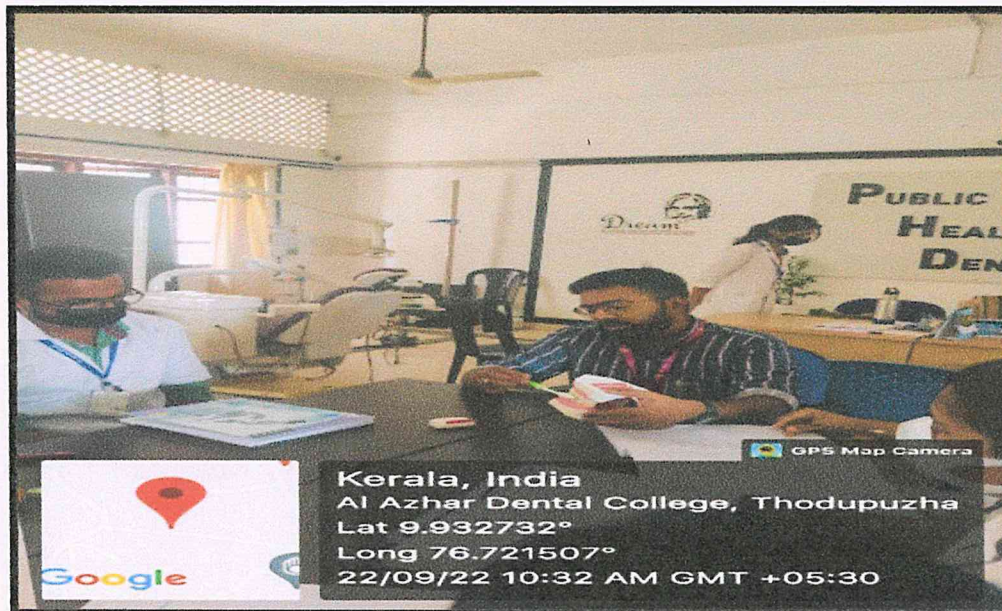
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## DEPARTMENT OF PUBLIC HEALTH DENTISTRY

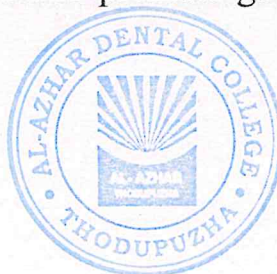
### BASIC SKILLS

#### (a) Tooth Brushing Techniques using Models



**TOOTHBRUSHING TECHNIQUES DEMONSTRATED  
BY FACULTY TO STUDENTS**

The demonstration of tooth brushing techniques by faculty to students holds significant importance in dental education. Proper tooth brushing is essential for maintaining optimal oral health and preventing dental problems. By witnessing faculty members demonstrate the correct method of brushing, students learn important aspects such as the right positioning of the toothbrush, the angle of brushing, and the appropriate pressure to apply. This firsthand demonstration ensures that students acquire accurate knowledge and skills in oral hygiene practices, which they can then pass on to their patients. Additionally, faculty demonstrations help students understand the importance of thorough brushing, reaching all tooth surfaces, and cleaning the gum line. Ultimately, these demonstrations empower students to become effective oral health educators and promote good oral hygiene habits among their future patients.



