



ABSTRACT BOOKLET - 2021



**AL-BADAR RURAL DENTAL COLLEGE
& HOSPITAL, GULBARGA**



Research Achievements of UG and PG Students

ABSTRACT BOOKLET



**AL-BADAR RURAL DENTAL COLLEGE & HOSPITAL,
KALABURAGI**



PREFACE

The Al-Badar Rural Dental College and Hospital, Kalburgi is committed to provide the quality education in dental healthcare and education. The institute organises various activities to imbibe the culture of research and development among the students and staff to motivate them for new discovery of knowledge and innovations.

We are happy to present this curated collection of booklet of abstract of various initiatives such as student research projects, posters and papers including their achievements in research oriented activities.

We are thankful to the management of Al-Badar Trust for extending their support and encouragement to organize these various initiatives. We also express our deep gratitude to Dr. Syed Zakaulah, Principal, Al-Badar Rural Dental College and Hospital, Kalburgi for his constant support and commitment for success of these activities.

We also acknowledge the contributions of the authors, presenters, and all participants of these events for their direct and indirect support to make these events successful. At the same time, we also want to thank Dr. Suma B Satenahalli and Dr. Charupriya Rajure for their involvement in compilation of this booklet

Dr. Syeda Arshiya Ara
Dr. Heena Zainab

INDEX

SL. NO.	TITLE	PAGE NO.
1)	Students Research Grants	7
2)	Undergraduate achievements	8
3)	Post Graduate achievements	9
4)	Students' publications	10
	ABSTRACTS OF POSTER AND PAPER PRESENTATION	13-84
5)	Muscles of the neck: anterior view	13
6)	Development of eye	13
7)	Nasal septum bone and cartilage	14
8)	Anterior view of skull	14
9)	Facial muscles & human skeleton	14
10)	Pterygopalatine ganglion and its branches	15
11)	Cell structure	15
12)	Compound microscope	16
13)	Coagulation of blood	16
14)	Human arterial system	17
15)	Human venous system	17
16)	Urea cycle & citric acid cycle	18
17)	Enzymes	18
18)	Osazone test	19
19)	Citric acid cycle	19
20)	Pulp	20
21)	Oral mucous membrane	20
22)	Dentine	21
23)	Cementum	21
24)	Routes of drug administration	22
25)	Narcotic and non-narcotic drugs	22
26)	Schematic depiction of pharmacokinetic processes	23
27)	Classification of anesthetics	23
28)	HIV & aids	24

SL. NO.	TITLE	PAGE NO.
29)	Life cycle of plasmodium vivax	24
30)	Microscope	25
31)	Bone marrow aspiration	25
32)	Lumbar puncture	26
33)	Blood collection vacucontainer tubes	26
34)	Suturing techniques	27
35)	Burns	27
36)	Squamous cell carcinoma	28
37)	Hemorrhage	28
38)	Mandibular fracture	29
39)	Ascites	29
40)	Migraine	30
41)	Urinary tract infection	30
42)	Cardiopulmonary resuscitation	30
43)	Angina pectoris	31
44)	Bronchial asthma	31
45)	Salivary antioxidant imbalance and oral health: role of tobacco	32
46)	Tobacco use and covid 19	32
47)	Smoking and microflora	33
48)	Phytochemicals: the nutritional rainbow	34
49)	Salivary pacemaker: empowered by innovation	34
50)	Dentronics-dentistry towards artificial intelligence proved beyond imagination	35
51)	Saliva the modern day horcrux	36
52)	Saliva the propagator of infection	36
53)	Digital nicotine cessation tools	37
54)	Saliva the nemesis	37
55)	Tobacco the enemy of oral health	38
56)	Cyst	38
57)	Lefort fractures	39
58)	Mandibular fractures	40

SL. NO.	TITLE	PAGE NO.
59)	ZMC fractures	40
60)	Management of benign tumors	41
61)	Reconstruction modalities for oral & maxillofacial pathology	41
62)	Role of stereolithographic models in orthognathic surgical planning -case report	42
63)	Schwannoma of mandible	43
64)	Treatment modalities of sinus lift procedure	44
65)	A case presentation on vomer osteotomy	45
66)	Wonders with platelet rich plasma	46
67)	Oral mucormycosis: a threat to covid patients? From the desk of periodontist.	46
68)	Periodontal vaccine - myth to reality	47
69)	Wilcodontics – a brisk orthodontics tooth movement- a case report	47
70)	Mini review on effectiveness between platelet rich fibrin (PRF) with bone graft versus bone graft (BG) in treatment of endodontic – periodontic lesions	48
71)	Polymeric nanoparticles in drug delivery system [a nanomedicine in periodontics]	48
72)	Comparison of GIC, biodentine and cention as coronal barrier in nonvital bleaching.	49
73)	Dental caries progression	49
74)	Effect of addition of triple antibiotic powder on antibacterial activity, pushout and compressive strength of mta.	50
75)	Efficacy of glass ionomer cement, Tetric N flow and Biodentine as intra orifice barriers with and without laser activation- an invitro study.	51
76)	Effect of different concentrations of chitosan nanoparticles incorporated in composite resin and bonding agent for class ii cavities of maxillary first molars- an invitro study	52

SL. NO.	TITLE	PAGE NO.
77)	Evaluation of efficacy of bio ceramic sealer as obturating material with and without gutta percha - an invitro study	53
78)	Evaluation of sealing ability of mineral trioxide aggregate, super ethoxy-benzoic acid, and biodentin with and without laser as a furcation repair material-in vitro study.	54
79)	Dental tree- do's and don'ts of dental hygiene	55
80)	Root canal treatment	56
81)	Dental clinic setup	56
82)	Progression of dental caries	57
83)	Ellis classification	58
84)	Non-cariou lesions	59
85)	Stamp technique	59
86)	Dento – alveolar fractures	60
87)	Post & core treatment	60
88)	Donning and doffing	61
89)	Teething	61
90)	Tooth brushing techniques	62
91)	Caries risk assessment	62
92)	Pulpectomy	63
93)	Comparison and correlation of pharyngeal airway space, mandibular morphology in different facial pattern”. A cephalometric study	63
94)	Three-dimensional imaging in orthodontics	64
95)	Marketing strategies behind invisible trays in orthodontics	65
96)	Orthodontic brushing and flossing	66
97)	Facts to know about orthodontic treatment	66
98)	Ackerman-Profitt system of classification	67
99)	Orthodontic treatment for a perfect smile	68
100)	Orthodontics no longer an embarrassment	69
101)	Prevention and management of foreign body ingestion	70

SL. NO.	TITLE	PAGE NO.
	and aspiration in orthodontic practice	
102)	Effectiveness of chlorhexidine, chlorine dioxide and betadine mouth washes in decreasing air contamination caused by aerosol during dental prophylaxis in fixed appliance orthodontic treatment in covid-19 pandemic	71
103)	Classification of impression materials	72
104)	Classification of dental implants	72
105)	Maxillofacial prosthesis	73
106)	Principles of teeth arrangement	74
107)	Classification of articulators	74
108)	Primary impression	75
109)	Special tray	75
110)	Secondary impression	76
111)	Beading and boxing	76
112)	Management of a patient with maxillary canine transposition	77
113)	Management of worn dentition I - resulting from dental malocclusion	78
114)	Full coverage Emax restorations in the anterior maxillary dentition	78
115)	Fabrication of an auricular prosthesis in a patient with congenital microtia: a case report	79
116)	Implant retained CAD/CAM milled titanium bar	79
117)	Prosthetic design of an obturator with orthodontic retainer: a case report	80
118)	Mandibular overdenture supported by endosseous implants	80
119)	Intra oral scanners	81
120)	Stages of tooth decay	82
121)	Tooth anatomy	82
122)	Cleft lip and palate	83
123)	The modified bass technique	84

STUDENT GRANTS

Sl. NO	YEAR	NAME OF THE CANDIDATE	UG/PG	TITLE OF THE RESEARCH	GUIDE	GRAND SANCTIONED BODY
1.	2019-2020	Ayesha Tazeen	UG	Comparison of efficacy of Octenedine Mouthwash and Chlorhexidine Gluconate on candida species in Chronic Periodontitis patients with Diabetes mellitus: A clinico-microbiological studies	Dr. Praveen Bankur	RGUHS
2.	2019-2020	Ishrath Anjum	UG	Saliva: A new Diagnostic Approach for detection of Early Pregnancy.	Dr. Deepa Hugar	RGUHS
3.	2020-2021	Ayesha Siddique	UG	Prevalence and distribution of oral mucosal lesions in Dental students of North Karnataka.	Dr. Syeda Arshiya Ara	RGUHS
4.	2020-2021	Nisarga DR	UG	Evaluation of Salivary Alpha Amylase stress biomarker levels in patients with symptomatic and asymptomatic irreversible pulpitis-a clinico-biochemical study.	Dr. Rahul Halkai	RGUHS
5.	2020-2021	Sarah Shaikh	UG	Evaluation of Microleakage in class 5 cavities restored with Chitosan nano particle incorporated novel self-adhesive composite resins- invitro study.	Dr. Kiran Halkai	RGUHS

ACHIEVEMENTS FOR THE YEAR 2021

1.UNDERGRADUATE STUDENTS

<i>Sl. No.</i>	<i>STUDENT NAME</i>	<i>ACHIEVEMENT</i>	<i>EVENT</i>	<i>STAFF GUIDED</i>
1	Ismat Mulla	I prize (Poster presentation)	Oral Medicine and Radiology Day in Al Badar Rural Dental College and Hospital on 24-04-2021	Dr. Heena Zainab, Professor and Head, Department of Oral Pathology and Microbiology
2	Reva Taskeen	I prize (Virtual T-shirt paint competition)	International No Tobacco Day on 31 st May 2021, organized by Maulana Azad Institute of Dental Sciences	Dr. Syeda Arshiya Ara, Professor and Head, Department of Oral Medicine and Radiology.
3	Arshiya Zainab	II prize poster competition	Oral Medicine and Radiology Day in Al Badar Rural Dental College and Hospital on 24-04-2021	Dr. Deepa Hugar, Professor, Department of Oral Pathology and Microbiology.
4	Madiha Zufa	I prize (Poster presentation)	No tobacco Day on 31 st May 2021, organized by Navodaya Dental College, Raichur	Dr. Syeda Arshiya Ara, Professor and Head, Department of Oral Medicine and Radiology.
5	Ruksar	I prize (Short Communication)	World No tobacco Day on 31 st May 2021, organized by Sri Siddharth Dental College, Tumkur	Dr. Mahesh Hiregoudar, Reader, Department of Public health Dentistry.

2. POSTGRADUATE STUDENTS ACHIEVEMENTS

<i>Sl. No.</i>	<i>STUDENT NAME</i>	<i>ACHIEVEMENT</i>	<i>EVENT</i>	<i>STAFF GUIDED</i>
1	Dr. Varsha Katke	First prize (poster presentation)	Oral Medicine and Radiology Day on 24-04-2021 in Al Badar Rural Dental College and Hospital	Dr. Syeda Arshiya Ara, Professor and Head, Department of Oral Medicine and Radiology.
2	Dr. Jaydeepa Basak	Second prize (poster presentation)	Oral Medicine and Radiology Day on 24-04-2021 at Al-Badar Dental College and Hospital	Dr. Syeda Arshiya Ara, Professor and Head, Department of Oral Medicine and Radiology
3	Dr. Shweta, Dr. Ayesha, Dr. Munazza	Consolation prize (poster presentation)	19 th ISP PG Convention virtual conference on 28 th May – 30 th May 2021	Ghousia Fatima, Professor and Head, Department of Periodontology
4	Dr. Sarita Bhandari	Young Achiever Award	Institute of Scholars 2020	Dr. Shailendra Mashalkar, Professor and Head, Department of Conservative Dentistry and Endodontics.
5	Dr. Aishwarya Raju Dr. Zainab	First prize (poster presentation)	IPS, Jaipur virtual conference on 2 nd – 4 th July 2021	Dr. Sharanbasappa Nagral, Professor and Head, Department of Prosthodontics.
6	Dr. Huma Afroz	The best poster	Karnataka IAOMR March 2021	Dr. Syeda Arshiya Ara, Professor and Head, Department of Oral Medicine and Radiology.

STUDENTS PUBLICATIONS FOR THE YEAR 2021

SL NO.	PUBLICATIONS	DEPARTMENT
1	Ara SA, Fatima A. Acquired immunity in dentistry students after Hepatitis B vaccination. J Res Dento maxillofac Sci. 2020,5(3),34-36	Department of Oral Medicine and Radiology
2	Katti G, Shahbaz S, Katti C, Rahman MD. Evaluation of mid palatal suture ossification using Cone-Beam Computed Tomography: A Digital Radiographic Study. Acta Medica (Hradec Kralove) 2020; 63(4):188-93	Department of Oral Medicine and Radiology
3	Ghali S, Katti G, Shahbaz S, Chitroda PK, V Anukriti, Divakar DD et.al. Fascial space odontogenic infections: Ultrasonography as an alternative to magnetic resonance imaging. World J Clin Cases 2021; 9(3): 573-80 [PMID: 33553395 DOI: 10.12998/wjcc.v9.i3.573]	Department of Oral Medicine and Radiology
4	<u>Swapnil J Kolhe</u> , <u>Priyanka S Kolhe</u> , <u>Meenal N Gulve</u> , <u>Gayatri B Aher</u> , <u>Chetan J Bhadage</u> , <u>Shailendra S Mashalkar</u> . Microcomputed tomographic evaluation of shaping ability of two thermo mechanically treated single-file systems in severely curved roots. J Conserv Dent. May-Jun 2020;23(3):244-248. doi: 10.4103/JCD.JCD_349_20	Department of Conservative and Endodontics
5	Shailendra M, Selvakumar G, Diwanji P, Indi S, Hambire A. Effect of diode laser irradiation and 10% citric acid conditioning on the sealing ability of mineral trioxide aggregate as a retrograde filling material. Endodontology Oct-Dec 2020; 32(4):231-233	Department of Conservative and Endodontics
6	Kulkarni S, Mustafa M, Ghatole K, Alqahtani AR, Yahya F, Ziyad A, Alghomlas I, Alothman TA, Alhajri FF. Evaluation Of 2% Chlorhexidine And 2% Sodium Fluoride As Endodontic Irrigating Solutions On Root Dentine Micro hardness: An In Vitro Study. Eur J Dent. 2021 May; 15(2): 253-258. doi:10.1055/s-0040-17053.E pub 2020 Oct 8.	Department of Conservative and Endodontics
7	Sanadi RM, Jain PP, Nalawade KP, Halkai KR, Halkai R. Gingival Crevicular Fluid an Update. International Journal of Research and Analytical Reviews (IJRAR) 2020; 7 (4): 724-730	Department of Conservative and Endodontics
8	Shetty SR, Al Bayatti SW, Shetty R M, Halkai R, Shetty S, Guddadarangiah S T, Halkai K, Hassan SM. Three-dimensional imaging of stafne bone cavity proximal to the mandibular canal- A case	Department of Conservative and Endodontics

SL NO.	PUBLICATIONS	DEPARTMENT
	report. Journal of International Dental and Medical Research. 2020; 13(4): 1569-72	
9	Shetty SR, Al Bayatti SW, Shetty R M, Halkai R, Shetty S, Guddadarangiah S T, Halkai K, Hassan SM. Three-dimensional imaging of stafne bone cavity proximal to the mandibular canal- A case report. Journal of International Dental and Medical Research. 2020; 13(4): 1569-72	Department of Conservative and Endodontics
10	Oruganti V R, Sanjeevareddygar S, Manay SM, Eppalapalli SK R, Vishwakarma RV, Ganji K, Halkai K R, Halkai R. Unusual Variant of Unicystic Ameloblastoma with CEOT-Like Areas: A Rare Case Report with Review of Literature. Case Reports in Dentistry. 2021, Article ID 2093927 https://doi.org/10.1155/2021/2093927	Department of Conservative and Endodontics
11	Halkai R, Halkai KR, Shetty SR, Shetty R M, Shetty S, Prasad P. An in vitro Evaluation of Cytotoxicity of Fungal Derived Nanosilver Particle Endodontic Irrigant on Human Periodontal Ligament Fibroblast Cells. Saudi Endodontic Journal 11(3),364,2021	Department of Conservative and Endodontics
12	Halkai KR, Halkai R, Patil S, Alawadi J, Alwadi W, MarukulaN, et al Evaluation of Cytotoxic effects of fungal origin Nanosilver particles on oral cancer cell lines: An in vitro study. Journal of cancer research and therapeutics. Ahead to Publish	Department of Conservative and Endodontics
13	Sanadi RM, Jain PP, Nalawade KP, Halkai KR, Halkai Gingival Crevicular Fluid An Update. International Journal of Research and Analytical Reviews (IJRAR) 2020; 7 (4): 724-730	Department of Conservative and Endodontics
14	Shetty SR, Al Bayatti SW, Shetty R M, Halkai R, Shetty S, Guddadarangiah S T, Halkai K, Hassan SM. Three-dimensional imaging of stafne bone cavity proximal to the mandibular canal- A case report. Journal of International Dental and Medical Research. 2020; 13(4): 1569-72	Department of Conservative and Endodontics
15	Shaimaa, Heena Zainab, Deepa Hugar, Ameena Sultana A comparative study to assess risk of oral candidiasis in pregnant and non pregnant women. Journal of Oral and Maxillofacial Pathology. 2021. Jan-Apr;25(1):118-123. doi: 10.4103/jomfp. JOMFP_255_20. Epub 2021 May 14.	Department of Oral Pathology and Microbiology.
16	Ameena Sultana, Heena Zainab, Pramod Jahagirdar, Deepa Hugar, Shaimaa Age estimation with cemental incremental lines in	Department of Oral Pathology and Microbiology.

