

# INTEGRATED BIOETHICS BDS CURRICULUM

## **First Year BDS curriculum**

The history and development and the basic principles of bioethics would be addressed along with the bioethical concepts related to General Anatomy including Embryology and Histology; General Human Physiology including Biochemistry, Nutrition and Dietetics; and Dental Anatomy, Embryology and Oral Histology.

### **General Human Anatomy including Embryology and Histology.**

- Ethical issues relating to the cadaver
- Privacy Confidentiality
- Human Dignity & respect
- Disposal of cadaver and organs
- Genetic counselling
- PNDT Act

### **General Human Physiology and Biochemistry, Nutrition and Dietetics.**

- Animal ethics
- Research Ethics
- Volunteering for experiments and studies
- Health Policy
- Privacy Confidentiality in relation to tests and results
- Prudence of investigations
- Disposal of investigative material
- Integrity
- Fee splitting
- Genetically modified plants and animals

### **Dental Anatomy, Embryology and Oral Histology.**

- Ethical issues related to specimens, teeth etc
- Disposal of tissues and organs
- Privacy confidentiality of tests, reports

### **Dental Materials.**

- Biocompatibility
- Biomaterials and biosafety
- Clinical testing and research
- Indigenous materials / Cheaper materials
- Sources of dental materials especially grafts and implants

### **Preclinical Prosthodontics and Crown & Bridge.**

- Privacy and confidentiality
- Respect for patients
- Choice of materials
- Ethical issues of treatment planning
- Technician rights





## **Second Year BDS Curriculum**

The students would be taught the specific bioethical concepts such as beneficence, non-maleficence, justice and autonomy, informed consent and professional code of ethics as applicable to the oral healthcare setting. Along with the teaching of Dental materials the concepts of biosafety and research ethics would be adequately covered.

### **General Pathology and Microbiology.**

- Prudence of investigations
- Privacy and confidentiality
- Blood transfusion and testing
- Collection and Disposal of investigative material
- Ownership of investigative material
- Hospital waste management
- Technician rights

### **General and Dental Pharmacology and Therapeutics.**

- Rational drug use and prescribing
- Clinical trials
- Animal Ethics
- Drug wastage administration and disposal
- Drug Information Services
- Poly pharmacy
- Benefit and Harm

### **Dental Materials.**

- Biocompatibility
- Biomaterials and biosafety
- Clinical testing and research
- Indigenous materials / Cheaper materials
- Sources of dental materials especially grafts and implants

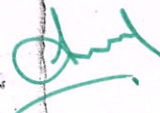
### **Preclinical Conservative Dentistry.**

- Privacy and confidentiality
- Respect for patients
- Choice of materials
- Ethical issues of treatment planning
- Informed consent

### **Preclinical Prosthodontics and Crown & Bridge.**

- Privacy and confidentiality
- Respect for patients
- Choice of materials
- Ethical issues of treatment planning
- Informed consent
- Technician rights

### **Oral Pathology & Oral Microbiology.**

- Prudence of investigations
  - Privacy and confidentiality
  - Blood transfusion and testing
  - Collection and Disposal of investigative material
  - Ownership of investigative material
  - Genetic research
  - Stem cell research
  - Bio-banking of stem cells
  - Technician rights
  - Drug resistance
  - Sterilization and Handwashing
  - Environmental concerns
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### Third Year BDS

The students would be moving on to clinical settings in Medicine and Surgery as well as being on rotation in the various clinical undergraduate dental departments. Thus the topics of bedside ethics, breaking bad news, beginning of life and end of life issues would be ideally integrated into the regular curriculum of the students.

