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VOLUME 4

RAKCODS E-NEWS

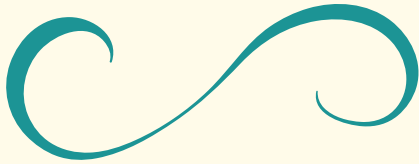
Covid-19 Challenges and Accreditation Journey



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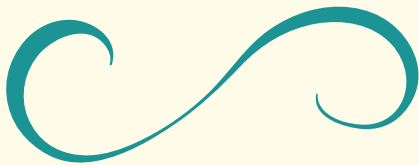
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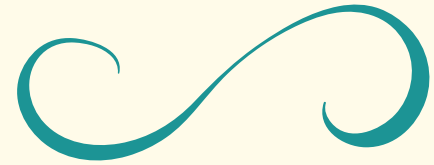
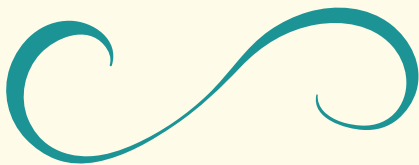
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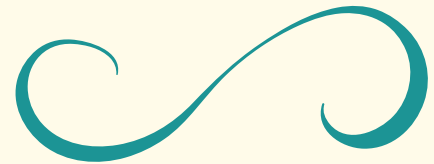
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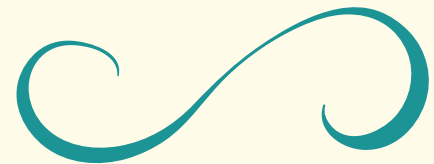
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Welcome to the 4th edition of the RAKCODS E-Newsletter. I am writing this message at times of unprecedented changes that the pandemic of COVID-19 has brought about. Our faculty, students, staff and patients are experiencing great disruption but yet taking on this challenge with great spirit. RAKCODS has already initiated distance learning through Google hangouts wherein the students are enthusiastically participating in this endeavor. I believe this is a time when all of us should contribute to the community in whichever way possible. RAKCODS is running only the urgent care as of now and all the patients of our students are expected to be rescheduled and treated appropriately once the situation is under control and clinical training resumes. I hope with the grace of Allah Almighty that we shall soon come out of this pandemic. In spite of this challenging scenario, one thing to take note of is that there has been tremendous progress in our workshops on Patient safety and Infection control.

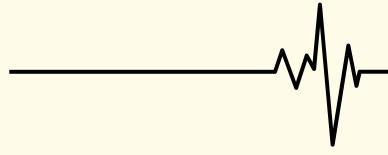
Moving on to Accreditation Canada, it is a huge step forward to accomplish the vision and mission of RAKCODS which is client centered care and safety. The concept of people centered care has been introduced which will further fortify our delivery of quality care and also patient safety. This concept further empowers our clients, both students and patients who will be involved in decision making processes so as to make RAKCODS a better organization. I express my deepest gratitude to all those who have voluntarily taken part in this journey to make the accreditation process smooth, in particular Dr. Vivek Padmanabhan along with other leaders and team members.

Through this E-Newsletter, I encourage all faculty, staff, students and patients to strive and make RAKCODS safe for its clients at par with the international standards.

**Prof. Dr. Muhammed Mustahsen Rahman
Dean, RAKCODS**



PURSUIT OF EXCELLENCE AMIDST NOVEL CORONAVIRUS (COVID 19)



In my message in the last edition of the RAKCODS E-News, I had congratulated the leadership for engaging in quality journeys like that of Accreditation Canada. It is at times like these when something like the Novel Coronavirus is making its fortitude that we are reminded and also happy that we, as always, are in the pursuit of excellence in terms of quality healthcare delivery by upholding priorities like patient safety and people/client centered care at RAKCODS.

RAKCODS is preparing for the exit survey of Accreditation Canada. Personally, it has been an overwhelming experience especially after being put in the driver's seat of the excellence journey. As a part of this process, the organization went through an informal survey on the 4th and 5th March 2020. The objective was to highlight where we, as an institution, need improvement. I extend my gratitude to Dr. Ali Hojati who conducted this visit and whose inputs are very valuable for us and we are already working on implementing them. We are looking forward to the final survey very soon. Maybe as this edition is getting released, we may already be having the Canadian survey team with us unless COVID-19 changes the course of plans.

It is imperative for RAKCODS to focus on client-centered care by fostering futuristic partnerships with both our students and patients. For us, both these categories of clients are of paramount importance. RAKCODS leadership is taking formidable steps to make this a definite possibility. We are already engaging our student body in a lot of activities along with having strong ties with our Alumni. Soon, we will also begin engaging our patients at a more proactive level rather than a reactive one. As of now, we are deriving inputs from our patients and I believe it is important for us to have strategic partnerships with them as well. This is one of the biggest messages that I intend to forward to the rest of the RAKCODS family too that we should all leave our differences, if any, behind us, take the family forward and become proud RAKCODIANs.

