



SARASWATI DENTAL COLLEGE & HOSPITAL, LUCKNOW

Institutional Examination and Academic Committee

PROGRAM OUTCOME

PROGRAM SPECIFIC OUTCOME & COURSE OUTCOME

The program outcome is decided & designed keeping in mind five major objectives : -

Acquiring adequate knowledge and understanding of the etiology, pathophysiology, diagnosis and treatment planning of various common oral and maxillofacial surgical problems, both major and minor in nature.

Developing sufficient psychomotor and analytical skills through proper clinical history, methodical examination of the patient, essential diagnostic procedures and other relevant laboratory tests; and interpret them to arrive at a reasonable diagnosis about the disease/affliction/condition.

Inculcating professional aptitude to understand the general surgical principles like pre and post-op surgical management with special emphasis on evaluation, post-surgical care, fluid and electrolyte balance, blood transfusion and post-surgical pain management for successful surgical practice.

Developing communicative skills/ ability, particularly during the interaction with the patients/relatives, appropriately apprising them of the condition of the patient and giving them various options available to manage a particular surgical problem and obtain an informed consent from them for the most appropriate treatment available at that point of time. This also aims to develop the ability of the students to share their knowledge at various professional platforms.

Inculcating research aptitude to help in constantly evolving and improving upon the existing knowledge of the subject and develop strategies for prevention and management of various affliction/ diseases related to oral & maxillofacial region.

The objective is to train a student so as to ensure higher competence in both general and special area of interest and prepare him or her for a career in teaching, research and speciality practice. A student must achieve a high degree of clinical proficiency in the subject and develop competence in research and its methodology in the concerned field.

The objectives to be achieved at the end of **BACHELOR OF DENTAL SURGERY PROGRAM**, the graduate shall be proficient in the following :

1. General Skills –

- a. Apply principles of ethics;
- b. Participate and involve in professional bodies;
- c. Involvement in simple research projects;
- d. Apply knowledge and skills in day to day practice;
- e. Analyse the outcomes of treatment;
- f. Self-assessment and willingness to update the knowledge and skills from time to time;
- g. Refer patients for consultations and specialized treatment;
- h. Basic study of forensic odontology and geriatric dental problems;
- i. Minimum computer proficiency to enhance knowledge and skills;
- j. Evaluate the scientific literature and information to decide the treatment;

2. Practice Management –

- a. Maintain all records;
- b. Evaluate practice location, population dynamics and reimbursement mechanics;
- c. Practice within the scope of one's competence;
- d. Co-ordinate and supervise the activities of allied dental health personnel;
- e. Implement and monitor infection control and environmental safety programs;

3. Communication and Community resources -

- a. Participate in improving oral health of the individuals through community activities;
- b. Assess patients' goals, values, and concerns to establish rapport and guide patient care;
- c. Able to communicate freely, orally and in writing with all concerned;

4. Patient Care – Diagnosis -

- a. Performing thorough clinical examination;
- b. Obtaining appropriate consultation;
- c. Obtaining patient's history in a methodological way;
- d. Selection and interpretation of clinical, radiological and other diagnostic information;
- e. Arriving at provisional, differential and final diagnosis;

5. Patient Care – Treatment Planning -

- a. Ability to order appropriate investigations;
- b. Perform basic cardiac life support;
- c. Administration of all forms of local anesthesia;
- d. Prescription of drugs, pre-operative, prophylactic and therapeutic requirements;
- e. Trans-alveolar extractions and removal of simple impacted teeth;
- f. Management of oro-facial infections;
- g. Taking, processing and interpretation of various types of intra oral radiographs;
- h. Integrate multiple disciplines into an individual sequence treatment plan using diagnostic and prognostic information;
- i. Recognition and initial management of medical emergencies that may occur during dental treatment;

- j. Management of pain including post-operative;
- k. Administration of intra muscular and venous injection;
- l. Uncomplicated extraction of teeth;
- m. Minor oral surgical procedures;
- n. Simple orthodontic appliance therapy;
- o. Various kinds of motivating procedures using different materials available;
- p. Simple endodontic procedures;
- q. Removable and fixed Prosthodontics;
- r. Various kinds of Periodontal therapy;

6. Knowledge about infection and cross infection in dentistry -

Knowledge about asepsis – disinfection and sterilization of instruments, clinical area/ personal care as per universal protection and disposal of medical wastes in the appropriate modes. Students should be aware of the rules and regulation pertaining to maintenance of clinical set-up and waste disposal.