#### General Medicine.

- Rational drug use
- Prudence in testing and diagnostic testing
- Benefit and Harm
- Breaking bad news
- Doctor's rights; Patient's Rights
- Informed consent

#### General Surgery.

- Rational drug use
- Prudence in testing and diagnostic testing
- Benefit and Harm
- Brain death
- Organ transplantation
- Breaking bad news
- Doctor's rights; Patient's Rights
- Informed consent
- Futility of treatment
- End of life issues
- Palliative care

#### Oral Pathology and Oral Microbiology.

- Prudence of investigations
- Privacy and confidentiality
- Blood transfusion and testing
- Collection and Disposal of investigative material
- Ownership of investigative material
- Genetic research
- Stem cell research
- Bio-banking of stem cells
- Drug resistance
- Sterilization and Handwashing

#### Conservative Dentistry & Endodontics.

- Rational drug use
- Prudence in testing and diagnostic testing
- Benefit and Harm
- Breaking bad news
- Doctor's rights; Patient's Rights
- Informed consent
- Futility of treatment
- End of life issues
- Palliative care

#### Oral & Maxillofacial Surgery.

- Rational drug use
- Prudence in testing and diagnostic testing
- Benefit and Harm
- Breaking bad news
- Doctor's rights; Patient's Rights
- Informed consent





- Implants and grafts
- Brain death
- Futility of treatment
- End of life issues
- Palliative care

#### **Oral Medicine and Radiology**

- Rational drug use
- Prudence in testing and diagnostic testing
- Benefit and Harm
- Breaking bad news
- Doctor's rights; Patient's Rights
- Informed consent
- Futility of treatment
- Radiation Hazard
- End of life issues
- Palliative care

#### **Orthodontics & Dentofacial Orthopaedics.**

- Biocompatibility
- Biomaterials and biosafety
- Clinical testing and research
- Indigenous materials / Cheaper materials
- Sources of dental materials especially grafts and implants
- Informed consent
- Vulnerable population
- Prudence in testing and diagnostic testing
- Implants and grafts
- Benefit and Harm
- Ethical issues of paediatric patients
- Doctor's rights; Patient's Rights
- Alternatives of treatment Ethical choices
- Fee splitting

#### **Paediatric & Preventive Dentistry.**

- Biocompatibility
- Biomaterials and biosafety
- Clinical testing and research
- Informed consent
- Prudence in testing and diagnostic testing
- Vulnerable population
- Benefit and Harm
- Ethical issues of paediatric patients
- Doctor's rights; Patient's Rights
- Alternatives of treatment Ethical choices
- Fee splitting

#### **Periodontology.**

- Biocompatibility
- Biomaterials and biosafety
- Clinical testing and research
- Indigenous materials / Cheaper materials
- Sources of dental materials especially grafts and in



- Rational drug use
- Prudence in testing and diagnostic testing
- Benefit and Harm
- Stem cell therapy
- Doctor's rights; Patient's Rights
- Informed consent
- Implants and grafts
- Alternatives of treatment Ethical choices
- Fee splitting

#### **Prosthodontics and Crown & Bridge.**

- Biocompatibility
- Biomaterials and biosafety
- Clinical testing and research
- Indigenous materials / Cheaper materials
- Sources of dental materials especially grafts and implants
- Prudence in testing and diagnostic testing
- Implants and grafts
- Benefit and Harm
- Vulnerable population
- Breaking bad news
- Doctor's rights; Patient's Rights
- Technician rights
- Informed consent
- Futility of treatment
- End of life issues
- Palliative care

#### **Public Health Dentistry.**

- Benefit and Harm
- Breaking bad news
- Doctor's rights; Patient's Rights
- Health laws
- Informed consent
- Justice and equal distribution of public health resources
- National Oral health Programmes
- Access to oral health Care
- Futility of treatment
- End of life issues
- Palliative care
- Environmental ethics
- Professional Ethics,
- Ethics of Research, Publishing and Academics,
- Ethics of Record keeping and documentation

#### **Fourth Year BDS**

##### **Orthodontics & Dentofacial Orthopaedics.**

- Biocompatibility
- Biomaterials and biosafety
- Clinical testing and research
- Indigenous materials / Cheaper materials



