

## APPENDIX II

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\* Revised

\*\*Has been approved by the International President of I.F.D., Mr. Pieter Brouwer,  
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# **1. GENERAL ANATOMY AND PHYSIOLOGY**

## **Introduction To The Human Body**

- 1.1 Define anatomy and physiology.
- 1.2 List the principle body cavities and the organs contained within them.
- 1.3 Identify the the different levels of complexity found in the human body:  
molecule, cell, tissues, organ, system
- 1.4 Define metabolism, catabolism and anabolism, homeostasis.
- 1.5 Describe the three major planes of section:
  - 1.5.1 coronal
  - 1.5.2 transverse
  - 1.5.3 sagittal

## **Cells, Tissues and Glands**

- 1.6 Briefly describe the structure and function of the following cellular components
  - 1.6.1 cell membrane
  - 1.6.2 endoplasmic reticulum
  - 1.6.3 ribosomes
  - 1.6.4 golgi apparatus
  - 1.6.5 mitochondrion
  - 1.6.6 lysosome
  - 1.6.7 centrosome
  - 1.6.8 nucleus
  - 1.6.9 chromosomes
  - 1.6.10 microfilaments
- 1.7 Define the terms mitosis and meiosis and identify the purpose of each.
- 1.8 Identify the fluid compartments of the body, comparing and contrasting their composition and volume.

1.9 Define the transport mechanisms by which substances move between the body's compartments, stating an example of each:

- 1.9.1 diffusion
- 1.9.2 osmosis
- 1.9.3 filtration
- 1.9.4 active transport
- 1.9.5 phagocytosis

1.10 State normal blood pH.

1.11 Define the following terms.

- 1.11.1 acid
- 1.11.2 base
- 1.11.3 pH
- 1.11.4 buffer

1.12 Define the term tissue.

1.13 Briefly describe the following:

- 1.13.1 epithelial tissue
- 1.13.2 connective tissue
- 1.13.3 muscle
- 1.13.6 nervous tissue

1.14 Define the term gland and distinguish between exocrine and endocrine glands giving examples of each.

### **The Skeletal System**

1.15 Describe the functions of the skeletal system.

1.16 Describe the histological features of compact and spongy bone.

1.17 Describe the process of bone development and remodelling.

1.18 List the five principle types of bone in the skeleton, giving an example of each.

1.19 Define the term "bony landmark" and give examples.

1.20 Describe the structure and movements of fibrous, cartilaginous and synovial joints.

### **Muscular System**

1.21 Identify the functions of muscle tissue.

1.22 Describe the relationship of blood vessels and nerves to skeletal muscles.

1.23 Describe the relationship involving bones and joint articulations in producing body movements.

### **The Nervous System**

1.24 Identify the function of the nervous system.

1.25 Describe the organization of the nervous system.

1.26 Describe the generation and propagation of a nerve impulse.

1.27 Define synapse.

1.28 Explain the role of neurotransmitters.

1.29 Define reflexes and list general characteristics of all reflexes.

1.30 Briefly describe the meninges, including their function.

1.31 Describe the manufacture, circulation and function of cerebrospinal fluid.

1.32 Describe the structure and function of the spinal cord.

1.33 Briefly describe the structure of the brain, including the location and functions(s) of

1.33.1 cerebral cortex

1.33.2 white matter

1.33.3 basal ganglia



- 1.33.4 thalamus
  - 1.33.5 hypothalamus
  - 1.33.6 cerebellum
  - 1.33.7 pons
  - 1.33.8 medulla oblongata
  - 1.33.9 reticular formation
- 1.34 Identify the two divisions of the autonomic nervous system.
- 1.35 Describe the function of each division of the autonomic nervous system, including their effects on the other body systems.
- 1.36 List the 12 pairs of cranial nerves and describe their distribution.

### **The Cardiovascular System**

- 1.37 List the functions of the cardiovascular system.
- 1.38 Describe the structure and functions of erythrocytes, leukocytes, and thrombocytes.
- 1.39 Describe the mechanism of hemostasis, including both factors which would promote blood clotting and those that would inhibit it.
- 1.40 Describe the structures of the heart, including the :
- 1.40.1 pericardium
  - 1.40.2 myocardium
  - 1.40.3 endocardium
  - 1.40.4 chambers
  - 1.40.5 valves
- 1.41 Define coronary circulation and identify the 2 major arteries.
- 1.42 Define automaticity.
- 1.43 Identify the components of the heart's conduction system, including the function of each.
- 1.44 Describe the events of cardiac cycle.

- 1.45 Define cardiac output and identify factors which affect it.
- 1.46 Describe and differentiate between the structure and function of arteries, arterioles, capillaries, venules, and veins.
- 1.47 List and identify the major arteries and veins of systemic circulation.
- 1.48 Describe capillary dynamics.
- 1.49 Define blood pressure.
- 1.50 Identify the normal values for blood pressure.
- 1.51 Identify factors which would affect blood pressure.

### **The Lymphatic System**

- 1.52 Describe the components and functions of the lymphatic system.
- 1.53 Identify the functions of the tonsils, spleen, and thymus gland.

### **The Respiratory System**

- 1.54 Identify the functions of the respiratory system.
- 1.55 Briefly describe the structure and functions of each of the following:
  - 1.55.1 pharynx
  - 1.55.2 larynx
  - 1.55.3 trachea
- 1.56 Briefly describe the structure of the bronchial tree.
- 1.57 Briefly describe the mechanics of respirations.
- 1.58 Identify factors which control and influence respiration.
- 1.59 Describe alveolar gas exchange.
- 1.60 Identify how gases are transported in the blood.

- 1.61 Briefly describe the respiratory system's role in maintaining acid-bas balance.

### **The Urinary System**

- 1.62 List the functions of the urinary system.
- 1.63 Briefly describe the structure of the kidneys.
- 1.64 Briefly describe the mechanism of formation, identifying factors which would affect it.
- 1.65 Describe the normal composition and volume urine.
- 1.66 Briefly describe the role of the urinary system in regulation of:
- 1.66.1 blood pressure
  - 1.66.2 fluid and electrolyte balance
  - 1.66.3 acid-base balance
- 1.67 Briefly identify the structure and function of:
- 1.67.1 the ureters
  - 1.67.2 urinary bladder
  - 1.67.3 urethra
- 1.68 Define micturation.

### **The Digestive System**

- 1.69 Describe the components and functions of the digestive system.

### **The Reproductive System**

- 1.70 Describe the components and functions of the reproductive system.

### **The Endocrine System**

- 1.71 Locate and describe the function of the endocrine glands.
- 1.72 Identify the function of the endocrine system.

1.73 Identify the location of each of the following glands, and the function(s) of the specified hormones:

- 1.73.1 pituitary: (a) growth of hormone  
(b) antidiuretics hormone
- 1.73.2 thyroid (a) thyroxine  
(b) thyrocalcitonin
- 1.73.3 parathyriuds: parathormone
- 1.73.4 adrenals (a) epinephrine & norepinephrine  
(b) aldosterone  
(c) glucocorticoids
- 1.73.5 pancreas (a) glucagon  
(b) insulin

## **2. OROFACIAL ANATOMY**

### **Bones**

- 2.1 Identify the composition and purpose of bone.
- 2.2 Describe the structure and development of bone.
- 2.3 Explain divisions and classifications of bone.
- 2.4 Identify and describe bones of the head and their function.
- 2.5 Identify sutures of the skull and describe their formation.
- 2.6 Identify bones of the facial skeleton.
- 2.7 Identify the anatomy of the mandible and maxilla.
- 2.8 Describe the structure and function of the mandible.
- 2.9 Describe the structure and function of the maxilla.
- 2.10 Describe the general shape and function of the bones which make up the neurocranium.
- 2.11 Describe the functions of the nasal cavity and para-nasal sinuses.

