

LIST OF COMPETENCIES


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List of Competencies for BDS for Department of Periodontics

In the Bachelor of Dental Surgery (BDS) program in India, Periodontics is a core subject that deals with the prevention, diagnosis, and treatment of periodontal diseases (diseases affecting the gums and supporting structures of the teeth). While advanced periodontics and complex surgical techniques are covered during postgraduate studies (MDS in Periodontics), BDS students are expected to gain foundational competencies to manage common periodontal conditions in a clinical setting.

Here is a list of competencies in Periodontics for BDS students in India:

1. Basic Knowledge of Periodontics

- Understanding Periodontal Anatomy: Knowledge of the structure and function of the periodontal tissues, including the gingiva, periodontal ligament, cementum, and alveolar bone.
- Development and Growth of Periodontal Tissues: Understanding the embryology and development of the periodontal tissues and the role of these tissues in maintaining dental health.
- Pathogenesis of Periodontal Diseases: Knowledge of the causes and progression of periodontal diseases, including gingivitis, periodontitis, and other inflammatory conditions affecting the periodontium.
- Classification of Periodontal Diseases: Familiarity with the classification systems of periodontal diseases, such as the AAP Classification (American Academy of Periodontology) and the International Classification of Diseases (ICD).

2. Diagnosis and Clinical Examination in Periodontics

- Medical and Dental History: Competency in obtaining a detailed medical and dental history, identifying risk factors (e.g., diabetes, smoking) and previous periodontal treatment history.
- Clinical Examination: Conducting a thorough clinical examination to assess periodontal health, including visual inspection, palpation, and examination of periodontal pockets, bleeding on probing (BOP), and gingival recession.
- Measurement of Periodontal Pockets: Using a periodontal probe to measure probing depths and assess the attachment level to diagnose the severity of periodontal disease.
- Gingival Health Assessment: Evaluating gingival color, texture, consistency, and bleeding tendency to identify signs of inflammation or infection.
- Radiographic Diagnosis: Interpreting radiographs (e.g., bitewings, periapicals, and panoramic X-rays) to assess bone loss, root morphology, and the extent of periodontal damage.

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3. Preventive Periodontics

- Oral Hygiene Instructions (OHI): Educating patients on proper oral hygiene practices, including brushing techniques, flossing, and the use of interdental aids to prevent periodontal diseases.
- Motivating Patients for Good Oral Hygiene: Employing effective communication techniques to motivate patients to maintain good oral hygiene and follow preventive measures to avoid periodontal diseases.
- Dietary Counseling: Providing dietary recommendations to support periodontal health, such as limiting sugar intake and recommending foods rich in vitamins and minerals beneficial for gum health.
- Fluoride Application: Understanding the role of fluoride in preventing gingivitis and periodontal diseases, and using fluoride treatments where appropriate.

4. Non-Surgical Periodontal Therapy

- Scaling and Root Planing: Performing scaling and root planing (SRP) procedures to remove plaque, calculus, and bacterial toxins from the root surfaces and below the gumline to control periodontal disease.
- Plaque Control: Teaching patients effective plaque control techniques, including the use of manual or electric toothbrushes, floss, and other interdental devices.
- Antimicrobial Therapy: Administering topical or systemic antimicrobial agents (e.g., chlorhexidine, antibiotics) as adjuncts to non-surgical periodontal therapy in cases of localized or generalized periodontal infections.
- Periodontal Maintenance Therapy: Implementing regular recall and maintenance schedules for patients with periodontal disease to prevent recurrence and maintain periodontal health.

5. Management of Gingivitis

- Diagnosis of Gingivitis: Identifying signs of gingival inflammation, such as redness, swelling, and bleeding on probing (BOP).
- Non-Surgical Management of Gingivitis: Treating gingivitis through scaling and root planing, proper oral hygiene instruction, and routine recall visits to monitor progress.
- Patient Education: Educating patients on the reversible nature of gingivitis with proper oral hygiene and regular dental check-ups.

6. Management of Periodontitis

- Diagnosis of Periodontitis: Identifying the clinical signs of periodontitis, including pocket formation, attachment loss, and radiographic evidence of bone loss.
- Classification of Periodontitis: Understanding the different stages and types of periodontitis (e.g., chronic periodontitis, aggressive periodontitis, necrotizing periodontal diseases) and their respective treatment protocols.
- Treatment Planning for Periodontitis: Formulating individualized treatment plans based on the severity and extent of periodontal disease, taking into consideration the patient's general health and risk factors.

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- Scaling and Root Planing for Periodontitis: Implementing SRP as the first line of treatment for periodontitis to remove bacterial biofilm, calculus, and toxins, and re-establish periodontal health.

- Adjunctive Use of Antibiotics: Prescribing systemic or local antibiotics (e.g., doxycycline, metronidazole) to aid in the management of chronic periodontitis, particularly in cases of aggressive or refractory disease.

7. Surgical Periodontal Procedures

- Periodontal Flap Surgery: Understanding the indications for periodontal flap surgery to gain access to deep periodontal pockets for thorough cleaning and debridement.

- Gingivectomy and Gingivoplasty: Knowledge of techniques for removing or reshaping excess gingival tissue to correct gingival overgrowth or contour defects.

- Frenectomy/Frenuloplasty: Performing frenectomy procedures for patients with abnormal frenal attachments causing periodontal problems or interfering with oral function.

- Bone Grafting Procedures: Understanding the principles of bone grafting for the regeneration of bone loss in periodontal pockets (e.g., autografts, allografts, xenografts, or alloplasts).

- Soft Tissue Grafting: Familiarity with soft tissue grafting techniques, such as free gingival grafts or connective tissue grafts, to treat gingival recession and improve tissue esthetics.

8. Management of Periodontal Abscesses

- Diagnosis of Periodontal Abscesses: Recognizing the clinical signs of a periodontal abscess, including localized pain, swelling, and purulent discharge from the periodontal pocket.

- Management of Acute Periodontal Abscesses: Providing drainage, prescribing appropriate antibiotics, and performing deep cleaning to manage the infection.

- Chronic Periodontal Abscesses: Managing chronic abscesses through root canal therapy, surgery, or further periodontal treatment to eliminate the cause of the infection.

9. Periodontal Maintenance and Recall

- Recall System: Setting up a recall system for regular periodontal maintenance appointments based on the patient's periodontal health, with intervals ranging from 3 to 6 months.

- Post-Treatment Monitoring: Monitoring the patient's response to treatment, assessing periodontal health, and reinforcing oral hygiene practices during follow-up visits.

- Long-Term Periodontal Care: Ensuring long-term maintenance of periodontal health through continuous patient education, plaque control, and regular professional cleanings.

10. Periodontal Systemic Connections

- Understanding the Link Between Periodontal Disease and Systemic Health: Recognizing the relationship between periodontal disease and systemic conditions such as diabetes, cardiovascular disease, respiratory disease, and pregnancy complications.

- Managing Periodontal Disease in Systemically Compromised Patients: Modifying treatment approaches for patients with systemic conditions (e.g., diabetes, hypertension, immunocompromised states) to optimize periodontal care.

11. Periodontal Plastic Surgery

- **Gingival Recession Treatment:** Recognizing and managing gingival recession, with techniques such as connective tissue grafts and free gingival grafts to restore the gingival margin and prevent further recession.

- **Esthetic Enhancement:** Using soft tissue grafting techniques to improve the esthetics of the smile, particularly in the treatment of gingival recession in the anterior region.

12. Patient Education and Communication

- **Educating Patients on Periodontal Health:** Teaching patients about the importance of maintaining healthy gums, the role of plaque and tartar in periodontal disease, and the effects of smoking and poor nutrition on periodontal health.

- **Explaining Treatment Options:** Clearly communicating various treatment options, including non-surgical and surgical therapies, to patients in a manner that helps them make informed decisions.

13. Ethics and Professionalism in Periodontics

- **Informed Consent:** Ensuring patients fully understand the procedures, risks, benefits, and expected outcomes of periodontal treatments and obtaining informed consent.

- **Confidentiality and Patient Care:** Maintaining the highest standards of professionalism, including patient confidentiality, respectful communication, and ethical treatment planning.

14. Interdisciplinary Collaboration

- **Collaborating with Other Dental Specialists:** Understanding the importance of collaboration with prosthodontists, orthodontists, and oral surgeons in cases involving complex restorative or surgical needs that require a multidisciplinary approach.

- **Referral for Advanced Periodontal Treatment:** Recognizing when to refer patients for advanced periodontal care, such as cases requiring periodontal surgery, regenerative therapy, or management of aggressive periodontitis.