- Sources of dental materials especially grafts and implants
- Informed consent
- Prudence in testing and diagnostic testing
- Vulnerable population
- Implants and grafts
- Benefit and Harm
- Ethical issues of paediatric patients
- Doctor's rights; Patient's Rights
- Alternatives of treatment Ethical choices
- Fee splitting

#### **Oral Medicine and Radiology.**

- Rational drug use
- Prudence in testing and diagnostic testing
- Benefit and Harm
- Breaking bad news
- Doctor's rights; Patient's Rights
- Informed consent
- Futility of treatment
- Radiation Hazard
- End of life issues
- Palliative care

#### **Paediatric & Preventive Dentistry.**

- Informed consent
- Prudence in testing and diagnostic testing
- Benefit and Harm
- Ethical issues of paediatric patients
- Vulnerable population
- Doctor's rights; Patient's Rights
- Alternatives of treatment Ethical choices
- Fee splitting

#### **Periodontology.**

- Biocompatibility
- Biomaterials and biosafety
- Clinical testing and research
- Indigenous materials / Cheaper materials
- Sources of dental materials especially grafts and implants
- Rational drug use
- Prudence in testing and diagnostic testing
- Benefit and Harm
- Stem cell therapy
- Doctor's rights; Patient's Rights
- Informed consent
- Implants and grafts
- Alternatives of treatment Ethical choices
- Fee splitting

#### **Oral & Maxillofacial Surgery.**

- Rational drug use
- Prudence in testing and diagnostic testing
- Benefit and Harm
- Breaking bad news
- Doctor's rights; Patient's Rights
- Informed consent
- Implants and grafts



- Brain death
- Futility of treatment
- End of life issues
- Palliative care

#### **Prosthodontics and Crown and Bridge.**

- Biocompatibility
- Biomaterials and biosafety
- Clinical testing and research
- Indigenous materials / Cheaper materials
- Sources of dental materials especially grafts and implants
- Prudence in testing and diagnostic testing
- Implants and grafts
- Benefit and Harm
- Vulnerable population
- Breaking bad news
- Doctor's rights; Patient's Rights
- Technician rights
- Informed consent
- Futility of treatment
- End of life issues
- Palliative care

#### **Conservative Dentistry & Endodontics.**

- Rational drug use
- Prudence in testing and diagnostic testing
- Benefit and Harm
- Breaking bad news
- Doctor's rights; Patient's Rights
- Informed consent
- Futility of treatment
- End of life issues
- Palliative care

#### **Public Health Dentistry.**

- Benefit and Harm
- Breaking bad news
- Doctor's rights; Patient's Rights
- Health laws
- Informed consent
- Justice and equal distribution of public health resources
- National Oral health Programmes
- Access to oral health Care
- Futility of treatment
- End of life issues
- Palliative care
- Environmental ethics
- Professional Ethics and Advertising
- Ethics of Research, Publishing and Academics,
- Ethics of Record keeping and documentation



Overall the aim should be to ensure that the students are prepared for the following major educational outcomes:

- How to recognise and analyse an ethical dilemma;
  - The reasoning, argument, and judgment about a particular course of action;
  - What is the commitment to ethical principles of the profession; and
  - How to implement the ideal plan of action.
- The fact that ethics and professionalism instruction are being included in each year of the dental undergraduate program with specific focus on ethical issues of the profession will definitely improve the commitment, professionalism, and reasoning and judgment abilities of the students. Vertical integration into the existing curriculum, guided by trained faculty members and the involvement of students in ethical discussions during chair-side clinical evaluation of patients will ensure that the ultimate goal of making the students aware of their all-round responsibility as health professionals is achieved.