BASIC MEDICAL & DENTAL SUBJECTS:

- The basic medical and dental sciences comprise anatomy gross and microscopic, physiology, biochemistry, pharmacology, oral biology and science of dental materials. Subjects like behavioural sciences, which is useful to develop communication skills, should also be introduced in the first year itself and spread over the undergraduate course.

ORAL MEDICINE & RADIOLOGY :

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

PAEDIATRIC & PREVENTIVE DENTISTRY :

- Able to instill a positive attitude and behaviour in children towards oral health and understand the principles of prevention and preventive dentistry right from birth to adolescence.
- Able to guide and counsel the parents in regards to various treatment modalities including different facets of preventive dentistry.

- Able to treat dental diseases occurring in child patient.
- Able to manage the physically and mentally challenged disabled children effectively and efficiently, tailored to the needs of individual requirement and conditions.

ORTHODONTICS & DENTOFACIAL ORTHOPAEDICS :

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

PERIODONTOLOGY :

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

PROSTHODONTICS AND CROWN & BRIDGE :

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

CONSERVATIVE DENTISTRY AND ENDODONTICS :

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

ORAL & MAXILLOFACIAL SURGERY :

- Able to apply the knowledge gained in the basic medical and clinical subjects in the management of patients with surgical problems.

- Able to diagnose, manage and treat patients with basic oral surgical problems.
- Have a broad knowledge of maxillofacial surgery and oral implantology.
- Should be familiar with legal, ethical and moral issues pertaining to the patient care and communication skills.
- Should have acquired the skill to examine any patient with an oral surgical problem in an orderly manner.
- Understand and practice the basic principles of asepsis and sterilization.
- Should be competent in the extraction of the teeth under both local and general anaesthesia.
- Competent to carry out certain minor oral surgical procedure under LA like trans-alveolar extraction, frenectomy, dento-alveolar procedures, simple impaction, biopsy, etc.
- Competent to assess, prevent and manage common complications that arise during and after minor oral surgery.
- Able to provide primary care and manage medical emergencies in the dental office.
- Familiar with the management of major oral surgical problems and principles involved in the patient management.

ORAL AND MAXILLOFACIAL PATHOLOGY AND ORAL MICROBIOLOGY :

- To demonstrate understanding of basic sciences relevant to speciality.
- To obtain proper clinical history, methodical examination of the patient, perform essential diagnostic procedures and order relevant tests and interpret them to come to a reasonable diagnosis about the condition.
- To identify social, economic, environmental and emotional determinants in a given case and take them into account for planned treatment.
- To describe aetiology, pathophysiology.
- To adopt ethical principles while practicing oral pathology.
- To adopt new scientific methods and techniques in oral pathology while delivering patient care.

PUBLIC HEALTH DENTISTRY :

- Apply the principles of health promotion and disease prevention.
- Have knowledge of the organization and provision of health care in community and in the hospital service.
- Have knowledge of the prevalence of common dental conditions in India.
- Have knowledge of community based preventive measures.
- Have knowledge of the social, cultural and environment factors which contribute to health or illness.
- Administer and hygiene instructions, topical fluoride therapy and fissure sealing.
- Educate patients concerning the aetiology and prevention of oral disease and encourage them to assure responsibility for their oral health.

**PROGRAM SPECIFIC OUTCOME AND COURSE OUTCOME IN MASTER OF
DENTAL SURGERY PROGRAM**

Branch I : PROSTHODONTICS AND CROWN AND BRIDGE

(A) KNOWLEDGE

1. Demonstrate understanding of basic sciences relevant to speciality;
2. Describe etiology, pathophysiology, principles and management of common problems within the speciality in adult and children;
3. Recognise conditions that may be outside the area of speciality or competence and to refer them to concerned specialist;
4. Identify social, economic, environmental and emotional determinants in a given case and take them into account for planned treatment;
5. Undertake, audit, use information, technology and carry out research in both basic and clinical with the aim of publishing or presenting the work at various scientific gathering;
6. Update knowledge by self-study and attending courses, conferences, and seminars pertaining to speciality;