These competencies ensure that BDS students in India are well-prepared to diagnose, treat, and manage common periodontal conditions in clinical practice. However, more complex cases and advanced surgical techniques are typically handled during postgraduate education (MDS

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List of Competencies for BDS for Department of Prosthodontics

In the Bachelor of Dental Surgery (BDS) program in India, Prosthodontics focuses on the restoration and replacement of missing teeth and oral structures. This specialty plays a key role in enhancing both the function and aesthetics of patients' smiles. While prosthodontic techniques can range from simple dentures to complex implant restorations, the competencies expected from BDS graduates are foundational, preparing them to handle a variety of common clinical situations.

Here's a list of key competencies in Prosthodontics for BDS students in India:

1. Basic Knowledge of Prosthodontics

- Understanding Prosthodontic Principles: Knowledge of the basic principles of prosthodontics, including biomaterials, tooth preparation, occlusion, and esthetics. This includes understanding how to restore teeth that are missing or damaged, and how to create a functional and aesthetically pleasing prosthesis.
- Types of Prostheses: Familiarity with various types of prostheses, such as complete dentures, partial dentures, fixed dental prostheses (crowns and bridges), and implants.

2. Diagnosis and Treatment Planning

- Comprehensive Examination: Competency in performing a thorough clinical examination of patients with missing teeth, which includes checking the oral cavity, evaluating the remaining teeth and tissues, and assessing the patient's medical history and functional needs.
- Treatment Planning: Ability to formulate a well-structured treatment plan for patients based on their clinical presentation, including determining whether a fixed or removable prosthesis would be most suitable. Understanding when to refer for advanced procedures (e.g., implants) or interdisciplinary care (e.g., with periodontists or orthodontists).
- Diagnostic Records: Competence in taking appropriate diagnostic records, including impressions, bite registrations, and radiographs, to assist in designing and fabricating prostheses.

3. Design and Fabrication of Removable Prostheses

- Complete Dentures: Knowledge of designing and constructing complete dentures for patients with no remaining natural teeth. This includes steps like border molding, impression making, and trial dentures for evaluation and adjustment before final placement.

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- Partial Dentures: Competency in designing and constructing partial dentures to replace missing teeth while preserving the remaining natural teeth. This includes the use of various retention systems like clasping, rest seats, and guiding planes.

- Aesthetic Considerations in Removable Prosthesis: Developing a sense of esthetics in removable prosthetics, particularly in achieving a natural appearance, especially for the anterior region (front teeth). This includes selecting the appropriate shade and form for denture teeth.

4. Design and Fabrication of Fixed Prosthesis

- Crown Preparation: Mastery in the preparation of teeth for crowns and bridges, which includes tooth reduction, achieving proper margin design, and ensuring the preparation is functional and minimally invasive.

- Impression Techniques for Fixed Prosthesis: Ability to take accurate impressions for crowns, bridges, and inlays, using both traditional materials (e.g., alginate, silicone) and newer digital impression technologies (CAD/CAM).

- Cementation and Adjustments: Competency in selecting appropriate cementing agents for fixed prostheses and adjusting the prosthesis to ensure ideal occlusion and comfort for the patient.

- Esthetic Considerations in Fixed Prosthesis: Ensuring proper shade matching, contouring, and functional considerations to create prostheses that blend seamlessly with the patient's natural dentition.

5. Implant Prosthodontics

- Basics of Implantology: Understanding the fundamentals of dental implants, including their indications, contraindications, types (e.g., endosteal implants), and their integration with the bone (osseointegration).

- Implant Restorations: Gaining competence in restoring dental implants with crowns, bridges, or overdentures. This includes understanding how to use abutments, and implant-supported prostheses to replace missing teeth, and ensuring proper fitting and occlusion.

- Implant Planning and Coordination: Collaborating with the oral surgeon or periodontist in the pre-surgical planning phase and ensuring that the implant is placed in a position that allows for effective prosthetic restoration.

6. Occlusion and Functional Considerations

- Principles of Occlusion: Understanding the basic principles of occlusion (the way upper and lower teeth meet) and how these principles apply to the design and fit of prostheses. This includes managing centric relation, centric occlusion, and bite registration techniques.

- Adjusting for Functional Efficiency: Ability to evaluate the prosthesis for functional efficiency, ensuring that patients are able to chew and speak effectively with their prostheses.

- Occlusal Adjustment: Competency in adjusting the occlusion of both removable and fixed prostheses after placement to ensure patient comfort and functionality, and to avoid complications such as temporomandibular joint (TMJ) disorders.

7. Patient Education and Communication

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- Explaining Treatment Options: Competency in communicating effectively with patients to explain their treatment options (e.g., removable vs. fixed prosthetics, traditional dentures vs. implants), expected outcomes, and any risks involved.

- Post-Operative Care Instructions: Providing appropriate care instructions to patients after the placement of prostheses, including guidance on maintenance, cleaning, and follow-up care to ensure the longevity of the restoration.

- Managing Patient Expectations: Ensuring that patients have realistic expectations about the esthetic, functional, and financial aspects of prosthodontic treatment.

8. Materials Science and Prosthodontic Materials

- Types of Materials: Knowledge of various materials used in prosthodontics, such as ceramics, metal alloys, resins, and composites. Understanding the properties of these materials, including strength, wear resistance, biocompatibility, and aesthetic potential.

- Selection of Appropriate Materials: Competency in selecting the most appropriate material based on the clinical scenario, such as using zirconia or metal-ceramic crowns for their strength, or composite resins for aesthetic restorations.

9. Maintenance and Follow-Up Care

- Maintenance of Prostheses: Ensuring that prostheses are regularly maintained and adjusted for long-term function and comfort. This includes providing patients with advice on routine care for dentures, bridges, and implants to prevent issues such as denture stomatitis or implant failure.

- Regular Check-Ups: Scheduling follow-up appointments to monitor the condition of the prostheses, check for signs of wear or failure, and make necessary adjustments to ensure the prosthesis continues to function properly.

- Handling Prosthesis Complications: Identifying and managing complications, such as loosening of crowns or bridges, denture fractures, or discomfort from implants, and knowing when to refer to a specialist for more advanced care.

10. Ethics and Professionalism in Prosthodontics

- Informed Consent: Ensuring that patients are fully informed about the nature of their treatment, the materials used, the expected lifespan of prostheses, and potential risks.

- Patient-Centered Approach: Maintaining a compassionate, ethical, and patient-centered approach throughout the prosthodontic treatment process. Respecting the patient's desires and comfort while delivering high-quality dental care.

- Multidisciplinary Collaboration: Working effectively with other dental specialists (e.g., periodontists for implants, oral surgeons for extractions) and allied healthcare professionals to provide comprehensive care for patients with complex cases.

11. Aesthetic Considerations in Prosthodontics

- Esthetic Planning: Developing a sense of aesthetic design for prostheses, especially for patients requiring anterior restorations, considering factors such as smile design, tooth color, shape, and contour.

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- Creating Natural-Looking Prostheses: Developing skills to create prostheses that mimic the natural appearance of teeth, with attention to tooth morphology, gingival contour, and overall facial harmony.

The competencies in Prosthodontics for BDS students equip them with the foundational skills needed to diagnose, plan, and deliver prosthetic care to patients. Whether it's designing a simple denture or coordinating care for an implant restoration, these competencies ensure that dental graduates are prepared to address both functional and esthetic needs, ultimately improving their patients' quality of life.

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List of Competencies for BDS for Department of Public Health Dentistry

In the Bachelor of Dental Surgery (BDS) program in India, Public Health Dentistry is an important subject that prepares dental graduates to contribute to the improvement of oral health at the community and population level. Public health competencies in dentistry are crucial for addressing the broader determinants of health, promoting oral health awareness, and preventing dental diseases in society.

The competencies in Public Health Dentistry for BDS students in India include a combination of knowledge, skills, and attitudes to ensure they can work effectively in diverse community settings. Here's a list of competencies in Public Health Dentistry for BDS students:

1. Basic Knowledge of Public Health

- Understanding of Public Health Principles: Knowledge of the core principles of public health, including the role of epidemiology, social determinants of health, health promotion, disease prevention, and the interrelationship between oral health and general health.
- Health Systems and Policy: Understanding the structure and functioning of healthcare systems, including public health policies, national health programs, and the role of dental public health within these systems.
- Global Health and Epidemiology: Understanding the global burden of oral diseases, epidemiological methods for assessing oral health status, and key health indicators.

2. Oral Health Epidemiology

- Epidemiological Survey Techniques: Gaining proficiency in conducting oral health surveys, using methods such as clinical examinations, questionnaires, and surveys to assess the prevalence and risk factors of dental diseases within communities.
- Data Collection and Analysis: Ability to collect, interpret, and analyze data on oral health conditions in populations (e.g., dental caries, periodontal diseases, malocclusion), and understanding how to report and disseminate findings.
- Surveillance of Oral Diseases: Understanding how to monitor trends and patterns of oral diseases over time within communities and populations, and using data to inform public health interventions.