SL NO.	PUBLICATIONS	DEPARTMENT
	normal and periodontally diseased teeth using phase contrast microscope: original research. Egyptian Journal of Forensic Sciences. 2021. https://doi.org/10.1186/s41935-021-00254-2	
19	Heena Zainab, Deepa Hugar, Ameena Sultana, Aditya Muchandi, Syeda Madiha. 2021 A treat to xerotes: An emerging trend. [Accepted in RGUHS journal of dental sciences]	Department of Oral Pathology and Microbiology.

ABSTRACTS OF POSTER, PAPER PRESENTATION

ANATOMY

MUSCLES OF THE NECK: ANTERIOR VIEW

**Taiyaba, Vandana, Zareen, Bushra, # Dr Humeira*

**I year BDS*

#Assistant Professor, Department of Anatomy

Introduction - The muscles of the neck are muscles that cover the area of the neck. These muscles are mainly responsible for the movement of the head in all directions. They consist of the main groups of muscles that is anterior, lateral, posterior groups. Based on this position in the neck the musculature of the neck is further divided into more specific group based on several determinants including depth, precise location, and function.

Key words: Muscles, Neck

References: Grey's Anatomy

DEVELOPMENT OF EYE

**Adiba, Mahalaxmi, Hadiya # Dr. Nazeer*

**I year BDS,*

#Assistant Professor, Department of Anatomy

Eye Formation in the human embryo begin at approximately three weeks into embryonic development and continues mesodermal and in the ectodermal cells contribute to the formation of the eye specifically, the eye derived from the neuroepithelium, surface ectoderm and the extracellular mesenchyme which consist of both the neural crest and mesoderm.

Key words: Eye

References: Grey's anatomy

NASAL SEPTUM BONE AND CARTILAGE

**Syeda Ayesha, Juveria # Dr. Humera Naaz*

**I year BDS, #Assistant Professor, Department of Anatomy*

The nasal septum separates the left and right airways of the nasal cavity, dividing the two nostrils. The fleshy external end of the nasal septum called the columella and is made up of cartilage and soft tissue. The nasal septum is composed of four structures- Perpendicular plate of ethmoid bone, Vomer bone, Septal nasal cartilage, Maxillary bone. The nasal septum can depart from the Central line of the nose in a condition that is known as deviated septum.

Key words: Nose

References: Grey's anatomy

ANTERIOR VIEW OF SKULL

**Shreedhar G. Sowmyashree, Syed Abdul Kaif, #Dr. Humera Naaz,*

**I year BDS, # Assistant Professor, Department of Anatomy*

The human skull consists of about 22 to 30 single bones, which are mostly connected by ossified joints, so called the Sutures. The skull is divided into brain case (cranial cranium) and (visceral cranium). The Skull consist of Frontal bone, Greater wing of sphenoid bone, Lesser wing of sphenoid bone, Bony orbit, Mandible, Maxilla, Temporal bone Squamous, petrous, and mastoid part

Key words: Skull

References: Cunningham's manual of practical anatomy

FACIAL MUSCLES & HUMAN SKELETON

**Afrin, Sumaiya, Sunitha, Tahmeena # Dr. Gazala*

**I year BDS, # Assistant Professor, Department of Anatomy*

The facial muscles also called skeletal muscles are a group of about 20 flat skeletal muscles lying underneath the skin of the face and scalp. Most of them originate from the bones or fibrous structures of the skull and radiate to insert on the skin. Contrary to the other skeletal muscles they are not surrounded by of fascia except for the buccinator muscle. The facial muscles are positioned around the facial openings for stretch across the skull and neck.

Key words: Face, muscles

References: Grey's anatomy

PTERYGOPALATINE GANGLION AND ITS BRANCHES

**Juveria, Shashi # Dr Gazala*

**I year BDS, #Assistant Professor*

Department of Anatomy

The pterygopalatine ganglion is a single structure of the parasympathetic nervous system associated with the maxillary nerve in the pterygopalatine fossa (PPF). A Few structural Studies in humans are available in the index references designed to present study of the PPG to provide evidence of possible variations in morphological patterns of the PPG. Nasopalatine, greater palatine, lesser palatine, posterior superior lateral nasal, pharyngeal branch of maxillary are the branches of pterygopalatine ganglion

Key words: Ganglion

References: Grey's anatomy

PHYSIOLOGY

CELL STRUCTURE

**Shreedhar, Soumya, #Dr. Swathi*

**I year BDS, # Associate Professor*

Department of Physiology

A cell is a small membrane bound compartment that contains all the chemicals and molecules that help support an organism of life. Cells are the building blocks of organisms. There are different types of cells. Different cells reflect differences in the functions, that each of these classes of cell is required to perform. Cell is composed of Plasma Membrane and cell body. Cell body contains small organelles like mitochondria, Secretary vesicles, cytoplasm, cytoskeleton, microtubules, nucleus, Nucleolus, Rough and smooth endoplasmicreticulum, ribosome, and cell body

Key words: Cell

References: Guyton & Hall medical physiology

COMPOUND MICROSCOPE

**Sayyada Javeria Afreen, Syed Abdul Kaif # Dr.Imtiyaz,*

**I year BDS, #Professor and Head,*

Department of Physiology

A microscope is a laboratory instrument used to examine objects that are too small to be seen through the naked eyes. A compound microscope is an upright microscope that uses two sets of lenses (a compound lens system) to obtain higher magnification than a stereo microscope.

The term compound refers to the usage of more than one lens in the microscope. Also, the compound microscope is one of the types of optical microscopes. The compound microscope is mainly used for studying the structural details of cell, tissue, or sections of organs.

Key words: Microscope

References: Guyton & Hall medical physiology

COAGULATION OF BLOOD

**Sumayya, Vandana, #Dr. Swathi*

**I year BDS, # Associate Professor*

Department of Physiology

Blood coagulation is a process that changes circulating substances within the blood into an insoluble gel. The plug evades in blood vessels and stops the loss of blood. The process requires coagulation factors, calcium, and phospholipids. The coagulation factors (proteins) are manufactured by the liver. Ionized calcium (Ca^{++}) is available in the blood and from intracellular sources. Phospholipids are prominent components of platelet membranes; they provide a surface upon which the chemical reactions of coagulation can take place.

Key words: Clot, blood

References: Guyton & Hall medical physiology

HUMAN ARTERIAL SYSTEM

** Sunitha, Bushra, # Dr. Imtiyaz,*

**I year BDS, #Professor and Head*

Department of Physiology

The main function of cardiovascular system is to transport nutrient and the waste throughout the body. Majority of death reported in the developed countries from results cardiovascular diseases. Most of the cardiovascular diseases affect the aged group, but that situation is different now. The considered blood flow in human arterial system can be considered as fluid dynamics problem.

Key words: Blood, artery

References: Guyton & Hall medical physiology

HUMAN VENOUS SYSTEM

**Adiba Sultana, Javeria Mehveen # Dr. Imtiyaz,*

**I year BDS, #Professor and Head*

Department of Physiology

Veins are a type of blood vessels that return deoxygenated blood from the organs back to the heart. These are different from the arteries which deliver oxygenated blood from heart to the rest of body. Deoxygenated blood that flows into veins is collected within tiny blood vessels called capillaries. Capillaries are the smallest blood vessel in body. Oxygen passes through out the walls of capillaries to tissue carbon dioxide can also move into capillaries from the tissue before entering the veins.

Key words: Blood, vein

References: Guyton & Hall medical physiology

BIOCHEMISTRY

UREA CYCLE & CITRIC ACID CYCLE

**Sunita, Shreya, Vandana #Dr Saba Nazmeen*

**I year BDS, # Associate Professor,*

Department of Biochemistry

The urea cycle is the primary biochemical pathway in humans by which excess nitrogen is disposed. Through the coordinated function of six enzymes and two mitochondrial transporters, the pathway catalyzes the conversion of a molecule of ammonia, the x-nitrogen of aspartate and bicarbonate into urea. Whereas ammonia is toxic, urea is relatively inert, soluble in water, and readily excreted in the urine. The major sequelae of urea cycle disorders are neurological. All the genes have been identified.

Key words: Citric acid cycle.

References: Satyanarayana's biochemistry

ENZYMES

**Shashi, Sowmyashree. # Dr Mirza*

**I year BDS, # Professor*

Department of Biochemistry

Enzymes are biological catalyst produced by living tissue. They are proteins (except a small group of RNA acting as a ribosomes) that have the property of accelerating specific chemical reaction, without being consumed in the process. Enzymes help the body break down larger complex molecules into smaller molecules, such as glucose, so that the body can use them as fuel. Enzymes help in this process by unwinding the DNA coils and copying the information. Liver breaks down toxins in the body with the help of enzymes.

Key words: Enzymes

References: Satyanarayana's biochemistry

OSAZONE TEST

** Bushra, Sumaiya #Dr Saba Nazmeen*

**I year BDS, # Associate Professor,*

Department of Biochemistry

Carbohydrates are the most abundant organic molecules in nature. Sugars having reducing property react with phenyl hydrazine hydrochloride to form characteristic osazones. Osazone test is a chemical test used to detect reducing sugars. This test even allows the differentiation of different reducing sugars based on the time of appearance of the complex. This test is also termed Phenyl hydrazine test based on the reagent used for this test. The reagent is phenylhydrazine in acetate buffer. The condensation-oxidation-condensation reaction between three molecules of phenylhydrazine and carbon one and two of aldoses and ketoses yields 1, 2-diphenylhydrazine, known as osazone.

Key words: Blood glucose

References: Satyanarayan's biochemistry

CITRIC ACID CYCLE

**Adiba, Mahalaxmi # Dr Mirza*

**I year BDS, #Professor*

Department of Biochemistry

The citric acid cycle of the Krebs cycle is a series of chemical reactions to release, stored energy through the oxidation of acetyl-CoA derived from Carbohydrates, fats & proteins. It is the most important metabolic pathway for the energy supply to the body. TCA is the most important central pathway connecting almost all the individual metabolic pathways. The two main purposes of the citric acid cycle are: A) synthesis of citrate and gluconeogenesis.

Key words: citric acid cycle.

References: Satyanarayan's biochemistry

DENTAL ANATOMY & DENTAL HISTOLOGY

PULP

BDS, I year, 2021

Department of dental anatomy and histology

Pulp is an ectomesenchymal connective tissue that supports the dentin. It occupies the pulp cavity in the central part of the teeth. Because it is the central or innermost tissue of the tooth, it is sometimes called endodontium. Even though the composition and structure of the dental pulp and dentin are quite different, they are closely related embryologically and functionally and are usually considered together as a functional complex, termed the dentin-pulp complex the pulp is basically a loose connective tissue.

Key words: Pulp, coronal pulp, radicular pulp, pulpitis

References:

1. Tencate's textbook of oral histology, 8th edition 2013, chapter.
2. Orban's textbook of oral histology, 15th edition 2019, chapter.

ORAL MUCOUS MEMBRANE

BDS, I year, 2021

Department of Dental Anatomy and Histology

The oral mucosa is the mucous membrane lining the inside of the mouth. It comprises of stratified squamous epithelium, termed "oral epithelium", and an underlying connective tissue termed lamina propria.

It is divided into lining mucosa,(alveolar mucosa, buccal mucosa, labial mucosa) , masticatory mucosa (dorsum of the tongue, hard palate, and attached gingiva.) and Specialized mucosa, specifically in the regions of the taste buds on lingual papillae on the dorsal surface of the tongue.

References:

1. Orban's textbook of oral histology 15th edition 2015
2. Ten Cate's textbook of oral histology 9th edition 2

DENTIN

BDS, I year, 2021

Department of Dental Anatomy and Histology

Dentin is a calcified tissue of the body along with enamel, cementum, and pulp, is one of the four major components of teeth. It is usually covered by enamel on the crown and cementum on the root and surrounds the entire pulp. By volume, 45% of dentin consists of the mineral hydroxyapatite, 33% is organic material, and 22% is water. Yellow in appearance, it greatly affects the color of a tooth due to the translucency of enamel. Dentin, which is less mineralized and less brittle than enamel, is necessary for the support of enamel. Dentin rates approximately 3 on the Mohs scale of mineral hardness

Key words: dentin, DEJ, primary dentin, secondary dentin

References:

1. Tencates textbook of oral histology, 8th edition 2013, chapter.
2. Goldberg M, Kulkarni AB, Young M and Boskey A, Dentin: Structure, Composition and Mineralization: The role of dentin ECM in dentin formation and mineralization, Front Bio sci (Elite Ed). ; 3: 711–735,

CEMENTUM

BDS, I year, 2021

Department of Dental Anatomy and Histology

Cementum is a specialized calcified substance covering the root of a tooth. The cementum is the part of the periodontium that attaches the teeth to the alveolar bone by anchoring the periodontal ligament. It does not undergo continuous remodelling, combined with its growth pattern of seasonal layering makes this tissue uniquely suitable for tracking changes in tooth repair. Acellular cementum anchors PDL fiber bundles to the tooth; cellular cementum has an adaptive role. Bone, the PDL, and cementum together form a functional unit of special importance when orthodontic tooth movement is undertaken.

Key words: cementum, cellular cementum, acellular cementum, hypercementosis

References:

1. Tencates textbook of oral histology, 8th edition 2013, chapter 9.
2. Orban's textbook of oral histology, 15th edition 2019, chapter 7

PHARMACOLOGY

ROUTES OF DRUG ADMINISTRATION

**Fariya # Dr Zainab*

**II BDS, #Associate Professor*

Department of Pharmacology

Drugs may be administered by various routes. The choice in each patient depends on the properties of the drug and the patient's requirements. A knowledge of the advantages & disadvantages of the different routes of administration is essential. Techniques involved are intravenous route, intramuscular route, subcutaneous route, rectal route, vaginal route, inhalation route.

Key words: Drugs, administration

References: Tripathi pharmacology

NARCOTIC AND NON-NARCOTIC DRUGS

**II BDS, #Dr Zainab*

**Student, #Associate Professor*

Department of Pharmacology

Analgesics are classified into Opioid and non-opioid. The word opiates refer to the products obtained from the opium poppy. Morphine life Action Viz relief from pain and depression of the CNS. Both of which are reversed by Naloxone
Classified as.

- (a) Agonists. eg: Opium Alkaloids & Derivatives
- (b) Antagonists, eg: Naloxone
- (c) Mixed Agonist. NON-Narcotic Analgesics

Key words: Drugs, administration

References: Satoskar pharmacology

SCHEMATIC DEPICTION OF PHARMACOKINETIC PROCESSES

** Daniya # Dr MD Mohsin*

**II BDS, #Professor*

Department of Pharmacology

Pharmacokinetics describes how the concentration of a dosed drug will metabolize in body fluids and tissues changes with time. Parameters of pharmacokinetics such as volume of distribution, area under curve, clearance, half-life, maximum concentration, and bioavailability. Pharmacokinetic drug-drug interactions occur when a drug alters the disposition (absorption, distribution, elimination) of administered agent. Pharmacokinetic interactions may result in the increase or the decrease of plasma drug concentrations.

Key words: drugs, kinetics

References: Satoskar pharmacology

CLASSIFICATION OF ANESTHETICS

**Afifa # Dr Mohsin*

**II BDS, # Professor*

Department of Pharmacology

Any agent that produces local or general loss of sensation, including pain is termed as anaesthetic. There are four main categories of anesthesia used during surgery and other procedures: **general anesthesia**, **regional anesthesia**, **sedation** (sometimes called "monitored anesthesia care"), and local anesthesia. Sometimes patients may choose which type of anesthesia will be used.

Key words: Anaesthetics

References: Manheim's LA

MICROBIOLOGY

HIV & AIDS

**II BDS, # Mrs. Zakiya Sultana,*

**Student, #Assistant Professor*

Department of Microbiology

HIV stands for human immunodeficiency virus. The virus that leads to AIDS, if not treated. AIDS stands for acquired immunodeficiency syndrome. HIV infection destroys the immune system of the infected individual. AIDS is the set of symptoms and illness that develops because of advanced or late stage of HIV infection. There is no cure for HIV /kids however there are medications that can control HIV and prevent complications Awareness of transmission of HIV can help in prevention of HIV/AIDS by taking precautions.