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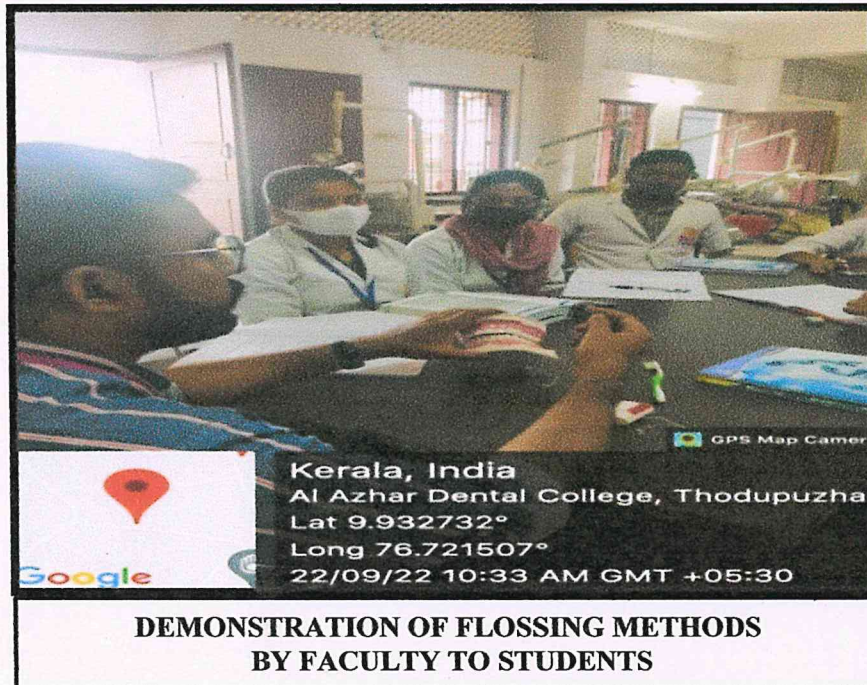
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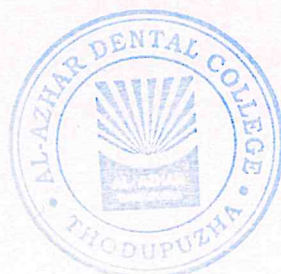
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## (b) Flossing Methods Demonstration in Tooth Models



One of the key factor in the good condition of periodontal tissues is their daily hygiene. Oral hygiene techniques such brushing and a good interdental hygiene by correct flossing are very important. The importance of faculty demonstrating flossing methods to dental students cannot be overstated. Flossing is a critical component of oral hygiene that helps remove plaque and debris from areas that a toothbrush cannot reach. By observing faculty members demonstrate flossing techniques, students gain firsthand knowledge of the correct flossing method, including the proper positioning of the floss, the technique for sliding it between the teeth, and the gentle motion to use for effective plaque removal. These demonstrations ensure that students learn the importance of flossing and develop the necessary skills to educate their future patients. Furthermore, faculty demonstrations highlight the significance of flossing in preventing gum disease, cavities, and other oral health issues. By incorporating faculty-led demonstrations, dental students can enhance their proficiency in teaching proper flossing techniques and promote optimal oral hygiene practices among their patients, ultimately contributing to improved oral health outcomes.



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Principal  
Al-Azhar Dental College  
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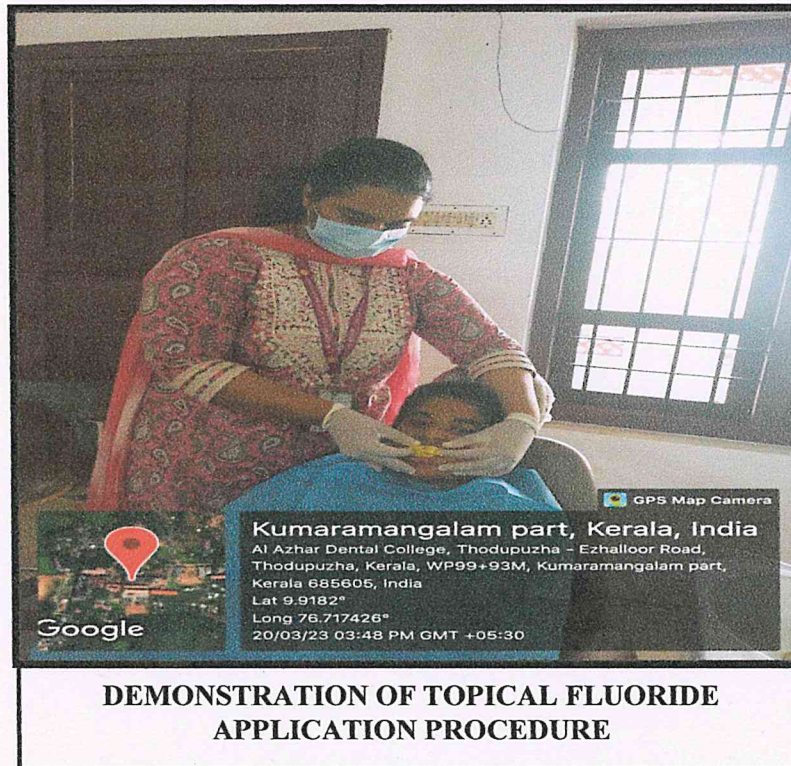
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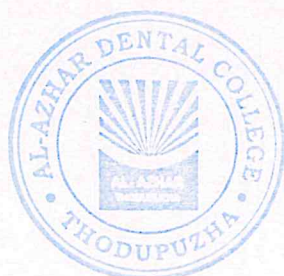
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## (c) Topical Fluoride Application