3. Health Promotion and Disease Prevention

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- Oral Health Education: Designing and delivering effective oral health education programs for individuals and communities to promote preventive dental care and healthy behaviors, such as proper oral hygiene, diet, and avoiding harmful habits like tobacco use.

- Preventive Dentistry Programs: Planning, implementing, and evaluating preventive oral health programs, including fluoride programs, sealant programs, and oral cancer awareness initiatives.

- Primary Prevention: Promoting strategies to prevent the onset of oral diseases through community-based programs such as fluoridation, early screenings, and preventive education.

- Secondary and Tertiary Prevention: Understanding the roles of screening for early detection of dental conditions and the referral system for treatment to prevent further disease progression.

4. Community Dentistry and Service Delivery

- Oral Health in Community Settings: Ability to provide dental care and education in diverse community settings, including rural, underserved, and high-risk populations.

- Community-Based Health Programs: Developing, implementing, and evaluating oral health programs in schools, workplaces, and community centers, with an emphasis on the prevention of dental diseases.

- Mobile Dental Clinics: Understanding the role and operation of mobile dental units or outreach dental services for underserved communities.

- Government Health Schemes: Familiarity with national and state-level oral health programs like National Oral Health Program (NOHP), National Health Mission (NHM), and other health initiatives aiming to reduce the burden of oral diseases.

5. Social Determinants of Oral Health

- Understanding Risk Factors: Identifying and addressing social determinants of health, including poverty, education, access to healthcare, and environmental factors, which affect the prevalence of dental diseases in different communities.

- Health Disparities: Analyzing the impact of health inequities, including disparities in access to dental care and oral health outcomes among different population groups (e.g., rural vs. urban, socio-economic disparities, and cultural influences).

- Behavioral Sciences: Understanding the psychological, sociocultural, and behavioral factors that influence health-seeking behaviors and dental care utilization in various populations.

6. Oral Health Policy and Advocacy

- Health Advocacy: Participating in advocacy activities to promote oral health policies, such as the implementation of school-based dental care programs, water fluoridation, tobacco control, and sugar reduction policies at the community or national level.

- Health Policy Development: Understanding the process of developing and evaluating public health policies related to oral health, including policy formulation, implementation, and impact assessment.

- Interdisciplinary Collaboration: Collaborating with other healthcare professionals, community organizations, and government agencies to design and implement effective oral health policies and programs.

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- Ethical Considerations: Understanding the ethical issues in public health dentistry, such as informed consent, equity in healthcare access, and the social responsibility of dental professionals.

7. Oral Health Promotion in Schools and Communities

- School Oral Health Programs: Planning and conducting school-based oral health promotion activities, including screenings, educational programs, and preventive treatments like fluoride applications and pit and fissure sealants.

- Community Outreach Programs: Developing community outreach programs targeting specific groups (e.g., children, elderly, low-income populations) to promote oral health and prevent dental diseases.

- Collaboration with Schools and Non-Governmental Organizations (NGOs): Working in partnership with schools, local authorities, and NGOs to create sustainable oral health initiatives and educational campaigns.

8. Research in Public Health Dentistry

- Basic Research Methodology: Understanding research methods in public health dentistry, including designing surveys, experiments, and observational studies to assess the effectiveness of oral health interventions.

- Data Analysis and Interpretation: Gaining skills in analyzing and interpreting public health data related to oral health, using statistical tools and software to assess trends, risk factors, and outcomes.

- Evidence-Based Public Health: Applying evidence-based practices to improve oral health outcomes at the community level and evaluate the effectiveness of public health programs and interventions.

9. Health Economics and Financing

- Cost-Effective Oral Health Interventions: Understanding the economic aspects of oral health, including cost-benefit analysis, to design and implement cost-effective public health interventions that maximize oral health benefits within budgetary constraints.

- Healthcare Financing: Understanding different models of healthcare financing, including public insurance schemes, private health insurance, and government funding for dental care programs, particularly for underserved populations.

- Budgeting for Public Health Programs: Learning how to allocate resources efficiently for oral health promotion programs, community screenings, and preventive measures.

10. Public Health Program Management

- Program Planning and Evaluation: Developing skills in planning, implementing, and evaluating oral health programs at the community or national level, including setting goals, defining objectives, and measuring outcomes.

- Quality Assurance and Monitoring: Ensuring that public health programs meet established standards, implementing monitoring and evaluation techniques, and adjusting strategies based on feedback and data.

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- Leadership and Management: Building leadership skills to manage and coordinate public health initiatives, working with diverse teams, and supervising field-based dental public health projects.

11. Tobacco Control and Oral Cancer Prevention

- Tobacco Cessation Programs: Educating the community about the harmful effects of tobacco use (both smoking and smokeless), including its link to oral cancer, periodontal disease, and dental caries.

- Oral Cancer Screening and Early Detection: Conducting oral cancer awareness and screening programs, identifying high-risk individuals, and referring them for further evaluation and treatment.

- Advocacy for Tobacco Control Policies: Supporting national and international efforts to reduce tobacco use, including advocating for policies like tobacco taxation, smoking bans, and public education campaigns.

12. Emergency Management and Disaster Preparedness

- Disaster Response: Understanding the role of public health dentists in disaster preparedness and response, including providing oral healthcare in emergencies, refugee camps, and during natural disasters.

- Emergency Dental Services: Planning and coordinating emergency dental services as part of overall healthcare in disaster-stricken areas.

13. Interdisciplinary Collaboration

- Multidisciplinary Approach: Working with other healthcare professionals, including medical doctors, nurses, nutritionists, social workers, and health educators, to improve oral health outcomes in the community.

- Collaborating with Government and Non-Government Agencies: Partnering with public health departments, national health organizations, and community-based groups to promote oral health and reduce disparities.

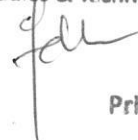
14. Ethics and Professionalism in Public Health Dentistry

- Public Health Ethics: Applying ethical principles in public health practice, such as justice, equity, respect for autonomy, and beneficence, to ensure that oral health interventions are fair and just.

- Patient-Centered Approach: Ensuring a patient-centered approach in community settings, respecting cultural differences, and maintaining professionalism while addressing community needs.

These competencies enable BDS students to understand and implement public health initiatives in dentistry, equipping them to take on roles that improve oral health at the community level, prevent dental diseases, and promote overall wellness. They are also essential for

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interdisciplinary collaboration and policy advocacy, contributing to improving oral health in India and globally.

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List of Competencies for BDS for Department of Endodontics & Conservative Dentistry

In the Bachelor of Dental Surgery (BDS) program in India, Endodontics is a critical subject that focuses on the diagnosis, prevention, and treatment of diseases and conditions affecting the dental pulp and surrounding tissues. While advanced procedures and techniques in endodontics are typically covered in postgraduate studies (MDS in Endodontics), BDS students are expected to acquire a foundational set of competencies to manage common endodontic conditions, particularly for primary care in clinical settings.

Here's a list of competencies in Endodontics that BDS students in India are expected to develop:

1. Basic Knowledge of Endodontics

- Understanding the Structure and Function of the Pulp: Knowledge of the anatomy, physiology, and pathophysiology of the dental pulp, including how pulpitis, necrosis, and periapical pathology develop.
- Endodontic Diseases: Understanding the etiology and progression of endodontic diseases, including reversible pulpitis, irreversible pulpitis, pulp necrosis, and periapical abscess.
- Root Canal System Anatomy: Familiarity with the complexities of the root canal system, including variations in tooth anatomy and the different types of root canal systems (e.g., single canal, multiple canals, curved canals).

2. Diagnosis and Clinical Examination in Endodontics

- Patient History: Taking a thorough medical and dental history, including pain history, systemic conditions, and previous dental treatments, to help in diagnosing endodontic conditions.
- Clinical Examination: Performing a detailed clinical examination to identify symptoms of endodontic diseases, such as tenderness to percussion, swelling, and sensitivity to temperature.
- Vitality Testing: Performing tests such as thermal tests (cold or hot), electric pulp testing, and percussion tests to assess the vitality of the dental pulp.
- Radiographic Diagnosis: Interpreting radiographs (periapical and bitewing X-rays) to assess the extent of the disease, identify periapical lesions, and evaluate the root canal system.
- Differential Diagnosis: Differentiating between endodontic and non-endodontic conditions, such as periodontal abscess, fractures, or sinus tract, which may present with similar symptoms.