Key words: HIV, AIDS

References: <https://images.app.goo.gl/ABPjTa9RsZrZNEqE6>

LIFE CYCLE OF PLASMODIUM VIVAX

**II BDS, # Mrs. Zakiya Sultana,*

**Student, #Assistant Professor*

Department of Microbiology

Plasmodium vivax is a protozoal parasite and a human pathogen. This parasite is the most frequent and widely distributed cause of recurring malaria. Although it is less virulent than *Plasmodium falciparum*, the deadliest of the five human malaria parasites, *P. vivax* malaria infections can lead to severe disease and death, often due to splenomegaly (a pathologically enlarged spleen) *P. vivax* is carried by the female *Anopheles* mosquito; the males do not bite

Key words: malaria

References: https://www.vivaxmalaria.org/sites/p-vivax/files/styles/gallery-ps/public/content/paragraphs/text/images/2019-04-18/wm3ijW2.png?itok=KHx_89cD

MICROSCOPE

**II BDS, # Mrs. Zakiya Sultana,*

**Student, #Assistant Professor*

Department of Microbiology

A **microscope** is a laboratory instrument used to examine objects that are too small to be seen by the naked eye. The instrument was invented by Antony Von Leewanhock. Microscopy is the science of investigating small objects and structures using a microscope. There are many types of microscopes, and they may be grouped in different ways. The most common microscope (and the first to be invented) is the optical microscope, which uses lenses to refract visible light that passed through a thinly sectioned sample to produce an observable image. Other major types of microscopes are the fluorescence microscope, electron microscope (both the transmission electron microscope and the scanning electron microscope) and various types of scanning probe microscopes

Key words: *cell, microscope*

References: *<https://images.app.goo.gl/skk2AYQCWRGQ8hpA8>*

GENERAL PATHOLOGY

BONE MARROW ASPIRATION

**II BDS, # Dr. Zeenath Begum*

**Student, #Professor and HOD*

Department of General Pathology

A procedure in which a small sample of bone marrow is removed, usually from the hip bone, breastbone, or thigh bone. A small area of skin and the surface of the bone underneath are numbed with an anesthetic. Then, a special wide needle is pushed into the bone. A sample of liquid bone marrow is removed with a syringe attached to the needle. The bone marrow is sent to a laboratory to be looked at under a microscope. This procedure may be done at the same time as a bone marrow biopsy.

Key words: *bone marrow aspiration*

References: *<https://www.google.com/imgres?imgurl=https://turkey-hospitals.com/wp-content/uploads/2019/04/>*

LUMBAR PUNCTURE

**II BDS, # Dr. Zeenath Begum*

**Student, # Professor and HOD*

Department of General Pathology

Lumbar puncture (LP), also known as a **spinal tap**, is a medical procedure in which a needle is inserted into the spinal canal, most commonly to collect cerebrospinal fluid (CSF) for diagnostic testing. The main reason for a lumbar puncture is to help diagnose diseases of the central nervous system, including the brain and spine. It may also be used therapeutically in some conditions. Increased intracranial pressure is a contraindication, due to risk of brain matter being compressed and pushed toward the spine. It is regarded as a safe procedure, but post-Dural-puncture headache is a common side effect if a small atraumatic needle is not used. Lumbar puncture was first introduced in 1891 by the German physician Heinrich Quincke.

Key words: lumbar puncture

References:

https://www.google.com/imgres?imgurl=https://www.informedhealth.org/grafiken/lumbalpunktion_neu_enjpg_replacement_image.jpg&imgrefurl=https://www.informedhealth.org/what-happens-during-a-lumbar-puncture-spinal

BLOOD COLLECTION VACCUCONTAINER TUBES

**II BDS, # Dr. Zeenath Begum*

**Student, #Professor and HOD*

Department of General Pathology

A **Vacutainer** blood collection tube is a sterile glass or plastic test tube with a coloured rubber stopper creating a vacuum seal inside of the tube, facilitating the drawing of a predetermined volume of liquid. Vacutainer tubes may contain additives designed to stabilize and preserve the specimen prior to analytical testing. Tubes are available with a safety-engineered stopper, with a variety of labelling options and draw volumes. The colour of the top indicates the additives in the vial.

Vacutainer tubes were invented by Joseph Kleiner and Becton Dickinson in 1949. *Vacutainer* is a registered trademark of Becton Dickinson, which manufactures and sells the tubes today.

Key words: Blood collection vaccucontainer tubes

References

"Vacutainer and Their Use in Blood Sampling". *medcaretips.com*. 5 February 2018. Retrieved 27 May 2020.

"VACUTAINER - Trademark Details". *Justia*. Justia Corporate Center. 2020. Retrieved February 9, 2020.^

"BD Vacutainer®". *BD*. Becton Dickinson. 2020. Retrieved February 9, 2020.

GENERAL SURGERY

SUTURING TECHNIQUE

**Syeda Wajidha, Mariyam # Dr. Bashir*

**III BDS, #Associate Professor*

Department of General Surgery

Suturing technique is a technique of uniting parts of the body by stitching them together and the material that we use are called as sutures. Suturing techniques are interrupted suture, continuous suture, mattress suture, figure of 8 suture, subcuticular suture, interrupted suture.

Key words: suture

References: Das & Das textbook of general surgery

BURNS

**Kudaravalli Sonia, # Dr.Moienuddin*

**III BDS, #Professor*

Department of General Surgery

Burn injuries are under appreciated injuries that are associated with substantial morbidity and mortality burn injuries, particularly severe burns are accompanied by an immune and inflammatory response, metabolic changes and distributive shock that can be challenging to manage and can lead to multiple organ failure. Great importance is that the injury affects not only the physical health, but also the mental health and quality of life of the patient. Accordingly, patients with burn injury cannot be considered recovered when the wounds have healed

Key words: Burns

References: Das & Das textbook of general surgery

SQUAMOUS CELL CARCINOMA

**Sabiya Kare, # Dr. Moienuddin*

**III BDS, # Professor*

Department of General Surgery

Squamous cell carcinoma is a common form of skin cancer that develops in the squamous Cells that makes up the middle and outer layer of skin usually not life threatening though carcinoma of the skin can grow Large or be aggressive. Untreated it can Spread to other parts of your body, causing Serious Complications. Most squamous cell carcinomas of the skin result from prolonged Exposure to ultraviolet, radiation, either from Sunlight or from tanning bed or lamps. Avoiding UV light helps reduce your list of squamous cell carcinoma of the skin and other forms of Skin cancer.

Key words: squamous cell carcinoma

References: Das & Das textbook of general surgery

HEMORRHAGE

**Aliya Yasmeen, #Dr. Bashir*

**III BDS, # Associate Professor*

Department of General Surgery

Hemorrhage is uncontrolled bleeding from a wound. Various studies indicate that hemorrhage is a major cause of potentially preventable. New method and products for hemorrhage control are therefore a research priority to avoid potentially survivable deaths. A better understanding of the correlation between surface properties and their hemostatic potential (i.e., ability to form a blood clot) would result in an effective hemostatic wound dressing.

Key words: Haemorrhage

References: Baley and Love – short practice of surgery

MANDIBULAR FRACTURE

**Shaik Junaid, # Dr. Bashir*

**III BDS, # Associate Professor*

Department of General Surgery

Mandibular fracture is a common occurrence in emergency medicine, and it belongs to most frequent facial fractures. Road traffic injuries have played prominent role in a mandibular fracture. The bone of the face is most exposed part of the body and therefore particularly vulnerable in road traffic injuries. The mandible is one of the most frequently fractured facial bones. Patients should be assessed in accordance with advance trauma life support protocol.

Key words: Mandible, trauma

References: Baley and Love – short practice of surgery

GENERAL MEDICINE

ASCITES

** Asma Ara # Dr. Girirsh*

**III BDS, # Assistant Professor*

Department of General Medicine

Ascites is the most common decompensating event in patient with cirrhosis and one that is associated with the highest mortality. The main mechanism in the development of Ascites are portal hypertension and sodium retention due to vasodilation and activation of neurohumoral sodium retaining system although Ascites is not a cause of death covert or overt infection

Key words: Liver, alcohol

References: Davidson's principles of practice and medicine

MIGRAINE

**III BDS, # Dr. Girirsh*

**Student, #Assistant Professor*

Department of General Medicine

A migraine is a headache that can cause severe throbbing pain or a pulsing sensation, usually on one side of the head. It's often accompanied by nausea, vomiting, and extreme sensitivity to light and sound. Migraine headaches are sometimes preceded by warning symptoms. Triggers include hormonal changes, certain food and drink, stress, and exercise. Migraine headaches can cause throbbing in one area that can vary in intensity. Nausea and sensitivity to light and sound are also common symptoms.

Key words: Headache

References: Davidson's principles of practice and medicine

URINARY TRACT INFECTION

** Ramya K C # Dr. Girish*

**III BDS, # Assistant Professor*

Department of General Medicine

Urinary tract infection is more common in women. Occurs in bladder or urethra more serious infection occurs in kidney. Pathology of UTI could be Ascending infection, Blood borne spread, lymphatogenous spread, Direct extension from other organs

Key words: headache

References: Davidson's principles of practice and medicine

CARDIOPULMONARY RESUSCITATION

**III BDS, # Dr. Girirsh*

**Student, #Assistant Professor*

Department of General Medicine

In 2010 AHA guidelines for cardiopulmonary resuscitation and emergency cardiovascular case emphasis provide should coordinate and perform chest compressions and ventilation in a team-based approach. We develop a team training model called Airway circulation leadership support to improve resuscitation performance and presents our

preliminary experience of ACLC model in resuscitation team training for emergency department staff

Key words: Emergency, CPR

References: Davidson's principles of practice and medicine

ANGINA PECTORIS

**III BDS, #Dr. Girirsh*

**Student, #Assistant Professor*

Department of General Medicine

Angina pectoris is a chest pain or discomfort that occurs when the heart muscle doesn't get enough blood. Etiological factors are coronary vessel disorder, increased cardiac output. Pharmacological management are opioid analgesics, Anti platelets agent, Beta adrenergic agents and vasodilation

Key words: chest pain

References: Davidson's principles of practice and medicine

BRONCHIAL ASTHMA

** Amrutha KS # Dr. Renuprasad Chikmath*

**III-year BDS, # Assistant Professor*

Department of General Medicine

Respiratory symptoms of a variety of pulmonary conditions over the centuries land up in asthma. Several models have been proposed to understand the pathophysiology of asthma. Though the root cause of bronchial asthma is unclear, it occurs largely due to environmental or genetic factors. The factors that trigger an asthma reaction are exposure to substances such as pollen, dust, animal fur, sand, and bacteria, which triggers allergic reactions.

Key words: Chest pain

References: Davidson's principles of practice and medicine

ORAL PATHOLOGY

SALIVARY ANTIOXIDANT IMBALANCE AND ORAL HEALTH: ROLE OF TOBACCO

Amrutha, Nisarga, # Dr. Heena¹, Deepa Hugar²

**III BDS, # Professor and HOD¹, Reader²*

Department of Oral Pathology

A steady increase in the free radicals creates oxidative stress which is neutralized by the antioxidants. These free radicals are usually known to damage the oral environment as it becomes susceptible because of the mucous membrane which allows swift absorption of the innumerable substances that contribute to oxidative stress. The antioxidant micronutrients are essential for limiting oxidative and tissue damage, and in prevention of increased cytokine production, which is a result of prolonged activation of the immune response. Antioxidants in the diet such as Vitamin C, Vitamin E, Carotenoids may also be of importance in the prevention of degenerative diseases and upkeep of good oral health.

Keywords: Free radicals, saliva, antioxidants, oral health status

References:

1. Gunjalli G, Kumar KN, Jain SK, et al. Total Salivary Antioxidant Levels, Dental Development and Oral Health Status in Childhood Obesity. Journal of International Oral Health: JIOH. 2014 Jul;6(4):63-67

TOBACCO USE AND COVID 19

Riyanna, FizaMeraj # Dr. Heena¹, Deepa Hugar²

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Department of Oral Pathology

Contrasting hypotheses, including that of a protective role of nicotine, have been generated concerning the association between smoking and the occurrence of COVID-19 infection. The question has attracted a lively scientific and public debate. However, the studies conducted so far are based on clinical samples, with most hospital case series, thus most likely suffering from bias due to selection. The investigators propose to conduct an analysis of the potential causal association between smoking or the use of the Swedish smokeless tobacco snus and the occurrence of COVID-19 using data from a newly identified retrospective cohort in Sweden. Information on tobacco use will be extracted by public dental

clinic records in Stockholm Region between October 2015 and January 2020. Information on diagnoses of COVID-19 will be obtained through record linkage with health care registers of inpatient and outpatient care during the period February 2020-August 2021. The risk of COVID-19 for tobacco users compared to non-tobacco users will be calculated as measure of association adjusting for potential confounders.

References:

1. Tobacco Use and the Risk of COVID-19 - Full Text View - ClinicalTrials.gov
2. Van Zyl-Smit RN, Richards G, Leone FT. Tobacco smoking and COVID-19 infection. *Lancet Respir Med.* 2020 Jul;8(7):664-665

SMOKING AND MICROFLORA

**Afsah, #Dr. Heena¹, Deepa Hugar², Dr. Ameena³
*III BDS #, Professor and HOD¹, Reader², Senior lecturer³,
Department of Oral Pathology*

Smoking is a risk factor for periodontitis. To clarify the contribution of smoking to periodontitis, it is essential to assess the relationship between smoking and the subgingival microflora. The aim of this study was to gain an insight into the influence of smoking on the microflora of Japanese patients with periodontitis. Within limits, the analysis of the subgingival microbial flora in smokers and non-smokers with chronic periodontitis suggests a relevant association between smoking and colonization by the specific periodontal pathogens including *C. rectus*. In periodontal diseases, the subgingival microflora in smokers is characterized by a pathogen-enriched community with lower resilience compared to that in non-smokers, which increases the difficulty of treatment. Biological changes in key pathogens, such as *Porphyromonas gingivalis*, together with the ineffective host immune response for clearance, might contribute to alterations in the subgingival microflora in smokers. Nonetheless, further studies are necessary to provide solid evidence for the underlying mechanisms.

References:

- 1) Haffajee AD, Socransky SS, Smith C, Dibart S. Microbial risk indicators for periodontal attachment loss. *J Periodontal Res.* 1991;26(3 Pt 2)
- 2) Genco RJ. Host responses in periodontal diseases: current concepts. *J Periodontol.* 1992;63(4 Suppl):338-355

PHYTOCHEMICALS: THE NUTRITIONAL RAINBOW

**Arshiya Zainab, # Dr. Heena¹, Deepa Hugar², Dr. Ameena³*

**III BDS #, Professor and HOD¹, Reader², Senior lecturer³,*

Department of Oral Pathology

There are many reasons to include plenty of whole foods in your diet, and high on the list of eye-catching colorful reasons are phytochemicals! The word 'phytochemical' literally means plant chemical. From the deep blue hue of blueberries to the pungent aroma of garlic, phytochemicals help give plants their distinctive colors, smells, tastes and other organoleptic (Sense engaging) properties. Phytochemicals also help indicate the health of a plant, as well as when it is ready to be eaten and which nutrients may be present. These are all ways in which plants advertise to those that may spread their seeds (pollinators and hungry animals/insects) that they are a food source worth paying attention to. To a certain degree, many of the health benefits of phytochemicals remain a mystery. What we do know so far indicates that they work in harmony with the other vitamins and nutrients present in whole fruits and veggies to keep our bodies in their natural state of health. And that is enough to make every meal colorful and plant-filled! There are over 10,000 known phytochemicals in the plant-based foods we eat. Here is a peek at some of what we've learned thus far about how these amazing natural chemicals benefit our health.

References:

1. Phytochemicals: Eating from the Rainbow

SALIVARY PACEMAKER: EMPOWERED BY INNOVATION

Ismath¹, Heena Zainab², Deepa Hugar³

1 IV Year BDS, Department of Oral Pathology

2 Professor and HOD, Department of Oral Pathology

3 Reader, Department of Oral Pathology

Xerostomia is the medical term for the subjective complaint of dry mouth due to a lack of saliva. Several diseases, treatments and medications can cause xerostomia. It is also common in smokers. Treatment of xerostomia is a common clinical challenge in the oral medicine practice. Although some treatments have been used to improve the symptoms of xerostomia, none is completely satisfactory for the patients who suffer of this alteration. This review is aimed at presenting new developments for the treatment of xerostomia.

Keywords: Electrostimulation; hyposalivation; saliva; xerostomia.

References:

- 1) Sarapur S, Shilpashree HS. Salivary Pacemakers: A review. Dent Res J (Isfahan). 2012 Dec;9 (Suppl 1):S20-5.