Topical fluoride application exercises hold significant importance for dental students in their education and training. Fluoride is a mineral known for its remarkable ability to strengthen teeth and prevent tooth decay. By engaging in these exercises, dental students gain hands-on experience in the proper application techniques and protocols for delivering fluoride treatments to patients. This practical training equips them with essential skills to enhance oral health outcomes and prevent dental caries in their future practice. Through these exercises, students learn the correct dosage, application methods, and suitable fluoride products to use for different patient populations. Additionally, they develop an understanding of the potential benefits and risks associated with fluoride use, enabling them to make informed decisions in their clinical practice. Overall, topical fluoride application exercises serve as a crucial component of dental education, empowering students to provide effective preventive care and contribute to the oral health of their patients.



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Principal  
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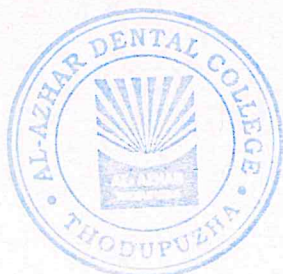
## ADVANCED SKILLS

### (a) Pit and fissure sealant



The term 'pit and fissure sealant' is used to describe a chemically-active liquid material that is introduced into the occlusal pits and fissures of caries-susceptible teeth, that after application, either cures chemically (auto polymerizing), or is cured with a visible light source (light-cured), thus forming a micromechanically bonded protective layer that prevents the Invasion of caries-producing bacteria, and simultaneously cuts off the access of surviving caries-producing bacteria from their source of nutrients.

It is clear that the application of pit and fissure sealant to newly-erupted posterior (and occasionally, anterior) teeth is the best method we have in dentistry to prevent pit and fissure caries, and/or to prevent the continued development of incipient caries into frank caries when the incipient lesion is sealed over with resin.



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Principal  
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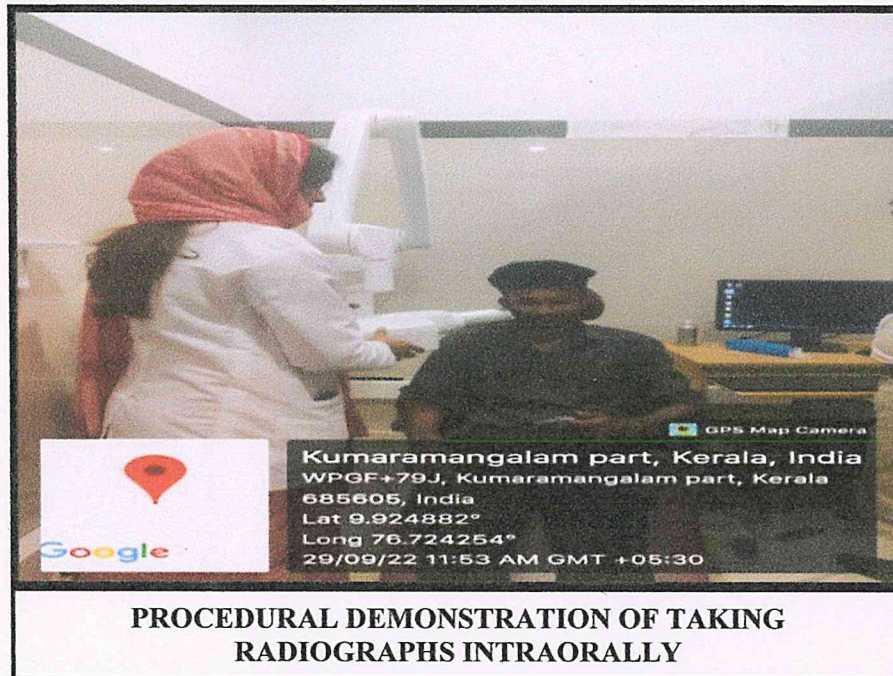
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## DEPARTMENT OF ORAL MEDICINE AND RADIOLOGY