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3. Endodontic Treatment Planning

- Treatment Planning for Simple Endodontic Cases: Formulating a treatment plan for simple endodontic procedures based on diagnosis and the patient's general health and dental needs.
- Indications for Root Canal Treatment: Recognizing when root canal therapy is indicated, including irreversible pulpitis, pulp necrosis, and periapical pathology.
- Referral for Advanced Cases: Identifying cases that require referral to a specialist, such as complex cases with curved or calcified canals, retreatment cases, or those requiring surgical intervention.

4. Sterilization and Infection Control in Endodontics

- Aseptic Techniques: Adhering to strict infection control protocols, including sterilization of instruments, maintaining a sterile field, and using protective equipment (e.g., gloves, masks, eye protection).
- Endodontic Irrigation: Using irrigation solutions (e.g., sodium hypochlorite, saline) effectively to disinfect the root canal system during treatment and to remove debris and bacteria.
- Management of Endodontic Infections: Managing acute and chronic infections associated with endodontic conditions, including antibiotic prescriptions (as required) and use of antimicrobial irrigants.

5. Endodontic Procedures

- Root Canal Cleaning and Shaping: Mastering the basic techniques of root canal preparation using manual and rotary instruments, ensuring proper cleaning and shaping of the root canal system.
- Instrumentation Techniques: Familiarity with basic hand instrumentation and the use of rotary endodontic files to clean and shape the root canal system.
- Working Length Determination: Accurately determining the working length of the root canal using radiographs and electronic apex locators.
- Obturation Techniques: Performing root canal obturation (filling) using appropriate materials such as gutta-percha, sealer, and other biocompatible materials to fill the cleaned and shaped root canal.
- Sealing the Access Cavity: Properly sealing the access cavity after endodontic treatment to prevent contamination and ensure the integrity of the tooth.

6. Management of Endodontic Complications

- Managing Root Canal Perforations: Identifying and managing perforations that may occur during instrumentation and performing appropriate repair procedures.
- Management of Ledging and Blockage: Recognizing and managing common complications such as ledging, canal blockage, or instrument separation during root canal treatment.
- Treatment of Post-Operative Pain: Recognizing the cause of post-operative pain after endodontic treatment and managing it effectively through analgesics, anti-inflammatory medications, and other appropriate measures.
- Management of Endodontic Failures: Understanding the causes of treatment failure, such as inadequate cleaning, shaping, and obturation, and knowing when to consider retreatment.

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7. Pulp Therapy in Primary and Permanent Teeth

- Pulpotomy in Primary Teeth: Performing pulpotomies (partial pulpectomies) in primary teeth when indicated (e.g., in cases of deep caries with reversible pulpitis).
- Pulpectomy in Primary Teeth: Performing pulpectomies (complete removal of the pulp) in primary teeth when necessary, followed by obturation with biocompatible materials such as zinc oxide eugenol or resilon.
- Direct and Indirect Pulp Capping: Performing direct or indirect pulp capping in primary and permanent teeth when exposed pulp is asymptomatic, using materials like calcium hydroxide or mineral trioxide aggregate (MTA).
- Pulp Therapy in Permanent Teeth: Indications for and performing pulp therapy in permanent teeth, including pulpotomies and root canal treatments.

8. Endodontic Emergencies

- Management of Acute Pain and Swelling: Identifying and managing acute endodontic emergencies such as irreversible pulpitis, periapical abscess, and cellulitis, which may present with severe pain and swelling.
- Drainage of Abscesses: Performing incision and drainage (I&D) for abscesses associated with endodontic infections to relieve pain and control infection.
- Management of Acute Apical Periodontitis: Managing acute apical periodontitis and periapical abscesses with appropriate drainage, antibiotics (if necessary), and endodontic therapy.

9. Radiographic and Imaging Techniques in Endodontics

- Periapical and Bitewing Radiographs: Using periapical and bitewing radiographs to assess the status of the pulp and periapical tissues, as well as to plan treatment.
- Cone Beam Computed Tomography (CBCT): Understanding the indications for CBCT imaging, particularly for complex root canal systems, re-treatment cases, or when there is uncertainty regarding root canal anatomy.
- Radiographic Evaluation of Endodontic Treatment: Evaluating radiographs after root canal therapy to ensure proper obturation and the absence of periapical pathology.

10. Restorative Considerations in Endodontics

- Restoration of Root-Filled Teeth: Planning and restoring teeth after root canal therapy, including the use of posts, cores, and crowns to ensure the longevity of the treated tooth.
- Post-Endodontic Restoration: Understanding the role of post-and-core systems for restoring extensively damaged teeth, and knowledge of the materials used for this purpose (e.g., fiber posts, cast posts).
- Management of Discolored Teeth: Managing discolored teeth after endodontic treatment, including internal bleaching techniques when necessary.

11. Prevention of Endodontic Diseases

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- Preventive Measures in Endodontics: Educating patients on the importance of early intervention to prevent the development of endodontic issues, such as regular dental checkups, proper oral hygiene, and addressing carious lesions early.

- Root Canal System Sterilization: Promoting and maintaining an aseptic environment to prevent infection during endodontic procedures.

12. Ethics, Legal Aspects, and Professionalism in Endodontics

- Informed Consent: Ensuring informed consent for endodontic procedures, explaining the risks, benefits, and alternatives to root canal treatment.

- Patient Education: Educating patients on the importance of maintaining oral health after root canal therapy, including proper oral hygiene and the need for follow-up appointments.

- Confidentiality and Ethical Considerations: Adhering to ethical guidelines and maintaining patient confidentiality in all clinical settings.

13. Interdisciplinary Collaboration in Endodontics

- Referral to Specialists: Recognizing cases that require referral to endodontic specialists for advanced procedures, such as retreatment, apical surgery, or complex endodontic cases.

- Collaboration with Other Dental Disciplines: Collaborating with other dental professionals, such as prosthodontists, periodontists, and oral surgeons, in managing cases that involve complex restorative needs or surgical interventions.

These competencies equip BDS students with the necessary foundational knowledge and practical skills to manage common endodontic conditions in a clinical setting. However, more complex cases, advanced techniques, and deeper expertise are typically developed during postgraduate training (MDS in Endodontics).

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List of Competencies for BDS for Department of Oral Medicine & Radiology

In the Bachelor of Dental Surgery (BDS) program in India, Oral Medicine is a key subject that focuses on the diagnosis, treatment, and management of various medical conditions related to the oral and maxillofacial regions. While advanced diagnostic and therapeutic techniques in oral medicine are often taught at the postgraduate level (MDS in Oral Medicine and Radiology), BDS students are expected to acquire a foundational set of competencies to handle basic oral medical issues in clinical practice.

Here's a list of competencies in Oral Medicine that BDS students in India are expected to develop:

1. Basic Knowledge of Oral Medicine

- Understanding the Relationship Between Systemic Diseases and Oral Health: Recognizing how systemic conditions such as diabetes, cardiovascular diseases, and autoimmune disorders can affect the oral cavity.
- Oral Manifestations of Systemic Diseases: Identifying and managing oral manifestations of systemic diseases, such as lesions caused by HIV/AIDS, diabetes, tuberculosis, and certain cancers.
- Basic Terminology: Understanding and using basic oral medicine terminology, including terms related to oral lesions, symptoms, and treatment protocols.

2. Clinical Examination and Diagnosis

- Comprehensive Medical History Taking: Conducting a detailed medical history of the patient, including family and social history, to understand underlying conditions that may affect oral health.
- Clinical Examination of the Oral Cavity: Performing a thorough clinical examination of the oral cavity, including the mucosa, tongue, teeth, gingiva, palate, and oropharynx, to identify abnormalities.
- Oral Soft Tissue Examination: Recognizing normal and abnormal features of oral soft tissues and understanding the clinical presentation of various oral diseases.
- Screening for Oral Cancer: Identifying early signs and symptoms of oral cancer or pre-cancerous conditions and understanding the importance of screening in high-risk populations (e.g., tobacco users, alcohol consumers).

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3. Oral Pathology and Diagnosis

- Differential Diagnosis of Oral Lesions: Recognizing and differentiating between various benign and malignant oral lesions, such as ulcers, leukoplakia, erythroplakia, and other mucosal disorders.
- Understanding Oral Cysts and Tumors: Basic understanding of the various types of oral cysts and tumors, their clinical presentations, and management strategies.
- Oral Manifestations of Infectious Diseases: Recognizing oral manifestations of viral, bacterial, fungal, and parasitic infections, including conditions like herpes simplex virus (HSV), human papillomavirus (HPV), candidiasis, and tuberculosis.