ORAL MEDICINE & RADIOLOGY

DENTRONICS-DENTISTRY TOWARDS ARTIFICIAL INTELLIGENCE PROVED BEYOND IMAGINATION

**Ruksar #Syeda Arshiya Ara ,*

**Intern # Professor & HOD,*

Artificial intelligence (AI) is intelligence shown by machines. This term was coined by John MaCarthy in 1956 at Massachusetts Institute of Technology. AI is a branch of computer science dedicated to the development of computer algorithms to accomplish tasks traditionally associated with human intelligence, such as the ability to learn and solve problems. This includes machine learning (ML), representation learning, and deep learning. With huge increases in patient documented information and data this is the need of the hour to use intelligent software to compile and save this data. From the basic step of taking a patient's history to data processing and then to extract the information from the data for diagnosis, artificial intelligence has many applications in dental and medical science. The term “artificial intelligence” (AI) refers to the idea of machines being capable of performing human tasks. A subdomain of AI is machine learning (ML), which “learns” intrinsic statistical patterns in data to eventually cast predictions on unseen data. This succinct narrative review describes the application, limitations and possible future of AI-based dental diagnostics, treatment planning, and conduct, for example, image analysis, prediction making, record keeping, as well as dental research and discovery.

Keywords : *decision-making, diagnostic systems, informatics, dental, deep learning, machine learning*

References :

- 1) Parihar AS. Artificial intelligence in oral medicine and radiology. Journal of Indian Academy of Oral Medicine and Radiology. 2019 Oct 1;31(4):285-.
- 2)Tandon D, Rajawat J, Banerjee M. Present and future of artificial intelligence in dentistry. Journal of Oral Biology and Craniofacial Research. 2020 Oct 1;10(4):391-6

SALIVA THE MODERN DAY HORCRUX

**Reva Taskeen, #Syeda Arshiya Ara*

**IV BDS, # Professor & HOD,*

Saliva is a most valuable oral fluid that often is taken for granted. It is critical to the preservation and maintenance of oral health, yet it receives little attention until quantity or quality is diminished. There has been much recent research on the topic of salivary dysfunction as it relates to disease or as a side effect of certain medications. Saliva also has become useful as a noninvasive systemic sampling measure for medical diagnosis and research. An adequate supply of saliva is critical to the preservation and maintenance of oral tissue. Clinicians often do not value the many benefits of saliva until quantities are decreased. Much is written about salivary hypofunction, but little attention is paid to normal salivary flow and function. Saliva has become an important resource for evaluating physiological and pathological conditions in humans. The use of saliva has many advantages, including the simple and non-invasive method of collection and its easy, low-cost storage. With the addition of modern techniques and chemical instrumentation equipment, there has been an increase in its use for laboratory investigations, applicable for basic and clinical analyses in the fields of medicine and dentistry. The value of these methods for the diagnosis of oral and systemic diseases has been the subject of study by several researchers with the aim of increasing its use alongside complementary exams.

Key words: Saliva, Diagnostic, Oral diseases

References: Humphrey SP, Williamson RT. A review of saliva: normal composition, flow, and function. The Journal of prosthetic dentistry. 2001 Feb 1;85(2):162-9.

Saliva: Reflection of the body

Author links open overlay panel

Daniela Pereira Lima^a Diego Garcia Diniz^a Suzely Adas Saliba Moimaz^a Dóris Hissako Sumida^b Ana Cláudia Okamoto^c

SALIVA THE PROPAGATOR OF INFECTION

**Aadila Munawwar, # Syeda Arshiya Ara*

**IV BDS # Professor & HOD*

Survey viral infections in general and then focus on those viruses that are found in and/or are transmitted via the oral cavity; norovirus, rabies, human papillomavirus, Epstein-Barr virus, herpes simplex viruses, hepatitis C virus, and HIV. Increasingly, viral infections

have been diagnosed using an oral sample (e.g. saliva mucosal transudate or an oral swab) instead of blood or urine. Viruses cause familiar infections and diseases like common cold, flu. The main aim of this study is to explore detailed information about saliva and viral infections. This research is seen as a scoping literature review.

Keywords: Saliva, infections, hepatitis, B

Reference: Jayaraj G. SALIVA AND VIRAL INFECTIONS-A REVIEW. European Journal of Molecular & Clinical Medicine. 2020 Nov 22;7(1):1377-83.

DIGITAL NICOTINE CESSATION TOOLS

**Madiha Zufa, # Syeda Arshiya Ara*

**IV BDS # Professor & HOD*

Smokers try to quit only once every 2 to 3 years and most do not use proven treatments. Repeated, brief, diplomatic advice increases quit rates. Such advice should include a clear request to quit, reinforcing personal risks of smoking and their reversibility, offering solutions to barriers to quitting, and offering treatment. All smokers should be encouraged to use both medications and counseling. Scientifically proven, first-line medications are nicotine gum, inhaler, lozenge, and patch plus the nonnicotine medication bupropion. Proven second-line medications are clonidine, nicotine nasal spray, and nortriptyline. Various alternative nicotine sources (*gum, transdermal patch, nasal spray, inhaler and sublingual tablets/lozenges*) have been incorporated into tobacco cessation programs

Keywords: *nicotine, smoking, tobacco use disorder, treatment, nicotine therapy.*

Reference: Hughes JR. Motivating and helping smokers to stop smoking. Journal of general internal medicine. 2003 Dec;18(12):1053-7

SALIVA THE NEMESIS

**Syeda Rafiya Zainab, # Syeda Arshiya Ara*

**IV BDS # Professor & HOD*

Saliva is a most valuable oral fluid that often is taken for granted. It is critical to the preservation and maintenance of oral health, yet it receives little attention until quantity or quality is diminished. There has been much recent research on the topic of salivary dysfunction as it relates to disease or as a side effect of certain medications. Saliva also has become useful as a non-invasive systemic sampling measure for medical diagnosis and research. Consequently, it is necessary for clinicians to have a good knowledge base

concerning the norm of salivary flow and function CgA is an acidic glucoprotein that is known to localize in the secretory granules of a wide variety of endocrine and neuronal tissues.

Keywords: Chromogranin A (CgA); cortisol; human saliva; snack eating; stress marker

References: Humphrey SP, Williamson RT. A review of saliva: normal composition, flow, and function. The Journal of prosthetic dentistry. 2001 Feb 1;85(2):162-9.

TOBACCO THE ENEMY OF ORAL HEALTH

**Adila, #Syeda Arshiya Ara*

**IV BDS # Professor & HOD*

Smoking is correlated with a large number of oral conditions such as tooth staining and bad breath, periodontal diseases, impaired healing of wounds, precancer and oral cancer. These effects are often visible and in the early stages they are reversible after cessation of smoking. Dentists, as part of the health profession, are frequently in contact with the general population and there is evidence that they are as effective in providing smoking cessation counselling as any other healthcare group. Consequently, the oral cavity is a frequent site for carcinogenic, microbial, immunologic, and clinical effects of tobacco use.

Keywords: smoking, nicotine, *Streptococcus mutans*, carcinogenesis, electronic nicotine delivery systems, mucosal immunity

Reference: Toda M, Morimoto K, Nagasawa S, Kitamura K. Effect of snack eating on sensitive salivary stress markers cortisol and chromogranin A. Environmental health and preventive medicine. 2004 Jan;9(1):27-9

ORAL AND MAXILLOFACIAL SURGERY

CYST

** Sheikh Neelofar, Shaik Rahiba, Umer Farooq, Shaista Tabassum # Dr Chaitanya Kothari¹,
Dr TasveemUstad²,*

**4th BDS # Professor¹, Senior lecture²*

Department of oral and maxillofacial surgery

Cystic lesions of the jaw are common pathologies of chronic swelling of the jaw in oral and maxillofacial regions. “A Cyst is a pathological cavity having fluid, semifluid or gaseous contents and which is not created by the accumulation of pus. Most cysts, but not all, are lined by epithelium” -(Kramer 1974).

Cyst may be classified as epithelial and non-epithelial based upon the origin. The epithelial may be further classified as developmental & inflammatory. The developmental cyst are further classified into odontogenic and non-odontogenic.

Clinically majority of the cysts are asymptomatic, but if secondarily infected, may be associated with pain. Cyst can grow to a considerable size and cause bony expansion. Large cyst cause marked expansion of cortices of jaw, leading to their resorption and clinically on palpation reveals egg shell crackling.

Radiographically cyst appears as well-defined round or oval areas of radiolucency circumscribed by a sharp radiopaque margin. Multilocularity is seen in case of keratocysts and cystic ameloblastomas. Root resorption may be seen in adjacent teeth.

There are various treatment modalities for cyst such as:

- Enucleation
- Marsupilization
- Peripheral ostectomy
- Carnoy's solution

References: The pathogenesis of odontogenic cysts: a review. R M Browne. J Oral Pathol. 1975 Jul;4(1):31-46. doi: 10.1111/j.1600-0714.1975.tb01738.x.

Keywords: Odontogenic Cysts. Marsupilization, Enucleation, Carnoy's Solution

LEFORT FRACTURES

**Aayun Noorain Sadiya Khanem, Shahinda Nawal Syeda Rafia Zainab Aadila Munawar #Dr*

Ashwin shah¹, Dr Meenakshi Kothari²

**4th BDS, # Professor¹, Senior lecture²*

Department of oral and maxillofacial surgery

Weakest areas of mid-facial complex when assaulted from a frontal direction at different levels (Rene' Lefort, 1901)

Lefort I: Results from the force directed above the maxillary teeth

Lefort II: Results from the force delivered at the nasal bone

Lefort III: Results from the force at the orbital level

Radiographs advised: Plain Films, Lateral Skull, Waters View, Posteroanterior view of skull, Submentovertex view, CT Scan 3D CT, STEREOLITHOGRAPHY

MANAGEMENT:

Emergency care and stabilization, Initial assessment, Definitive treatment, Continuing care

Keywords: Lefort Fractures, Mid face Fractures, Open Reduction and Internal Fixation

References: Le Fort Fractures: A Collective Review. Phillips BJ and Turco LM. Bull Emerg Trauma. 2017 Oct; 5(4): 221–230.

MANDIBULAR FRACTURES

** Neha Tabassum, Pallavi, Poornima, Priyanka, Rajarajeswari, Revataskeen*

Dr. Shereen Fatima¹, Dr Manazir Hussain²,

**4th BDS # Reader¹, Senior lecture²*

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Mandible fractures are among the most common types of facial fractures treated by Maxillofacial Surgeons. They must be managed carefully to maintain the function of the mandible, reestablish proper occlusion, and minimize secondary complications. Current methods of management include combinations of soft diet, intermaxillary fixation, open reduction with plate fixation, and, rarely, external fixation. Decision-making depends on the age of the patient, type of fracture identified, and concomitant medical conditions or injuries.

Keywords: Mandibular Fractures, Inter-Maxillary Fixation, Classification of Mandibular Fractures

References: Mandible Fractures. Pickrell BB, Serebrakian AT and RS, Semin Plast Surg. 2017; 31(2) PMC5423793

ZMC Fractures

**Tamboli Uzma, Syed Maliha, Syeda Waseema, Syeda Zeba Fatima, Tanzeela Fatima, #Dr*

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Zygomaticomaxillary complex (ZMC) fractures, also known as tripod, tetrapod, quadripod, malar or trimalar fractures, are seen in the setting of traumatic injury to the face. They comprise fractures of the zygomatic arch, inferior orbital rim and anterior and posterior maxillary sinus walls lateral orbital rim. They can account for 40% of midface fractures.

The clinical features include restricted eye movements, unequal papillary levels, step deformity, tenderness, hypoesthesia in infraorbital region, crepitations, flattening of malar, etc. Radiographs such as waters view or the paranasal view and CT scans are useful for diagnosis and treatment planning.

The treatment includes reduction and fixation which can be done either by closed or open methods. Indirect approaches to reduction and fixation includes Gillie's temporal fossa

approach, Keen's approach, etc. Direct reduction and fixation includes intraoral maxillary vestibular approach, supraorbital approach (lateral eye brow), upper eye lid approach, etc

References: Zygomaticomaxillary Complex Fractures: A Review of 101 Cases. B, Gaddipati R, Vura N, Ramiseti S and Yamsani R · J Maxillofac Oral Surg. 2016 Dec; 15(4): 417–424.

Keywords: Zygomaticomaxillary Complex Fractures, sub-conjunctival hemorrhage, midface fractures

MANAGEMENT OF BENIGN TUMORS

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A benign tumor is a tumor that doesn't grow in an unlimited, aggressive manner, doesn't invade the surrounding tissues, and doesn't metastasize. The main of the poster is to explain about classification, clinical features, radiographic feature, and management of benign tumors.

KEYWORDS: Benign Tumors, Odontogenic Tumors, Ameloblastoma

REFERENCES: Benign tumors and tumor-like lesions of the oral cavity and jaws: An analysis of 709 cases. KilincA, Saruhan N, Gundogdu B, Yalcin E, Ertas U, Urvasizoglu G. The Nigerian Journal of Clinical Practice: 2017;20 (11): 1448-1454

RECONSTRUCTION MODALITIES FOR ORAL & MAXILLOFACIAL PATHOLOGY

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Following ablative surgery, facial reconstruction may be needed to restore and replace both hard and soft tissue losses.

Ideally, reconstruction should strive to restore the maxillofacial form, quality of tissues, oral competence, and oral cavity functions, allowing the patient to return to normal life and to adapt to the society.

Reconstruction of hard tissues may be achieved by:

- Reconstruction plate
- Reconstruction plate with graft

- Various Autologous grafts like – Anterior Iliac, Fibula, Ramus

Reconstruction of soft tissues may be achieved by:

- Buccal pad of fat
- Collagen membrane
- Local flaps – Temporalis

From the various surgical options available for reconstruction, it is recommended to start from the simplest to more complex modality: starting from direct closure, skin grafting, local flaps, regional cutaneous and myocutaneous pedicled flaps and finally to wide variety of microvascular free flaps.

REFERENCES: Reconstructive Oral and Maxillofacial Surgery, Holzle F, Christopher M, and Wolff K d.Dtscharztebl int. 2008 Nov; 105(47): 815–822.

KEYWORDS: Local flaps, regional flaps, Reconstruction plate, Autologous grafts

ROLE OF STERIOGRAPHIC MODELS IN ORTHOGNATHIC SURGICAL PLANNING: A CASE REPORT

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Orthognathic surgery is a unique endeavor in facial surgery: a patient's appearance and occlusal function can be improved significantly, impacting the patient's sense of self and well-being. Successful outcomes in modern orthognathic surgery rely on close collaboration between the surgeon and the orthodontist across all stages of treatment, from preoperative planning to finalization of occlusion. Virtual computer planning along with steriolithographic model promotes a more accurate analysis of dentofacial deformity and preoperative planning. It is also an invaluable aid in providing comprehensive patient education.

Orthognathic surgery to reposition the maxilla, mandible, or chin is the mainstay treatment for patients who are too old for growth modification and for dentofacial conditions that are too severe for either surgical or orthodontic camouflage.

This presentation will include a case of 28 year old patient with retrognathic mandible with deviated chin operated for orthognathic surgery by advancement of mandible and repositioning of the deviated chin.

KEYWORDS: Steriolithography, Orthognathic surgery, steriolithographic model

REFERENCES: Use of 3-D Stereolithographic Models in Oral and Maxillofacial Surgery. MehraP, Miner J, D’Innocenzo R, and Nadershah M. J Maxillofac Oral Surg. 2011 Mar; 10(1): 6–13

SCHWANNOMA OF MANDIBLE

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Schwannoma is a benign neoplasm derived from schwann cells. It was first described by Verocay in 1910. In 1935, the term “Neurilemmoma” was coined by Stout. The intra-bony lesions account for less than 1% of the central neoplasms. In this poster we present a case of schwannoma involving the mandible of a 40-year-old lady.

Case Report:

The patient presented to our department with an extra-oral solitary, oval shaped swelling on the left side of the mandible which was first observed 6 months back. On examination the swelling was seen in the left mandibular buccal vestibule measuring 2.5 x 1 cm extending antero-posteriorly distal from lower left lateral incisor to lower left second molar region. The swelling was bony hard in consistency and was non-tender. The associated teeth were mobile. She also gave a history of tingling sensation in the lower lip. Radiographically, well-defined multi-locular radiolucency with sclerotic borders was observed. Features such as cortical expansion and root resorption were also evident. A biopsy was taken from the same region and a diagnosis of central schwannoma (Ancient type) of the mandible was confirmed by histopathological examination. The patient was surgically treated at our department with hemi-mandibulectomy and reconstruction with recon plate and iliac graft.

Discussion:

Intraoral lesions of schwannoma are uncommon (only 1%), and intraosseous schwannomas are even rarer. The most common site of occurrence is the mandible, a characteristic traditionally attributed to the long intraosseous path of the inferior alveolar nerve. In the current medical literature, there are 44 acceptable cases of intraosseous schwannoma of the jaws, 39 of the mandibles and five in the maxilla, representing less than 1% of the primary tumors of the bones.