### **Muscles**

- 2.12 Identify major muscles of mastication, their locations and describe their functions.
- 2.13 Identify the suprahyoids as a group, their attachments and describe their functions.
- 2.14 Identify the infrahyoids as a group, their attachments and describe their functions.
- 2.15 Identify the platysma muscle, its origin, insertion and describe its function.



- 2.16 Identify the posterior musculature of the neck, their origin, insertion and describe the functions.
- 2.17 Identify the muscles of facial expression, their origin, insertion and describe their functions.
- 2.18 Identify the intrinsic and extrinsic muscles of the tongue, their location and describe their functions.

### **Arteries**

- 2.19 Identify and describe arteries of the head and neck including their branches and functions.

### **Veins**

- 2.20 Identify and describe the groups of veins of the head and neck, and their functions.

### **Nerves**

- 2.21 Explain the coordination of receptors and effectors in regulating nerve impulses.
- 2.22 Identify and state origins and exits (or entrances) of each of the twelve pairs of cranial nerves.
- 2.23 Describe the basic functions of each pair of cranial nerves.
- 2.24 Describe the functional components of cranial nerves.
- 2.25 List the cranial nerves that are most pertinent to denturist practitioners.
- 2.26 Describe the anatomical configuration of the trigeminal nerve.
- 2.27 Identify any muscle (other than masticatory) which is innervated by the trigeminal.
- 2.28 Describe the anatomical configuration and function of the facial nerve.

- 2.29 Identify the origin and trace the pathway of the glossopharyngeal nerve and its branches.

### **Temporomandibular Joint**

- 2.30 Identify the components of the temporomandibular joint (TMJ).
- 2.31 Describe the structure and functions of the TMJ.
- 2.32 Identify the ligaments associated with the TMJ joint, their locations and describe their functions.

### **Nervous System**

- 2.33 Describe the relation between the peripheral nervous system and the cranial nerves.
- 2.34 Explain the relation between the autonomic nervous system and three divisions of the trigeminal nerve.
- 2.35 Define proprioception and relate this term to movements of the mandible.

### **Lymphatic System**

- 2.36 Define the lymphatic system and its components.
- 2.37 Explain the importance of the lymphatic system as it relates to the health and proper function of the body.
- 2.38 Identify superficial and deep nodes of the head and neck and describe their respective functions.
- 2.39 List locations of the superficial parotid, deep parotid, posterior auricular, occipital nodes, submandibular and submental nodes and identify drainage areas.
- 2.40 Identify and explain how palatine, pharyngeal and lingual tonsils assist in maintaining health.

## **Circulatory System**

- 2.41 Identify and describe the circulatory system of the head and neck.

## **Salivary Glands**

- 2.42 Identify major and minor salivary glands, locate and describe their function.
- 2.43 List major components of saliva.
- 2.44 Describe the functions of saliva.

## **Oral Cavity**

- 2.45 Identify the anatomical landmarks of the oral cavity and the pharynx.

## **Anomalies**

- 2.46 Define dental anomalies and developmental disturbances.
- 2.47 Explain the etiology of cleft lips and palates.

## **Teeth**

- 2.48 Describe the supporting and associated structures of the teeth.
- 2.49 Describe the development of the teeth and their supporting structures.
- 2.50 List and describe individual primary and permanent dentition utilizing the Universal, Palmer and FDI system.
- 2.51 Define permanent dentition.
- 2.52 State the general sequence of eruption of primary (deciduous) and permanent dentitions.

- 2.53 Identify the anatomical structures and landmarks of anterior and posterior teeth in the permanent and primary dentition.
- 2.54 Describe the mandibular positions and movements in relation to articulation of teeth.
- 2.55 Identify and describe Angle's classification of malocclusion.

### 3. GENERAL HISTOLOGY

- 3.1 Identify each major cellular component at the microscopic level and describe the function of each component.
- 3.2 Identify the microscopic structure of each of the primary tissues.
- 3.3 Describe the histology of each of the following conditions:
  - 3.3.1 tissue atrophy
  - 3.3.2 tissue hypertrophy
  - 3.3.3 tissue aplasia
  - 3.3.4 bone atrophy
- 3.4 Explain the function and differentiate between a "blast" cell and a "clast" cell.
- 3.5 Describe mucosa and differentiate between the function of masticatory and lining mucosa.
- 3.6 Identify and describe the function of major and minor salivary glands.
- 3.7 Identify and describe the function of all types of cartilage.



#### 4. DENTAL HISTOLOGY AND EMBRYOLOGY

- 4.1 Describe the development of the face and oral cavity.
- 4.2 Describe the development, structure and function of teeth.
- 4.3 Describe the processes of exfoliation of natural teeth.
- 4.4 Describe the histology and functions of the periodontium.
- 4.5 Describe the histology of the alveolar process and list causes of resorption of the alveolar process.
- 4.6 Describe the changes in oral hard and soft tissues due to tooth extraction and/or denture wearing.
- 4.7 Describe the attachment of the epithelia to the basal bone.

## 5. PERIODONTOLOGY

- 5.1 Identify and define correct periodontal terminology.
- 5.2 Classify periodontal disease.
- 5.3 Describe the basic etiology of periodontal disease.
- 5.4 Recognize and describe clinically healthy gingiva.
- 5.5 Differentiate between healthy gingiva and the early pathological manifestations of gingival disease.
- 5.6 Describe inflammatory and non-inflammatory conditions affecting the gingiva.
- 5.7 Describe HIV periodontal lesions such as atypical gingivitis and ANUG gingiva.
- 5.8 Describe candidiasis in the denture-wearing patient.
- 5.9 List common drugs that cause gingival enlargement.
- 5.10 Define and classify pockets.
- 5.11 Describe rapidly progressing periodontitis.
- 5.12 Recognize radiographic signs indicative of periodontal disease.
- 5.13 Relate occlusion to periodontal disease.
- 5.14 Distinguish between primary and secondary occlusal trauma.
- 5.15 Describe periodontosis or juvenile periodontitis.
- 5.16 Explain the process of recession.
- 5.17 Describe periocoronitis, periodontal abscess and cysts.
- 5.18 List and describe four forms of periodontal therapy and discuss their use.
- 5.20 List and describe surgical periodontal procedures.

- 5.21 Describe synthetic bone grafts, citric acid technique and guided tissue regeneration (Gortex)
- 5.22 Discuss the goals of osseointegration and describe the most common implant system currently used.
- 5.23 Explain the oral manifestation of the uncontrolled diabetic patient and the relationship of diabetes and periodontal disease.
- 5.24 List and describe the various periodontal disease that directly affect the geriatric patient such as: desquamative gingivitis, burning mouth syndrome, denture sore mouth, xerostomia.
- 5.25 Explain the various oral physiotherapy aids that are currently available to patients.
- 5.26 Explain the use of chlorhexidine, Keyes technique, antitartar toothpastes, anti-plaque oral rinses and antibiotics in the control and elimination of periodontal disease.
- 5.27 List an appropriate oral regimen for patients receiving chemotherapy and radiation therapy.
- 5.28 Describe the drug-induced changes in the oral tissues of twenty common drugs.
- 5.29 List representative drugs causing xerostomia and modes of treatment currently available to patients.
- 5.30 Recognize and record periodontal findings by performing an extra-oral intra-oral examination.

