

Programme wise learning outcomes for all courses

Learning outcomes of the BDS course:

A. Knowledge and understanding

The graduate should acquire the following during the period of training.

1. Adequate knowledge of the scientific foundations on which dentistry is based and good understanding of various relevant scientific methods, principles of biological functions and should be able to evaluate and analyse scientifically various established facts and data.
2. Adequate knowledge of the development, structure and function of the teeth, mouth and jaws and associated tissues both in health and disease and their relationship and effect on general-state of health and also the bearing on physical and social well-being of the patient.
3. Adequate knowledge of clinical disciplines and methods, which provide a coherent picture of anomalies, lesions and diseases of the teeth, mouth and jaws and preventive, diagnostic and therapeutic aspects of dentistry.
4. Adequate clinical experience required for general dental practice.
5. Adequate knowledge of biological function and behaviour of persons in health and sickness as well as the influence of the natural and social environment on the state of health so far as it affects dentistry.

B. Skills

A graduate should be able to demonstrate the following skills necessary for practice of Dentistry.

1. Able to diagnose and manage various common dental problems encountered in general dental practice, keeping in mind the expectations and the right of the society to receive the best possible treatment available wherever possible.
2. Acquire skill to prevent and manage complications if encountered while carrying out various dental surgical and other procedures.
3. Possess skill to carry out required investigative procedures and ability to interpret laboratory findings.
4. Promote oral health and help to prevent oral diseases wherever possible.
5. Competent in control of pain and anxiety during dental treatment.

C. Attitudes

A graduate should develop during the training period the following attitudes.

1. Willing to apply current knowledge of dentistry in the best interest of the patients and the Community.
2. Maintain a high standard of professional ethics and conduct and apply these in all aspects of professional life.

Learning outcome for Aesthetic Dentistry Certificate course

After completing the certificate course in aesthetic dentistry, the student should be able to:

1. Understand face muscles, symmetry of face, face analysis, and dimensions of face as applied to esthetic dentistry.



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2. Analyze esthetics and its relation to function, dental anatomy of permanent teeth, physiology of occlusion, occlusal loading, and clinical aspects of bioesthetic function.
3. Understand fundamentals of esthetics like light and shadow, principals of colour and form.
4. Explain basic concepts of adhesion, dentin bonding systems, types of esthetic restorative materials, cast ceramic laminate systems and veneers.
5. Understand all aspects about crown and bridge, removeable prosthesis, over dentures, immediate replacement prosthesis, esthetics and implants, and gingival veneers.
6. Explain aesthetic osseous surgery, periodontal prosthetic consideration, crown lengthening, papilla preservation, depigmentation, ridge augmentation, root coverage procedures, management of gummy smile and implants in esthetic areas.
7. Perform anterior and posterior composite restorations, anterior laminate, indirect composite veneers, and ceramic veneers, bleaching and crown preparation and placement.
8. Construct complete denture removeable prosthesis, immediate removeable prosthesis, Maryland bridge, resin bonded fixed partial denture, cast partial denture, implant supported anterior replacement, anterior ceramic bridge and anterior ceramic crown.
9. Perform scaling, root planing, gingivectomy and gingivoplasty and depigmentation.
10. Counsel the patient regarding esthetic disparities and treatment options.

Learning outcome for Implant Dentistry Certificate course

After completing the certificate course in implant dentistry, the student should be able to:

1. Understand the various anatomical landmarks, clinical and radiographical considerations before implant placement.
2. Explain the types of implant surgery, socket preservation, guided bone regeneration, sinus lift procedures and implants in esthetic regions.
3. Understand the complications during and after implant placement and steps in implant maintenance.
4. Perform implant placement, and building and placement of implant supported prosthesis.
5. Motivate the patient regarding implant maintenance.

Learning Outcome for MDS course subject wise


Prosthodontics

Aim:

To train dental graduates so as to ensure higher competence in both general and special area of Prosthodontics and prepare a candidate for teaching, research and clinical abilities including prevention and after care in prosthodontics including crown and brid-and implantology.