### BASIC SKILLS

#### (a) Demonstration of taking Intraoral Periapical Radiograph:



The demonstration of taking intraoral periapical radiographs holds great importance in dental education and training. Intraoral radiographs are essential diagnostic tools that provide valuable information about the internal structures of teeth and surrounding tissues. By participating in this demonstration, dental students learn the proper positioning techniques, equipment handling, and radiation safety protocols necessary for capturing accurate and high-quality radiographs. This hands-on experience enables students to understand the intricacies of dental anatomy, identify various dental conditions, and interpret radiographic findings. Furthermore, the demonstration teaches students how to communicate effectively with patients, ensuring their comfort and cooperation during the radiographic procedure. Mastering the skill of taking intraoral periapical radiographs is vital for dental professionals as it allows for early detection of dental diseases, aids in treatment planning, and facilitates effective patient management. Overall, this demonstration plays a crucial role in preparing dental students to become competent practitioners who can confidently utilize radiographic imaging for comprehensive oral health care.



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Principal  
Al-Azhar Dental College  
Thodupuzha - 685 605



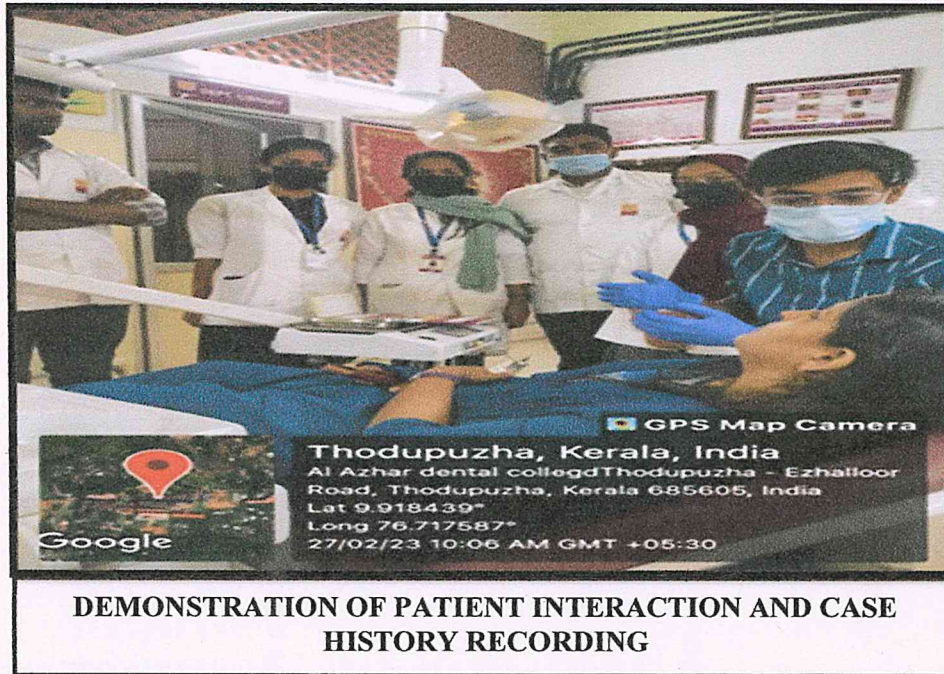
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## (b) Demonstration of Case History taking:



The demonstration of patient interaction and case history recording holds immense importance for dental students. These skills are essential for developing effective communication and patient management abilities, which are crucial in the dental profession. Through demonstrations, students learn how to establish a rapport with patients, gain their trust, and create a comfortable environment. This interaction allows students to gather relevant information about a patient's medical and dental history, enabling them to make accurate diagnoses and develop appropriate treatment plans. Moreover, case history recording ensures comprehensive documentation, facilitating continuity of care and aiding in future treatment decisions. By emphasizing these skills, dental students are better equipped to provide high-quality dental care while maintaining strong patient relationships. Additionally, the demonstration of patient interaction and case history recording helps dental students develop their critical thinking and problem-solving abilities. By engaging with patients and gathering detailed case histories, students learn to analyze information, identify patterns, and make informed decisions regarding treatment options. These skills are invaluable in the dental field, where each patient's unique circumstances require individualized care and tailored treatment plans.




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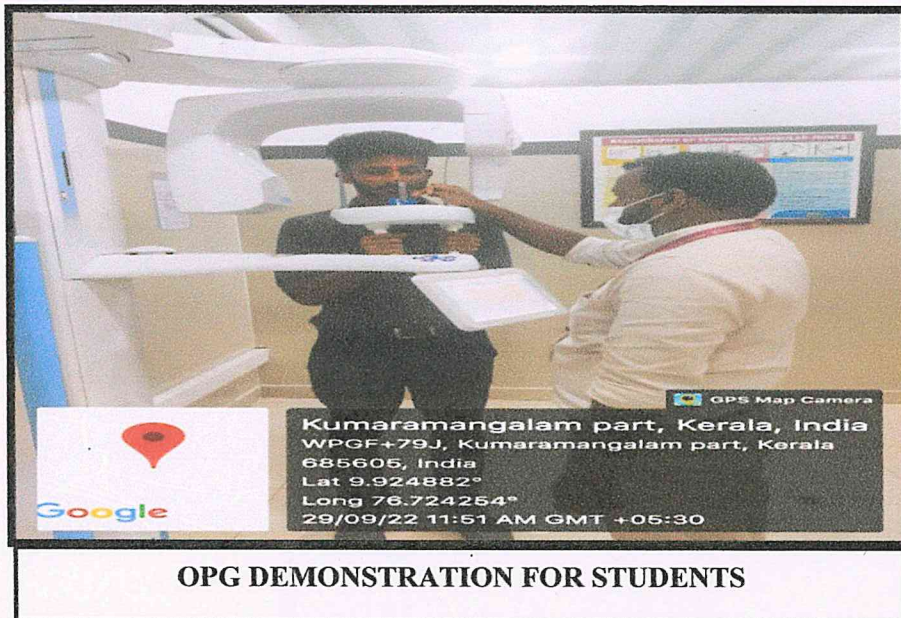
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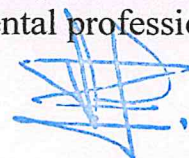
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## ADVANCED SKILLS

### (a) Digital Orthopantomography:



The demonstration of Orthopantomogram (OPG) for dental students is a crucial aspect of their education. OPG is a specialized radiographic technique used to capture a panoramic view of the jaws, including the teeth, jawbones, and surrounding structures. By demonstrating the OPG procedure, students gain firsthand experience in positioning the patient, operating the equipment, and interpreting the resulting image. This training enables students to accurately assess the dental and skeletal relationships, identify pathologies or abnormalities, and plan comprehensive treatments. Moreover, understanding the proper utilization of OPG helps students collaborate effectively with radiologists, ensuring the precise diagnosis and appropriate management of dental conditions. In addition, the demonstration of Orthopantomogram (OPG) for dental students allows them to appreciate the benefits and limitations of this imaging modality. They learn to recognize the anatomical landmarks visible in an OPG, such as the maxillary sinus, mandibular canal, and temporomandibular joint, which are essential for accurate diagnosis and treatment planning. Students also gain insights into the potential risks associated with OPG, including radiation exposure, and learn to implement necessary safety measures to protect both the patient and themselves. By actively engaging in OPG demonstrations, dental students develop the skills necessary to confidently utilize this imaging technique as an integral part of their clinical practice, enhancing their overall competency as dental professionals.