(B) ATTITUDE

1. Willing to share the knowledge and clinical experience with professional colleagues;
2. 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;
3. Respect patient's rights and privileges including patient's right to information and right to seek second opinion;
4. Willing to adopt new methods and technique in prosthodontics from time to time based on scientific research, which is in patient's best interest;

(C) SKILLS

1. The candidate should be able to examine the patients requiring Prosthodontic therapy, investigate the patient systematically, analyse the investigation results, radiography, diagnose the ailment, plan a treatment, communicate it with the patient and execute it;
2. The candidate should be able to restore lost functions of stomatognathic system namely mastication, speech, appearance and psychological comforts;
3. Understand the prevalence and prevention of diseases of cranio-mandibular system related to Prosthetic dentistry;
4. By understanding biological, biomedical, bioengineering principles and systemic condition of the patient to provide a quality healthcare of the craniofacial region;
5. Identify target diseases and awareness amongst the population for prosthetic therapy;
6. 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 speciality area;
7. Perform clinical and laboratory procedures with understanding of biomaterials, tissue conditions related to prosthesis and have competent dexterity and skill for performing clinical and laboratory procedures fixed, removable, implant and maxillofacial TMJ, esthetics Prosthodontics;

8. To understand demographic distribution and target diseases of cranio-mandibular region related to prosthodontic including crown and bridge and implantology;
9. Laboratory technique management based on skills and knowledge of dental materials and dental equipment and instruments, and their management;

Branch II : PERIODONTOLOGY

(A) KNOWLEDGE

Demonstrate understanding of basic sciences relevant to speciality. Update knowledge by self-study and by attending courses, conferences, seminars relevant to speciality;

(B) ATTITUDE

To develop the right attitude to share his knowledge and willingness to learn the newer concepts so as to keep pace with current technology and development;

(C) SKILLS

1. Take a proper clinical history, examine the patient, perform essential diagnostic procedures and other relevant tests and interpret them to come to a reasonable diagnosis about the condition;
2. Acquire adequate skills and competence in performing various procedure required in the speciality;
3. Perform both non-surgical and surgical procedures independently;
4. Provide Basic Life Support (BLS) recognizes the need for and advance life support and does not immediate need for that;

Branch III : ORAL AND MAXILLOFACIAL SURGERY

(A) KNOWLEDGE

1. To have acquired adequate knowledge and understanding of the etiology, pathophysiology 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 and management;
3. Understanding the 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 and cross infection and safe disposal of hospital waste keeping in view the high prevalence of hepatitis and HIV;

(B) SKILLS

1. To obtain proper clinical history, methodical examination of 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;
3. To treat both surgically and medically (or by means of Oral and Maxillofacial and related areas);
4. Capable of providing care for maxillofacial surgery patients;

(C) ATTITUDE

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

(D) 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 then for the most appropriate treatment available at that point of time;
2. Develop the ability to communicate with professional colleagues;
3. Develop the ability to teach undergraduates;

Branch IV : CONSERVATIVE DENTISTRY AND ENDODONTICS

(A) KNOWLEDGE

1. To train the postgraduate student to master the chosen speciality in all disciplines and inculcate a quest for research and updation;
2. To provide critical knowledge and understanding of conservative dentistry and endodontics;
3. To acquire knowledge, necessary skills and attitude which are required for carrying out all the activities appropriate to general dental practice involving prevention, diagnosis and treatment of anomalies and diseases of teeth, mouth, jaws and associated tissues;
4. Learn the scientific and clinical basis of endodontics;
5. To train the students and equip with knowledge, attitude and skills necessary to carry out procedures in conservative dentistry and endodontics;
6. Establish a foundation of lifelong learning;

(B) ATTITUDE

1. Attitude of empathy and concern for the well-being of the patient;
2. To fine tune the necessary skills;

(C) SKILLS

1. To obtain proper clinical history, methodical examination of the patient, perform essential diagnostic procedures and order relevant tests and interpret them to come to a reasonable diagnosis about the condition;
2. Acquire adequate skills and competence in performing various procedures as required in the speciality;

Branch V : ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS

(A) KNOWLEDGE

1. The etiology, pathophysiology, diagnosis and treatment planning of various common orthodontic problems;
2. The dynamic interaction of biologic processes and mechanical forces acting on the stomatognathic system during orthodontic treatment;
3. Basic sciences relevant to the practice of orthodontics;
4. Various treatment modalities in orthodontic – preventive, interceptive and corrective;
5. Factors affecting the long-range stability of orthodontic correction and their management;
6. Interaction of social, economic, genetic and environmental factors and their relevance to management of oro-facial deformities;
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;