## **6. MICROBIOLOGY & INFECTION CONTROL**

### **Definitions**

6.1 Define the following terms as major microbiology types:

6.1.1 bacterium

6.1.2 virus

6.1.3 fungus

6.1.4 spore

6.2 Define the terms "infection" and "spread of infection".

6.3 Define the term "chronic carrier" and describe the chronic carrier state.

6.4 Define the term "cross infection & cross contamination".

### **Morphology**

6.5 Describe bacterial microscopic morphology.

### **Growth Requirements and Transmission**

6.6 List the growth characteristics of bacterium.

6.7 List and describe growth needs of micro-organisms.

6.8 State the routes of infection between the dental patient/client and the dental care provider.

### **Disease Characteristics and Symptoms**

6.9 List and describe human air borne bacterial disease characteristics.

6.10 List and describe food and water borne bacterial disease characteristics.

6.11 List and describe soil borne and arthropodborne bacterial disease characteristics.

6.12 List and describe sexually transmitted and contact disease characteristics.

- 6.13 List characteristics of viral-induced diseases.
- 6.14 List the characteristics of fungal-induced diseases.

### **Resistance Factors of Microorganisms**

- 6.15 List and describe non specific resistance factors.

### **Defence Mechanisms**

- 6.16 List and describe physical and chemical barriers to disease.
- 6.17 Define the term "phagocytosis" and describe the phagocytic process.
- 6.18 Define the term "inflammation" and describe the inflammatory response.
- 6.19 Define the term "fever" and describe its benefits and detriments.
- 6.20 Define the following terms:
  - 6.20.1 immunity
  - 6.20.2 active immunity
  - 6.20.3 antigen
  - 6.20.4 passive immunity
  - 6.20.5 antibody
  - 6.20.6 adaptive immunity
  - 6.20.7 immune system
  - 6.20.8 cellular immunity
  - 6.20.9 humeral immunity
  - 6.20.10 innate immunity
- 6.21 Describe the formation of B-lymphocytes.
- 6.22 Describe the formation of T-lymphocytes.
- 6.23 Define the term "immune tolerance".
- 6.24 List the four types of hypersensitivity reactions and describe the process in each case.
- 6.25 List the causes of immune deficiency diseases and their consequences.



- 6.26 Define the term immune suppression and describe the process.
- 6.27 Describe the action of "Killer T-lymphs" and "Natural Killer cells".
- 6.28 List individuals receiving prosthodontic treatment whose resistance to disease may be reduced.

#### **Defence Mechanisms (Mechanical)**

- 6.29 Define the following terms:
  - 6.29.1 disinfection
  - 6.29.2 sterilization
  - 6.29.3 antiseptics
  - 6.29.4 asepsis
  - 6.29.5 cidal agents
  - 6.29.6 static agents
  - 6.29.7 sanitization
  - 6.29.8 decontamination
- 6.30 Discuss the susceptibility of the dentist to sources of infection.
- 6.31 Describe an effective hand washing routine.
  - 6.31.1 perform handwashing
- 6.32 Identify the protective measures to prevent disease transmission.
- 6.33 List the seven components of an infection control procedures.
- 6.34 List the personal hygiene guide-lines that should be observed by all dental personnel.
- 6.35 Differentiate among the terms sanitization, disinfection and sterilization.
- 6.36 List the sequential steps involved in handling a contaminated article before it is sterilized or disinfected.
- 6.37 Discuss the five accepted methods of instrument sterilization.
- 6.38 Describe the process of dry heat sterilization.
- 6.39 Describe the process of autoclaving (steam under pressure).

- 6.40 List the chemical agents used in a denturist clinic.
- 6.41 List factors affecting the rate of disinfection.
- 6.42 Identify advantages and disadvantages of disinfecting agents in a denturist clinic.

### **Specific Diseases**

- 6.43 For the hepatitis viral diseases:
  - 6.43.1 Name the causative organism.
  - 6.43.2 Describe the route(s) of transmission.
  - 6.43.3 Describe the clinical symptoms and disease course.
  - 6.43.4 Describe treatment and prevention modalities.
- 6.44 Define the term Acquired Immune Deficiency Syndrome (AIDS).
- 6.45 For AIDS, list the:
  - 6.45.1 causative organism
  - 6.45.2 routes of transmission
  - 6.45.3 clinical signs and symptoms
  - 6.45.4 treatment and prevention modalities
- 6.46 List three groups of people who are at high risk of contracting AIDS.

### **Dental Prosthesis**

- 6.47 Describe the procedure to follow when transporting dental prostheses.
- 6.48 Discuss the legal implications of following the recommended infections control guide-lines to the denturist.
- 6.49 Identify the Health and Safety standards regarding bloodborne pathogens.
- 6.50 Identify the key components of Material Safety Data Sheets (MSDS).
- 6.51 Describe the recommended of procedure regarding contaminated material disposal.

- 6.52 Discuss the components of a quality assurance program as it relates to monitoring devices.
- 6.53 Collect microbial samples from different parts of the clinic to evaluate the success of contamination control practices in the dentist clinic.
- 6.54 Observe and report on aseptic procedure in another dental clinic.
- 6.55 Make a specific list of each item in the student's instrument kit and determine how it would best be sterilized or disinfected.
- 6.56 Wipe red tempera paint on a surface normally contaminated during dental treatment to simulate saliva contamination. Attempt to remove all traces of the paint and compare this with the amount of wiping normally used.
- 6.57 View the video-tape "What if Saliva were red" by I. Crawford, University of North Carolina.
- 6.58 Operate an autoclave and dry heat oven through a complete cycle.

## **7. ORAL PATHOLOGY AND MEDICINE**

### **Definitions**

7.1 Define the terms pathology and pathogenesis.

### **Etiology of Disease**

7.2 Discuss the etiology of disease including the following factors:

- (i) generics of heredity
- (ii) congenital anomalies
- (iii) trauma
- (iv) infectious disease
- (v) alterations in immunity and inflammation
- (vi) hypoxia
- (vii) neoplasia
- (viii) idiopathic factors

### **Cellular Adaptation to Injury**

7.3 Define each of the following cellular adaptive changes and identify the causes and examples for each:

- 7.3.1 atrophy
- 7.3.2 hypertrophy
- 7.3.3 hyperplasia
- 7.3.4 metaplasia
- 7.3.5 dysplasia
- 7.3.6 necrosis

### **Derangement of Body Fluids**

7.4 Discuss dehydration including the causes, manifestations and oral implications

7.5 Discuss edema including:

- 7.5.1 causes
- 7.5.2 manifestations
- 7.5.3 oral implications
- 7.5.4 treatment

- 7.6 briefly discuss the correlation between fluid imbalances and electrolyte imbalances.

### **Inflammation**

- 7.7 List the 5 cardinal signs of inflammation.
- 7.8 Differentiate between inflammation and infection.
- 7.9 Differentiate clinical, histological, and cytologic differences among acute, chronic and granulomatous inflammations.
- 7.10 State the purpose of inflammation.
- 7.11 Outline the mechanism of acute inflammation.
- 7.12 Identify systems manifestations of inflammation.
- 7.13 Identify treatment modalities used to decrease or suppress inflammation.
- 7.14 Differentiate between regeneration, and repair of tissue.
- 7.15 Define resolution and organisation.
- 7.16 Identify therapeutic interventions used to promote healing.
- 7.17 Identify factors which may inhibit or delay healing.

### **Immunity Disorders and Drug Reactions**

- 7.18 Discuss humoral and cellular immunity.
- 7.19 Describe the etiology, pathology, treatment protocols and clinical significance of:
- 7.19.1 Aphthous stomatitis
  - 7.19.2 Lupus erythematosus
  - 7.19.3 Pemphigus vulgaris
  - 7.19.4 Benign mucous membrane pemphigoid
  - 7.19.5 Stomatitis venata
  - 7.19.6 Stomatitis medicamentosa
  - 7.19.7 Erythema multiforme
- 7.20 Define autoimmune disease.