4. Management of Oral Diseases

- Management of Oral Mucosal Disorders: Diagnosing and managing common oral mucosal disorders like aphthous stomatitis, lichen planus, and pemphigus vulgaris.
- Management of Painful Oral Conditions: Recognizing and managing conditions associated with oral pain, including temporomandibular joint disorders (TMD), burning mouth syndrome, and neuropathic pain.
- Management of Dry Mouth (Xerostomia): Understanding the causes and management options for xerostomia, including treatment with salivary substitutes, sialogogues, and patient education.
- Management of Oral Infections: Treating common oral infections such as periodontal abscesses, periapical abscesses, and post-surgical infections.
- Basic Drug Therapy: Prescribing and managing common pharmacological treatments used in oral medicine, such as antibiotics, antifungals, corticosteroids, and pain management medications.

5. Oral Radiology and Diagnostic Imaging

- Basic Radiographic Interpretation: Understanding and interpreting basic radiographic images like intraoral and panoramic X-rays, and their relevance in diagnosing oral diseases.
- Use of Advanced Imaging Techniques: Familiarity with advanced imaging techniques, such as CBCT (Cone Beam Computed Tomography), for diagnosis of complex oral and maxillofacial conditions.
- Radiographic Diagnosis of Pathologies: Recognizing radiographic signs of various oral pathologies, including bone loss, cysts, tumors, and developmental anomalies.

6. Management of Pre-cancerous and Cancerous Lesions

- Early Detection of Oral Cancer: Identifying early signs of oral cancer, including lesions, discolorations, and changes in the mucosa.
- Biopsy Techniques: Basic understanding of biopsy procedures, including indications, types of biopsies (incisional, excisional), and handling of specimens for histopathological examination.
- Referral and Collaboration: Understanding when to refer patients to specialists (oral surgeons, oncologists) for further evaluation, diagnosis, and treatment of oral cancers.

7. Management of Systemic Conditions Affecting the Oral Cavity

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- Endocrine Disorders: Recognizing the oral manifestations of endocrine disorders like diabetes mellitus (e.g., periodontitis, dry mouth), hyperthyroidism, and hypothyroidism.
- Cardiovascular Disorders: Understanding the link between cardiovascular diseases and oral health, including managing patients with conditions like hypertension, heart disease, and anticoagulant therapy.
- Autoimmune Diseases: Identifying oral manifestations of autoimmune diseases, such as lupus erythematosus, Sjögren's syndrome, and rheumatoid arthritis.
- Blood Disorders: Recognizing oral manifestations of blood disorders, such as anemia, leukemia, and bleeding disorders, and managing them in coordination with medical specialists.

8. Oral Medicine in Pediatric Patients

- Managing Pediatric Oral Diseases: Understanding and managing common oral conditions in children, including teething issues, early childhood caries, and congenital disorders affecting the oral cavity.
- Psychological Aspects of Oral Health in Children: Managing anxiety, fear, and behavioral issues related to pediatric oral care, and using communication techniques appropriate for children.

9. Oral Medicine in Geriatric Patients

- Management of Oral Conditions in the Elderly: Recognizing oral conditions common in older adults, such as oral cancer, dry mouth (xerostomia), oral candidiasis, and dentures-related issues.
- Age-Related Changes in the Oral Cavity: Understanding how aging affects the oral cavity, including changes in salivary function, mucosal integrity, and bone density.
- Geriatric Pharmacology: Understanding the effects of medications commonly prescribed in elderly patients (e.g., antihypertensives, antidepressants, and bisphosphonates) and their oral side effects.

10. Patient Education and Communication

- Educating Patients on Oral Health: Providing counseling on maintaining good oral hygiene, recognizing oral disease symptoms, and promoting preventive measures.
- Handling Psychosomatic Disorders: Communicating effectively with patients who may have oral conditions with a psychosomatic component, such as burning mouth syndrome or temporomandibular disorders (TMD).
- Informed Consent: Ensuring proper informed consent for procedures like biopsies or the use of certain medications.

11. Preventive Oral Medicine

- Prevention of Oral Diseases: Understanding and educating patients on the prevention of oral diseases such as periodontal diseases, oral cancers, and dental caries.
- Vaccination and Prevention: Knowledge of vaccinations (e.g., HPV vaccine) and their role in preventing oral cancers and infections.

12. Ethical and Legal Aspects of Oral Medicine

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- Professional Ethics in Oral Medicine: Adhering to ethical practices in diagnosing and treating oral diseases, ensuring patient confidentiality, and obtaining informed consent.

- Legal Responsibilities: Being aware of legal issues related to diagnosis, treatment, and the practice of oral medicine, including consent for biopsies and other procedures.

13. Interdisciplinary Collaboration

- Referring Patients for Specialist Care: Recognizing when to refer patients to oral pathologists, oral surgeons, or medical specialists for advanced diagnosis and treatment.

- Collaboration with Other Health Professionals: Working with other healthcare providers, such as physicians, oncologists, and dermatologists, for comprehensive care of patients with systemic and oral conditions.

These competencies equip BDS students in India with the foundational knowledge and clinical skills required to manage common oral medical conditions and collaborate with specialists when necessary. However, a deeper understanding of advanced oral medicine techniques and research is typically developed during postgraduate studies (MDS in Oral Medicine and Radiology).

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List of Competencies for BDS for Department of Oral Surgery

In the Bachelor of Dental Surgery (BDS) program in India, Oral Surgery is an essential component that prepares students for managing various surgical conditions affecting the mouth, jaw, and face. Although Oral Surgery is a specialized field pursued through postgraduate studies (MDS in Oral and Maxillofacial Surgery), BDS students are expected to develop foundational competencies to handle basic surgical procedures and manage common oral and maxillofacial conditions.

Here's a comprehensive list of competencies in Oral Surgery for BDS students in India:

1. Basic Knowledge of Oral and Maxillofacial Surgery

- Understanding the Scope of Oral Surgery: Recognizing the broad scope of oral and maxillofacial surgery, including the treatment of diseases, injuries, and defects of the mouth, jaws, face, and neck.
- Anatomy Relevant to Surgery: Knowledge of the basic anatomy of the head and neck region, including the oral cavity, salivary glands, temporomandibular joint (TMJ), blood vessels, nerves, and bones of the face and skull.
- Pathophysiology of Oral Conditions: Understanding the underlying pathological processes involved in oral and maxillofacial diseases, including infections, tumors, and trauma.

2. Preoperative Assessment and Diagnosis

- Clinical Examination: Conducting a thorough clinical examination to assess the nature and extent of the surgical condition, including inspection, palpation, auscultation, and percussion.
- Medical History Taking: Taking detailed medical histories, including identifying any underlying medical conditions, allergies, or medications that may impact surgical management.
- Radiographic Interpretation: Interpreting diagnostic radiographs (e.g., intraoral X-rays, panoramic radiographs, CBCT) for planning and diagnosing conditions requiring surgical intervention.
- Patient Risk Assessment: Assessing the patient's overall health status, including evaluation of medical comorbidities (e.g., diabetes, hypertension) that may affect surgical outcomes.

3. Informed Consent and Patient Communication

- Informed Consent: Explaining the nature of the surgical procedure, potential risks, benefits, and complications to patients, and obtaining their informed consent.

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- Managing Patient Expectations: Communicating clearly with patients regarding the anticipated outcome, recovery process, and potential complications of oral surgical procedures.
- Managing Anxiety: Providing reassurance and managing patient anxiety related to surgical procedures, using appropriate communication techniques.

4. Surgical Techniques and Procedures

- Tooth Extractions: Performing simple and surgical extractions of teeth, including the removal of erupted, impacted, and retained teeth (e.g., wisdom teeth).
 - Simple Tooth Extraction: Mastery of basic techniques for the removal of non-complicated teeth under local anesthesia.
 - Surgical Tooth Extraction: Techniques for removing teeth with complications, including impacted or fractured teeth, requiring incision, flap reflection, and suturing.
 - Surgical Removal of Impacted Teeth: Handling impacted third molars (wisdom teeth) and understanding the complexity of their extraction.
 - Incision and Drainage: Performing surgical drainage of abscesses and soft tissue infections, including understanding the importance of appropriate drainage techniques to prevent recurrence.
 - Minor Oral Surgical Procedures: Competence in performing minor soft tissue surgeries, such as biopsies of oral lesions, frenectomy, and excision of benign soft tissue growths (e.g., fibromas, papillomas).
 - Management of Oral Pathologies: Removal of benign oral pathologies such as cysts, tumors, or lesions under local anesthesia and performing incisions when necessary.
 - Treatment of Salivary Gland Disorders: Recognizing and managing common salivary gland problems, including sialolithiasis (salivary stones), and performing ductal dilatation or minor surgical procedures.

5. Pain and Sedation Management

- Local Anesthesia: Mastery in the administration of local anesthesia, including the use of various techniques like infiltration and nerve block anesthesia for routine oral surgical procedures.
- Sedation Techniques: Understanding and applying basic sedation techniques (e.g., nitrous oxide or oral sedatives) for anxious or uncooperative patients.
- Pain Management Post-Surgery: Prescribing analgesics and anti-inflammatory medications for post-surgical pain control and managing common complications like swelling and bleeding.