General Objectives of the Course:

1. Training programme in Prosthodontic dentistry including Crown & Bridge & Implantology is structured to achieve knowledge and skill in theoretical and clinical laboratory, attitude, communicative skills and ability to research with understanding of



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- social, cultural, education and environmental background of the society
2. To have acquired adequate knowledge and understanding of applied basic and systematic medical science knowledge in general and particular to head and neck.
 3. The postgraduates will be able to provide Prosthodontic therapy for patients with competence and working knowledge with understanding of applied medical behavioral and clinical science that are beyond the treatment skills of the general BDS graduate and MDS graduate of other specialities to demonstrate evaluative and judgment skills in making appropriate decisions regarding prevention, treatment aftercare and referral to deliver comprehensive care to patients.

Knowledge

The candidate should possess knowledge applied basic and systematic medical sciences.

1. On human anatomy, embryology, histology, applied in general and particular to head and neck, Physiology & Biochemistry, Pathology and microbiology, virology, Health and diseases of various systems of the body (systemic) principles in surgery and medicine, Pharmacology, Nutrition, behavioral Science, Age changes, genetics, Immunology, Congenital defects and syndrome and Anthropology, Bioengineering, Bio-medical and Biological Principle and application Dental material science
2. Ability to diagnose and planned treatment for patients requiring a Prosthodontic therapy
3. Ability to read and interpret a radiograph and other investigations for the purpose of diagnoses treatment plan
4. Tooth and tooth surface restorations, Complete denture prosthodontics, removable partial dentures Prosthodontics, fixed prosthodontics and maxillofacial and Craniofacial Prosthodontics, implants supported Prosthodontics, T.M.J, and occlusion, craniofacial esthetic, and biomaterials. Craniofacial disorders - problems of psychogenic origin.
5. Age changes and Prosthodontic Therapy for aged.
6. Ability to diagnose failed restoration and provide Prosthodontic therapy and after care.
7. Should have essential knowledge on ethics, laws and Jurisprudence and forensic odontology in Prosthodontics
8. General health conditions and emergency as related to prosthodontics treatment,
9. Identify social, cultural, economic, environmental, educational and emotional determinants of the patient and consider them in planning the treatment.
10. Identify cases, which are outside the area of his speciality/ competence and reffer them to appropriate specialists.
11. Advice regarding case management involving surgical, interim treatment etc.
12. Competent specialization in team management of craniofacial design.
13. Should attend continuing education programmes, seminars and conferences related to prosthodontics in thus updating himself.
14. Teach and guide his / her team, colleague and other students.
15. Should be able to use information technology tools and carry out research basic and


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clinical, with the aims of publishing his/ her work and presenting hi work at various scientific forum.

16. Should have essential knowledge of personal hygiene, infection control, prevent of cross infection and safe disposal of waste, keeping in view the risks of transfer of Hepatitis & HIV
17. Should have an ability to plan to establish Prosthodontic clinic/hospital teach⁸; department and practice management
18. Should have a sound knowledge for the application of pharmacology. Effects drugs on oral tissue and systems of a body and for medically compromised


Skills

1. The candidate should be able to examine the patients requiring Prosthodontic therapy, investigate the patient systemically, analyze the investigation results, radiography, diagnose the ailment, plan a treatment, communicate it with the patient and execute it.
2. Understand the prevalence and prevention of diseases of craniomandibular system related to Prosthetic dentistry.
3. The candidate should be able to restore the lost functions of the stomatognathic system namely speech, mastication etc to provide a quality health care for craniofacial region
4. The candidate should be able to interact with other speciality including a medical speciality for a planned team management of patients for a craniofacial and oral acquired and congenital defects, Temporomandibular joint syndromes, esthetics, Implant supported Prosthetics and problems of Psychogenic origin,
5. Should be able to demonstrate the clinical competence necessary to carry out appropriate treatment at higher level of knowledge, training and practice skills currently available in their specialty area.
6. Identify target diseases and awareness amongst the population for Prosthodontic therapy.
7. Perform clinical and Laboratory procedure with understanding of biomaterials, tissue conditions related to prosthesis and have competent dexterity and skill for performing clinical and laboratory procedures in fixed, removable, implant and maxillofacial TMJ, esthetics Prosthodontics.
8. Laboratory technique management based on skills and knowledge of Dental Materials and dental equipment and instruments, management.
9. To understand demographic distribution and target diseases of Cranio mandibular region related to Prosthodontic including crown & bridge and implantology.