7.21 Define immunosuppression and discuss its implications.

### **Developmental Conditions**

7.22 Describe the etiology, pathology and clinical consequences of the following developmental conditions:

- 7.22.1 Tori
- 7.22.2 Cleft Palate
- 7.22.3 Macroglossia
- 7.22.4 Macrognathia
- 7.22.5 Fordyce's granules

### **Genetic Diseases**

7.23 Describe the etiology, pathology, treatment protocols and clinical significance of the following genetic diseases:

- 7.23.1 White sponge nevus
- 7.23.2 Fibromatosis
- 7.23.3 Hereditary benign intra-epithelial dyskeratosis

### **Tumours, Neoplastic Lesions and Carcinogenesis**

7.24 Define Tumour.

7.25 Describe the clinical and histological features of benign and malignant tumour.

7.26 Describe the morphologic characteristics of malignant cells.

7.27 Identify the general classification of neoplasms based their histological structure and anatomical location.

7.28 Discuss theories of carcinogenesis.

7.29 Discuss the clinical significance methods of treatment and prognosis of neoplastic lesions.

7.30 Describe the clinical and histologic features of the following tumour:

- 7.30.1 Papilloma
- 7.30.2 Hemangioma
- 7.30.3 Squamous cell carcinoma
- 7.30.4 Basal cell carcinoma
- 7.30.5 Melanoma

### **Conditions of the Tongue**

7.31 Describe the etiology, clinical characteristics and therapy for:

- 7.31.1 Median rhomboid glossitis
- 7.31.2 Ankyloglossia
- 7.31.3 Coated tongue
- 7.31.4 Fissured tongue
- 7.31.5 Lingual tonsil
- 7.31.6 Geographic tongue (migratory glossitis)
- 7.31.7 Black hairy tongue (Lingua nigra)
- 7.31.8 White hairy tongue (lingua villosa alba)

### **Venereal Disease**

7.32 Describe the etiology, treatment protocols and oral manifestations of syphilis and gonorrhea.

### **Diabetes Mellitus**

7.33 Discuss diabetes mellitus under the following headings:

- 7.33.1 etiology and pre-disposing factors
- 7.33.2 pathophysiology
- 7.33.3 manifestations and complications, including oral implications
- 7.33.4 therapeutic interventions

### **Diseases Affecting the Cardiovascular system**

7.34 Describe anaemia under the following headings:

- 7.34.1 types and their causes
- 7.34.2 general manifestations
- 7.34.3 specific manifestations for each type particularly oral problems
- 7.34.4 therapeutic interventions

7.35 Briefly describe leukemia including:

- 7.35.1 definition
- 7.35.2 manifestations and complication, particularly oral
- 7.35.3 therapeutic interventions and their oral implications

7.36 Describe hypertension including:

- 7.36.1 numerical definition
- 7.36.2 etiology and pre-disposing factors
- 7.36.3 manifestations and complications
- 7.36.4 therapeutic intervention

7.37 Briefly describe atherosclerosis including:

- 7.37.1 etiology
- 7.37.2 pathophysiology
- 7.37.3 manifestations and complications
- 7.37.4 therapeutic intervention

7.38 Describe angina pectoris including:

- 7.38.1 etiology
- 7.38.2 manifestations
- 7.38.3 therapeutic interventions

7.39 Describe myocardial infarction including:

- 7.39.1 etiology and predisposing factors
- 7.39.2 pathophysiology
- 7.39.3 manifestations and complications
- 7.39.4 therapeutic interventions

7.40 Discuss cerebrovascular accident including:

- 7.40.1 etiology and pre-disposing factors
- 7.40.2 pathophysiology
- 7.40.3 manifestations and complications
- 7.40.4 therapeutic interventions

## Respiratory Disease

7.41 Discuss asthma under the following headings:

- 7.41.1 etiology

- 7.41.2 pathophysiology
- 7.41.3 manifestations
- 7.41.4 therapeutic interventions

7.42 Describe chronic obstructive pulmonary disease including:

- 7.42.1 types
- 7.42.2 pathophysiology
- 7.42.3 manifestations and complications
- 7.42.4 therapeutic interventions

7.43 Briefly describe tuberculosis including:

- 7.43.1 causative agent and route of transmission
- 7.43.2 pathophysiology
- 7.43.3 manifestations and complications
- 7.43.4 therapeutic interventions
- 7.43.5 prevention

**Infectious Diseases**

7.44 Briefly describe hepatitis B including:

- 7.44.1 causative agent and modes of transmission
- 7.44.2 pathophysiology
- 7.44.3 manifestations and complications
- 7.44.4 therapeutic interventions
- 7.44.5 prevention
- 7.44.6 implications for the dentist

7.45 Briefly describe AIDS including:

- 7.45.1 causative agent and modes of transmission
- 7.45.2 pathophysiology
- 7.45.3 manifestations and complications
- 7.45.4 therapeutic intervention
- 7.45.5 prevention
- 7.45.6 implication for the dentist

**Oral Conditions**

7.46 Describe the histological features, clinical significance and therapeutic interventions for each of the following:

- 7.46.1 angular cheilitis
- 7.46.2 leukoplakia
- 7.46.3 thrush (moniliasis)
- 7.46.4 actinomycosis
- 7.46.7 herpes simplex
- 7.46.8 lichen planus

### **Odontogenic Cysts and Tumours**

- and 7.47 Discuss the odontogenic cysts and tumour which may develop in the head neck region and describe their consequence to prosthodontic therapeutic interventions.

### **Temporomandibular Joint**

- 7.48 Discuss the etiology, clinical features, characteristics and treatment of the following temporomandibular joint pathologies:
- 7.48.1 Luxation
  - 7.48.2 TMJ pain - dysfunction syndrome
  - 7.48.3 Infectious arthritis
  - 7.48.4 Osteo-arthritis
  - 7.48.5 Rheumatoid Arthritis
- 7.49 Discuss developmental anomalies and neoplasms of the temporomandibular joint.



## **8. RADIOGRAPHIC PATTERN RECOGNITION**

### **Radiography in Dental Practice**

- 8.1 Specify the uses of radiographs in dental treatment.
- 8.2 List the legal/ethical accountabilities and responsibilities of each member of the dental team as these relate to dental radiography.
- 8.3 Define the following terms:
  - 8.3.1 radiography, radiographer
  - 8.3.2 radiology, radiologist
  - 8.3.3 x-ray radiation
  - 8.3.4 Radiographic film (x-rays, radiograph, radiogram, intra-oral films and extra-oral films)
- 8.4 Describe the history and development of radiology.

### **Characteristics of Radiation**

- 8.5 List and explain the physical characteristics of x-radiation.
- 8.6 Define the following terms:
  - 8.6.1 primary radiation
  - 8.6.2 secondary radiation
  - 8.6.3 scatter radiation
  - 8.6.4 primary beam
  - 8.6.5 whole body radiation
- 8.7 Identify the terms used to measure radiation.

### **Technical Aspects of Radiation Production**

- 8.8 Define the following terms:
  - 8.8.1 latent image
  - 8.8.2 visible image
  - 8.8.3 radiopacity
  - 8.8.4 radiolucency

## **Dental X-ray Films**

- 8.9 Describe the common types of intra-oral and extra-oral radiographic films and list their functions.
- 8.10 Identify common artifacts that affect dental radiographic film and describe their abnormal appearance.

## **Mounting Radiographs for Identification**

- 8.11 Demonstrate the procedure and system of mounting dental radiographs.
- 8.12 Explain the purpose of the embossed dot on radiographic films.