6. Postoperative Care and Complication Management

- Postoperative Instructions: Providing patients with clear postoperative care instructions, including advice on diet, oral hygiene, rest, and activity limitations following surgery.
- Managing Postoperative Complications: Recognizing and managing common complications after surgery, such as:
 - Bleeding: Identifying and controlling postoperative bleeding using hemostatic agents or suturing techniques.
 - Infection: Managing postoperative infections by prescribing appropriate antibiotics and advising on proper wound care.

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- Swelling and Bruising: Understanding the normal healing process and managing swelling and bruising with cold compresses and anti-inflammatory medication.
- Follow-up Care: Scheduling follow-up visits to monitor the healing process and address any concerns or complications that may arise.

7. Management of Oral and Maxillofacial Trauma

- Basic Trauma Management: Identifying and managing simple soft tissue injuries, fractures, and dislocations in the oral and facial regions.
- Fractures of the Maxillofacial Skeleton: Basic knowledge of common facial fractures, such as mandibular fractures, maxillary fractures, and zygomatic bone fractures, and understanding when referral to an oral and maxillofacial surgeon is necessary.
- Soft Tissue Injury Repair: Repairing lacerations of the oral mucosa, lips, and tongue, ensuring proper hemostasis, and using appropriate suturing techniques.
- Management of Tooth Avulsion: Understanding the management protocol for avulsed teeth, including immediate re-implantation or proper storage and follow-up care.

8. Management of Temporomandibular Joint (TMJ) Disorders

- Diagnosis of TMJ Disorders: Recognizing the signs and symptoms of TMJ disorders, such as clicking, popping, and pain.
- Non-surgical Management: Competence in providing non-invasive treatments such as occlusal splints, physical therapy, and pain management for TMJ disorders.
- Referral to Specialists: Recognizing when TMJ disorders require referral for more advanced management by specialists.

9. Surgical Infection Control and Sterilization

- Sterilization Protocols: Understanding and implementing proper sterilization techniques for surgical instruments, maintaining a sterile field during procedures, and preventing cross-contamination.
- Aseptic Techniques: Knowledge of aseptic techniques to prevent surgical site infections, including hand hygiene, use of sterile gloves, and appropriate draping during surgery.

10. Oral Cancer and Biopsy Techniques

- Identification of Suspicious Lesions: Recognizing suspicious lesions that may indicate oral cancer or precancerous conditions, such as leukoplakia, erythroplakia, or persistent ulcers.
- Biopsy Techniques: Understanding the different types of biopsy procedures (incisional, excisional) and managing specimens for histopathological evaluation.
- Referral for Cancer Management: Referring patients with suspected oral cancer for further evaluation, biopsy, and management by a multidisciplinary team, including oncologists.

11. Basic Oral and Maxillofacial Radiology

- Interpretation of Radiographs: Understanding how to interpret basic dental and radiographic images relevant to oral surgery, including panoramic radiographs, periapical X-rays, and CBCT scans.

- Planning Surgical Procedures: Using radiographs to plan and visualize surgical procedures, such as tooth extractions, cyst removal, or fracture management.

12. Emergency Care in Oral Surgery

- Management of Medical Emergencies: Recognizing and managing medical emergencies that may arise during or after oral surgical procedures, such as syncope, allergic reactions, and airway obstruction.

- Basic Life Support (BLS): Being trained in BLS techniques, including CPR and the management of a patient in a life-threatening situation.

13. Ethics and Professionalism

- Ethical Considerations in Oral Surgery: Adhering to ethical practices, including obtaining informed consent, respecting patient autonomy, and maintaining patient confidentiality.

- Postoperative Communication: Providing clear and empathetic communication regarding postoperative care and follow-up.

14. Interdisciplinary Collaboration

- Referral to Specialists: Recognizing when a patient requires referral to an oral and maxillofacial surgeon or other specialists for complex surgeries or conditions.

- Collaboration in Multidisciplinary Care: Understanding the role of oral surgeons in a multidisciplinary team, particularly for complex cases involving oral cancer, cleft lip and palate, or craniofacial anomalies.

These competencies in Oral Surgery equip BDS students in India to manage basic surgical conditions effectively and responsibly. However, more advanced techniques and in-depth surgical training are typically covered during postgraduate education (MDS in Oral and Maxillofacial Surgery), which is focused on more complex surgical interventions.

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List of Competencies for BDS for Department of Oral Pathology

In the Bachelor of Dental Surgery (BDS) program in India, Oral Pathology is a crucial subject that deals with the study of diseases affecting the oral and maxillofacial regions. It involves understanding the causes, development, diagnosis, and treatment of various oral conditions, both benign and malignant. BDS students are expected to gain essential competencies in oral pathology to help them diagnose oral diseases, manage pathological conditions, and understand the pathophysiological processes behind oral health issues.

Here is a comprehensive list of competencies in Oral Pathology for BDS students in India:

1. Basic Knowledge of Oral Pathology

- Understanding of Normal Oral Tissues: Knowledge of the histology, structure, and function of normal oral tissues, including epithelium, connective tissue, muscle, and salivary glands.
- Disease Mechanisms: Understanding the pathophysiological mechanisms behind oral diseases, such as inflammation, neoplasia, infection, and immunological responses.
- Classification of Diseases: Knowledge of the classification systems for oral diseases, such as neoplastic and non-neoplastic diseases, inflammatory conditions, and congenital disorders.

2. Diagnostic Techniques

- Clinical Examination: Competency in performing a thorough clinical examination of the oral cavity, identifying abnormal lesions, and understanding their characteristics such as size, shape, color, texture, and location.
- Histopathological Examination: Basic understanding of histopathological examination techniques used to diagnose oral diseases, including biopsy, microscopic examination, and interpretation of tissue specimens.
- Radiographic Diagnosis: Familiarity with common radiographic techniques (e.g., X-rays, CT scans, MRI) and how to interpret radiographic images for diagnosing oral and maxillofacial conditions.
- Cytological Techniques: Knowledge of fine needle aspiration (FNA), smear cytology, and other cytological techniques for diagnosing oral lesions, particularly in cases of suspected malignancy.

3. Oral Infections and Inflammatory Disorders

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- Oral Infections: Competency in diagnosing and managing various infectious conditions of the oral cavity, such as dental caries, periodontal disease, oral candidiasis, and herpes simplex virus (HSV) infections.

- Inflammatory Lesions: Knowledge of common inflammatory conditions affecting the oral mucosa, such as aphthous stomatitis, oral lichen planus, leukoplakia, and erythroplakia. Understanding the clinical presentation, diagnosis, and management strategies for these conditions.

- Granulomatous Lesions: Ability to diagnose and differentiate granulomatous lesions like tuberculosis, sarcoidosis, and chronic granulomatous inflammation in the oral cavity.

- Orofacial Pain: Recognizing inflammatory conditions leading to orofacial pain, such as TMJ disorders, osteomyelitis, and trigeminal neuralgia, and their association with oral pathologies.

4. Neoplastic Conditions

- Benign Oral Tumors: Knowledge of benign oral tumors like fibromas, papillomas, odontomas, ameloblastomas, and hemangiomas, including their clinical features, diagnosis, and treatment.

- Malignant Oral Tumors: Understanding the etiology, clinical features, and management of oral cancers, particularly squamous cell carcinoma (SCC), oral melanoma, salivary gland tumors, and other malignancies of the oral and maxillofacial region.

- Early Detection of Oral Cancer: Ability to recognize early signs of oral cancer and pre-cancerous lesions like leukoplakia, erythroplakia, and submucous fibrosis, and refer for further diagnostic evaluation and treatment.

- Oral Metastasis: Understanding the occurrence of metastatic disease in the oral cavity from primary cancers in other parts of the body, including its diagnostic and therapeutic implications.

5. Congenital and Developmental Disorders

- Congenital Oral Pathologies: Recognizing congenital anomalies affecting the oral cavity, such as cleft lip and palate, ectodermal dysplasia, ankylosis of the TMJ, and amelogenesis imperfecta.

- Developmental Disorders: Understanding developmental anomalies of teeth and bones, such as dental agenesis, microdontia, macrodontia, dens in dente, gemination, fusion, and tooth enamel hypoplasia.

- Craniofacial Anomalies: Understanding craniofacial syndromes like Pierre Robin sequence, Treacher Collins syndrome, and their oral manifestations.

6. Oral Cysts and Tumors

- Developmental Cysts: Knowledge of the classification, diagnosis, and management of odontogenic cysts (e.g., dentigerous cyst, keratocystic odontogenic tumor (KCOT), lateral periodontal cyst) and non-odontogenic cysts (e.g., nasopalatine duct cyst, globulomaxillary cyst).