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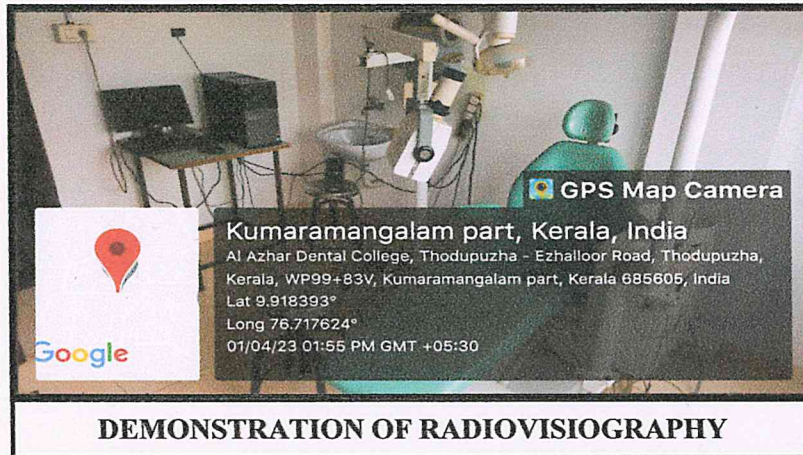
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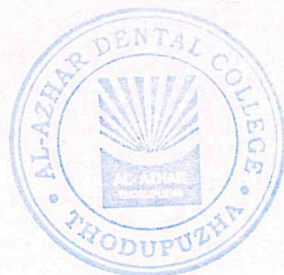
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## (b) Radiovisiography (RVG):



The demonstration of RVG (Radiovisiography) for dental students holds significant importance in their training and development. RVG is a digital radiographic technique that offers numerous advantages over traditional film-based X-rays, including immediate image acquisition, reduced radiation exposure, and enhanced image quality. By observing and participating in RVG demonstrations, students gain proficiency in positioning the RVG sensor accurately, capturing high-resolution images, and interpreting the digital radiographs effectively. This hands-on experience equips them with the necessary skills to utilize RVG technology confidently, enabling precise diagnosis, treatment planning, and monitoring of dental conditions.

Furthermore, the demonstration of RVG for dental students allows them to understand the importance of proper infection control protocols and sterilization procedures. Since the RVG sensor is a reusable device, students learn the critical steps involved in disinfection and sterilization to ensure patient safety and prevent cross-contamination. They gain knowledge about appropriate barrier techniques, cleaning agents, and sterilization methods specific to RVG sensors, emphasizing the significance of maintaining strict infection control standards in the dental practice. By incorporating RVG demonstrations into their training, dental students develop a comprehensive understanding of both the technical aspects and infection control considerations associated with this advanced imaging technology.



Prof. Dr. Harvey Thomas MDS  
Principal  
Al-Azhar Dental College  
Thodupuzha - 685 605