## **Radiographic Interpretation - Teeth and Periodontium**

- 8.13 List and identify in dental radiographs the following:
  - 8.13.1 Visible characteristics of individual teeth of the primary or permanent dentition (e.g. shape of crowns, number of roots, etc).
  - 8.13.2 The anatomical structures of the tooth:
    - 8.13.2.1 enamel
    - 8.13.2.2 dentin
    - 8.13.2.3 cementum
    - 8.13.2.4 pulp chamber and pulp canal(s)
  - 8.13.3 The anatomical structures of the periodontium:
    - 8.13.3.1 alveolar bone
      - 8.13.3.1.1 cortical bone (lamina dura)
      - 8.13.3.1.2 cancellous bone (spongy bone)
      - 8.13.3.1.3 alveolar crest
    - 8.13.3.2 periodontal membrane space
    - 8.13.3.3 gingiva

## **Radiographic Interpretation - Anatomical Structures of the Head**

- 8.14 List and identify in dental radiographs the following:

- 8.14.1 incisive canal foramen (anterior palatine foramen)
- 8.14.2 median palatine suture
- 8.14.3 nasal fossae
- 8.14.4 nasal septum
- 8.14.5 maxillary sinus
- 8.14.6 inverted "typical Y"
- 8.14.7 zygomatic bone (malar bone)
- 8.14.8 zygomatic arch
- 8.14.9 maxillary tuberosity
- 8.14.10 hamular process
- 8.14.11 coronoid process
- 8.14.12 genial tubercles
- 8.14.13 lingual foramen
- 8.14.14 mental foramen
- 8.14.15 mylohyoid ridge (internal oblique ridge)
- 8.14.16 inferior border of the mandible
- 8.14.17 external oblique ridge
- 8.14.18 mandibular canal and other nutrient canals
- 8.14.19 ascending border of the ramus
- 8.14.20 mental process or ridge
- 8.14.21 temporomandibular joint

### **Radiographic Interpretation - General**

8.15 Identify the following structures in dental radiographs:

- 8.15.1 metallic restorations
- 8.15.2 calculus
- 8.15.3 caries (incipient, advanced, recurrent occlusal)
- 8.15.4 overhang
- 8.15.5 abscessed teeth
- 8.15.6 impacted teeth
- 8.15.8 retained roots
- 8.15.8 bone loss
- 8.15.9 resorption (crestal bone loss)
- 8.15.10 root resorption
- 8.15.11 bifurcation
- 8.15.12 internal resorption
- 8.15.13 condensing osteitis
- 8.15.14 pulp stone
- 8.15.15 hypercementosis
- 8.15.16 dilacerated roots

- 8.15.17 supernumerary teeth
- 8.15.18 mesiodens
- 8.15.19 gutta percha
- 8.15.20 silver points
- 8.15.21 restorations - acrylic composite silicate
- 8.15.22 space maintainer

### **Radiographic Interpretation - Cysts**

8.16 Describe the dental radiographic appearance of:

- 8.16.1 Odontogenic cysts
  - 8.16.1.1 radicular cysts
  - 8.16.1.2 dentigerous cysts
  - 8.16.1.3 residual cysts
  - 8.16.1.4 kerato cysts
  - 8.16.1.5 primordial cysts
- 8.16.2 nondontogenic cysts
  - 8.16.2.1 nasopalatine cysts
  - 8.16.2.2 median palatine cyst
  - 8.16.2.3 nasoalveolar cyst
  - 8.16.2.4 dermoid cyst

### **Radiographic Interpretation - Hyperplasia**

8.17 Describe the dental radiographic appearance of the following hyperplasias:

- 8.17.1 torus palatinus
- 8.17.2 torus mandibularis
- 8.17.3 exostoses
- 8.17.4 enostoses

### **Radiographic Interpretation - Tumours**

8.18 Describe the dental radiographic appearance of odontogenic tumours:

- 8.18.1 ectodermal tumours
  - 8.18.1.1 ameloblastoma
- 8.18.2 mixed tumours (ectodermal-mesodermal)

- 8.18.2.1 odontoma
- 8.18.2.2 ameloblastic fibroma

8.18.3 mesodermal tumours

- 8.18.3.1 dentinoma

8.19 Describe the dental radiographic appearance of nonodontogenic tumours:

8.19.1 ectodermal

- 8.19.1.1 neuroma

8.19.2 mixed tumours (ectodermal-mesodermal)

- 8.19.2.1 neurofibroma
- 8.19.2.2 mesodermal tumours

- 8.19.2.2.1 osteoma

- 8.19.2.2.2 central hemangioma

- 8.19.2.2.3 osteoblastoma

**Radiographic Interpretation - Malignant Lesions**

8.20 Describe the radiographic characteristics and appearance of malignant lesions:

8.20.1 Carcinomas

- 8.20.1.1 squamous cell carcinoma
- 8.20.1.2 metastatic carcinoma

8.20.2 Sarcomas

- 8.20.2.1 osteosarcoma
- 8.20.2.2 chondrosarcoma
- 8.20.2.3 fibrosarcoma



## 9. DENTAL KINESIOLOGY (BIOMECHANICS)

- 9.1 Explain the relationship between kinesiology and prosthodontic care.
- 9.2 List and describe the normal functions of the oral/facial muscles of mastication.
- 9.3 Identify all forces affecting denture prostheses during muscle functions.
- 9.4 List and describe the normal functions of the temporomandibular joint.
- 9.5 Identify the forces generated on the denture prostheses during temporomandibular joint excursions.
- 9.6 Describe the functional force relationships between teeth and the prosthetic appliance.
- 9.7 Describe and explain the dynamic relationship between functional occlusion and prosthetic design.
- 9.8 List and describe oral hard and soft tissue adaptive processes following prosthodontic appliance insertion.

## **10. DENTAL PSYCHOLOGY**

### **Theories**

- 10.1 Describe the theories of Freud, Erikson and Maslow as they relate to the oral cavity.
- 10.2 Describe common theories of hunger as they relate to eating disorders, satiety, hunger and thirst.

### **Basic Functions**

- 10.3 Describe the three basic functions of the oral cavity and their importance to the individual from a psychological perspective.
- 10.4 Describe the anatomical and physiological structures involved in taste and smell.

### **Pain and TMJ Dysfunction**

- 10.5 Describe the elements involved in the transmission of pain.
- 10.6 Discuss the emotional and cultural factors mediating pain.
- 10.8 Describe the psychological implications related to TMJ dysfunction.

### **Patient Expectations**

- 10.8 Describe patient expectations and reactions related to prosthetics.
- 10.9 Determine the expectations of the denture patient/client related to oral rehabilitation.

### **Communication**

- 10.10 Define and demonstrate verbal and non-verbal communication.
- 10.11 Identify patient types in relation to communication theory and describe the potential problems.

### **Patient Management and Behaviour Modification**

- 10.12 Define hypnosis and relaxation techniques in patient management.
- 10.13 Discuss patient and practitioner stress and phobias related to dental care.
- 10.14 List the factors accounting for stress and phobias in the patient.
- 10.15 Describe techniques of behaviour modification.

## 11. DENTAL PSYCHOLOGY AND THE AGING PROCESS

11.1 Differentiate among the following terms:

11.1.1 Gerontology

11.1.2 Aging

11.1.3 Geriatrics

11.1.4 Geriodontics

11.2 Describe the current demographics of the Population.

11.3 Discuss the importance of attitudes toward aging.

11.4 Describe the psychological significance of tooth loss.

11.5 Discuss theories of aging.

11.6 Discuss the effects of aging on intelligence and memory.

11.8 Discuss the physical characteristics of aging.

11.8 Discuss the characteristics of the retired person.

11.9 Describe common psychological disorders of the elderly and their underlying causes.

11.10 Differentiate between normal aging and disease conditions.

11.11 Describe the special health needs of the institutionalized and disabled elderly person.





## 12. PHARMACOLOGY AND EMERGENCY CARE

- 12.1 Obtain CPR certification up to date(Cardio Pulmonary Respiration).
- 12.2 Obtain St. John's Ambulance certification.
- 12.3 State the laws governing drug prescription and use in Canada.
- 12.4 Describe the actions, indications, side effects and implications (particularly oral) of the following drug groups:
  - 12.4.1 antimicrobials
  - 12.4.2 autonomic nervous system drugs
  - 12.4.3 central nervous drugs, including anaesthetics, analgesics, sedatives, antidepressants, and anticonvulsants.
- 12.5 Identify the actions, indications and how each of the following drug types may complicate a dentist's treatment.
  - 12.5.1 antihypertensives
  - 12.5.2 anticoagulants & platelet inhibitors
  - 12.5.3 cardiotonics
  - 12.5.4 antiarrhythmics
  - 12.5.5 bronchodilators
  - 12.5.6 corticosteroids
  - 12.5.7 immunosuppressants
  - 12.5.8 antineoplastics
- 12.6 Accurately measure pulse, respiration and blood pressure, recognizing variations from the normal.