Happy reading!

Dr. Vivek padmanabhan
Editor-in-Chief
RAKCODS E-News

MOMENTS OF PRIDE

RAKCODS Faculty Achievements

Dr. Juma Al Khabuli

Professor & Chairperson, Basic Medical and Dental Sciences

Recent publications:

1. Aggressive dentigerous cyst in a 9-year-old child: a case report and review of literature with Dr. Huda Abutayyem as one of the co authors published in Stomatology Edu Journal.

2. Oral Health Status and treatment needs for special needs children of RAK Rehabilitation Centre for disabled published in PBOCI.

Dr. Juma's research with Dr. Hafiz Ahmed and Dr. Mehria Wazin on the evaluation of antimicrobial activity of propolis on oral pathogens was accepted for presentation at the Clinical Research Forum, 2019.

Dr. Melahat Gorduysus

Professor & Specialist, Endodontics

Dr. Melahat's study on the Evaluation of different irrigation techniques on dentin erosion, debris and smear layer removal: A SEM study is currently under review for publication in the Brazilian Dental Journal. Dr. Berdan Aydin (Assistant Professor, Restorative Dentistry, RAKCODS) is one of the co-authors of the study.



MOMENTS OF PRIDE

RAKCODS Faculty Achievements

Dr. Hala Zakaria

Assistant Professor, Oral Radiology, Diagnosis and Medicine

Dr. Hala presented as a speaker at the International Food Safety Conference held on the 12-14th November 2019 at the World Trade Centre Dubai.

She attended the Radiation Protection Training Course on the 10th of January 2020 at Novotel, Deira, Dubai. She also made her presence known at the Arab Health 2020 Radiology Conference and NISSIN's Opinion Leader Conference in the month of February. Dr. Hala was also an avid coordinator of the RAKMHSU Medical & Dental Science Exhibition 2020.

Recent publications:

1. Assessment of correlation between nutrition and oral status of elderly, Dental research & management.
2. Prevalence of stylohyoid complex elongation among patients attending RAKCODS clinics, ACTA Stomatologica Croatica

Dr. Shadi El Bahra

Assistant Professor, Prosthodontics

Dr. Shadi attended the 7th Emirati German Congress in Medicine & Dentistry at University of Sharjah, 3rd and 4th November 2019.

Dr. Shadi also presented a poster on the topic "Hibiscus flower as stress reliever before dental procedure" at the International Food Safety Conference held on the 12-14th November 2019 at the World Trade Centre Dubai.

He attended a workshop (presentations and hands-on) in Helsinki, Finland on the use of the Planmeca Romexis 6 software, smile design, chairside CAD/CAM & 3D printing. In another workshop on CAD/CAM in RAKCODS in December 2019, Dr. Shadi joined as a trainer.



MOMENTS OF PRIDE

RAKCODS Faculty Achievements

Dr. Sabrin Ali Azim

Assistant Professor & Specialist, Oral & maxillofacial surgery.

Dr. Sabrin presented her topic on “Camel milk and its effect on local anesthesia” at the International Food Safety Conference held on the 12-14th November 2019 at the World Trade Centre Dubai.

Dr. Sabrin represented RAK College of Dental Sciences at the International Conference on Patient Safety (ICPS) at Riphah University on 29th November 2019. She was also a part of a panel discussion with Professor Dr. Yawar Hayat Khan amongst other specialists.

Dr. Sabrin met the International Relations Office Staff of Azerbaijan Medical University to discuss future collaborations alongside supervising another batch of students for winter training in the OMFS department of AMU, 2019-2020. During the same trip, a hands-on implantology training was also organized by Dr.Sabrin.

Under the supervision of Dr. Sabrin, interns Dr. Amjid Mustafa and Dr. Osama Mheir presented a poster on “The new technological advances in the field of oral and maxillofacial surgery” at the Clinical Research Forum, December 2019.

She also participated with the marketing team in the Sharjah Expo International Education show and alternatively met the Operation Smile Organization to discuss future collaborative research projects in January.

Dr. Sabrin presented during the AKMG CME/CDE on the 14th-15th February 2020 at RAKMHSU. The title of her presentation was “Prevention and management of dental extraction complication.”

Dr. Md Sofiqul Islam

Assistant Professor, Restorative Dentistry

Dr. Sofiq participated as a hands-on session trainer at AEEDC, Dubai held 4-6th February 2020. The session sponsored by Shofu Dental Inc was on the “Successive cusp build-up technique”.

Dr. Sofiq also presented during the AKMG CME/CDE on the 14th-15th February 2020 at RAKMHSU. The title of his presentation was Minimal Intervention Dentistry for Managing Early Caries Lesion.