- Management of Oral Cysts: Competency in the management of oral cysts, including when surgical intervention is required and how to prevent complications like recurrence.

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- Neoplastic Growths: Understanding the distinction between benign and malignant neoplasms, and being able to differentiate between odontogenic tumors (e.g., ameloblastoma, odontogenic myxoma) and other soft tissue tumors.

7. Salivary Gland Pathology

- Salivary Gland Disorders: Recognizing and managing common salivary gland pathologies, such as sialadenitis, salivary gland stones (sialolithiasis), and xerostomia (dry mouth).

- Benign Salivary Tumors: Understanding benign salivary gland tumors like pleomorphic adenomas and Warthin's tumor, including their clinical features, diagnosis, and treatment.

- Malignant Salivary Gland Tumors: Knowledge of malignant tumors of the salivary glands, including mucoepidermoid carcinoma, adenoid cystic carcinoma, and their management strategies.

8. Oral and Maxillofacial Pathology in Systemic Diseases

- Oral Manifestations of Systemic Diseases: Understanding how systemic diseases like diabetes, HIV/AIDS, autoimmune disorders (e.g., lupus erythematosus, pemphigus vulgaris), and hematological conditions (e.g., leukemia, hemophilia) manifest in the oral cavity.

- Drug-Induced Oral Conditions: Identifying drug-induced oral pathologies, such as gingival hyperplasia (e.g., from phenytoin), oral ulcerations, and xerostomia from medications like antihypertensives or antidepressants.

9. Oral Mucosal Diseases

- Oral Lichen Planus: Understanding the presentation, diagnosis, and management of oral lichen planus, a chronic inflammatory condition that can have premalignant potential.

- Pemphigus Vulgaris and Pemphigoid: Knowledge of autoimmune blistering disorders affecting the oral mucosa, such as pemphigus vulgaris and bullous pemphigoid, including their diagnosis and management.

- Candidiasis: Recognizing the clinical features of oral candidiasis and understanding the various types (e.g., acute pseudomembranous candidiasis, chronic atrophic candidiasis), its etiology, and treatment.

- Oral Ulcers and Lesions: Diagnosing common oral ulcers like aphthous stomatitis (canker sores), traumatic ulcers, and herpetic lesions, and understanding their causes and treatments.

10. Forensic Odontology

- Identification of Human Remains: Understanding the role of oral pathology in forensic odontology, including the use of dental records for the identification of human remains, bite mark analysis, and age estimation.

- Bite Marks and Trauma: Ability to assess and interpret bite marks and dental trauma in cases of assault or criminal investigations.

11. Oral Pathology Research and Evidence-Based Practice

- Research Methods in Oral Pathology: Understanding the methods used in oral pathology research, including histopathological studies, molecular diagnostics, and clinical trials, to stay updated with advancements in the field.

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- Evidence-Based Diagnosis: Applying evidence-based practices in the diagnosis and management of oral diseases, using clinical, radiographic, and histopathological findings to formulate appropriate treatment strategies.

12. Ethics and Professionalism in Oral Pathology

- Confidentiality: Understanding the importance of confidentiality when dealing with patient information, particularly when conducting diagnostic procedures and discussing potentially serious conditions.

- Informed Consent: Ability to explain diagnostic procedures, including biopsy, to patients in a way that ensures informed consent is obtained.

- Multidisciplinary Collaboration: Collaborating with other healthcare professionals, including oral surgeons, periodontists,

oncologists, and radiologists, to diagnose and treat complex cases effectively.

These competencies in Oral Pathology provide BDS students in India with a comprehensive understanding of the various diseases affecting the oral cavity. They are essential for ensuring accurate diagnosis, treatment, and management of oral pathologies, as well as for improving patient outcomes and advancing oral health care in the community.

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List of Competencies for BDS for Department of Orthodontics

In India, the Bachelor of Dental Surgery (BDS) program includes basic and advanced clinical training in various areas of dentistry, including orthodontics. Although orthodontics is a specialized field that is often pursued through post-graduate education (MDS in Orthodontics), there are key competencies that BDS graduates are expected to have as part of their training in orthodontics. These competencies help BDS students understand the fundamentals of orthodontics and prepare them for basic clinical practices.

Here is a list of competencies in orthodontics for BDS students in India:

1. Basic Knowledge of Orthodontics
 - Development of the Orofacial Structures: Understanding the normal growth and development of the teeth, jaws, and face, and how they relate to malocclusion.
 - Etiology of Malocclusion: Knowledge about the causes of malocclusion, including genetic, environmental, and developmental factors.
 - Classification of Malocclusion: Familiarity with Angle's classification and other malocclusion systems.
 - Dental Anatomy and Occlusion: Basic knowledge of dental anatomy, occlusion, and how it affects orthodontic treatment planning.

2. Diagnosis and Treatment Planning
 - Clinical Examination: Ability to perform a detailed clinical examination of the patient's oral cavity, dentition, and facial features to identify orthodontic problems.
 - Diagnosis of Malocclusion: Identifying and classifying malocclusions based on clinical and radiological examination.
 - Case Documentation: Recording patient history, clinical findings, diagnostic records (photographs, radiographs, study models), and interpreting them for diagnosis.
 - Treatment Planning: Developing an appropriate treatment plan based on the diagnosis, age of the patient, and severity of malocclusion. This includes space management, timing of treatment (e.g., early treatment vs. comprehensive treatment), and potential interdisciplinary treatments.

3. Orthodontic Appliances and Techniques
 - Fixed Appliances: Understanding the use of fixed orthodontic appliances (braces) including brackets, wires, and bands.

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- Removable Appliances: Knowledge of removable appliances, such as retainers, space maintainers, and functional appliances.
- Orthodontic Materials: Understanding different types of materials used in orthodontics, including wires (stainless steel, NiTi), brackets, ligatures, and elastics.
- Wire Bending and Appliance Adjustment: Basic competency in adjusting fixed appliances and modifying arch wires.

4. Management of Growth and Development

- Interceptive Orthodontics: Recognizing and managing malocclusions early in childhood through interceptive treatment to guide the growth and development of the jaws and teeth.
- Management of Eruption Sequences: Understanding normal and delayed eruption sequences and how to manage these clinically.

5. Orthodontic Treatment for Different Age Groups

- Pediatric Orthodontics: Ability to diagnose and treat common orthodontic issues in children, including thumb-sucking, open bite, and crossbite.
- Adolescent Orthodontics: Providing orthodontic treatment to adolescent patients, including growth modification and correction of skeletal and dental problems.
- Adult Orthodontics: Understanding adult orthodontic problems and the limitations of orthodontic treatment in older patients.

6. Retainers and Retention

- Post-Treatment Retention: Understanding the role of retention in maintaining the results of orthodontic treatment. Competency in using different types of retainers, such as Hawley retainers, clear retainers, and fixed retainers.
- Follow-up Care: Monitoring post-treatment stability and managing relapse.


7. Ethics and Patient Care

- Informed Consent: Ensuring patients are properly informed about the risks, benefits, and costs of orthodontic treatment.
- Patient Communication: Communicating effectively with patients and their families, including discussing treatment options, expected outcomes, and potential complications.
- Professionalism: Demonstrating ethical conduct, maintaining patient confidentiality, and working within the scope of BDS training while referring complex cases for specialized care.

8. Basic Orthodontic Procedures

- Bonding and Debonding of Brackets: Understanding and performing the procedures for the bonding and debonding of orthodontic brackets.
- Archwire Placement: Placement and adjustment of archwires, including understanding the forces and their effects on tooth movement.
- Orthodontic Emergency Care: Handling common orthodontic emergencies, such as broken brackets or poking wires.

9. Radiographic Interpretation


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- Cephalometric Analysis: Basic understanding of cephalometric radiographs and their use in orthodontics for diagnosis and treatment planning.
- Panoramic Radiograph: Interpreting panoramic radiographs to evaluate the dentition and skeletal structure.
- Other Imaging Techniques: Familiarity with other imaging techniques, such as CBCT (Cone Beam Computed Tomography), for more advanced cases.

10. Interdisciplinary Management

- Collaborative Care: Collaborating with other dental specialists (periodontists, oral surgeons, prosthodontists) for comprehensive patient care, especially in cases of craniofacial anomalies, temporomandibular joint disorders (TMD), or other complex conditions.
- Oral and Maxillofacial Surgery: Awareness of when orthodontic treatment should be integrated with surgical procedures, especially for skeletal discrepancies or jaw deformities.


11. Preventive Orthodontics

- Oral Hygiene and Orthodontics: Educating patients on maintaining proper oral hygiene during orthodontic treatment to prevent caries, gingivitis, and decalcification.
- Dietary Counseling: Advising patients on dietary habits to avoid damage to orthodontic appliances and maintain oral health.