### Emergency Care

- 12.7 Describe the immediate treatment for common medical/dental emergencies (including medications).
  - 12.7.1 shock; anaphylactic; syncope
  - 12.7.2 insulin shock
  - 12.7.3 diabetic coma
  - 12.7.4 anginal attack
  - 12.7.5 myocardial infarction
  - 12.7.6 cerebrovascular accident

12.7.7 asthmatic attach

12.7.8 nose bleed

12.7.9 eye injury

### **13. PRE-CLINICAL PROSTHETICS**

#### **Equipment and Materials**

- 13.1 Identify the safe use of laboratory and clinical equipment, instruments and materials used in denture construction.
- 13.2 Demonstrate methods of maintaining the equipment and materials utilized in the construction of complete dentures.
- 13.3 Describe the characteristics of impression materials in terms of use, equipment needed and manipulation requirements.

#### **Laboratory Procedures**

- 13.4 Correctly box/bead, pour and trim casts.
- 13.5 Fabricate custom impression trays utilizing various methods.
- 13.6 Construct baseplates and occlusal rims, to given measurements.
- 13.8 Arrange artificial teeth according to arch configuration.
- 13.8 Set-up various types of artificial teeth to achieve balanced occlusion.
- 13.9 Assemble a pin tracing device.
- 13.10 Wax-up to correct aesthetic standard, flask, process, and deflask complete dentures.
- 13.11 Remount and equilibrate maxillary and mandibular dentures.
- 13.12 Demonstrate proper contouring and finishing techniques when trimming and polishing dentures.
- 13.13 Reline, rebase and repair dentures.

#### **Impression Trays, Jaw Relations, and Artificial Teeth**

- 13.14 Select suitable stock trays for preliminary impression making.
- 13.15 Demonstrate the use of the facebow transfer to articulator.

- 13.16 Select teeth to satisfy aesthetic and functional requirements of different cases and arch configurations.
- 13.18 Describe the advantages and disadvantages of various types of artificial teeth and their applications.
- 13.18 Register eccentric jaw relations and adjust a semi-adjustable articulator to correspond to a given record.

## 14. CLINICAL PROSTHETICS

### The Edentulous State and Biomechanics

- 14.1 Define the edentulous state and list the procedures involved in complete denture construction.
- 14.2 Describe patient adaptive responses to complete dentures.
- 14.3 Describe the effects, of the hard and soft anatomic landmarks on the denture base design.
- 14.4 Describe the biomechanical effects of the muscles of facial expression and mastication (origin, insertion, action) on denture prostheses.
- 14.5 Describe the influences of saliva on denture prosthesis rehabilitation.

### Anatomical Evaluation

- 14.6 Describe the anatomy of the TMJ and relate its function to denture prostheses.
- 14.7 Describe the anatomical relations of the following structures and list the influences of each on prosthesis construction including but not limited to:
  - 14.7.1 midline raphe
  - 14.7.2 mylohyoid ridge
  - 14.7.3 oblique ridge
  - 14.7.4 genial tubercles
  - 14.7.5 tuberosity
  - 14.7.6 retromolar pad
  - 14.7.8 frena
  - 14.7.8 rugae
  - 14.7.9 vestibule
  - 14.7.10 hard palate
  - 14.7.11 soft palate
  - 14.7.12 floor of mouth
  - 14.7.22 foramina
  - 14.7.23 incisive papilla
  - 14.7.15 hamular notch



14.8 Define the following terms and, for each, state the influences on prosthetic construction and stability, including but not limited to:

- 14.8.1 bony spicules
- 14.8.2 residual roots
- 14.8.3 undercut areas
- 14.8.4 hypertrophied tissues
- 14.8.5 atrophied tissues
- 14.8.6 exostoses
- 14.8.8 maxillary/mandibular tori

14.9 Describe the influences of tongue size, shape and range of movement on denture construction.

14.10 Recognize intra-oral and extra-oral pathologic conditions which may effect denture aesthetics, phonetics or functions.

#### **Patient Management**

14.11 Demonstrate professional patient/client management.

14.12 Complete a medical/dental questionnaire.

14.13 Describe the importance of interprofessional relationships and demonstrate those principles.

14.14 Utilize aseptic techniques during all procedures.

14.15 Employ appropriate precautionary measures with high risk patient.

#### **Examination**

14.16 Conduct extra-oral inspection using visual and digital methods and other appropriate methods.

14.17 Conduct intra-oral inspection with:

- 14.17.1 dentures in place
- 14.17.2 dentures removed

14.18 Examine, assess and evaluate the aesthetics, function and phonetics of the existing prostheses.

### **Patient Records and Treatment Planning**

- 14.19 Analyze all documented patient history information.
- 14.20 Establish a prosthetic treatment plan utilizing dental, medical, psychological, biomechanical and radiographic data.
- 14.21 Develop, present and discuss a treatment plan and prognosis.
- 14.22 Present treatment plan to the patient/client and discuss expectations and limitations.
- 14.23 Obtain patient consent.

### **Clinical Procedures (Preliminary Impressions)**

- 14.24 Demonstrate operatory and patient preparation.
- 14.25 Select and adapt stock trays, prepare and manipulate the appropriate impression materials.
- 14.26 Manipulate the pertinent facial and/or oral tissues to give the desired results in the preliminary impressions.
- 14.27 Apply removal techniques and assess the resultant impressions.
- 14.28 Use correct handling and transporting procedures in the storing and casting of preliminary impressions.

### **Clinical Procedures (Final Impressions)**

- 14.29 Design a custom tray for fabrication on the preliminary cast in preparation for peripheral border moulding.
- 14.30 Apply border moulding material in a sequential manner to the periphery of the tray and obtain correct extensions, within the limitations of the oral cavity, for the maximum support and retention.
- 14.31 Identify and manipulate the tissues involved in border moulding.

- 14.32 Select, prepare and manipulate appropriate final impression materials.
- 14.33 Apply correct removal techniques of final impressions.
- 14.34 Evaluate the final impression for acceptability.
- 14.35 Conduct a post-impression examination for possible tissue trauma.

#### **Clinical Procedures (Jaw Relations)**

- 14.36 Place and seat record bases and assess adaptation to and stability on the alveolar ridge.
- 14.37 Contour occlusal rims to complement the patient's facial form.
- 14.38 Establish the occlusal plane using anatomical guide-lines.
- 14.39 Describe the procedures required to register the horizontal jaw relationship.
- 14.40 Establish the required horizontal and vertical jaw relationship.
- 14.41 Demonstrate the correct procedures to establish a face bow transfer.

#### **Clinical Procedures (Trial Techniques)**

- 14.42 Select artificial teeth for the prosthetic patient/client.
- 14.43 Evaluate wax trial denture for aesthetics, phonetics and function.

#### **Clinical Procedures (Denture Insertion)**

- 14.44 Insert completed dentures and evaluate for aesthetics, phonetics and function.
- 14.45 Perform the clinical remount.
- 14.46 Complete post insertion evaluation and adjustments.

#### **Transitional Immediate Dentures and Overdentures**

- 14.47 Design transitional dentures.
- 14.48 Design dentures for insertion immediately following extraction of natural teeth ("immediate" or "intermediate").
- 14.49 Design overdentures for the correction of occlusal and aesthetic irregularities.