Attitudes

1. Adopt ethical principles in all Prosthodontic practice. Professional honesty and integrity are to be fostered. Treatment to be delivered irrespective of social status, caste, creed or religion of patient.
2. Willing to share the knowledge and clinical experience with professional colleagues.
3. Willing to adopt new methods and techniques in prosthodontics from time to time based on scientific research, which is in patient's best interest.
4. Respect patient's rights and privileges including patients right to information and right to seek second opinion.

Communication Abilities


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1. Develop communication skills, in particular, to explain treatment option available in management.
2. Provide leadership and get the best out of his group in a congenial working atmosphere.
3. Should be able to communicate in simple understandable language with the patient and explain the principles of prosthodontics to the patient. He should be able to guide and counsel the patient with regard to various treatment modalities available.
4. Develop the ability to communicate with professional colleagues through various media like Internet, e-mail, videoconference, and etc. To render the best possible treatment.


PERIODONTICS

Objectives

The following objectives are laid out to achieve the goals of the course

Knowledge

1. Discuss historical perspective to advancement in the subject proper and related topics
2. Describe etiology, pathogenesis, diagnosis and management of common periodontal diseases with emphasis on Indian population
3. Familiarize with the biochemical, microbiologic and immunologic genetic aspects of periodontal pathology
4. Describe various preventive periodontal measures
5. Describe various treatment modalities of periodontal disease from historical aspect to currently available ones
6. Describe interrelationship between periodontal disease and various systemic conditions
7. Describe periodontal hazards due to estrogenic causes and deleterious habits and prevention of it
8. Identify rarities in periodontal disease and environmental/ Emotional determinates in a given case
9. Recognize conditions that may be outside the area of his Speciality/competence and refer them to an appropriate Specialist
10. Decide regarding non-surgical or surgical management of the case
11. Update him by attending course, conferences and seminars relevant to periodontics or by self-learning process.
12. Plan out/ carry out research activity both basic and clinical aspects with the aim of publishing his work in scientific journals
13. Reach to the public to motivate and educate regarding periodontal disease, its prevention and consequences if not treated
14. Plan out epidemiological survey to assess prevalence and incidence of early onset periodontitis and adult periodontitis in Indian population (Region wise)
15. Shall develop knowledge, skill in the science and practice of Oral Implantology
16. Shall develop teaching skill in the field of Periodontology and Oral Implantology


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SKILL

1. *Take a proper clinical history, thorough examination 01 intra orally, extra orally, medical history evaluation, advice essential diagnostic procedures and interpret them to come to a reasonable diagnosis*
2. Effective motivation and education regarding periodontal disease maintenance after the treatment
3. Perform both non-surgical & education regarding periodontal disease, maintenance after the treatment
4. Perform both non-surgical and surgical procedures independently
5. Provide Basic Life Support Service (BLS) recognizes the need for and advance life support and does the immediate need for that.

Human values, ethical practice to communication abilities

Adopt ethical principles in all aspects of treatment modalities, Professional honesty & integrity are to be fostered. Develop, Adopt ethical principles in all aspects of treatment modalities; Professional honesty & integrity are to be fostered. Develop Communication skills to make awareness regarding periodontal disease Apply high moral and ethical standards while carrying out human or animal research, Be humble, accept the limitations in his knowledge and skill, and ask for help from colleagues when needed, Respect patients rights and privileges, including patients right to information and right to seek a second opinion.