Recent publications (Journal of International Dental and Medical Research):

1.Prevalence of root caries among patients attending RAKCODS Hospitals with Dr. Hiba Abu Jarad and Dr. Dhabyeh alshehhi

2.The effect of cranberry, strawberry and blueberry juices on the viability of cariogenic bacteria: An in-vitro study with Dr. Zainab Riaz and Dr. Anam Waqar



MOMENTS OF PRIDE

RAKCODS Faculty Achievements

Dr. Nur Hatab

Assistant Professor, Oral & maxillofacial surgery

Dr. Nur represented RAK College of Dental Sciences and presented her topic Effects of intramuscular and submucosal dexamethasone injection for lower third molar surgical extractions at the 24th International Conference on Oral and Maxillofacial Surgery (ICOMS) in Rio, Brazil.

She also delivered a lecture on the fundamentals of implant dentistry along with Dr. Nabeel Alsabeeha from the Ministry of Health at RAKCODS recently.

Dr. Huda Abutayyem

Assistant Professor & specialist, Orthodontics

Dr. Huda presented during the AKMG CME/CDE on the 14th-15th February 2020 at RAKMHSU. The title of her presentation was “Oral Health Related Quality of Life.”



MOMENTS OF PRIDE

RAKCODS Faculty Achievements

Dr. Dragana Pajevic

Clinical Instructor

Dr. Dragana gave a presentation on the Canadian Examination Pathway to our aspiring doctors in RAKCODS wishing to continue higher studies in Canada.

She also attended the AKMG CME/CDE as a delegate on the 14th and 15th February 2020.

Dr. Berdan Aydin

Assistant Professor, Restorative Dentistry

Dr. Berdan presented during the AKMG CME/CDE on the 14th-15th February 2020 at RAKMHSU. The title of her presentation was RCT: Extra canal challenges in molar teeth.

Dr. Berdan's research on the Detection of gelatinolytic activity in deciduous sound dentin has been accepted for publication in the Journal of Ege University School of Dentistry.



MOMENTS OF PRIDE

RAKCODS Faculty Achievements

RAKMHSU Mini Marathon 2020

Female staff category:

1. Ms. Pratima Rai
2. Ms. Lhamqueen Morales
3. Ms. Mari-Andre

Male staff category:

3rd place – Mr. Vincent Roy Fabria





Food Safety Conference Dubai

Dr. Ahmed Awad and Dr. Mohammed Saied under the supervision of Dr. Shadi Elbahra and Dr. Sabrin Azim presented the topic " Hibiscus Flower as a stress reliever before dental procedures " at the international food safety conference on the 12-14th of November 2019 held at world trade center Dubai



MOMENTS OF PRIDE

RAKCODS Students' Achievements

Dr. Ahmed Dergham Intern

Dr. Ahmed won the 1st place under the category of oral presentation at the 8th International Students' Dental Conference held at the University of Sharjah, 9-10th February 2020.

His research topic supervised by Dr. Mohannad Nassar was on the in-vitro mitigation of arsenic induced toxicity by reduced glutathione in rat pulpal cells.

Ms. Sakina Abbas Ali BDS, Year V

Ms. Sakina secured the 1st position under the category of female students during the 4km RAKMHSU mini marathon held on 12th February 2020.





MOMENTS OF PRIDE

RAKCODS Alumni Achievements



Dr. Mariam Mubarak **BDS 2017**

Dr. Mariam Mubarak cleared her MFD Part 1 and 2 examinations and is now a Member of the Faculty of Dentistry, Royal College of Surgeons Ireland.



Dr. Leila Mostawe **BDS 2018**

Dr. Leila won the 3rd place under the category of poster presentation at the ERDiS Conference in Turkey. Her topic of presentation was “Rehabilitation of fully edentulous patient with two different prosthetic treatment plans: A case report.”

Dr. Leila is currently doing MSc in Prosthodontics from Yeditepe University, Turkey.



Dr. Rawan Adnan Alabrahim **BDS 2019**

Dr. Rawan was recently interviewed on the Kuwait FM show where she discussed her graduation research project at RAKCODS and her career as a dental professional and a writer. She aims to further pursue her passion for writing and get a book published by the next Kuwait Book Fair.

RAKCODS undertakes Fire Fighting Training from RAK Government General Resource Authority as part of the institution's continuing efforts towards safety measures.



Students and interns presented their posters in the 2019 Clinical Research Forum on December 12-13 at the Grand Hyatt, Dubai.



RAKCODS Team attended the International Conference on Patient Safety (ICPS) at Riphah University 29th November - 1st December 2019. Dr. Sabrin Azim gave a presentation on Patient Safety in Oral Surgery during the same conference and was also a part of a panel discussion with Professor Dr. Yawar Hayat Khan amongst other specialists.



Going International 3.0

On the basis of the official MoU signed between RAKMHSU & Azerbaijan Medical University (AMU) and under the supervision of Dr. Sabrin Ali Azim, another group of 11 Year V students completed winter training at AMU. A hands-on course on implant dentistry was also arranged by Dr. Vugar Qurbanov and Dr. Sabrin.