#### **Relines and Repairs**

- 14.50 Establish need for temporary liners and tissue conditioning.
- 14.51 Apply tissue conditioners/temporary relines.
- 14.52 Clinically assess repairs.

#### **Extended Treatment**

- 14.53 Provide patient/client oriented, continuing oral care.

## **15. REMOVABLE PARTIAL DENTURES (R.P.D.)**

### **Patient Management and Treatment Planning**

- 15.1 Demonstrate professional patient management.
- 15.2 Complete and record a medical/dental history.
- 15.3 Describe the importance of interprofessional relationships and demonstrate these principles.
- 15.4 Utilize aseptic techniques during all procedures.
- 15.5 Employ appropriate precautionary measures with high risk patients.
- 15.6 Apply interpretation of radiographs to RPD design.
- 15.7 Demonstrate the use of preliminary casts for diagnostic purposes.

### **Examination**

- 15.8 Conduct extra-oral inspection using visual, digital and other appropriate methods.
- 15.9 Conduct intraoral inspection with:
  - 15.9.1 dentures in place
  - 15.9.2 dentures removed
- 15.10 Examine, assess and evaluate the aesthetics, function and phonetics of the existing prostheses.
- 15.11 Identify treatment alternatives for partially edentulous patients/clients.
- 15.12 Prepare a treatment plan for the partially edentulous patient/client.
- 15.13 Explain the importance of oral hygiene to a RPD patient/client.



## **Biomechanics**

- 15.14 Describe the biomechanical effects of tooth loss in the partially edentulous patient/client.
- 15.15 Explain the biological and mechanical functions of a RPD.
- 15.16 Explain the kinetic effects of loading on abutment teeth and the underlying mucosa.

## **Macroanatomy**

- 15.17 Examine the oral cavity and record prevailing hard and soft tissue conditions.
- 15.18 Explain the causes of ridge resorption and other pathologies in the partially edentulous patient.
- 15.19 Identify the load bearing mucosa.
- 15.20 Identify histological changes which may occur to the mucosa in load bearing areas.
- 15.21 Demonstrate techniques used to determine the periodontal ligament attachment.
- 15.22 List systemic factors which influence a patient/client's ability to wear removable partial dentures.
- 15.23 Describe the effects of a RPD on mastication, deglutition and digestion.

## **Surveying and Preliminary Design**

- 15.24 Describe the use and purpose of surveyors.
- 15.25 Survey and tripod a diagnostic cast.
- 15.26 Describe and establish a preliminary design process.
- 15.27 Locate abutments for a diagnostic cast.
- 15.28 Design adequate bracing for a diagnostic cast.

- 15.29 Design adequate direct retainers for diagnostic cast.
- 15.30 Design areas of adequate support in a diagnostic cast.
- 15.31 Design a major connector for a diagnostic cast.
- 15.32 Design a minor connector for a diagnostic cast.
- 15.33 Locate indirect retainers and auxiliary rests on diagnostic cast.

### **Classification and Design Principles**

- 15.34 Utilize Kennedy's classification system for RPD's.
- 15.35 Explain and demonstrate design principles.
- 15.36 Articulate casts prior to design.
- 15.37 Locate fulcrum lines.
- 15.38 Establish the path of insertion.
- 15.39 State the function of the major components of a RPD.
- 15.40 List the options available and explain design principles of retentive components.
- 15.41 List methods of support for a RPD.
- 15.42 Explain the function of RPD bracing components.
- 15.43 Explain the function and application of indirect retainers.
- 15.44 Outline the denture base.
- 15.45 Discuss the application of a stress breaker.
- 15.46 Indicate hard and soft tissue preparations.

### **Clinical Procedures**

- 15.47 Select suitable stock trays for partially-edentulous arches.

- 15.48 Select the impression material and technique.
- 15.49 Obtain preliminary impressions of upper and lower partially-edentulous arches.
- 15.50 Obtain maxillary and mandibular final impressions of partially-edentulous arches.
- 15.51 Record occlusal registration.
- 15.52 Select artificial teeth for a partially-edentulous patient.
- 15.53 Establish vertical dimension of occlusion.
- 15.54 Try in metal framework.
- 15.55 Evaluate wax trial RPD.
- 15.56 Insert, inspect and adjust RPD.
- 15.57 Complete the necessary post-insertion adjustments and occlusal refinement.
- 15.58 Instruct patient on RPD care and oral hygiene.
- 15.59 Emphasize and reinforce the necessity for an aftercare system for the patient.
- 15.60 Evaluate an existing RPD for reline or repair.
- 15.61 Obtain an impression to reline a RPD.

#### **Laboratory Procedures**

- 15.62 Pour acceptable diagnostic casts and trim models.
- 15.63 Construct custom trays for RPD's.
- 15.64 Mount the casts on the articulator by use of a facebow transfer.
- 15.65 Set up artificial teeth on framework, conforming to functional and aesthetic principles.
- 15.66 Adapt a RPD framework to a duplicate model.

15.67 Reline/rebase and repair a RPD.

### **Cast and Wrought Alloys**

15.68 Describe alloys used in RPD frameworks.

15.69 List alleged carcinogenic metals and other hazardous alloy constituents.

15.80 Compare the mechanical properties of cast and wrought alloys.

15.81 Describe how contour and taper can affect the mechanical properties of alloys.

15.82 State the definition and describe application of a transitional RPD.

15.83 Design maxillary and mandibular transitional dentures.

### **Administration and Analysis**

15.84 Complete a laboratory prescription form.

15.85 Complete a prescription form suggesting tooth preparations to the dentist.

15.86 Analyze reasons for failure of a given RPD.

## 16. DENTAL MATERIALS

- 16.1 Outline the history of dental materials.
- 16.2 Describe the methods of testing material properties(chemical, physical, mechanical and biological).
- 16.3 Select appropriate dental material according to structural and mechanical properties.
- 16.4 Explain the structural and mechanical properties in selecting dental materials.
- 16.5 Identify agencies that establish standards for dental materials.
- 16.6 State the necessity for specification of dental materials.
- 16.7 Describe and demonstrate safety procedures when using dental materials and equipment.
- 16.8 Use Workplace Hazardous Material Information System (WHIMAS) effectively.
- 16.9 Describe the composition, properties and application of dental materials including:
  - 16.9.1 gypsum products
  - 16.9.2 impression materials
  - 16.9.3 waxes and baseplates
  - 16.9.4 acrylic resins
  - 16.9.5 abrasive and polishing agents
  - 16.9.6 tissue conditioners, resiliants liners and functional impression materials
  - 16.9.7 denture cleaner and adhesives
  - 16.9.8 acrylic and porcelain teeth
  - 16.9.9 solvents and cleaning agents
  - 16.9.10 light-cured resins
  - 16.9.11 dental metals and alloys
  - 16.9.12 separating media