ORAL AND MAXILLOFACIAL SURGERY

Objectives:

The training program in Oral and Maxillofacial Surgery is structured to achieve the following four objectives-

1. Knowledge
2. Skills
3. Attitude
4. Communicative skills and ability

Knowledge:

1. To have acquired adequate knowledge and understanding of the etiology, patho physiology and diagnosis, treatment planning of various common oral and Maxillofacial surgical problems both minor and major in nature.
2. To have understood the general surgical principles like pre and post surgical management, particularly evaluation, post surgical care, fluid and electrolyte management, blood transfusion and post surgical pain management.
3. Understanding of basic sciences relevant to practice or oral and maxillofacial surgery.
4. Able to identify social, cultural, economic, genetic and environmental factors and their relevance to disease process management in the oral and Maxillofacial region.
5. Essential knowledge of personal hygiene and infection control, prevention c cross infection and safe disposal of hospital waste keeping in view the high prevalence of hepatitis and HIV.

Skill

1. To obtain proper clinical history, methodical examination of the patient, perform essential diagnostic procedures and order relevant laboratory tests and interpret them and to arrive at a reasonable diagnosis about the surgical condition.
2. To perform with competence minor oral surgical procedures and common maxillofacial surgery. To treat both surgically and medically (or by other means of the oral and Maxillofacial and the related area).
3. Capable of providing care for maxillofacial surgery patients.

Attitude:

1. Develop attitude to adopt ethical principles in all aspect of surgical practice, professional honesty and integrity are to be fostered. Surgical care is to be delivered irrespective of the social status, caste, creed or religion of the patient.
2. Willing to share the knowledge and clinical experience with professional colleagues.
3. Willing to adopt new and techniques of surgical management developed from time to time based on scientific research which are in the best interest of the patient
4. Respect patient right and privileges, including patients right to information and right to seek a second opinion.
5. Develop attitude to seek opinion from an allied medical and dental specialists as and when required.

Communication skills:

1. Develop adequate communication skills particularly with the patients giving them the various options available to manage a particular surgical problem and obtain a true informed consent from them for the most appropriate treatment available at that point of time
2. Develop the ability to communicate with professional colleagues.
3. Develop ability to teach undergraduates.

CONSERVATIVE DENTISTRY

Objectives

The following objectives are laid out to achieve the goals of the course. These are to be achieved by the time the candidate completes the course. These objectives may be considered under the following subtitles.

Knowledge

At the end of 36 months of training, the candidates should be able to:

1. Describe aetiology, pathophysiology, periapical diagnosis and management of common restorative situations, endodontic situations that will include contemporary management of dental caries, management of trauma and pulpal pathoses including periodontal situations.
2. Demonstrate understanding of basic sciences as relevant to conservative / restorative dentistry and Endodontics.
3. Identify social, economic, environmental and emotional determinants in a given case or community and take them into account for planning and execution at individual and
4. Community level.
5. Ability to master differential diagnosis and recognize conditions that may require multi disciplinary approach or a clinical situation outside the realm of the speciality, which he or she should be able to recognize and refer to appropriate specialist.

6. Update himself by self-study and by attended basic and advanced courses, conferences, seminars, and workshops in the specialty of Conservative Dentistry- Endodontics-Dental Materials and Restorative Dentistry.
7. Ability to teach, guide, colleagues and other students. Use information technology tools and carry out research both basic and clinical with the aim of his publishing his work and presenting the same at scientific platform

Skills

1. Take proper chair side history, exam the patient and perform medical and dental diagnostic procedures and order as well as perform relevant tests and interpret to them to come to a reasonable diagnosis about the dental condition in general and Conservative Dentistry - Endodontics in particular. And undertake complete patient monitoring including preoperative as well as post operative care of the patient.
2. Perform all levels of restorative work and surgical and non-surgical Endodontics including endodontic endosseous implants, as well as endodontic-periodontal surgical procedures as part of multidisciplinary approach to clinical condition.
3. Provide basic life saving support in emergency situations.
4. Manage acute pulpal and pulpo periodontal situations.
5. Have a thorough knowledge of infection control measures in the dental clinical environment and laboratories.