After the insightful training program, this is what some of the students had to say:

Ms. Lujain Koniali – “This training was adequate to help us get rid of our fear of blood and surgeries. Such trainings help us learn a lot about the real clinical life and enable us to practice what we have studied.”

Mr. Abdallah Ziyad – “Our training at the OMFS department of AMU was very helpful. We experienced real-time how things work in an operation room. A huge thank you to the entire faculty at RAKCODS & AMU, especially Dr. Sabrin for this wonderful experience.”

Mr. Ammar Bouauni – “College life would be exhausting without doctors who strive to make it informative and interesting at the same time. This winter training organized by Dr. Sabrin is one example, through which we got to observe some real-time oral & maxillofacial surgeries and learn in a method different from the norm. The hands-on implant dentistry course was also very beneficial and sparked my interest to know more about implants, thank you Dr. Vugar.”

RAKCODS hopes to continue to organize such trainings in the future helping the students to grow and prosper.



Thanks and appreciation

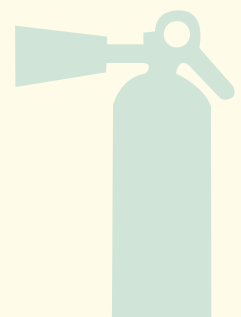
During the Awards Day held on the 23rd of January 2020 at RAK Medical & Health Sciences University, Head of Finance & HR Mr. Nisar Ahmed, Manager Marketing Mr. Shaheryar Riaz, Mr. Nur Mohammad (Driver), Mr. Liaquat Ali (Attendant) and Mr. Muhammad Farooq (Attendant) received awards from the President for completing 10 years of service at RAKCODS.



RAKCODS students participated in the poster presentation competition at the UAE International Dental Conference and Arab Dental Exhibition (AEEDC) on the 4-5th of February 2020.



Basic firefighting and building evacuation training was carried out at RAKCODS on the 13th of February for all faculty and staff.



RAKCODS MILESTONES

RAKCODS Journal Club.

With the zest to continue learning and the tremendous efforts of our discerning students, a new platform at RAKCODS has come to life; here's introducing – The RAKCODS Students' Journal Club. The recently launched journal club is specially dedicated to the whole student body of Ras Al Khaimah College of Dental Sciences and is a genuine opportunity for all of us to be a part of this great endeavor.

At the core of it, the club emphasizes a force towards refining knowledge and research through interactive and motivation-driven sessions where well researched, expertly written and carefully edited articles are put forth for discussion. Members of the journal club committee have taken on this huge responsibility spending countless hours brainstorming, writing, editing and designing to incorporate the concepts of our vision into the journal club. Weekly, members of the committee arrange meetings within the campus where doctors and students of different years participate in a highly interactive ambience exchanging ideas and dental updates.

An issue of the journal's magazine will also be releasing very soon with the best curated content just for you. Stay tuned! We believe this launch will be of great value and promise to our establishment. Looking forward to seeing more of you contributing and getting involved!

Here's a quick look at the members of the committee.

President – Dr. Ahmad Dergham

Vice-President – Dr. Saba Tahir

Controller – Ms. Samah Rady

Editorial Team

Editors-in-chief – Dr. Rayan Emad & Dr. Besma Adel

Co-editor – Dr. Abdullah alyagoob



Community Services Advisory Board Meeting

The community services committee of RAKCODS reached yet another milestone by initiating the Community Services Advisory Board Meetings this year. The first meeting of this board was held on 20th February 2020 at RAKCODS. The meeting was convened by Dr. Vivek Padmanabhan, Chairperson-Community Services and chaired by Dr. Mustahsen Ur Rehman, Dean, RAKCODS. It was attended by Mr. Nisar Ahmed Nisar, Manager HR and Finance, Mr. Atiq-ur-Rehman, Manager Administration, Mr. Mohammad Majed, Marketing Executive and Dr. Anam Waqar, Community Officer. 14 representatives from different schools and social organizations attended the meeting on behalf of their nations and communities.

The idea behind these meetings is to take the already formidable community services of RAKCODS to the next level wherein inputs received from the advisory board on how to improvise and improve upon the community services can be provided. After this first meeting, all the attendees were happy and convinced with the idea of an advisory board and the inputs received from them will be used for the betterment of the community services at RAKCODS.



RAKCODS Interns accompanied by Dr. Huda Abutayyem paid a visit to RAK Modern Private School, Ras Al Khaimah for an oral health awareness campaign. Oral screenings for students from Years 2-5 were done.



RAKCODS MILESTONES

Dr. Hala Zakaria, Dr. Jodat Askari, Dr. Shadi El Bahra, Dr. Lovely Muthiah and Mr. Arslan Abid attended a workshop (presentations & hands-on training) in Helsinki, Finland on the use of the Planmeca Romexis 6 software, smile design, chairside CAD/CAM & 3D printing.