### **Innovative Teaching-Learning and Assessment Approaches**

#### ***Workshops, Small Groups, Problem-Based Learning and Role Play***

- Didactic methods and other traditional teaching methods are no more considered effective means of teaching bioethics.
- This group approach facilitates student interactions; encourages active research, reading, and also a discussion of ethical dilemmas. Such interactions expect the students to examine and defend their personal ethical belief systems and also understand the ethical perspectives of their peer group.
- This small-group learning format also helps to encourage student – faculty dialogue and introspection. Here the faculty serve as role models for their students with respect to demonstrating ethical standards and behaviour. Role-playing has also been identified as an effective teaching method in ethics and professionalism.
- Problem-based learning (PBL) has also been effectively used in groups to teach bioethics in medical school curricula and provides equally opportune learning experiences in dental education. These may also be used for the purpose of assessment by observing students behaviour and responses.

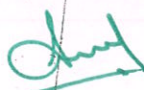
#### ***Case-Based Learning***

- One of the most effective means of teaching bioethics is in the form of Case-Based Learning using real patient cases.
- Dental faculty who adopt this means of education will find that it captures the students attention and makes the bioethics lesson to be clinically relevant. A case based approach to learning also increases the student-instructor interaction, enhances the learning outcomes and can easily be used to assess the standard of learning in the students.

#### ***Innovative Teaching- Learning Materials***

- Innovative teaching materials such as the viewing of movies that stimulate ethical questions are another method to enhance the teaching of bioethics. Small narratives or real life stories may be used for student reflection.
- In this way the students are encouraged to consider the overall context of ethical dilemmas rather than examining these issues as isolated events. Other tools that facilitate observational learning may also be incorporated into effective bioethics teaching in medicine and in dentistry.
- These may be in the form of taped and live video of both real patients and "simulated patients". Subsequently, the students may be asked to write down their responses or answer subjective questions for the purpose of assessment.

#### ***Multidisciplinary faculty teaching***





- Interdisciplinary approach to teaching that utilizes instructors from varied disciplines (e.g., ethics, medicine, psychology and law) has proved to be invaluable in the effective teaching of ethics to medical students.
- Interdisciplinary education emphasises the need for physicians to value the perceptions of people from varying backgrounds and acts as a model for subsequent inter-professional collaboration.
- Such approaches can provide dental undergraduate students with valuable insight into ethical decision-making as well as important exposure to the multidisciplinary team process.

### **Critical Needs to be addressed:**

#### ***Need 1: Integrated Bioethics Curriculum***

- Ethics needs to be fully integrated across the curriculum, including suitable carryover into the clinical years, clinical seminars, chair-side, and/or other formal hands-on courses.
- The suggested integration both horizontally and vertically of bioethics into the dental undergraduate curriculum will ensure that this need is met.
- The next step will be to ensure that the same principles are discussed, reflected upon and implemented in all stages of dental post-graduate education

#### ***Need 2. The need to assess and ensure ethical competence.***

- The bioethical aspects need to be translated into professional competence and behavioural manifestation of ethical competence (moral sensitivity, moral reasoning & judgment, and moral implementation).
- Ethical competence needs to be comprehensively assessed at both the theoretical as well as the practical examinations.
- This may be done by means of recorded patient-doctor interaction; use of standardised patients, suitably designed OSCE, role plays etc.

#### ***Need 3. The need for faculty development.***

- There is an urgent need for immediate sensitization and training for effective faculty development to implement the teaching of bioethics across the curriculum and ensure that the teachers act as ideal role models.
- The 3T Bioethics Training Programme of the Indian Programme of the UNESCO Chair in Bioethics(Haifa) for healthcare faculty is a welcome step in this regard and needs to be taken forward among the dental schools as well.

#### ***Need 4. The need for innovative methods of instruction.***

- There is the immediate need for transformation of the traditional teaching-learning methodologies in vogue in all undergraduate dental schools. Innovative teaching methodologies such as small-group, case-based methods; role-playing, movies, narratives etc will promote active learning, and enhance self-assessment/reflective practice in the field of bioethics.

*Amal*