Keywords: Intraosseous schwannomas, benign neoplasm, Neurilemmoma

References: Intraosseous Schwannoma of the Jaws: An Updated Review of the Literature and Report of 2 New Cases Affecting the Mandible. Perkins D, Stiharu TD, Swift J D , Dao TV , Mainville GN. J Oral Maxillofac Surg. 2018 Jun;76(6):1226-1247

TREATMENT MODALITIES OF SINUS LIFT PROCEDURE

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Dental implant therapy has revolutionized the rehabilitation of both form and function of missing teeth. Implant dentistry has become an excellent treatment modality since its inception into modern era of dentistry. The dental implants placement requires enough bone for the stability of implants. Implant placement in posterior maxilla is more challenging owing to limited quantity of bone and presence of maxillary sinus. It may be due to tooth loss following ridge resorption, pneumatization of maxillary sinus, poor bone density, strong occlusal forces.

Sinus grafting is a procedure of choice to restore the anatomic deficiency in maxillary sinus floor. Maxillary Sinus Lift procedure aims to increase the amount of bone in posterior maxilla and the area of premolar and molar teeth by lifting the lower schneiderian membrane and placing a bone graft. So, more bone is available to stabilize dental implant

It is done as a direct sinus lift technique and indirect sinus lift technique. Direct sinus lift includes lateral window technique using PRF and different allografts. Indirect sinus lift includes osteotomy technique using PRF and different allografts.

Sinus Lift with immediate implant placement was performed with PRF & demineralized freeze-dried bone allograft as grafting material. CBCT evaluation was done to assess the osseointegration and amount of bone height achieved. Statistical analysis of gain in bone height was 3.98mm. After evaluating clinically and radiographically it was concluded that the procedure helps in natural bone regeneration with 100% implant stability and success rate.

Keywords: Sinus Lift Procedure, Dental implants, Sinus grafting

References : Sinus lift procedures: an overview of current techniques, Stern A , Green J. Dent Clin North Am. 2012 Jan;56(1):219-33,

A CASE PRESENTATION ON VOMER OSTEOTOMY

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The vomer forms the inferior part of the nasal septum. In this procedure a vomerine flap is raised, the premaxilla fragment is manipulated and brought about to the desired position and is osteotomized with miniplate/microplate.

Case report:

Patient named Abdul Ishaq, aged 11/M came to our department with c/o inability to close mouth. On examination there was protruded premaxilla which was inferiorly placed with Maxillary Central Incisors in the Labial vestibule. Intraorally there was bilateral posterior open bite. Patient gave h/o cleft lip and palate for which he underwent surgery for cleft lip at the age of 6 months and for cleft palate at the age of 1 year 3 months. A Steriolithographic model was made on which mock surgery was performed. Vomer osteotomy was done under GA.

Discussion:

The time to the premaxillary osteotomy that extends from infancy to adolescence varies. Try not to align the premaxilla with the lateral maxillary segment and to put it at a point where the posterior edge of the premaxilla could be contacted with the anterior edge of the lateral maxillary segment because the premaxilla was not placed too far back. In patients with wide residual palatal clefts, good exposure of the vomer is possible to facilitate osteotomy

Result:

In bilateral cleft lip and palate patients, this technique gives satisfactory results.

Keywords: Premaxillary osteotomy, bilateral cleft lip, Vomer osteotomy

References: Premaxillary osteotomy fixation in bilateral cleft lip/palate: Introducing a new technique. RahpeymaP A, Ahmadi S K, Ghasemi A. Asian Journal of Surgery. April 2016;39(2):90-95

WONDERS WITH PLATELET RICH PLASMA (PRP)

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Platelet rich Plasma (PRP) is a newer approach in tissue regeneration and a developing area for clinicians and researchers, especially in Oral and Maxillofacial Surgery. PRP concentrates are innovative endogenous therapeutic agents, which have the potential ability to stimulate and increase the regeneration of soft and hard tissues.

PRP is prepared from patient's own blood with platelet count above the baseline of whole blood. It presents natural anti-inflammatory properties. It also contains growth factors that influence wound healing and acts as a powerful directed biological treatment.

PRP has been extensively used in extraction sockets to enhance wound healing, as a surface treatment to stimulate osseointegration in implant surgeries, in maxillary sinus lift procedures, treatment of peri implant bone defects, face lift procedures, treatment of alopecia, TMJ defects and other musculoskeletal defects effectively and many more.

PRP has been used in dermatology, dentistry, and sports medicine. So, this technology should not be considered experimental anymore, although it has scope to undergo further improvement ahead.

Keywords: Platelet-rich plasma, growth factors, applications of PRP

References: The use of platelet-rich plasma in oral surgery: a systematic review and meta-analysis. Franchini M, Cruciani M, Mengoli C, Masiello F, Marano G. Blood Transfus. 2019 Sep; 17(5): 357–367.

PERIODONTOLOGY

ORAL MUCORMYCOSIS: A THREAT TO COVID PATIENTS? FROM THE DESK OF PERIODONTIST

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A recently emerged complication a rare fungal infection called black fungus, is caused by group of fungi called mucormycosis. Black fungus in COVID-19 patients is increasing due to immunodeficiency periodontitis.

Keywords: COVID-19 patients, Dental professionals, Oral Mucormycosis, Periodontist.

References:

- 1) McDermott NE, Barrett J, Hipp J, Merino MJ, Richard Lee CC, Waterman P, *et al.* Successful treatment of periodontal mucormycosis: Report of a case and literature review. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2010;109:e64-9. Richardson M, Lass-Flörl C. Changing epidemiology of systemic fungal infections. Clin Microbiol Infect 2008;14 Suppl 4:5-24

PERIODONTAL VACCINE - MYTH TO REALITY

**Dr Swetha., Dr Ayesha Humera , Dr Munazza Maher, #Dr Ghousia Fatima*

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Periodontal disease is a polymicrobial, disease and due to its high prevalence rate, this disease has created an interest in finding a solution in a form of vaccine. Global effort to control periodontal disease and eradicate, the periodontal vaccine is developed to achieve “healthy gums – healthy body”. The aim of the study was to review the literature of periodontal vaccine, including active immunization and passive immunization.

Keywords: Periodontal Vaccine, Active Immunization, Passive Immunization, Genetic Immunization.

References:

1. Delves P, Martin S, Burton D, Roitt I. 11th Ed. Blackwell synergy; 2006. Textbook of Roitt's Essential Immunology.
2. Seymour GJ, Taylor JJ. Shouts and whispers: an introduction to immunology in periodontal disease. *Periodontol 2000*. 2004;35:9–13

WILCODONTICS – A BRISK ORTHODONTICS TOOTH MOVEMENT- A CASE REPORT

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Increasing number of adult patients consider smile as important part in social attractiveness and even skill assessment. Expectations of patients in terms of type of treatment provided and problem associated with it, duration and frequency of attendance in orthodontics treatment. Wilcodontics was introduced by Wilcko Brothers.

Keywords: Wilkodontics, Periodontally Accelerated Osteogenic Orthodontics, Malocclusion

References: 1.Wilcko MT, Wilcko WM, Pulver JJ, Bissada NF, Bouquot JE. Accelerated osteogenic orthodontics technique: a 1-stage surgically facilitated rapid orthodontic technique with alveolar augmentation. *J Oral Maxillofac Surg.* 2009;67:2149–59.

MINI REVIEW ON EFFECTIVETIVENESS BETWEEN PLATELET RICH FIBRIN(PRF) WITH BONE GRAFT VERSUS BONE GRAFT(BG) IN TREATMENT OF ENDODONTIC –PERIODONTIC LESIONS

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ABSTRACT: The endoperiolesion are the most commonly encountered in dental clinics. These lesions are treated with different treatment modalities, primary treatment as RCT after 3 months followed by regenerative procedure PRF,BG,root resection. Sri Oktawati et al stated that RCT+BG was most commonly used.BG substitute bioactive glass has osteogenic and osteostimulatory effect enhanced by formation of calcium phosphate layer which converted into hydroxycarbonate apatite layer effect of these regenerative treatment modalities on healing of endodontic-periodontic lesions in medically compromised patients.

Keywords: Platelet rich fibrin, bone grafts, endodontic- periodontic lesion

References: Parupalli Karunakar, Jammula Surya, Matapathi Jayadev, Guniganti Sushma Shravni on platelet rich fibrin a faster healing aid in the treatment of combined lesions: A report of two cases.(JISP, 10/12/201)

POLYMERIC NANOPARTICLES IN DRUG DELIVERY SYSTEM [A NANOMEDICINE IN PERIODONTICS]

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**PG Student, #Professor*

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Nanomedicine uses nanotechnology to improve human health at a molecular scale. nanoparticles are small with increase in surface area with portions of atoms/molecules/unit mass that increase biological activity.it obtains desired drug at the right time, right amount to yeild response.

Keywords: Nanoparticles, nanocarriers, polymeric materials, drug-delivery systems.

References:

1. Bruschi M.L. *Strategies to Modify the Drug Release from Pharmaceutical Systems*. Woodhead Publishing; Cambridge, UK: 2015. pp. 87–194.
2. Macedo A.S., Castro P.M., Roque L., Thomé N.G., Reis C.P., Pintado M.E., Fonte P. Novel and revisited approaches in nanoparticle systems for buccal drug delivery. *J. Control. Release*. 2020;320:125–141.

CONSERVATIVE DENTISTRY AND ENDODONTICS

COMPARISON OF GIC, BIODENTINE AND CENTION N AS CORONAL BARRIER IN NONVITAL BLEACHING.

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Department of Conservative and Endodontics

Internal bleaching is a choice of treatment in discolored endodontically treated teeth. Cervical root resorption is one of the important complications of this treatment. A suggested procedure to prevent this type of resorption is using a coronal barrier under the bleaching materials. Bleaching materials increase the osteoclastic activity and produce undesirable effects such as necrosis of the cementum and periodontal inflammation, which may result in root resorption. In this study we evaluated microleakage of three different materials as a coronal barrier in the nonvital bleaching.

Keywords: Non vital Bleaching, Microleakage, Intracanal barriers.

DENTAL CARIES PROGRESSION

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The understanding of the caries process and its effect on the pulp is presented in the context that caries does develop in various rates of progression. Early in the caries process, the pulp reflects changes within lesion activity. Finally, the nature of the untreated deep carious lesion is an ecosystem that might undergo significant changes. The untreated lesion is temporarily converted from an active and closed lesion environment into one that is open and slowly progressing. The analysis of untreated carious lesions has transformed the treatment philosophy of deep carious lesions.

Keywords: Slowly Progressing, Rapidly Progressing Deep Carious Lesions, Tertiary Dentin.

References: 1.R. Hummel et al. Caries Progression Rates Revisited: A Systematic Review. J Dent Res. 2019 Jul; 98(7): 746–754. 2. Lars Bjorndal. The caries process and its effect on the pulp: the science is changing and so is our understanding. Pediatric Dent. May-Jun 2008;30(3):192-6.

EFFECT OF ADDITION OF TRIPLE ANTIBIOTIC POWDER ON ANTIBACTERIAL ACTIVITY, PUSHOUT AND COMPRESSIVE STRENGTH OF MTA.

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Aim: The aim of the study is to evaluate the antimicrobial properties, push out bond strength and compressive strength of MTA and MTA mixed in different ratios with triple antibiotic against *Enterococcus faecalis*.

Materials and method: MTA pellets of size 3mm X 6mm were prepared and divided into three groups.

Group 1: MTA pellets

Group 2: MTA and triple antibiotic mixed in 2:1 ratio by volume.

Group 3: MTA and triple antibiotic mixed in 1:1 ratio by volume.

Antibacterial activity was evaluated using agar well diffusion method, zone of inhibition was determined after 24Hrs and 48Hrs of incubation at 37°

To evaluating push out bond strength 30 extracted were decoronated to a standard length of 13mm, followed by RCT, the root resected at 3mm from the root apex. The 3mm root end cavity was prepared in the resected end and filled; teeth were randomly divided into 3 groups.

Group1: MTA as retrograde filling.

Group 2: MTA and triple antibiotic mixed in 2:1 as retrograde filling.

Group 3: MTA and triple antibiotic mixed in 1:1 as retrograde filling.

Three cylindrical moulds (n=15) pellets of size 3mm X 6mm were prepared and divided into three groups MTA, MTA and triple antibiotic in 2:1 and 1:1 ratio were mixed

and placed in moulds and tested for compressive strength using intron(Universal testing machine). All the data will be statistical analysis using ANOVA and post hoc test.

EFFICACY OF GLASS IONOMER CEMENT, TETRIC N FLOW AND BIODENTINE AS INTRA ORIFICE BARRIERS WITH AND WITHOUT LASER ACTIVATION- AN INVITRO STUDY.

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Aim: Evaluate the sealing ability and pushout bond strength of Glass Ionomer Cement (GIC), Tetric -N-Flow and Bio dentine as intra-orifice barrier with and without laser-activation.

Materials and methods: Institutional ethical clearance was obtained for this study. Human extracted single rooted 120 mandibular premolars were decoronated to standardize 13mm root length and instrumented with rotary ProTaper universal system till F4 and alternatively irrigated with 3 ml of 3% sodium hypochlorite and normal saline followed by obturation using gutta-percha and AH-plus sealer. About 3.5 mm of gutta-percha was removed from the orifice and samples were randomly divided into three groups (n=40 each) with intra-orifice barrier materials. Group1:GIC; group2:Tetric-N-Flow and group3:Biodentine. Each group is further subdivided into two subgroups A and B (n= 20 each) with and without laser.

Half of above prepared samples (n=60) were evaluated for coronal microleakage, by dye penetration method using stereomicroscope and in another half samples (n=60) push-out bond strength was evaluated using 3mm horizontal sections prepared from coronal-root and loaded under universal testing machine

Results: Laser activation in each group showed greater pushout bond strength. Biodentine with laser (group 3A) was better compared to all groups for both pushout bond strength and microleakage ($p \leq 0.05$).

Conclusion: Biodentine with laser activation increased pushout bond strength and decreased microleakage among all groups.

Clinical significance: Biodentine with laser activation before placement of coronal plug increases quality of bond strength and reduces microleakage; thus increases the success rate of root canal treatment.

Keywords: Biodentine, Tetric-N-Flow, Intra-orificebarrier, Pushout bond strength, Microleakage

EFFECT OF DIFFERENT CONCENTRATIONS OF CHITOSAN NANOPARTICLES INCORPORATED IN COMPOSITE RESIN AND BONDING AGENT FOR CLASS II CAVITIES OF MAXILLARY FIRST MOLARS- AN INVITRO STUDY

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AIM: To evaluate push out bond strength of class II cavities of maxillary molars restored with different concentrations of chitosan nanoparticles (CSN) incorporated in universal composite resin and 8th generation bonding agent.

MATERIALS AND METHODS: MO class II cavities of standardized dimensions were prepared in seventy extracted maxillary first molars. CSN 2% and 0.25% powder were added in 1:1 ratio to the dentine bonding agent and to composite resin. The specimens were randomly divided into 3 groups for restoration as follows: Group 1: composite restoration without CSN (control group) (n=10); Group 2: 2% CSN (n=30) Group 3: 0.25% CSN(n=30). Groups 2 and 3 are further subdivided into 3 subgroups (n=10 each) a. CSN with composite b. CSN with bonding agent c. CSN with composite and bonding agent. NOVA was applied.

RESULTS: Control group has showed significant increase in bond strength than Group 3 (0.25% CSN) and group 2. Among experimental groups, Group 3 (0.25% CSN) had greater bond strength than group 2 (2% CSN). No significant difference between control group, group 3A (CSN + composite) and 3B (CSN+ DBA) ($p<0.05$)

CONCLUSION: CSN (0.25%) did not influence the bond strength when added in composite resin. Hence can be incorporated in composite restorations.

CLINICAL SIGNIFICANCE: CSN (0.25%) exhibits antibacterial activity when incorporated in composite and bonding agent without decreasing bond strength increasing the success-rate.

KEY WORDS: Chitosan nanoparticles, 8th generation bonding agent, composite restoration, class II cavities.

EVALUATION OF EFFICACY OF BIOCERAMIC SEALER AS OBTURATING MATERIAL WITH AND WITHOUT GUTTA PERCHA - AN INVITRO STUDY

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Aim: This study aims to evaluate fracture resistance of teeth obturated with bioceramic-based sealer (BioRoot RCS), epoxy resin-based sealer (AH plus) and Zinc oxide-eugenol (ZOE) sealer with and without various taper gutta percha.

Materials and methods: 90 mandibular premolars teeth with single-root were decoronated to standardize root length of 13mm and instrumented till 25 size (Neoendo rotary system) and divided into 3 groups (n=30), and they were obturated using different sealers and obturation techniques as follows **Group 1:** Lateral condensation with 0.02% Gutta-percha; **Group 2:** Single cone obturation with 0.06% Gutta-percha; **Group 3:** Complete sealer without Gutta-percha. And further divided into 3 sub-groups (n=10) a. ZOE b. AH plus c. BioRoot RCS.