Invisalign Open Day

Under the supervision of Dr. Huda Abutayyem, Invisalign Open Day was held at RAKDC, RAKCODS on the 2nd of March 2020. Our interns and doctors experienced the use of the Itero Scanner to plan orthodontic treatment and evaluate treatment outcome simulation.



RAKCODS MILESTONES

HIMS Appreciation Ceremony 2019-2020

Fulfilling the international standard of requirements in dental care, the successful deployment and implementation of the new Hospital Information Management System (HIMS) at RAKCODS was appreciated by MT Riphah and the CEO, Mr. Hassan Khan in Islamabad, Pakistan. Designed and developed by MaxTech, both the MaxTech and RAKCODS HIMS development teams were present to grace the event. Mementos were presented to our CEO Mr. Hassan Khan, HIMS Project Owner Prof. Dr. Mustahsen Rahman, HIMS process Owner Dr. Vivek Padmanabhan, HIMS Coordinator (RAKCODS) Mr. Tanveer Akhtar, MaxTech CEO Mr Nasrullah, HIMS Director Mr. Siddiq ur Rehman in addition to certificates of appreciation to both the MaxTech and RAKCODS teams



Continuing Dental Education (CDE)

CAD/CAM workshop at RAKCODS

RAK College of Dental Sciences conducted its first CAD/CAM workshop on the 5th and 6th of December, 2019. Day 1 included special lectures on crown/veneer preparations by Dr. Eldo Koshy and an introductory lecture to CAD/CAM by Dr. Mais Aswad.

The agenda for day 2 involved Dr. Eldo Koshy from India along with Dr. Lovely Muthiah and Dr. Shadi El Bahra conducting hands-on sessions on the different types of crown and veneer preparations, gingival retraction techniques and an orientation to implant placement. Dr. Mais Aswad along with Dr. Jodat Askari, simultaneously engaged the participants with the concepts of intraoral CAD/CAM scanning, designing and milling of the blocks.



Continuing Dental Education (CDE)

Symposium on Implant Dentistry

RAKCODS in collaboration with The City of London Dental School organized a 2-day symposium titled “Prerequisite for osseointegration – implant dentistry” on the 26th and 27th of February 2020. The event was awarded 14.0 CPD points by Dubai Health Authority.



Continuing Dental Education (CDE)

Workshop on Laser Dentistry

A workshop on laser dentistry was conducted at RAKCODS on the 29th of February 2020 in collaboration with Swiss Laser Master Academy. The workshop engaged 52 participants who were provided with lectures as well as hands-on training on the use of hard and soft tissue lasers in dentistry by experts from Germany, Switzerland and the UAE.



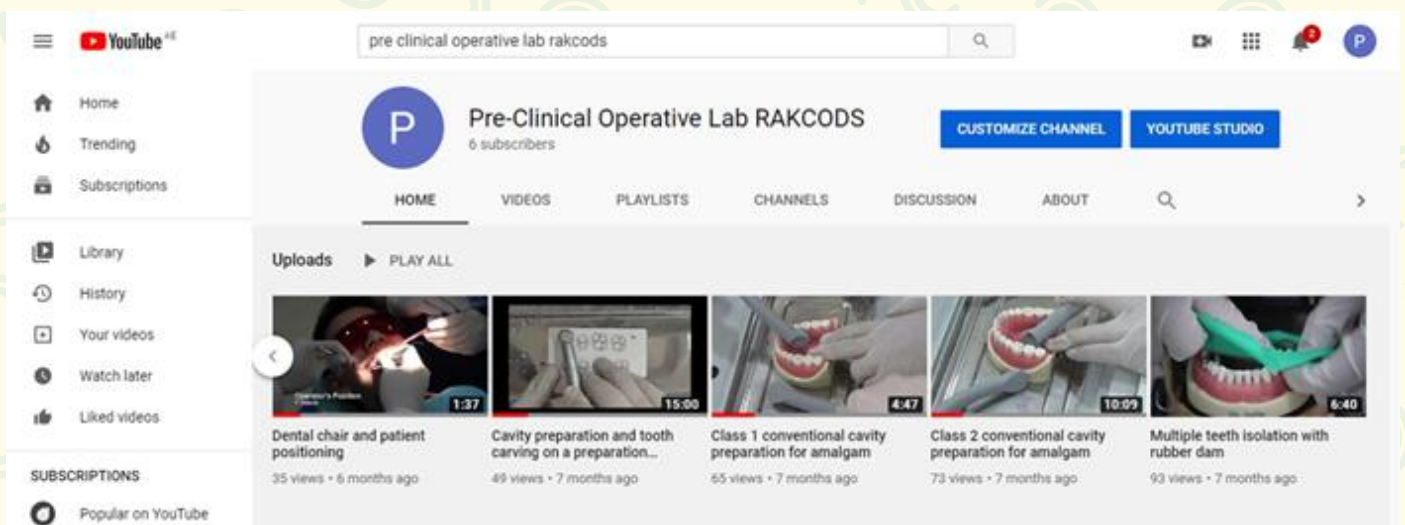
Continuing Dental Education (CDE)

Pre-Clinical Operative Dentistry YouTube Channel

As part of its efforts towards continuous dental education, the Operative Dentistry department at RAKCODS has recently launched a YouTube channel in the name of Pre-Clinical Operative Lab RAKCODS. This is to improve its students' clinical skills by providing easily accessible video demonstrations of some basic restorative procedures.