(B) ATTITUDE

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

(C) SKILLS

1. To obtain proper clinical history, methodical examination of the patient, perform essential diagnostic procedures and interpret then 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 or oro-facial deformities;

Branch VI : ORAL AND MAXILLOFACIAL PATHOLOGY AND ORAL MICROBIOLOGY

(A) KNOWLEDGE

1. To demonstrate understanding of basic sciences relevant to speciality;
2. To identify social, economic, environmental and emotional determinants in a given case and take them into account for planned treatment;
3. To describe aetiology, pathophysiology;
4. Update knowledge by self-study and by attending courses, conferences and seminars pertaining to speciality;
5. To recognize conditions that may be outside the area of speciality or competence and to refer them to the concerned specialists;
6. To undertake, audit, use information technology and carry out research in both basic and clinical with the aim of publishing and presenting the work at various scientific gathering;

(B) ATTITUDE

1. To adopt ethical principles while practicing oral pathology;
2. To treat patients regardless of social status, caste, creed or religion;
3. To inculcate professional honesty and exhibit integrity;
4. To share knowledge and clinical experience with professional colleagues;
5. To respect patients right and privileges including patients right to information;
6. To render all possible help if the patient wishes to seek second opinion;
7. To adopt new scientific methods and techniques in oral pathology while delivering patient care;

(C) SKILLS

1. To obtain proper clinical history, methodical examination of the patient, perform essential diagnostic procedures and order relevant tests and interpret them to come to a reasonable diagnosis about the condition;
2. Acquire adequate skills and competence in performing various procedures as required in the speciality;

Branch VII : PEDIATRIC DENTISTRY

(A) KNOWLEDGE

1. Demonstrate understanding of basic sciences relevant to speciality;
2. Identify social, economic, environmental and emotional determinants in a given case and take then into account for planned treatment;
3. Describe etiology, pathophysiology, principles of diagnosis and management of common problems within the speciality in adults and children;
4. Recognize conditions that may be outside the area of speciality or competence and to refer them to the concerned specialist;
5. Undertake, audit, use information technology and carry out research in both basic and clinical with the aim of publishing and presenting the work at various scientific gatherings;
6. Update knowledge by self-study and by attending courses, conferences and seminars pertaining to speciality;

(B) SKILLS

1. To obtain proper clinical history, methodical examination of the child patient, perform essential diagnostic procedures and interpret them and come to 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 oral cavity;
4. Manage the disabled children effectively and efficiently, tailored to the needs of individual requirements and conditions;

(C) HUMAN VALUES, ETHICAL PRACTICE AND COMMUNICATION ABILITIES

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

Branch VIII : ORAL MEDICINE AND RADIOLOGY

(A) KNOWLEDGE

1. Describe etiology, pathophysiology, principles of diagnosis and management of common problems within the speciality in adult and children;
2. Demonstrate understanding of basic sciences relevant to speciality;
3. Identify social, economic, environmental and emotional determinants in a given case and take them into account for planned treatment;
4. Update knowledge by self-study and by attending courses, conferences and seminars pertaining to speciality;
5. Recognise condition that may be outside the area of speciality or competence and to refer them to the concerned specialist;
6. Undertake audit, use information technology and carry out research in both basic and clinical with the aim of publishing or presenting the work at various scientific gatherings;

(B) ATTITUDE

1. Adopt ethical principles in all aspects of practice;
2. Deliver patient care irrespective of social status, caste, creed or religion of the patient;
3. Foster professional honesty and integrity;
4. Provide leadership and get the best out of his team in a congenial working atmosphere;
5. Develop communication skills, to explain various options available and obtain a true informed consent from the patient;

6. Apply high moral and ethical standards while carrying out human or animal;
7. Be humble and accept the limitations in his knowledge and skill and to ask for help from colleagues when needed;
8. Respect patient's right and privileges including patient's right to information and right to seek a second opinion;

(C) SKILLS

1. Take a proper clinical history, examine the patient, perform essential diagnostic procedures and order relevant tests and interpret them to come to a reasonable diagnosis about the condition;
2. Acquire adequate skills and competence in performing various procedures as required in the speciality;

Approved by :



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