The specimens were sealed with cavit, mounted in acrylic molds and subjected to fracture resistance under universal testing machine and statistically analyzed using One-way ANOVA and post hoc tests ($p \leq 0.05$).

Results: Subgroup 1C (Lateral condensation with bioceramic sealer) showed the highest fracture resistance, however no significant difference was found between 1C and 2C (Single cone GP); and ZOE showed least resistance compared to all groups.

Conclusion: Lateral condensation and Single cone gutta percha with bioceramic sealer increased the fracture resistance of tooth; GP acts as core material.

Clinical significance: Gutta-percha should be part of any obturation technique with any sealer as it imparts strength and increases longevity of the tooth. However, use of bioceramic sealer increases the fracture resistance compared to other sealers.

Keywords: Bioceramic sealer, AH plus, obturation, fracture resistance, Gutta percha.

EVALUATION OF SEALING ABILITY OF MINERAL TRIOXIDE AGGREGATE, SUPER ETHOXY-BENZOIC ACID, AND BIODENTIN WITH AND WITHOUT LASER AS A FURCATION REPAIR MATERIAL- IN VITRO STUDY.

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Aim: To evaluate the sealing ability of Mineral Trioxide Aggregate (MTA), Super Ethoxy-benzoic acid, and Biodentin with and without laser as a furcation repair material.

Materials and methods: About 90 human extracted mandibular molars will be decoronated 3mm above the cemento-enamel junction and 3mm below furcation. After access opening sticky wax will be placed over the canal orifices. To ensure each perforation will be centered between the roots. A defect 1 mm in diameter will be made from the external surface of the tooth with a number 2 round carbide bur mounted on a high-speed handpiece with air water coolant. A three groups using following furcation repair materials (n= 90 each). Group

1) Mineral Trioxide Aggregate, Group 2: Biodentine, and Group 3: Super EBA. Each group is further subdivided into two subgroups A and B (n=30 each) with and without laser as an adjunct before placing the repair materials using diode 810 laser. Each group will be placed in separate petri dishes containing 2% methylene blue for 48hr After removal the samples will be sectioned mesiodistally with a diamond disc using a water coolant. The depth of dye penetration will be examined under a stereomicroscope. Data was analysed using One way Anova and Post Hoc Tukey tests.

Results: Biodentine with laser showed least microleakage, followed by MTA with laser, Biodentine and MTA without laser. Super EBA with and without laser showed highest microleakage.

Conclusion: laser activation before furcation repair reduces the microleakage enhancing long term success rate.

Key words: Furcation repair, Laser activation, microleakage, Mineral Trioxide Aggregate, Super Ethoxy-benzoic acid, and Biodentine

DENTAL TREE- DO'S AND DON'TS OF DENTAL HYGIENE

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Maintaining good oral health is necessary for the well-being of the overall health. It helps treat and sometimes even prevent severe dental problems like plaque, tooth decay, gum diseases, or other oral health issues in check. Here's a list of do's and don'ts of dental hygiene:

Do's:

Brush your teeth at least twice daily. Scrubbing the teeth with hard or firm toothbrushes can erode the enamel and tear gum tissues. Flossing daily (even twice) is vital for healthy teeth and gums. A dentist can detect tooth decay, [gum diseases](#), oral cancer, or other potential health hazards and immediately start treatment or refer to other doctors.

Don't's :

Don't ignore any signs of pain, swelling, or bleeding in the gums. It could mean acute underlying dental issues that need attention at the earliest. Don't smoke to avoid oral cancer, stained teeth, or bad breath. Also, don't get used to eating junk food or sweetened/aerated drinks.

Most of us often tend to take our oral hygiene for granted and ignore tell-tale signs of potential threats to dental health. Following the above-mentioned basic steps could go a long way in maintaining healthy teeth and a healthier lifestyle.

Keywords: Oral Hygiene, Brushing, Flossing.

References:

- 1) A Choo et al. Oral hygiene measures and promotion: review and considerations. Aust Dent J. 2001 Sep;46(3):166-73.
- 2) Ann E Spolarich. High-Tech Hygiene: Technologies Making a Difference in Oral Care. Compend Contin Educ Dent. 2016 June

ROOT CANAL TREATMENT

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A root canal is a treatment used to repair and save a tooth that is badly decayed or infected. A tooth's nerve and pulp can become irritated, inflamed, and infected due to deep decay; repeated dental procedures on a tooth; or large fillings, a crack, or chip in the tooth. It also can happen because of trauma to the face. During a root canal procedure, the nerve and pulp of the tooth are removed, and the inside is cleaned and sealed. Without treatment, the tissue surrounding the tooth will become infected and an abscess may form. A tooth's nerve is not vitally important to a tooth's health and function after the tooth has come through the gums. Its only function is sensory -- to give the sensation of hot or cold. The absence of a nerve won't affect how your tooth works. Root canal procedures have the reputation of being painful. But the procedure itself is no more painful than having a filling placed.

Keywords: *Root Canal, Pulp, Inflammation.*

References:

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DENTAL CLINIC SETUP

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Dental clinic should be administered in a manner to ensure high-quality health services while recognizing patient rights. Dental facility should be clean and properly maintained and have adequate lighting and ventilation. The space allocated for a particular function or service should be adequate for the activities performed. In general, Dental clinic shall comprise at least the following: Reception area viewing the waiting area. Separate waiting area for males and females with space area not to be less than 3m x 3m. Toilet (minimum of two), one for males and the other for females. Dental room with space area is not less than 14 square meters (3.5 m x 4 m) 5- Sterilization room (if more than one dental

operatory room), Compressor room (small), for the compressor and the suction machine, Dirty utility room (small room), Designated area for waste collection, either small room or special container with lock. The physical layout of dental clinic should be arranged to assure its easy cleaning. Floor, walls, and ceiling of the dental room should be made from smooth nonporous material that doesn't support the harbour of dirt, micro and macro- organisms' dental unit and equipment maintenance. Dental staff ratio shall be based on the dental clinic activity. In general, for each licensed dentist providing dental services to a patient at least one Dental Assistant (DA) or Registered Nurse (RN) shall be available with the dentist.

Keywords: *Root Canal, Pulp, Inflammation.*

References:

1. Ministry of Health Directorate General of Private Health Establishments (DGPHE)

PROGRESSION OF DENTAL CARIES

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Dental caries is a bacterial disease process caused by acids from bacterial metabolism diffusing into enamel and dentine and dissolving the mineral. The bacteria responsible produce organic acids as a by-product of their metabolism of fermentable carbohydrates. The caries process is a continuum resulting from many cycles of demineralization and remineralization. Demineralization begins at the atomic level at the crystal surface inside the enamel or dentine and can continue unless halted with the end-point being cavitation. There are many possibilities to intervene in this continuing process to arrest or reverse the progress of the lesion. Remineralization is the natural repair process for non-cavitated lesions, and relies on calcium and phosphate ions assisted by fluoride to rebuild a new surface on existing crystal remnants in subsurface lesions remaining after demineralization. These remineralized crystals are acid resistant, being much less soluble than the original mineral.

Keywords: *Dental Caries, Remineralization, Demineralization*

References:

1. C González-Cabezas , C E Fernández . Recent Advances in Remineralization Therapies for Caries Lesions. Adv Dent Res. 2018 Feb;29(1):55-59

2. Mando K Arifa et al. Recent Advances in Dental Hard Tissue Remineralization: A Review of Literature. Int J Clin Pediatr Dent. Mar-Apr 2019;12(2):139-144.

ELLIS CLASSIFICATION

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Minor falls, local accidents, while participating in sports or childish pranks that are not intended to harm produce greatest number of teeth fractures and teeth displacements in children. From these seemingly benign accidents, child's facial appearance becomes altered as to make an attractive child appear unattractive. Dental injuries are considered emergency situation that require immediate care. The purpose of this article is aimed to overview the classification of the traumatized teeth. Classification by Ellis is a simplified classification, which groups many injuries and allows for subjective interpretation by including broad terms such as simple or extensive or extensive fractures. Class I - Simple crown fracture with little or no dentin affected. Class II - Extensive crown fracture with considerable loss of dentin, but with the pulp not affected. Class III - Extensive crown fracture with considerable loss of dentin and pulp exposure. Class IV - A tooth devitalized by trauma with or without loss of tooth structure. Class V - Teeth lost because of trauma. Class VI - Root fracture with or without the loss of crown structure. Class VII - Displacement of the tooth with neither root nor crown fracture. Class VIII - Complete crown fracture and its replacement. Class IX - Traumatic injuries of primary teeth.

Keywords: *Crown Fracture, Trauma, Root Fracture.*

References:

1. Nikita Goyal et al. Traumatic Dental Injuries Prevalence and their Impact on Self-esteem among Adolescents in India: A Comparative Study. J Clin Diagn Res. 2017 Aug;11(8):ZC106-ZC110.
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NON-CARIOUS LESIONS

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Tooth surface loss is a process that results in non-carious lesions. Several categories of tooth surface loss exist, including erosion, attrition, abrasion, and abfraction. There can be many causes of this condition, including bruxism, clenching, disease, dietary factors, habits.

Keywords: *Erosion, Attrition, Abrasion, Abfraction.*

References:

1. Ian Wood et al. non-carious cervical tooth surface loss: a literature review. J Dent. 2008 Oct;36(10):759-66
2. P Ceruti et al. Non carious cervical lesions. A review. Minerva Stomatol. Jan-Feb 2006;55(1-2):43-57

STAMP TECHNIQUE

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“Stamp” technique is a new method for placing large composite restorations with accurate occlusal topography. It was introduced mainly to restore Class I cavities and erosively damaged teeth. This technique is indicated when the preoperative anatomy of the tooth is intact and not lost due to the carious lesion

Keywords: *Occlusal Topography, Esthetic Restoration.*

References: [SaaidAyeshaAlshehadat](#) et al. The stamp technique for direct Class II composite restorations:

DENTO – ALVEOLAR FRACTURES

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The vast majority of traumatic dental injuries (TDI) occur in children and teenagers where loss of a tooth has lifetime consequences. Treatments for these younger age groups may be different than in adults, mainly due to immature teeth and pubertal facial growth.

Keywords: *Erosion, Attrition, Abrasion, Abfraction.*

References:

- 1) Cecilia Bourguignon et al. International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: 1. Fractures and luxations.
Dent Traumatol. 2020 Aug;36(4):314-330.
- 2) Anthony J Diangelis et al. Guidelines for the Management of Traumatic Dental Injuries: 1. Fractures and Luxations of Permanent Teeth. Pediatr Dent. 2017 Sep 15;39(6):401-411

POST & CORE TREATMENT

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The prognosis of endodontically treated teeth depends not only on the success of the endodontic treatment, but also on the type of reconstruction. A literature review has been performed to create guidelines for the reconstruction of endodontically treated teeth by posts and cores.

Keywords: *Endodontic Treatment, Post, Core Material.*

References: 1. Ingrid Peroz et al. Restoring endodontically treated teeth with posts and cores-- a review. Quintessence Int. 2005 Oct;36(9):737-46.

2. J P Freno Jr. Guidelines for using posts in the restoration of endodontically treated teeth. Gen Dent. Sep-Oct 1998;46(5):474-9; quiz 481-

PAEDIATRIC AND PREVENTIVE DENTISTRY

DONNING AND DOFFING

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PPE, or personal protective equipment, is equipment worn to protect a wearer's body from injuries or exposure to hazards such as chemicals, biohazards, airborne particles, electrical shock, flames, and more. In this case, a PPE suit, often called "coveralls" or a "protective suit", can be reusable or disposable. A PPE suit often provides more body protection than separate protective clothing garments such as aprons, pants, sleeves, or shirts. This is because protective suits are one piece of clothing that typically covers the arms, legs, chest area, and torso—all in one. Instead of donning multiple, separate PPE garments, many companies choose disposable coveralls to cut costs and increase storage space without compromising worker safety.

Keywords: PPE, infection control

References: Manual of infection control procedures

TEETHING

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Teething' is an ill-defined non-evidence-based entity proffered by both health care professionals and lay people as an inappropriate diagnosis for a wide variety of signs and symptoms such as fever, pain, irritability, sleep problems, mouthing/biting, drooling, red cheeks, decreased oral intake, gum inflammation, runny nose, and diarrhea. Teething starts around 6 months of age and is complete by 30 months of age in most children. It is important to remember that during this same time of an infant's life, passive immunity due to maternal antibodies wanes and exposure to a wide variety of childhood illnesses occurs. Often, the diagnosis of teething seems to help alleviate parental anxiety.

Keywords: Eruption, teeth

References: Finn's textbook of Pedodontics

TOOTH BRUSHING TECHNIQUE

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During the last century or so, toothbrushes were crafted with bone, wood or ivory handles that held the stiff bristles of hogs, boars, or other animals. The nylon-bristled toothbrush, as we know it today, was invented in 1938. A healthy mouth is important for many aspects of life, including eating well, absence of dental pain, personal relationships and feeling good about your health. Tooth brushing, the most widespread means of cleaning teeth and maintaining gingival health, is greatly affected by technique, and brushing time, both factors that are difficult to influence. Proper toothbrush care is important to our oral health. Because a worn toothbrush is less effective in cleaning, the American Dental Association commends replacing your tooth brushes every three to four month or sooner if the bristles become frayed.

Keywords: Toothbrush, brushing

References: Newman and Carranza's clinical periodontology, Mc Donald's textbook of pedodontics

CARIES RISK ASSESSMENT

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The American Academy of Paediatric Dentistry recognizes that caries-risk assessment and management protocols, also called care pathways, can assist clinicians with decisions regarding treatment based upon child's age, caries risk, and patient compliance and are essential elements of contemporary clinical care for infants, children, and adolescents. These recommendations are intended to educate healthcare providers and other interested parties on the assessment of caries risk in contemporary paediatric dentistry and aid in clinical decision-making regarding evidence- and risk-based diagnostic, fluoride, dietary, and restorative protocols

Keywords: Caries, CAT

References: Nikhil Marwah's textbook of pedodontic

PULPECTOMY

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Pulpectomy is one of the most important procedures in maintaining the necrotic primary teeth until physiologic exfoliation in pediatric dentistry, premature loss of necrotic primary molars has been a matter of great concern over the years. In modern pedodontic practice, pulpectomy of such teeth is regarded as a treatment of choice over extraction. Success of a pulpectomy procedure mainly depends upon the biomechanical preparation of the root canal systems

Keywords: Pulp, pulpectomy

References: Ingle's pulpal pathology, Mc Donald's textbook of pedodontics

ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS

COMPARISON AND CORRELATION OF PHARYNGEAL AIRWAY SPACE, MANDIBULAR MORPHOLOGY IN DIFFERENT FACIAL PATTERN. A CEPHALOMETRIC STUDY

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Title: "Comparison and correlation of pharyngeal airway space, mandibular morphology in different facial pattern". A Cephalometric study

Objective: Measure, compare and correlate pharyngeal airway volumes, mandibular ramus, tongue in normodivergent and hyperdivergent cases using standard Cephalometric radiographs.

Materials and Methods: In this study, 120 pre-treatments lateral cephalograms of orthodontic patients were evaluated which is divided into 2 groups of 60 each into normodivergent and hyperdivergent cases to assess the size of upper and lower airway space, ramus width, and tongue. Linear measurement like Upper airway width (UPAS), lower airway width (LPAS), Tongue gap (TG), Ramus width (RW), and angular measurements like SNA, SNB, ANB, Saddle angle, Articular angle, Gonial angle, FMA measured by

Cephalometric tracing. Comparison and correlation of 2 groups were assessed using a Student t test and Pearson correlation.

Results: In patients with high angle cases, Upper Pharyngeal Airway with a mean of 13.4 ± 1.28 and Lower Pharyngeal Airway space with a mean of 8.96 ± 1.52 , Tongue Gap with a mean of 11.5 ± 2.29 and ramus width with a mean of 27.77 ± 1.91 and with the mentioned volumes of pharyngeal airway is significantly smaller in subjects with hyperdivergent facial patterns when compared with normodivergent cases.

Conclusion: Skeletal vertical discrepancies affect both upper, lower airway dimensions, decrease in tongue space, width of mandibular ramus by an increase in facial height and, the mentioned volumes also shows decrease in tongue space compared normodivergent individual.

Keywords: Upper airway width (UPAS), lower airway width (LPAS), Tongue gap (TG), Ramus width (RW), and angular measurements like SNA, SNB, ANB, Saddle angle, Articular angle, Gonial angle, FMA

References:

1. Nejaim Y, Aps JKM, Groppo FC, Neto FH. Evaluation of pharyngeal space and its correlation with mandible and hyoid bone in patients with different skeletal classes and facial types. Am J Orthod Dentofacial Orthop 2018;153:825-33.
2. de Freitas MR, Alcazar NM, Janson G, de Freitas KM, Henriques JF. Upper and lower pharyngeal airways in subjects with Class I and Class II malocclusions and different growth patterns. Am J Orthod Dentofacial Orthop 2006;130:742-5.