12. Basic Research and Evidence-Based Practice

- Critical Appraisal of Literature: Developing skills to critically appraise research studies in orthodontics and apply evidence-based practices to clinical treatment planning.
- Participating in Research: Encouraging participation in basic research activities, case studies, and presentations to keep updated with the latest trends in orthodontics.

These competencies form the foundation for BDS students in India to understand and practice orthodontics at an introductory level. However, more advanced and specialized training in orthodontics typically occurs during postgraduate education (MDS in Orthodontics), which allows for more in-depth knowledge and hands-on experience.

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List of Competencies for BDS for Department of Paediatric & Preventive Dentistry

In the Bachelor of Dental Surgery (BDS) program in India, Pediatric Dentistry is an essential subject aimed at equipping dental students with the knowledge and skills to manage the oral health of children, from infancy to adolescence. While advanced pediatric dental procedures and comprehensive child management are generally covered in postgraduate studies (MDS in Pediatric Dentistry), BDS students are expected to develop foundational competencies in treating pediatric patients.

Here's a list of competencies in Pediatric Dentistry for BDS students in India:

1. Basic Knowledge of Pediatric Dentistry

- Development of the Primary and Permanent Dentition: Understanding the normal eruption pattern and development of both primary and permanent teeth, including variations and deviations.
- Growth and Development of the Child: Knowledge of the physiological, psychological, and emotional development of children and how these factors influence dental treatment.
- Dental Anatomy in Children: Recognizing the unique anatomical features of primary and mixed dentition, including tooth morphology and occlusal patterns.
- Common Pediatric Oral Conditions: Familiarity with common pediatric dental conditions, including caries, trauma, malocclusion, and developmental anomalies.

2. Clinical Examination and Diagnosis in Children

- Taking Pediatric Medical and Dental History: Skill in taking a comprehensive medical and dental history from both the child (where possible) and the parent or caregiver.
- Clinical Examination of Pediatric Patients: Conducting a thorough clinical examination of children, including visual and tactile examination of the oral cavity, growth and development evaluation, and periodontal assessment.
- Radiographic Diagnosis: Understanding the indications for radiographic investigations, including bitewing, periapical, and panoramic radiographs, and interpreting radiographs for the diagnosis of dental conditions in children.
- Assessment of Oral Health in Children: Evaluating the oral health status of children through risk assessments for dental caries, developmental defects, periodontal conditions, and soft tissue pathology.

3. Behavior Management in Pediatric Dentistry

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- Managing Child Behavior: Applying behavior management techniques to ensure cooperative behavior during dental procedures. This includes non-pharmacological techniques such as:

- Tell-Show-Do
- Positive Reinforcement
- Distraction Techniques
- Parental Involvement

- Managing Dental Anxiety: Identifying and addressing dental anxiety in children using communication skills, distraction, and establishing trust.

- Handling Uncooperative Children: Understanding when to use more advanced behavior management strategies, including the use of sedation or general anesthesia for uncooperative children.

4. Preventive Pediatric Dentistry

- Prevention of Dental Caries: Implementing preventive strategies such as fluoride application, pit and fissure sealants, and education on diet and oral hygiene for children.

- Oral Hygiene Instructions for Children: Educating parents and caregivers about the importance of oral hygiene, proper brushing techniques, and the use of appropriate dental care products (toothbrush, toothpaste, floss).

- Dietary Counseling: Offering advice on healthy dietary habits to prevent dental caries and promote overall oral health in children.

- Growth and Developmental Monitoring: Recognizing and monitoring the normal development of teeth, jaws, and facial structures to guide early intervention for developmental issues.

5. Management of Dental Caries in Children

- Diagnosis and Classification of Caries: Identifying early signs of dental caries in primary and permanent teeth and understanding the classification and progression of dental caries in children.

- Non-Invasive Caries Management: Using methods like fluoride varnish and remineralization therapy to manage early carious lesions in primary teeth.

- Restorative Treatment in Children: Performing restorative procedures for primary teeth using appropriate materials (e.g., composite resins, glass ionomer cement, stainless steel crowns) and techniques for caries management.

- Pulp Therapy for Primary Teeth: Recognizing the need for pulp therapy (pulpotomy, pulpectomy) in primary teeth and performing these procedures when necessary.

- Extraction of Primary Teeth: Indicating and performing extractions of primary teeth, particularly in cases of advanced caries, abscesses, or when it interferes with the eruption of permanent teeth.

6. Management of Pediatric Dental Trauma

- Trauma Assessment and First Aid: Understanding the management of traumatic dental injuries, including fractures of teeth, avulsion, luxation, and soft tissue injuries.

- Treatment of Avulsed Teeth: Knowledge of the management protocol for avulsed primary and permanent teeth, including replantation techniques and post-traumatic follow-up care.

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- Management of Tooth Fractures: Identifying and managing fractures in primary and permanent teeth, including enamel-dentin fractures, and fractures involving the pulp.

- Soft Tissue Injuries: Managing lacerations and contusions of the oral soft tissues (lips, cheeks, tongue) with appropriate suturing and wound care.

7. Space Management and Early Orthodontic Intervention

- Space Maintenance: Understanding the importance of space maintainers in children to preserve arch length and prevent malocclusion caused by early tooth loss.

- Interception of Malocclusion: Recognizing early signs of malocclusion and referral for early orthodontic intervention when necessary.

- Crossbite and Crowding Management: Managing simple cases of crossbite, crowding, or spacing issues in children and referring to specialists when required.

8. Management of Oral Habits

- Identifying Harmful Oral Habits: Recognizing harmful oral habits in children such as thumb sucking, tongue thrusting, and pacifier use, and understanding their impact on oral and facial development.

- Habit Counseling and Intervention: Providing behavioral guidance to children and parents to discourage harmful habits, and using appliances if necessary (e.g., habit-breaking appliances).

9. Pediatric Oral Surgery

- Simple Extractions in Children: Performing simple tooth extractions in children, particularly for non-restorable teeth, abscessed teeth, or teeth causing crowding.

- Management of Supernumerary Teeth: Identifying and managing supernumerary teeth (extra teeth) in the primary or mixed dentition that may cause eruption problems or space issues.

- Surgical Exposures for Impacted Teeth: Referring for or performing minor surgical exposures of impacted teeth, typically in the mixed dentition stage.

10. Pediatric Endodontics

- Pulp Therapy in Primary Teeth: Performing pulpotomy and pulpectomy on primary teeth to preserve tooth vitality and prevent infection.

- Root Canal Treatment for Primary Teeth: Performing root canal treatment in primary teeth when necessary, ensuring the treatment preserves the tooth until its natural exfoliation.

- Pulp Therapy for Permanent Teeth: Managing pulp therapy (e.g., root canal treatment) in young permanent teeth, considering factors like root development and apexogenesis.

11. Management of Special Health Care Needs (SHCN) Children

- Approach to Children with SHCN: Understanding the specific dental care needs of children with physical, mental, or emotional disabilities.

- Behavioral Techniques for Special Needs Children: Using adapted behavioral techniques and communication skills to manage children with special needs in a dental setting.

- Coordination with Caregivers: Collaborating with pediatricians, physiotherapists, and other specialists to ensure comprehensive care for children with special health care needs.

12. Preventive and Restorative Materials in Pediatric Dentistry

- Selection of Materials: Knowledge of materials suitable for pediatric patients, including materials for restorative work (composite resins, glass ionomer cement, stainless steel crowns), as well as fluoride treatments and sealants.
- Aesthetic Restorations for Primary Teeth: Using materials that are both functional and aesthetically pleasing in anterior and posterior primary teeth restorations.

13. Ethics and Legal Aspects in Pediatric Dentistry

- Informed Consent: Understanding the process of obtaining informed consent from parents or guardians for pediatric dental procedures.
- Child Protection: Awareness of the importance of child protection and being able to identify signs of abuse or neglect in a pediatric patient, and knowing the legal and ethical protocols for reporting such concerns.
- Parental Guidance: Advising parents on the importance of early dental visits, preventive care, and good oral hygiene habits for their children.

14. Interdisciplinary Collaboration

- Referral to Specialists: Recognizing when pediatric cases require referral to pediatric dentists, orthodontists, or oral surgeons, particularly for complex cases or conditions requiring advanced intervention.
- Multidisciplinary Care: Collaborating with other healthcare professionals (pediatricians, speech therapists, pediatric neurologists) to provide holistic care to children with complex medical or developmental needs.

These competencies equip BDS students in India with the foundational knowledge and practical skills to manage the dental needs of pediatric patients. However, more advanced techniques and in-depth expertise are typically developed during postgraduate studies (MDS in Pediatric Dentistry).

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