Human Values, Ethical Practice and Communication Abilities

1. Adopt ethical principles in all aspects of restorative and contemporary Endodontics" including non-surgical and surgical Endodontics. Professional honesty and integrity should be the top priority.
2. Dental care has to be provided regardless of social status, caste, creed or religion of the patient.
3. Develop communication skills- in particular to explain various options available management and to obtain a true informed consent from the patient.
4. Apply high moral and ethical standards while carrying on human or animal research .He / She shall not carry out any heroic procedures and must know his limitations in performing all aspects of restorative dentistry including Endodontics. Ask for help from colleagues or seniors when required without hesitation O Respect patient's rights and privileges including patients right to information.

ORTHODONTICS & DENTOFACIAL ORTHOPAEDICS

Objectives

The training programme in Orthodontics is to structure and achieve the following four objectives

Knowledge of

1. The dynamic interaction of biologic processes and mechanical forces acting on the stomatognathic system during orthodontic treatment
2. The etiology, pathophysiology, diagnosis and treatment planning of various common Orthodontic problems
3. Various treatment modalities in Orthodontics preventive interceptive and corrective.
4. Basic sciences relevant to the practice of Orthodontics
5. Interaction of social, cultural, economic, genetic and environmental factors and their relevance to management of oro - facial deformities
6. Factors affecting the long-range stability of orthodontic correction and their management
7. Personal hygiene and infection control, prevention of cross infection and safe disposal of hospital waste, keeping in view the high prevalence of Hepatitis and HIV and other highly contagious

diseases.

Skills

1. To obtain proper clinical history, methodical examination of the patient, perform Essential diagnostic procedures, and interpret them and arrive at a reasonable diagnosis about the Dentofacial deformities.
2. To be competent to fabricate and manage the most appropriate appliance - intra or extra oral, removable or fixed, mechanical or functional, and active or passive - for the treatment of any orthodontic problem to be treated singly or as a part of multidisciplinary treatment of orofacial deformities.

Attitudes:

1. Develop an attitude to adopt ethical principles in all aspects of Orthodontic practice.
2. Professional honesty and integrity are to be fostered
3. Treatment care is to be delivered irrespective of the social Status, cast, creed or colleagues
4. Willingness to share the knowledge and clinical experience with professional colleagues
5. Willingness to adopt, after a critical assessment, new methods and techniques of orthodontic management developed from time to time based on scientific research, which are in the best interest of the patient
6. Respect patients rights and privileges, including patients right to information and right to seek a second opinion
7. Develop attitude to seek opinion from allied medical and dental specialists as and when required

Communication skills


1. Develop adequate communication skills particularly with the patients giving them various options available to manage a particular Dentofacial problem and to obtain a true informed consent from them for the most appropriate treatment available at that point of time.
2. Develop the ability to communicate with professional colleagues, in Orthodontics or other specialities through various media like correspondence, Internet, e-video, conference, etc. To render the best possible treatment.

ORAL PATHOLOGY AND MICROBIOLOGY

Objectives:

1. To train a post graduate dental surgeon so as to ensure higher competence in both general and special pathology dealing with the nature of oral diseases, their causes, processes and effects.
2. An oral pathologist is expected to perform routine histopathological evaluation of specimens relating to oral and perioral tissues, to carry out routine diagnostic procedures including hematological, cytological, microbiological, Immunological and ultra structural investigations.
3. He/she is expected to have an understanding of current research methodology, collection and interpretation of data, ability to carry out research projects on clinical and or epidemiological aspects, a working knowledge on current databases, automated data retrieval systems, referencing and skill in writing scientific papers.
4. He/she is expected to present scientific data pertaining to the field, in conferences both as poster and verbal presentations and to take part in group discussions.