THREE-DIMENSIONAL IMAGING IN ORTHODONTICS

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ABSTRACT: Imaging is one of the most important tools for orthodontists to evaluate and record size and form of craniofacial structures. Orthodontists routinely use 2-dimensional (2D) static imaging techniques, but deepness of structures cannot be obtained and localized with 2D imaging. Three-dimensional (3D) imaging has been developed in the early of 1990's and has gained a precious place in dentistry, especially in orthodontics. The aims of this abstract is to summarize the current state of the 3D imaging techniques and to evaluate the applications in orthodontics.

Records are essential not only for diagnosis and treatment planning but also for follow-up of the case, communicating with colleagues, and evaluating the treatment outcomes. Recently, two-dimensional (2D) imaging technology, such as cephalometric and panoramic radiographs and photographs, and plaster models were routinely used. However, after the introduction of three-dimensional (3D) technologies (laser scanner, stereophotogrammetry, and computed tomography) into dentistry, 3D imaging systems are more and more commonly preferred than 2D, especially in cases with craniofacial deformities. In fact, 3D imaging provided more detailed and realistic diagnostic information about the craniofacial hard as well as soft tissue and allowed to perform easier, faster, and more reliable 3D analyses. The purpose of this review is to provide an overview of the 3D imaging techniques, including their advantages and disadvantages, and to outline the indications for 3D imaging

Keywords: Laser scanner, stereophotogrammetry, computed tomography, 2-dimensional (2D), 3-dimensional (3D)

References :

1. Erten O, Yılmaz BN. Three-Dimensional Imaging in Orthodontics. Turk J Orthod 2018; 31: 86-94
2. Germec-Cakan D, Canter HI, Nur B, Arun T. Comparison of Facial Soft
3. Tissue Measurements on 3D Images and Models Obtained with Different Methods. J Craniofac Surg 2010; 21: 1393-9.

MARKETING STRATEGIES BEHIND INVISIBLE TRAYS IN ORTHODONTICS

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Digital clear aligner therapy (CAT) began in earnest when Invisalign became commercially available in 1999. Few in the orthodontic industry realized what an explosion of interest aligners would create and how many other companies would scramble to enter this space. Several dozen companies around the globe are now manufacturing aligners, with the number increasing every year. The aim is to present different marketing strategies used by companies to sell clear aligner treatment trays directly to patients and indirectly through orthodontist.

KEYWORDS: Invisalign, Candid, Smile Direct Club, Smile love, Snap correct.

REFERENCES:

- 1) Tepedino M, Paoloni V, Cozza P, Chimenti C. Movement of anterior teeth using clear aligners: a three-dimensional, retrospective evaluation. Prog Orthod. 2018;19(1):9 .
- 2) Dai FF, Xu TM, Shu G. Comparison of achieved and predicted tooth movement of maxillary first molars and central incisors: first premolar extraction treatment with Invisalign. Angle Orthod. 2019;89(5):679-687

ORTHODONTIC BRUSHING AND FLOSSING

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Optimisation of plaque control is essential for the success of non-surgical and surgical orthodontic therapy. This cannot be achieved with brushing alone; hence, there is a need for adjunctive interdental cleaning aids. The aim of this paper is to provide an overview of different interdental cleaning aids and review the literature for consensus on their effectiveness. High-quality flossing is difficult to achieve, and ineffective routine use of floss may not confer significant benefits over brushing alone. Interdental brushes are more effective than brushing as a monotherapy. For cleaning around dental implants, oral irrigators and interdental brushes are preferred over floss.

Keywords: dental devices, interdental, oral health, dental plaque.

References: Van der Weijden G.A., Hioe K.P. A systematic review of the effectiveness of self-performed mechanical plaque removal in adults with gingivitis using a manual toothbrush. J. Clin. Periodontol. 2005;32(Suppl. 6):214–228.

FACTS TO KNOW ABOUT ORTHODONTIC TREATMENT

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ABSTRACT: Orthodontics is a branch of dentistry that treats malocclusion, a condition in which the teeth are not correctly positioned when the mouth is closed. This results in an improper bite. Treatment can be cosmetic, to improve a person's appearance, but it often aims to improve oral function, too. An orthodontist can carry out work that aims to achieve the following:

- *closing wide gaps between the teeth*
- *aligning the tips of the teeth*
- *straightening crooked teeth*
- *improving speech or chewing ability*
- *boosting the long-term health of gums and teeth*
- *preventing long-term excessive wear or trauma of the teeth*
- *treating an improper bite*

Treatment usually starts around the age of around 7 to 13 years, when the adult teeth have come through and developed fully. Pain during the treatment is mild which can be relieved using medications prescribed by orthodontists. Mild laceration or injury can occur if not cared properly due to appliances. Sometimes even extraction are advised to create space for proper tooth alignment and the duration of the treatment varies from individual to individual and from malocclusion to malocclusion.

Keywords: Alignment, Orthodontic treatment, extraction, pain, reasons for orthodontic treatment

References:

- 1) Roberts-Harry D, Sandy J. Orthodontics. Part 1: Who needs orthodontics? *Br Dent J* 2003; **195**:433–437.
- 2) Turpin D L . Orthodontic treatment and self-esteem. *Am J Orthod Dentofacial Orthop* 2007; 131:571–572.

ACKERMAN-PROFITT SYSTEM OF CLASSIFICATION

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Ackerman and Profitt in 1960 proposed a diagrammatic classification of malocclusion to overcome the limitations of the Angle's classification.

Step 1: (alignment and symmetry): - It is classified as ideal/crowded/spaced.

Step 2: (Profile): -It involves the consideration of the profile. The profile is described as convex straight / concave. The facial divergence is also considered anterior or posterior divergence.

Step 3: (Type): -The transverse skeletal and dental relationship is evaluated. Buccal and palatal crossbites if any are noted. The crossbite is further sub classified as unilateral or bilateral. In addition, differentiation is made between skeletal and dental crossbite.

Step 4: (Class): -It is classified as Angle's Class I / Class II / Class III malocclusion. Differentiation is made between skeletal and dental malocclusion.

Step 5: (Bite depth): - Malocclusions in the vertical plane are noted. They are described as anterior or posterior open bite, anterior deep bite or posterior collapsed bite.

Keywords: Ackerman profit classification, classification of malocclusion, dental classification.

References:

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2. Proffit WR: Contemporary Orthodontics, St Louis, CVMosby, 1986.
3. Robert E Moyers: Handbook of Orthodontics, Yearbook medical publishers, inc, 1988.
4. Salzman JA: Practice of Orthodontics, JB Lippincott company, 1966

ORTHODONTIC TREATMENT FOR A PERFECT SMILE

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Achieving a beautiful, esthetic smile is one of the main goals of orthodontic treatment. However, beauty has both objective and subjective dimensions. For this reason, the perception of smile esthetics depends on factors such as social and cultural awareness, gender, or the age of the observer. In this context, the observer's knowledge and experience is one of the most influential factors. Several studies have compared the perception of smile esthetics among lay people with different professional backgrounds, general dentists, and orthodontists. Most of these studies agree that the more specialized training the observer has received, the more sensitive his/her perception of smile esthetics will be. Age is another important factor in the perception of smile esthetics, so that some irregularities such as gingival smile and black triangles are perceived differently by laypersons of different age groups.

Given the variations in esthetic perception and the fact that the treatment objectives of the dental professional may not coincide with the patients' expectations, it is essential that the

orthodontist is aware and understands patients' concerns and their criteria for esthetic judgment before starting orthodontic treatment

Keywords: *Dental stem cells, mesenchymal stem cells, tissue engineering, biomaterials, bone regeneration, bioengineered tooth.*

References:

- 1) Bolas-Colvee B, Tarazona B, Paredes-Gallardo V, Arias-De Luxan S. Relationship between perception of smile esthetics and orthodontic treatment in Spanish patients. PLoS ONE 13(8): e0201102. <https://doi.org/10.1371/journal.pone.0201102>
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ORTHODONTICS NO LONGER AN EMBARRASSEMENT

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Patient-centred care is a concept that has been introduced recently in healthcare systems. Among the main elements are a need to understand the patient's treatment needs, experiences, satisfaction, and the perceived overall quality of healthcare system. Malocclusion is often conspicuous, so it might lead to adverse social reactions and a deficient self-concept. Correction of the malocclusion has been shown to improve body image of dental and facial features.

There has been a growing acceptance of the positive relationship between improvement in aesthetics and psychological profile. Socioeconomic status. A validated questionnaire in which demographic data and occupational and educational status of subjects is gathered as an indicator of socioeconomic status was used. There is an increasing acceptance of the importance of evaluating patient centred measures as a means of improving our understanding of treatment effect and value. Within the field of dentistry and specifically orthodontics, this concept remains relatively 'new' and with the emergence of such evidence our interpretation and understanding will both improve and more importantly translate to better informed consent and potentially more successful treatment outcomes.

Keywords: Psychological profile, deficient self-concept, Improvement in aesthetics.

REFERENCES:

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PREVENTION AND MANAGEMENT OF FOREIGN BODY INGESTION AND ASPIRATION IN ORTHODONTIC PRACTICE

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Regardless of incidence, foreign body ingestion or aspiration episodes are recognized as potential complications in the specialty of orthodontics. Occasionally, orthodontic appliances or parts of orthodontic appliances are accidentally swallowed and have caused problems with either the airway or the gastrointestinal tract. The severity of the situation depends on the anatomical direction that the object followed and the anatomical location that may cause obstruction. Size, shape, and sharpness of the objects determine the consequences which may be life-threatening. The risk of injury increases when the size of the swallowed object is more than 5 cm or has a pointed shape.

The orthodontist should be extremely attentive in handling of minor instruments during any intervention related to oral cavity, especially in supine or semi-recumbent position of the patient. The aim of this poster is to present an accidental swallowing or aspiration of foreign objects during orthodontic clinical practice and its prevention and management.

Keywords: Foreign body aspirations, complications, management of emergency

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EFFECTIVENESS OF CHLORHEXIDINE, CHLORINE DIOXIDE AND BETADINE MOURH WASHS IN DECREASING AIR CONTAMINATION CAUSED BY AEROSOL DURING DENTAL PROPHYLAXIS IN FIXED APPLIANCE ORTHODONTIC TREATMENT IN COVID-19 PANDEMIC

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AIM: The aim of this study was to compare stress and displacements after en masse retraction of maxillary dentition with lingual and labial orthodontics using three-dimensional (3D) Finite Element Models (FEM).

METHOD OF STUDY: A 3D FEM of each upper tooth is constructed manually according to the detailed dimensions and morphology supplied by Wheeler's Dental Atlas. Roth prescription is used to establish the angulations and inclinations of each tooth with reference to Andrews' facial axis (FA) point. Virtual models of 0.018-inch upper Roth Ovation labial and Ormco 7th Generation lingual brackets. Sliding mechanics is used during en masse retraction of the anterior dentition, using 0.016×0.022 -in. Stainless steel labial and lingual (Mushroom) archwires in the respective slots and by applying a 300-g distal force on both sides of the dentition, from the distal wing of canine bracket to the mesial wing of the second premolar bracket in the labial simulation and between the hooks on the canine and second premolar brackets in the lingual simulation.

RESULT: Lingual tipping and extrusion of the anterior dentition occurred with both archwires. However, more tipping and less extrusion at the upper incisors and less lingual tipping, more distal tipping and extrusion at the upper canines with lingual orthodontics and at the second premolars, transverse, vertical, and sagittal displacements were less pronounced and rotational movements were greater. At the upper first molar, rotational movement was more prominent with lingual technique, while labial mechanics produced greater mesial tipping both at the upper molar as well as second premolar.

CONCLUSION:

- 1) More lingual tipping of upper incisor in lingual orthodontics compared to labial orthodontic, this emphasis us to use appliances to prevent lingual tipping in lingual orthodontics.
- 2) Rotation was observed in posterior segment resulting transverse bowing effect which can be corrected by incorporating compensatory curves.

KEYWORDS : Finite element models , 3Dimensional

REFERENCE :

- 1) Lombardo, L., Scuzzo, G., Arreghini, A. *et al.* 3D FEM comparison of lingual and labial orthodontics in *en masse* retraction. *Prog Orthod.* 2014; 15(1):38.
- 2) Shum Lily M-Y, Ricky Wing-Kit W, Urban H. Lingual orthodontics. *Rev Hong Kong Dent J.* 2004; 1:13–20.

PROSTHODONTICS, CROWN, AND BRIDGE

CLASSIFICATION OF IMPRESSION MATERIALS

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The contemporary restorative dentist has a host of impression materials available for making impressions in fixed prosthodontics, implant dentistry, and operative dentistry. With proper material selection and manipulation, accurate impressions can be obtained for fabrication of tooth- and implant-supported restorations. Available impression materials are analyzed relative to these variables, and several "specialized" impression techniques are described. Special attention is paid to polyvinyl siloxane impression materials because they have become the most widely used impression material in restorative dentistry may provide a basis for the selection of specific materials in specific clinical situations

Keywords: *Restorative materials, specialized impression techniques, polyvinylsiloxane impression material*

References:

1. Ragain JC, Grosko ML, Raj M, Ryan TN, Johnston WM. Detail reproduction, contact angles, and die hardness of elastomeric impression and gypsum die material combinations. *Int J Prosthodont* 2000;13:214.
2. Johnson GH, Drennon DG, Powell GL. Accuracy of elastomeric impression materials disinfected by immersion. *J Am Dent Assoc* 1988;116:525.

CLASSIFICATION OF DENTAL IMPLANTS

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The use of oral implants started with their early undocumented use in the mid-1960s. Although early experimentation with the Brånemark system of osseointegration was unsuccessful, significant improvements and scrupulous documentation of the 1970s led to their general acceptance. George Zarb spearheaded their introduction into North America and application of the osseointegration technique soon expanded to extraoral craniofacial prostheses and bone-anchored hearing aids. Hence it is essential to know about the classification of dental implants to understand new possibilities, such as altered surface properties and the use of implants in grafted and irradiated bone are currently being explored, although commercial pressure to introduce new products before they are adequately tested is a cause for concern. The future will see bioactive surfaces and additives that stimulate bone growth.

Keywords: *Dental implants, osseointegration, prosthesis*

References:

1. Adell R, Lekholm U, Rockler B, Brånemark P-I. A 15-year study of osseointegrated implants in the treatment of the edentulous jaw. *Int J Oral Surg* 1981; 10: 387–416.
2. Aghaloo TL, Moy PK. Which hard tissue augmentation techniques are the most successful in furnishing bony support for implant placement? *Int J Oral Maxillofac Implants* 2007; 22 (Suppl): 49–70

MAXILLOFACIAL PROSTHESIS

**Divya sajjan, Farhana Begum,.Fariya warda. Fatima Zohra Ghazala Kulsum Hajra Abdul Nasir. Harshita, .Ilham Aliya . Indumati .Irshana.Jaweriya Fatima,# Nazia Afreen*

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The treatment of head and neck cancers requires a team approach. Maxillofacial prosthetics and oncologic dentistry are involved in many phases of the treatment. After the cancer ablation surgery, if surgical reconstruction cannot not completely restore the surgical defect site, maxillofacial prostheses plays an important role to rehabilitate the patient's mastication, swallowing, and speech. For patients undergoing chemoradiation therapy, the outcome is enhanced by jaw positioning stent and fluoride carrier mouthpiece. This perioperative care by maxillofacial prosthetics improves the posttreatment outcomes and the patient's quality of life.

Keywords: Facial prosthesis; Head and neck neoplasms—rehabilitation; Maxillofacial prosthetics; Maxillofacial prosthodontics; Obturator prosthesis

References:

1. Driscoll CF, Freilich MA, Guckes AD, et al. The glossary of prosthodontic terms. J Prosthet Dent 2017; 117(5):C1-e56.
2. McGuirt WF. Maxillectomy. Otolaryngol Clin North Am 1995;28(6):1175–89.
3. Jacob R. Clinical management of the edentulous maxillectomy patient. In: Taylor T, editor. Clinical maxillofacial prosthetics. Chicago: Quintessence Publishing Co, Inc; 2000. p. 85–102.

PRINCIPLES OF TEETH ARRANGEMENT

**K.Nkita Mohan , Madiha Zainab , Maherukh Ahmed ,Md Shafiuddin ,Md kaif Aayan
Md.Shoiab Rizvi, Muskan, Namrata, T Nausheen, Tabassum ,Noothan M S , Patel Md
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The mechanical factors which are involved in the arrangement of anatomic type artificial teeth into balanced occlusion have been described. Many of the mechanical problems encountered during artificial tooth arrangement have been listed, together with suggestions for their solution.