The link for your reference is:

<https://www.youtube.com/channel/UC2D29pM1WEEuqyM7kbTzA7g>



A delegate from SIANS School of Medical Sciences University visited RAK College of Dental Sciences on the 16th of December 2019.



RAKCODS participated in the 22nd International Education Exhibition in Nairobi, Kenya on the 17th of January, 2020. The Ministry of Education Kenya Delegates visited the stand too after which the RAKCODS Marketing Team met their Director of Policies & Partnership Mr. Wamvlabile for future collaborations and recognitions.



RAKCODS participated in the Sharjah Education Show from the 22nd to the 24th of January 2020 at the Sharjah Exhibition Centre.



RAKMHSU Science Exhibition 2020

Students from the science stream of different schools all over Ras Al Khaimah visited the science exhibition at RAKCODS, RAKMHSU from the 19th-21st February 2020. They went through a short journey to experience the teaching dental hospital's facilities, the phantom head lab, the radiology department and the CAD/CAM machines. Additionally, they got a first-hand experience of how dentists work and enjoyed free dental checkups.



Professor Dr. Mustahsen Rehman, Dean RAKCODS, gave a career talk to the students of New World Private School, Dubai



Science stream Grade 12 students from Bahrain Modern School visited RAKCODS



A visit to RAKCODS by some of the employers of our alumni



Other Updates

Faculty, staff & class/intern representatives' trip to the top of Burj Khalifa followed by a dinner at Barbeque Delights, Jumeirah, Dubai.



Adios!

Mr. Sumith Samuel, we thank you for your services at RAKCODS. Goodbye and good luck for your future endeavors.





Medical Emergencies in Dental Practice & their Management

A dental chair may seem like an unlikely place for an emergency to occur but statistics say otherwise. Syncope (63%), angina (12%), Hypoglycemia (10%), epileptic seizures (10%), choking (5%), asthma (5%) and anaphylaxis - these figures establish how important it is for a dental professional to have the knowledge and competence to deal with medical emergencies. The British National Formulary (BNF) provides guidelines on the management of the more common medical emergencies that may occur in a dental practice.

<u>Medical Emergency</u>	<u>Signs and Symptoms</u>	<u>Management</u>
1.Syncope	1-Feeling of dizziness 2-Loss of consciousness 3-Pallor, sweating, slow pulse 4-Nausea and vomiting	-Lie flat, elevate legs and loosen any tight clothing -Once consciousness returns, offer glucose in water or sweet tea
2.Cardiac Emergencies	1-Tightness, heaviness or pain in chest 2-Pain radiating to the neck, jaw, shoulders, left arm and back 3-Pallor and sweating 4-Nausea and vomiting	-Call EMS -Sit the patient up in a comfortable position -Sublingual nitroglycerin spray -Oral Aspirin 300 mg (crushed or chewable)
3.Hypoglycemia	1-Shaking/Trembling 2-Slurred speech and vagueness 3-Sweating and pallor 4-Tiredness and lethargy 5-Unconsciousness	-Place patient in supine position -Offer 15-20g fast acting glucose -If patient unconscious or unable to swallow safely-give glucagon 1mg intramuscular -Once consciousness returns, offer oral glucose -Call EMS if patient becomes unconscious again



4.Epileptic Seizures	1-Sudden collapse and loss of consciousness 2-Rigidity and Cyanosis 3-Jerking movements of limbs 4-Noisy breathing and frothing	-Ensure safe environment- prevent incidence of injury. Do not put anything into the patient's mouth, do not restrain. -Oxygen 15 litres/min -Once jerking movements cease, place patient in recovery position and check airway -In case of prolonged convulsive seizures (5 minutes or more) or repeated seizures, administer oromucosal midazolam solution through buccal route -Call EMS if seizures continue
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There are certain emergency drugs in the dental practice that can be administered in case of an emergency situation. These include but are not limited to:

- 1- Adrenaline for anaphylaxis**
 - 2- Aspirin for a suspected heart attack**
 - 3- Glucagon for hypoglycemia in case the patient is unable to swallow**
 - 4- Fast acting glucose for a conscious hypoglycemic patient**
 - 5- Midazolam for prolonged convulsive seizures**
 - 6- Short acting beta agonist like salbutamol for an asthma attack**
- Emergencies cannot be totally prevented but can be managed appropriately with thorough knowledge of the signs, symptoms and accurate treatment of the emergencies. Accomplishing this depends on the combined effort of the dental specialist, staff and immediate availability of the critical drugs and equipment for the procedure. It is integral, therefore, to be prepared and always have a plan in action to render proper assistance increasing the chances of patient survival.**

By: Ms. Sakina Abbas Ali, Year V



Applications of intra-oral cameras in dentistry.