## **17. PUBLIC HEALTH, LEGISLATION AND RESEARCH**

### **Health**

17.1 Define Public Health.

17.2 Describe the denturists' role in public health.

### **Legislation**

17.3 Describe the denturists' scope of practice.

17.4 List the sequence of historical events that established denturism.

17.5 Discuss provincial legislation.

17.6 Compare the structure and purpose of:

17.6.1 National Governing Boards

17.6.2 Denturist Societies

17.6.3 National Association

17.6.4 INTERNATIONALE ARBEITSGEUEINSCHAFT  
DER ZAHNPROTHETIKER (I.F.D.)

17.7 Describe the roles of other health professionals in community dental health.

### **Research**

17.8 Define the following statistical terms:

17.8.1 Measures of central tendency

17.8.1.1 mean

17.8.1.2 median

17.8.1.3 mode

17.8.2 Correlation

17.8.3 Standard deviation

17.8.4 Significance

17.9 Define dental indices of importance to denturists.

17.10 Describe the factors affecting the validity of clinical trials.

17.11 Describe the components of a community survey.

17.12 Describe the delivery system of dental health care.

## 18. DENTURES OVER IMPLANTS

- 18.1 Define osseointegration.
- 18.2 Discuss the historical development of osseointegration and osseointegrated implant systems.
- 18.3 List and describe the mechanical components of implant structure.
- 18.4 Discuss the characteristics of osseointegrated implants.
- 18.5 Explain the key factors of osseointegration.
- 18.6 Describe the soft tissue interface surrounding abutments.
- 18.7 Describe and discuss the biological, histological, mechanical and periodontal implications of osseointegration.
- 18.8 Perform an intra-oral and external examination and gather pertinent information through medical and dental history.
- 18.9 Develop a conditional treatment plan
- 18.10 Explain indications and contra-indications of osseointegration.
- 18.11 Recognize the need of other dental health professionals to the success of the prosthesis.
- 18.12 Refer the patient to an oral surgeon, DDS, for consultation, examination, bone evaluation, radiographs and treatment plan.
- 18.13 Discuss with an oral surgeon, DDS, radiographs, bone quality, treatment plan and suggest alternatives in respect to prosthodontic procedures.
- 18.14 Discuss the surgical stages.
- 18.15 Explain advantages and disadvantages of overdenture osseointegrated prosthesis.
- 18.16 Examine and maintain the oral health of the patients post surgical.
- 18.17 Describe the procedures and appointments necessary for implant supported overdenture and refer the patient back to the oral surgeon, DDS, for evaluation prior to commencing treatment.

- 18.18 Obtain preliminary impression from a fully edentulous patient with implant fixtures.
- 18.19 Construct a custom tray for an edentulous patient with implant fixtures.
- 18.20 Muscle mould and obtain final impression for an edentulous patient with implant fixtures.
- 18.21 Pour master casts and construct record bases and occlusal rims for an implant supported overdentures patient.
- 18.22 Obtain a facebow record.
- 18.23 Obtain centric and protrusive registrations for an implant supported overdenture.
- 18.24 Select artificial teeth according to patients age, sex, skin colour, arch size and interarch space.
- 18.25 Articulate utilizing a facebow transfer on a Hanau Articulator.
- 18.26 Set up teeth into a balance occlusion and wax-up.
- 18.27 Try-in trial dentures and perform any necessary Adjustments
- 18.28 Explain the advantages and disadvantages of a bar attachment versus a ball attachment.
- 18.29 Select appropriate abutment components.
- 18.30 Process the overdentures, remount, mill in, trim and polish.
- 18.31 Insert complete dentures and perform necessary adjustments.
- 18.32 Recognize the need to refer the patient back to the oral surgeon for evaluation after the prosthesis is completed.
- 18.33 Recognize the need to establish a pertinent care system.
- 18.34 Instruct the patient about oral hygiene and maintenance and lifestyle education.
- 18.35 Discuss complications and set-backs related to implant supported overdentures.

18.36 Discuss and explain consent forms to patient.

18.37 Explain the importance of periodic examination and appropriate future overdentures.

18.38 Discuss and explain the advantages and feasibility to upgrade to a fixed removable prosthesis.

18.39 Establish and maintain a patient record and model system appropriate to implant supported denture patient.

18.40 Fabricate, repair, rebase, reline implant supported overdentures with the patients oral health maintenance as the only criterion.



## 19. SMALL BUSINESS MANAGEMENT

19.1 Evaluate the following as they apply to a denture clinic including:

- 19.1.1 Ownership
- 19.1.2 Liabilities
- 19.1.3 Taxation
- 19.1.4 Payroll

19.2 Describe the services available from financial institutions.

19.3 Recognize the liabilities and responsibilities that accrue from contracts, negotiable instruments and guarantees.

19.4 Describe the services available from the following:

- 19.4.1 Insurance broker
- 19.4.2 Real estate agent
- 19.4.3 Lawyer
- 19.4.4 Financial adviser
- 19.4.5 Accountant
- 19.4.6 Dental suppliers

19.5 Prepare invoices for various services.

19.6 Open and establish an accounting ledger.

19.7 Read and interpret financial statements.

19.8 Discuss small business taxation.

19.9 Establish a business plan for a denture clinic.

19.10 Discuss recruitment and management of employees.

## 20. ETHICS AND PROFESSIONAL RELATIONSHIPS

- 20.1 Discuss the content and format of the Code of Ethics of I.F.D. with respect to its suitability to today's denturist and society.
- 20.2 Discuss the patient's bill of rights.
- 20.3 Discuss the three models of the dental profession according to Dr. D. Ozar:
- (i) the commercial model - dental care as a commodity
  - (ii) the guild model - dental care as a privilege
  - (iii) the interactive model - dental care as a partnership
- 20.4 List a hierarchy of values which denturists can use in making ethical decisions about ethical issues.
- 20.5 Describe the various pressures that can adversely affect ethical behaviour of denturists and analyze different methods of controlling these pressures.
- 20.6 Recognize ethical issues found in journal articles and critically assess the ethical reasoning employed by the author(s).
- 20.7 Write and defend a dental dilemma under the following headings;
- (i) identify an ethical dilemma in a clinical practice setting
  - (ii) demonstrate the ethical reflective process in critically examining the ethical dilemma
  - (iii) demonstrate an ethical decision-making process in making a judgement about this ethical dilemma.
  - (iv) apply and analyze the profession's "Code of Ethics" with respect to its congruency with the profession's and community's ethical principles.
- 20.8 Analyze ethical interactions among the dentist, dental technicians and other allied health professionals.
- 20.9 Articulate the guide-lines for preparing a dental legal report.
- 20.10 Articulate good record-keeping skills in order to reduce or minimize the exposure to a lawsuit.
- 20.11 List the current policy on infection control to be used by denturists.
- 20.12 Discuss the various methods available to break the cycle of stress becoming distress.

20.13 Comment on the three main issues of the 1990's - amalgam toxicity, AIDS and the benefits of fluoride.

## **21. PRACTICE MANAGEMENT**

- 21.1 Recognize the necessity of maintaining comprehensive patient records.
- 21.2 Discuss the importance of professional standards and ethics.
- 21.3 Describe the importance of effective communications.
- 21.4 Discuss fee schedules, dental plans and third party coverage.
- 21.5 Communicate professionally with other members of the health care system.
- 21.6 Recognize the necessity of continuing professional development.

## **22. NUTRITION**

### **Functional Concepts**

- 22.1 Describe the basic concepts of nutrition, stress management and physical fitness.
- 22.2 Describe the functions and significant food resources of vitamins and minerals.
- 22.3 Describe the processes involved in the food cycle.
- 22.4 Describe oral problems associated with dietary intake.

### **Nutrition**

- 22.5 Describe the metabolism and major food sources of the energy yielding nutrients.
- 22.6 Identify the nutritional contribution made by each of the four food groups comprising Canada's food guide.
- 22.7 Describe the nutritional considerations of the geriatric patient.
- 22.8 Describe the nutritional considerations of the edentulous patient.

### **Diets**

- 22.9 Assess the quality of his/her own diet.
- 22.10 Describe a suitable diet following surgery.
- 22.11 Outline the function of fibre in the diet.
- 22.12 Discuss the impact of alcohol on the diet.
- 22.13 Evaluate vegetarian meals.
- 22.14 Analyze a diet using the Canada Food Guide.
- 22.15 Describe the major factors influencing the dietary habits of the elderly.



**Nutritional Factors.**

22.16 Identify the dental considerations of sugar containing foods.

22.17 Describe the factors which contribute to obesity and the role physical activity can play.

22.18 Identify the role of diet, exercise and stress management in the prevention and management of coronary heart disease, diabetes and cancer.

22.19 List the common food allergies.