Keywords: Balanced occlusion, occlusal contacts

References:

- 1) Jordan, L. G.: Cooperation of oral surgeon and prosthodontist in rendering artificial denture service, J PROSTHET DENT 2:55, 1952
- 2) Hanau, R. H.: Articulation defined, analyzed, and formulated. J Am Dent Assoc 13:1694, 1926.

CLASSIFICATION OF ARTICULATORS

**Patel nushrat ,Qadejafariya, Ria gadgikar ,Saba samreen ,Saniya Tabassum ,Sanjana
B.Sara Abdul Shaikh, Shaikh md Parvez ,Shaikh md noaman , Shankara Gowda ,Shubham
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The large number of articulators and their wide range of adjustments makes classification difficult. However, a review of the literature reveals many types of classifications that have been proposed. Gillis' divided articulators into two classes: (1) the adaptable or adjustable type and (2) the average or fixed type.

Keywords: articulators, adaptable articulators.

References:

- 1) Gillis, R. R.: .Articulator development and the importance of observing the condyle paths in full denture prosthesis. J Am Dent Assoc 13:3, 1926.
- 2) Boucher, C. O.: Methods of recording functional movements of full denture bases in three dimensions. J Dent Res 14:39, 1934.

PRIMARY IMPRESSION

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A simple, quick and corrective technique for making the preliminary impression. It records the extensions better as compared to the impressions made using only impression compound. This technique is accurate and gives properly extended custom tray. Any deficiencies seen in the compound primary impression are corrected using this technique hence, this technique is called as a "corrective primary impression technique".

KEYWORDS: preliminary impression, impression compound

REFERENCES: McCord JF, Grant AA. Prosthetics: impression making. Br Dent J. 2000; 188:484- 92.

SPECIAL TRAY

**Asfiya Amreen, Nabeela Nayyareen, Pooja Rathod, Rana Hijaab, #Dr Pawan*

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Department of Prosthodontics

Prosthodontist always desire to make accurate impression for successful prosthesis. To achieve accurate impressions dentist, need to access the tissue to be recorded, selection of accurate stock tray, technique for making accurate and well-adapted custom impression tray, ideal impression materials and techniques for making accurate impression.

KEYWORDS: Stock tray, special tray, custom tray

REFERENCES: Morrow RM, Rudd KD, Rhoads JE. Dental laboratory procedures: complete dentures. St Louis: Mosby; 198

SECONDARY IMPRESSION

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The history of complete denture impression procedures has been influenced largely by the development of impression materials from which new techniques and ideas arose. The purpose of this study was to compare the retention of complete dentures made by using different impression techniques like conventional, admixed, all green, and functional techniques.

KEYWORDS: complete denture impression, impression techniques

REFERENCES:

- 1) Morrow RM, Rudd KD, Rhoads JE. Dental laboratory procedures: complete dentures. St Louis: Mosby; 1986.
- 2) Ferracane JL. Polymers for prosthetics in materials in dentistry principles and applications, 2 nd edition. Maryland: Lippincott Williams and Wilkins; 2001. pp. 255 -78

BEADING AND BOXING

**Almadani Meena, Amtul Azeem Safia, Ayesha Fathima, Divya Mishra, # Dr Tanveer*

**IV Final, # Reader*

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Beading and Boxing of impression is taught in most dental colleges. The boxing procedure is crucial step to preserve the details of the final impression especially of the vestibular area. This article describes an alternative beading-boxing procedure that is compatible with all impression materials, is efficient, simple, inexpensive, and practicable. Use of commercially available instant adhesive around the border to act as a joining agent between elastic impressions and beading wax or bead made up of base plate wax is advocated in this technique.

KEYWORDS: bead made up, beading wax beading wax

REFERENCES:

- 1) Rudd KD, Morrow RM, Feldmann EE. Final impression, boxing and pouring. Dental Laboratory Procedures. In: RM Morrow, KD Rudd, JE Rhodes (Eds). Complete Dentures, 2nd edition. St. Louis: The CV Mosby Company; 1986.pp. 57-79.
- 2) Martin JW, Jacob RF, King GE. Boxing the altered cast impression for the dentate obturator by using plaster and pumice.
- 3) J Prosthet Dent. 1988;59(3):382-4. Dexter WS, Moore DJ. A new, clean, and inexpensive boxing procedure. J Prosthet Dent. 1995;73(5):496-8.

MANAGEMENT OF A PATIENT WITH MAXILLARY CANINE TRANSPOSITION

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Tooth transposition is a severe disturbance of tooth eruptive position and their sequence, which involve certain teeth occurring at any of several specific sites in the mouth. Tooth transposition is of several types and their classification depends on the teeth involved. The review of literature aims to discuss the incidence and identifying factors related to occurrence of this dental anomaly. The present study aims to discuss about the prosthetic treatment of a patient with unilateral maxillary canine – lateral incisor transposition with the absence of permanent lateral incisor.

Keywords: Ectopic eruption, Permanent dentition, Tooth agenesis, Tooth transposition

REFERENCES:

- 1) Bhaskar, S. N. (1977). *Synopsis of oral pathology*. Saint Louis, Mosby. Calamia, J. R. (1985). "Etched porcelain veneers: the current state of the art." *Quintessence Int* 16 (1): 5 – 12.
- 2) Charchut, S., Ferguson M. (2002). "Achieving excellence in the predoctoral clinic: a porcelain veneer case report." *J Cosmet Dent* 18 (1):.

MANAGEMENT OF WORN DENTITION I - RESULTING FROM DENTAL MALOCCLUSION

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The rationale for doing full mouth rehabilitation is, when occlusal forces become traumatic hampering the health of periodontal tissues, extensive occlusal diseases, trauma, temporomandibular joint disease, and congenital disorders with malformed dentition. Literature exposes that full mouth fixed rehabilitation is one of the taxing procedures in the field of Prosthodontics. This article presents the stages of prosthodontic rehabilitation, from diagnosis to final treatment and follow-up, of a bruxer patient with severely worn dentition.

KEYWORDS: Occlusal disease, Bruxism, Extra capsular, Load testing, Adapted centric, Sectional acrylic block.

REFERENCES:

- 1) Abekura , H. , M. Yokomura et al. (2008). "The initial effects of occlusal splint vertical thickness on the nocturnal EMG activities of masticatory muscles in subjects with a bruxism habit." Int J Prosthodont 21 (2): 116 – 20 .
- 2) Amaechi, B. T. and S. M. Higham (2005). "Dental erosion: possible approaches to prevention and control." J Dent 33 (3): 243 – 52 .

FULL COVERAGE EMAX RESTORATIONS IN THE ANTERIOR MAXILLARY DENTITION

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The IPS e.max system by Ivoclar Vivadent, offering a variety of products and indications, is widely used for all-ceramic restorations. We analyzed the clinical track record of these products in daily clinical practice, associating their restorative survival rate with various parameters to define recommendations for long-term stability. The five-year cumulative survival was 94.22% (i.e., 94.69% or 90.58% for glass-ceramic crowns or FDPs and 100% or 90.06% for zirconia-based crowns or FDPs). Significantly superior outcomes emerged for conventional vs. adhesive cementation and for vital vs. non-vital abutment teeth, but not for recommended vs. non-recommended uses.

Keywords: IPS e.max system, full-contour crown restorations, fixed partial dentures, survival rate, success rate

REFERENCES: Tang X., Tang C., Su H., Luo H., Nakamura T., Yatani H. The effects of repeated heat-pressing on the mechanical properties and microstructure of IPS e.max Press. *J. Mech. Behav. Biomed. Mater.* 2014; 40:390–396

FABRICATION OF AN AURICULAR PROSTHESIS IN A PATIENT WITH CONGENITAL MICROTIA: A CASE REPORT

**Huma Javeriya, Sana Khanam, Mohd Marifuddin, Syed (IV Year)*

#Dr Parvez (Reader)

Microtia is one of the forms of ear loss and deformity. It is a congenital anomaly of the external ear. Social and psychological rehabilitation of such patients requires a prosthesis that is esthetic as well as has enough strength and texture to represent the natural ear. Because of financial constraints, some patients cannot afford the surgical procedure of grafting.

KEYWORDS: Congenital microtia, congenital microtia

REFERENCES: Tang X., Tang C., Su H., Luo H., Nakamura T., Yatani H. The effects of repeated heat-pressing on the mechanical properties and microstructure of IPS e.max Press. *J. Mech. Behav. Biomed. Mater.* 2014; 40:390–396

IMPLANT RETAINED CAD/CAM MILLED TITANIUM BAR

**Afaf Mohammed Rafiq, Amreen Sultana, Aziza Fatima, Ghazala Jabeen# Dr Parvez*

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This report describes the clinical and technical aspects in the oral rehabilitation of an edentulous patient with knife-edge ridge at the mandibular anterior edentulous region, using implant-retained overdentures. The application of computer-aided design and computer-aided manufacturing (CAD/CAM) in the fabrication of the overdenture framework simplifies the laboratory process of the implant prostheses. It is proposed that the digital workflow of implant-retained overdentures milled implant overdenture bar allows us to avoid numerous technical steps and possibility of casting errors involved in the conventional casting of such bars.

KEYWORDS: implant-retained overdentures, implant-retained overdentures

REFERENCES: J. S. Feine, G. E. Carlsson, M. A. Awad et al., “The McGill consensus statement on overdentures. Mandibular two-implant overdentures as first choice standard of care for edentulous patients. Montreal, Quebec, May 24-25, 2002,” *The International Journal of Oral & Maxillofacial Implants*, vol. 17, no. 4, pp. 601–602, 2002

PROSTHETIC DESIGN OF AN OBTURATOR WITH ORTHODONTIC RETAINER: A CASE REPORT

**Sarah Nisa, Shivani Kulkarni, Syeda Amtul Razeeqa Hafsa Khan, # Dr Pawan*

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Odontogenic tumours involving the maxilla or mandible are usually treated with surgical resection. To prevent recurrence, extensive surgical intervention might be carried out leaving the patient with anatomical defects. In this case, we have evaluated the different designs and techniques of fabrication of an obturator prosthesis used for the rehabilitation of a hemipalatomaxillectomy patient. A 40-year-old man presented with a loose-fitting obturator prosthesis. He had undergone hemipalatomaxillectomy for the treatment of an ameloblastoma 2 years earlier and had been using an obturator prosthesis since then. Hollow-bulb obturator prostheses were fabricated using two different methods, the lost salt and open lid techniques.

KEYWORDS: Obturator, hemipalatomaxillectomy

REFERENCES: M Didier, D Brasnu, M Vignon. New Surgical obturator prosthesis for hemi maxillectomy patients. *J Prosthet Dent*. 1993;69(5):520–523.

MANDIBULAR OVERDENTURE SUPPORTED BY ENDOSSEOUS IMPLANTS

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Edentulous patients with a severely resorbed mandible often experience problems with their dentures. Treatment concepts involving two to four implants for the support of an overdenture have been proposed. The aim of this study was to develop a treatment concept for mandibular overdentures supported by endosseous implants based on a review of the literature. It is proposed that two implants supporting a mandibular overdenture (bar

construction) are sufficient for most applications. Four implants are indicated in situations involving a dentulous maxilla, a narrow mandibular arch, extreme resorption of the mandible (bone height greater than 12 mm), and mandibular soreness and pain.

KEYWORDS: Bar construction, overdentures

REFERENCES: Meijer HJ, Raghoobar GM, Batenburg RH, Visser A, Vissink A. Mandibular overdentures supported by two or four endosseous implants: a 10-year clinical trial. Clin Oral Implants Res. 2009 Jul;20(7):722-8.

INTRA ORAL SCANNERS

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To overcome difficulties associated with conventional techniques, impressions with IOS (intraoral scanner) and CAD/CAM (computer-aided design and manufacturing) technologies were developed for dental practice. The last decade has seen an increasing number of optical IOS devices, and these are based on different technologies; the choice of which may impact on clinical use. To allow informed choice before purchasing or renewing an IOS, this article summarizes first the technologies currently used (light projection, distance object determination, and reconstruction). In the second section, the clinical considerations of each strategy such as handling, learning curve, powdering, scanning paths, tracking, and mesh quality are discussed. The last section is dedicated to the accuracy of files and of the intermaxillary relationship registered with IOS as the rendering of files in the graphical user interface is often misleading. This overview leads to the conclusion that the current IOS is adapted for a common practice, although differences exist between the technologies employed. An important aspect highlighted in this review is the reduction in the volume of hardware which has led to an increase in the importance of software-based technologies.

KEYWORDS: light projection, distance object determination, reconstruction, IOS (intraoral scanner), CAD/CAM (computer-aided design and manufacturing) technologies.

REFERENCES: Ting-Shu S, Jian S. Intraoral Digital Impression Technique: A Review. J Prosthodont. 2015;24(4):313–21.

PUBLIC HEALTH DENTISTRY

STAGES OF TOOTH DECAY

**Kiran Kumar, Afroz Talikoti, Tanzeela Nishath, Afiya Naaz, Arshiya Zainab, Atifa Roohi, Ayesha Siddiqua, Bushra Bandenawaz, Eram Khanam, Hajra Farzeen, Harsha, Humera Taqzet, Laxmi Biradar, Mohd. Syed Sufiyan, Mubashara Fatima Qureshi, Nalbund Md. Afzan, Neha Tabassum Qureshi, Pallavi Holal, Poornima, Priyanka M K, Raj Rajeshwari, Reva Taskeen, #Dr. Mahesh Hiregoudar*

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Public Health Dentistry

Tooth decay is one of the most common causes of tooth pain. It's easy to manage and treat with advancement in dentistry. Tooth decay can be reversed if it's diagnosed in the early stages.

Stage One: White Spots {White spots with demineralized surface of enamel, reversible}

Stage two: Enamel Decay {Cavity breaks through the surface of the enamel, not reversible}

Stage three: Dentin Decay {bacteria and acids will continue to dissolve the enamel and reach the dentin}

Stage four: Involvement of The Pulp {Cavity reaches the pulp, very painful with Pus forms inside}

Stage Five: Abscess Formation {Tooth decay and obviously most painful. Swelling will be common}

Keywords: Caries, tooth

References: Orban's oral pathology

TOOTH ANATOMY

**Sadiya Khanem, Shahinda Nawal, Syeda Rafia Zainab, Aayun Noorain, Adila Munawwar, Adithya S K, Alka S Paul, Amtul Haseeb, Aneeqa Mehreen, Anjali Anil, Asma Tehseen, Ayesha Aiman, Bibi Ayesha Mulla, Jannat Hussain, Eppiri Mohammad Fahad, Ezhilmani, Fareeha Shakeel, Fatima Kausar, Gokulamol K P, Gopika Krishna, Ishrath Anjum, #Dr. Mahesh Hiregoudar*

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The teeth are the hardest substances in the human body. Besides being essential for chewing, the teeth play an important role in speech. Parts of the teeth include:

- **Enamel:** The hardest, white outer part of the tooth. Enamel is mostly made of calcium phosphate, a rock-hard mineral.
- **Dentin:** A layer underlying the enamel. It is a hard tissue that contains microscopic tubes. When the enamel is damaged, heat or cold can enter the tooth through these paths and cause sensitivity or pain.
- **Pulp:** The softer, living inner structure of teeth. Blood vessels and nerves run through the pulp of the teeth.
- **Cementum:** A layer of connective tissue that binds the roots of the teeth firmly to the gums and jawbone.
- **Periodontal ligament:** Tissue that helps to hold the teeth tightly against the jaw.

Keywords: Tooth

References: Wheeler's oral histology

CLEFT LIP AND PALATE

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Cleft lip and cleft palate are openings or splits in the upper lip, the roof of the mouth (palate) or both. Cleft lip and cleft palate result when facial structures that are developing in an unborn baby don't close completely. Cleft lip and cleft palate are among the most common birth defects. They most commonly occur as isolated birth defects but are also associated with many inherited genetic conditions or syndromes. In most babies, a series of surgeries can restore normal function and achieve a more normal appearance with minimal scarring.

Keywords: Pathology, cleft

References: Watson's cleft lip and palate

THE MODIFIED BASS BRUSHING TECHNIQUE

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Fatima, TamboliUzma Abdul, Tanzeela Fatima, Tayyaba Fatima, Tisnamol Benny, Umme

Amara, Ustad, Meesam Md. Jawed, Yusuf Abbas Ali Shaikh, # Dr. Mahesh Hiregoudar

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The Modified Bass Brushing Technique is the most widely accepted and most effective method of brushing for adults. Following steps will help you practice the modified bass technique with much ease:

Place the brush at 45° angle to the front tooth surface. Bristles must contact both lines of tooth and gum. Move the brush in a small jiggling, circular motion. Clean the inside surface of the back teeth by moving the brush in a small back and forth motion. Clean the inside surface of the front upper teeth by tilting the brush vertically using small up and down strokes. Clean the inside surface of the front lower teeth by tilting the brush vertically using small up and down strokes. Move the brush in a back-and-forth motion to clean the biting surfaces.

Keywords: Tooth, brush

References: Caranza's oral periodontology