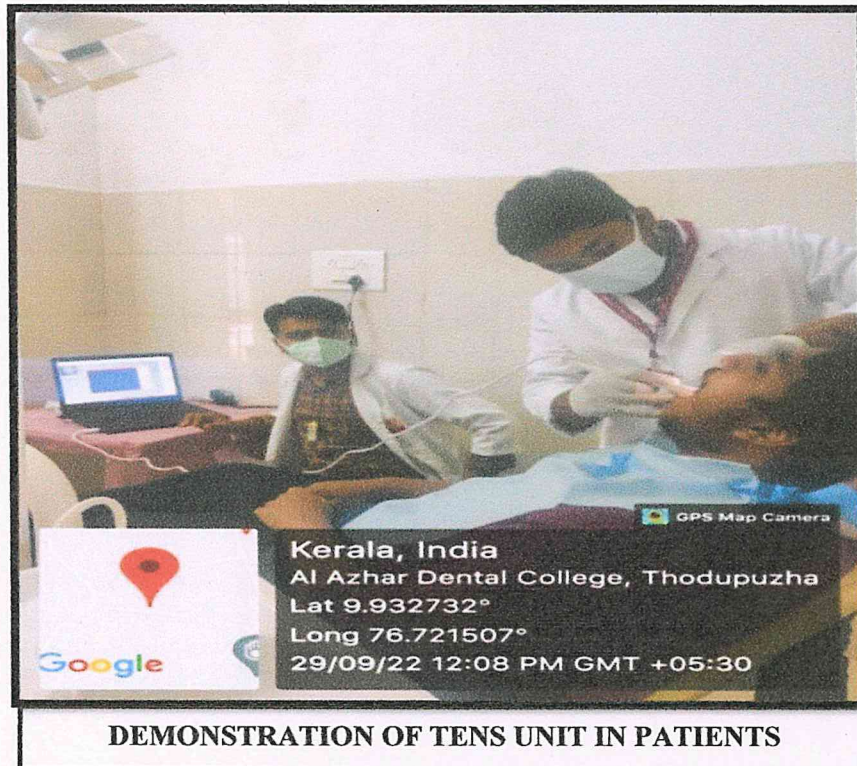
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## (c)Tens unit:



The demonstration of TENS (Transcutaneous Electrical Nerve Stimulation) unit for dental students holds great importance in their education and clinical training. TENS is a non-invasive therapy that utilizes low-frequency electrical currents to alleviate pain and relax muscles in the orofacial region. By demonstrating the TENS unit, students learn about its application in managing conditions like temporomandibular joint disorders (TMD) and orofacial pain. They gain hands-on experience in placing the TENS electrodes correctly, adjusting the settings, and monitoring the patient's response. This training enables students to effectively utilize TENS as a complementary treatment modality to improve patient comfort and optimize dental care outcomes. Moreover, understanding the principles of TENS expands students' knowledge of pain management techniques and equips them with additional tools to provide comprehensive care for their future patients.



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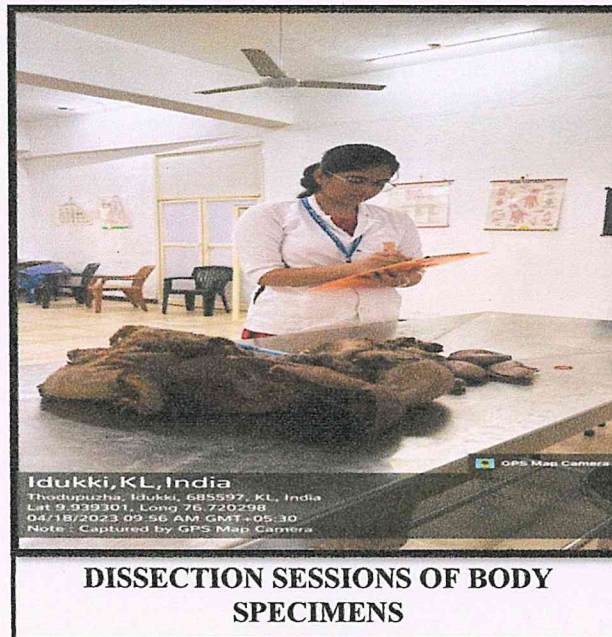
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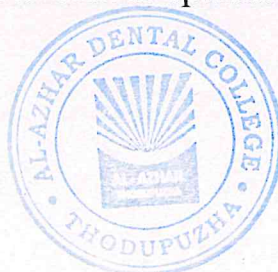
## MEDICAL SUBJECTS