In recent years, several innovations have been developed and applied in the medical and dental fields in order to examine an individual's health state more efficiently. One of these innovations is the intra-oral camera (IOC) which came into existence in the late 1980s. Fuji Optical Systems (Los Gatos, California) received a registered IOC dental trademark on 7 July 1987 and released DentaCam. Initially, the IOC devices were bulky, expensive and required substantial space in the dental office. They included a hand-piece, a video processor and a computer dedicated to the processing of images and videos that were captured through the devices. Later in 1989, Video Dental Concepts introduced an innovative IOC device that used a dental endoscopic hand-piece. It had a dental endoscope, a light source, and a remote head micro camera. Subsequently, several manufacturers improved and modified the functionality resulting in a small handheld device that was ergonomic, lightweight, advanced, comfortable to use and relatively inexpensive with good magnification.

The world of dentistry consists of micro structures that should be recorded in detail and the IOC is a tool that can be used not only for educational purposes but also for capturing minute details that could generally be missed such as during caries detection. This helps give the patient a unique view of each tooth enabling them to understand the diagnosis and make informed treatment plans. One example is the SLR – Single Lens Reflex professional camera. These cameras have the 35mm zoom lens with 'macro' settings that allow us to have a focused view of the close-up objects and organs. A number of researchers have found the small IOCs to be a useful tool for tele-dentistry offering a potentially efficient and reliable means for screening caries in children in remote or under-serviced areas. The conventional method of teaching endodontics and cavity preparation has some drawbacks due to the small size of the oral cavity. Students cannot closely observe the clinical procedure thus the use of new teaching modalities such as the IOC camera may obviate this problem. The goal of this review is to give an overview of the applications of intra-oral cameras.

Applications of IOC can be classified into direct (clinical) and indirect (remote) oral care applications. Clinical or direct applications can be before, during, and after the treatment. Remote applications can be broadly classified into diagnosing, monitoring, and preventive maintenance.



Image 1, 2 & 3 – Image 1 shows a DentaCam which was introduced by Fuji Optical Systems. Images 2 and 3 show the Intra Oral Camera introduced by Video Dental Concepts.



An example is the further possibility for image-analysis-based diagnosis with digital intra-oral cameras for the detection of root canal orifices for computer-assisted learning. The possibility of IOC as a computer-aided diagnostic tool for root canal orifices was evaluated in in-vitro studies. Software programs were developed for standard intra-oral or microscopic cameras. These programs were successful in real-time detection of root canal orifices and can be a useful tool for the clinicians and the training of dental students. The application of IOC can guide the clinician with augmented reality and can enhance treatment procedures with high sensitivity. An explanation for the differences between the experienced observer and the software is that dentists normally use tactile and other methods to enhance identification of root canals. Most dentists verify visible findings under the microscope by using probes or endodontic needles, and a high number of root canals are only accessible after preparation and removal of the occlusive calcifications.



Image 4 & 5 – Image 4 shows a picture captured of the root canal orifices using an intra oral camera. Image 5 shows a picture of the software that is used after taking a picture.

The second example of the use of IOC can be in oral medicine promoting the education of oneself about their oral health. It has been found that a heightened understanding of oral hygiene is necessary for greater compliance. Bradley et al, captured high-quality clinical photographs of patients with oral mucosal problems by an IOC to triage the referrals and to evaluate the potential for treatment locally. IOCs can also be useful in the diagnosis and referral of oral mucosal regions and can be a critical imaging tool in hard to reach areas of the oral cavity.

The IOC has been modified throughout the years from when it was introduced. Some potential advantages with the use of intra-oral camera are early diagnosis, reproducibility of images, time and cost effectiveness. IOCs enhance access to oral care for rural and remotely located individuals and helps motivate and educate patients on the importance of oral hygiene and specific treatment plans. In the past twenty years, most of the major technological breakthroughs in electronics have really been part of just one large breakthrough, which is converting conventional analogue information (represented by a fluctuating wave) into digital information (represented by ones and zeros, or bits). In conclusion, it can be said that the intra oral cameras have many applications in dentistry especially with the diagnosis and in the compliance of patients.



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By: Ms. Noorul Huda, Ms. Sankavi Mahendran and Ms. Yashal Khan, Year IV



Dentistry and its role in forensic investigations.