PUBLIC HEALTH DENTISTRY


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Objectives

At the end of 3 years of training the candidate should be able to:

Knowledge

1. Apply basic sciences knowledge regarding etiology, diagnosis and management of the prevention, promotion and treatment of all the oral conditions at the individual and community level.
2. Identify social, economic, environmental and emotional determinants in a given individual patient or a community for the purpose of planning and execution of Community Oral Health Program.
3. Ability to conduct Oral Health Surveys in order to identify all the oral health problems
4. Affecting the community and find solutions using multi - disciplinary approach. Ability to act as a consultant in community Oral Health, teach, guide and take part in research (both basic and clinical), present and publish the outcome at various scientific conferences and journals, both national and international level.


Skills

The candidate should be able to

1. Take history, conduct clinical examination including all diagnostic procedures to arrive at diagnosis at the individual level and conduct survey of the community at state and national level of all conditions related to oral health to arrive at community diagnosis. Plan and perform all necessary treatment, prevention and promotion of Oral Health at the individual and community level.
2. Plan appropriate Community Oral Health Program, conduct the program and evaluate, at the community level.
3. Ability to make use of knowledge of epidemiology to identify causes and appropriate preventive and control measures.
4. Develop appropriate person power at various levels and their effective utilization.
5. Conduct survey and use appropriate methods to impart Oral Health Education.
6. Develop ways of helping the community towards easy payment plan, and followed by evaluation for their oral health care needs.
7. Develop the planning, implementation, evaluation and administrative skills to carry out successful community Oral Health Programs.

Values:

1. Adopt ethical principles in all aspects of Community Oral Health Activities.
2. To apply ethical and moral standards while carrying out epidemiological researches.
3. Develop communication skills, in particular to explain the causes and prevention of oral diseases to the patient.
4. Be humble and accept the limitations in his knowledge and skill and to ask for help from colleagues when needed and promote teamwork approach.
5. Respect patient's rights and privileges including patients right to information and right to seek a second opinion.


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PAEDODONTICS & PREVENTIVE DENTISTRY

Objectives

At the end of 3 years of training the candidate should be able to

1. Create not only a good oral health in the child but also a good citizen tomorrow.
2. Instill a positive attitude and behavior in children
3. Understand the principles of prevention and preventive dentistry right from birth to adolescence
4. Guide and counsel the parents in regards to various treatment modalities including different facets of preventive dentistry
5. Prevent and intercept developing malocclusion

Skills

1. Obtain proper clinical history, methodological examination of the child patient, perform essential diagnostic procedures and interpret them, and arrive at a reasonable diagnosis and treat appropriately
2. Be competent to treat dental diseases which are occurring in child patient.
3. Manage to repair and restore the lost / tooth structure to maintain harmony between both hard and soft tissues of the oral cavity.
4. Manage the disabled children effectively and efficiently, tailored to the needs of individual requirement and conditions.

Attitudes

1. Develop an attitude to adopt ethical principles in all aspects of Pedodontic practice.
2. Professional honesty and integrity are to be fostered
3. Treatment care is to be delivered irrespective of the social status, cast, creed, and religion of the patients.
4. Willingness to share the knowledge and clinical experience with professional colleagues.
5. Willingness to adopt, after a critical assessment, new methods and techniques of Pedodontic management developed from time to time, based on scientific research, which are in the best interest of the child patient.
6. Respect child patient's rights and privileges, including child patients right to information and right to seek a second opinion.
7. Develop an attitude to seek opinion from allied medical and dental specialities, as and when required

ORAL MEDICINE AND RADIOLOGY


Objectives:

At the end of 3 years of training the candidate should be able to


Knowledge: Theoretical, Clinical and practical knowledge of all mucosal lesions, diagnostic procedures pertaining to them and latest information of imaging modules.

Skills and Attitude: Three important skills need to be imparted

1. Diagnostic skill in recognition of oral lesions and their management
2. Research skills in handling scientific problems pertaining to oral treatment


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3. Clinical and Didactic skills in encouraging younger doctors to attain learning objectives
Attitudes: the positive mental attitude and the persistence of continued learning need to be inculcated


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