### (a) Anatomy Dissection Lab:

- Study of structures of body & topography
- Tissue studies with microscopy
- Identify features of radiographs & modern imaging techniques



Anatomical dissection sessions play a vital role in the education of dental students, offering unique and invaluable learning opportunities. These sessions provide students with the chance to explore the intricate structures of the human body, particularly the head, neck, and oral cavity, in a hands-on and interactive manner. By dissecting cadavers, students gain a deep understanding of the three-dimensional anatomy, the relationships between different structures, and the variations that exist among individuals. This knowledge forms the foundation for their clinical practice, enabling them to perform dental procedures with precision, minimize potential complications, and ensure patient safety, dexterity, and overall competence, preparing them to deliver optimal dental care throughout their careers.



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## **(b) Biochemistry Lab:**



**BIOCHEMICAL ANALYSIS  
PROCEDURE BY STUDENTS**



**STUDENTS ENGAGED IN LAB  
ACTIVITIES**

Biochemistry lab is dedicated laboratory space for researching and studying biochemistry, equipped with durable lab furniture and equipment, plenty of working space, and secure storage areas. Biochemistry revolves around the study of the substances and microscopic reactions that promotes life and sustain our bodies.




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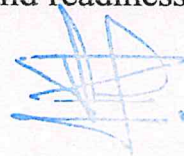
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## (c)Physiology Lab:



**STUDENTS ENGAGED IN PHYSIOLOGICAL LAB SESSIONS**

Physiology lab sessions hold significant importance for dental students as they provide a fundamental understanding of the body's physiological processes and their relevance to oral health. These sessions allow students to observe and conduct experiments that illustrate concepts such as nerve function, muscle contraction, cardiovascular dynamics, and respiratory mechanisms. By actively participating in these lab sessions, students gain practical insights into how various physiological systems work and interact, laying the groundwork for comprehending the effects of systemic conditions on oral health and dental treatment outcomes. Furthermore, physiology lab sessions foster critical thinking, problem-solving skills, and the ability to apply theoretical knowledge to real-world scenarios, all of which are essential for making informed clinical decisions and providing patient-centered care. Ultimately, these lab sessions enable dental students to develop a solid foundation in physiology, enhancing their overall competency and readiness to address the physiological aspects of oral health and dental treatments.



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## (d) Microbiology lab:

The diagnostic in microbiology laboratory is responsible for detecting and identifying disease-causing microbes in clinical samples and, where appropriate, testing for susceptibility of the microbes to antimicrobial agents. Clinical samples commonly examined in the microbiology laboratory include urine, stool, sputum, skin, cerebrospinal fluid and blood. The diagnostic microbiology laboratory enables clinicians to make accurate diagnoses and provide the correct treatment for patients, thus saving lives.



**STUDENTS ENGAGED IN MICROBIOLOGICAL LAB PROCEDURES**



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Principal  
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## (e)Pharmacology Lab:

Pharmacology subject imparts knowledge and skills about journey of the drugs starting from its origin to administration, after administration its movement in the body (pharmacokinetics) and its beneficial and hazardous effect on our body (pharmacodynamics). Our lab is equipped with sophisticated instruments. Students will be able to learn about calculation of drug dose and mechanism of action of drugs. It also includes pharmacological screening.



**PHARMACOLOGICAL PREPARATIONS DONE BY  
STUDENTS IN LAB**



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## (f) Pathology Lab:

The goal of pathology examination of tissue is to provide accurate, specific and sufficiently comprehensive diagnoses to enable the treating physician to develop an optimal plan of treatment. There are hundreds of varieties tumors, most with characteristic biology, that require accurate diagnosis by pathologist.



**STUDENTS ENGAGED IN PATHOLOGY LAB PROCEDURES**



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Prof. Dr. Harvey Thomas MDS  
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Al-Azhar Dental College  
Thodupuzha - 685 605