Human teeth and dental restorations have proven to remain stable for a long period of time, even after going through extreme situations such as fire. Therefore, dentists can play an important role in the identification of severely mutilated bodies of missing and unknown individuals. The specialty of forensic dentistry, in general, covers the following areas:

- 1- Identification of human remains** - This can be required in a number of different situations like for the body of a victim of a violent crime or following critical road traffic and work place accidents. Bodies can be disfigured to an extent that identification by a family member is neither reliable nor desirable. Through the specialty of forensic dentistry, dentists can play a significant role in this process assisting in criminal investigations alongside.
- 2- Criminal proceedings, primarily in the areas of bite mark evaluations and abuse cases especially child abuse** - Teeth can be used to inflict serious injuries. Testifying to the similarity or dissimilarity of suspects' dentitions to the bite mark in question is probably the most unique contribution that forensic dentistry can make to a judicial inquiry.
- 3- DNA in forensic dentistry** - In environmental assaults, teeth can be an excellent source of DNA material as the dental hard tissues are resilient in nature. With the help of biological material, the necessary link to prove one's identity may be possible especially when conventional dental identification methods have failed.
- 4- Lip prints** - Cheiloscopy is termed as the study of lip prints. The morphological wrinkles and grooves on the labial mucosa termed as sulci labiorum form the lip prints. The importance of cheiloscopy is associated with the fact that lip prints are specific to one person and can be used to confirm the presence and absence of that person at a crime scene.

The field of forensic dentistry has increased awareness about the identification of victims and criminals during recent tragedies as well as past and present situations. Therefore, more individuals should consider pursuing forensic dentistry/odontology as a specialty contributing to the wellness of the society.

Presently, there are only three universities around the world that provide forensic odontology/dentistry as a post graduate course.

- 1- University of Dundee, Scotland, UK- MFOdont Forensic Odontology- 2 years**
- 2- University of Dundee, Scotland, UK-MSc in forensic dentistry- 1 Year**
- 3- KU LEUVEN, Leuven, Belgium- MSc in Forensic odontology- 1 year**
- 4- DY Patil University, school of dentistry, Mumbai, India- Fellowship Program in forensic odontology- 1 year**

Forensic odontology is a relatively new and different specialty compared to the norm. Do look it up and yes, you can thank us later.

By: Ms. Sakina Abbas Ali, Year V



Coronavirus precautionary measures at RAKCODS

The pandemic disease coronavirus (COVID-19) that originated in Wuhan, China has become a public health emergency in over 150 countries around the world. As of March 19th 2020, there are a total of 140 COVID-19 laboratory confirmed cases in the United Arab Emirates. (1)

Coronavirus is a highly contagious and sustainable virus. (2) This detail coupled with the fact that there is a high risk of cross infection in dental practices due to the characteristics of its settings (3) demands strict adherence to Infection Prevention and Control (IPC) protocols. This risk increases further more in a facility offering dental services on a larger scale than regular private dental clinics. Keeping these factors in mind, the IPC committee at RAKCODS has taken all the precautions necessary as per the guidelines provided by the World Health Organization (WHO), Centers for Disease Control (CDC) and The Ministry of Health and Prevention (MOHAP) of the UAE.

IPC protocols, especially hand hygiene measures and respiratory etiquettes as well as their importance is being continuously reminded to all students and staff through education and training sessions, videos and other visual reminders. Face masks are being offered to patients as well and other precautionary measures like proper Personal Protective Equipment (PPE), routine cleaning and proper sterilization of instruments are being reinforced.

To minimize potential exposure to coronavirus suspected or known individuals, a 4-checkpoint plan has been introduced at the institution. Frontline triage staff involved has been educated in the following manner:

Checkpoint 1, Reception: Receptionists have been asked to observe patients as they enter the facility and any sick patient placed on fast track to the initial assessment station.

Checkpoint 2, Initial Assessment: Initial assessment nurses will be taking detailed history and conducting a full examination of the patient. Any suspect or known case is to be immediately referred to the health and prevention department of Ras Al Khaimah.

Checkpoint 3, Out-Patient Department: The OPD doctors have been instructed to vigilantly observe and reconfirm patient symptoms and history to help identify any missed potential cases.

Checkpoint 4: Doctors and students working in clinics have been instructed to do the same as the OPD doctors.

The UAE Ministry of Education announced that starting 8th March 2020, all nurseries, schools, universities and training institutes in the UAE will have their spring break preponed and will remain closed for four weeks. (4)



As per the direction of MOE, social distancing is being promoted through distance learning and all university-related events have been postponed until further notice. All elective procedures have been suspended and only urgent cases are being attended to. As for sanitization, deep cleaning and disinfection of the entire facility has been done using high-level disinfectants.

As I write this article, coronavirus continues to be a threat to all and the IPC committee at RAKCODS has put in their efforts to prepare for the worst while hoping for the best!

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By: Dr. Aqsa Shah Khan, Clinical Instructor

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