

JAN - MAR 2023

VOL 8 ISSUE 1



DENTAL ACCESS

PROFILER

Dr. Abhishek Parolia

A modern-day dentist who prides himself in enriching both his academic and administrative skills and the environment.

'Nanozyme' Therapy Prevents Harmful Dental Plaque Build-Up

How Oral Bacteria Suppress Protection Against Viral Growth?

LEADING NEWS ON GLOBAL DENTAL ACTIVITIES



08 IN FOCUS:
DR. ABHISHEK PAROLIA

RUNNING + FITNESS + FOOD

04 EDITOR'S NOTE

06 CONTRIBUTORS

20 RADICULAR CYST ASSOCIATED TO TRAUMA: A CASE REPORT

40 EXCLUSIVE!

A GLIMPSE OF FEATURED PRODUCTS DURING IDS2023

50 CALENDAR OF EVENTS

52 CROSSWORD PUZZLE



48

IDS 2023 COLOGNE



46

AEEDC 2022 DUBAI



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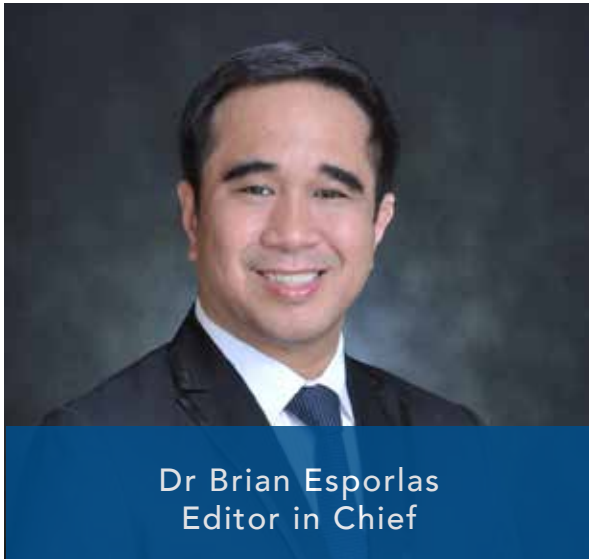
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Preparing for the Future Protocols in

2023

We are all living in extremely challenging times. The SarCov2 pandemic gave us theatrical changes with overpowering force on people's lives around the globe. Our subscribers, contributors, colleagues, associates with their families, relatives and friends are greatly affected since the onset of the pandemic.

The health care system of every country are required to rapidly draft, implement and adapt protocols against SarCov2 crisis. These changes include modification on infection control protocol, teamwork, resiliencies, health care deliveries and screening process. The challenges we deal with on a day to day basis may significantly affect our clinic protocols and may warrant revision. Moreover, it has brought us to a never-ending process of planning, implementation, evaluation, revision, and taking actions.

Our government continue to address the need of our healthcare workers, particularly in dental health. Our job is to have concrete plans to safeguard the best interest and overall health of our stakeholders, that includes our colleagues, industry partners, suppliers, patients and the community. We need to implement plans to start addressing the needs of the stakeholders and have a continuous and thorough evaluation of our program. This

will help us identify loop holes and weak points during the process. From there, we can draft revisions so that we can apply corrective measures and strengthen the program.

As we do all these, new challenges will emerge and will improve our program and protocols. This will lead us back to where we started and repeat the process once again. As long as we remain focused, and work together, we will surely win this crisis.

In this issue of Dental Access, our focus is on oral facial pain. This SarCov2 pandemic has increased the incidence and prevalence of orofacial pain significantly. Many dental practitioners are not trained on orofacial pain diagnosis and management. Due to this enormous amount of stressor we have during this pandemic, we are all susceptible to this ailment. Many of us receive patients who complain of tooth ache with no visible cause clinically. There are some practitioners who attempted restorative procedure, root canal treatment, and even tooth extraction but failed to address the pain. It is our hope that this issue will shed some light on what orofacial pain management is all about.

Above all else, we pray that you, your family and relatives, your colleagues, your friends and your communities stay safe and well. DAC



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Dr. Anna Lynn Perez-Alix
Contributor

SIGNIFICANCE OF OROFACIAL PAIN MANAGEMENT IN DENTAL OFFICES

By Dr. Anna Lynn Perez-Alix, FRiDent

cumstances. Mastery of these conditions could lead a clinician in a more precise understanding of what the patient is going through.

Diagnosis and management of orofacial pain in dental offices, is a revolutionary that needs evidenced based therapeutic management approach. Achieving the patient comfort does not end with an abortive type of relief but more of a permanent satisfaction that the patient would be free from recurring predicament. It is with colossal corrective measure that patients suffering from Orofacial Pain Syndrome needs more of a permanent remedy rather than an ineffectual one that only provides relief from the symptoms but not the cause.

Orofacial Pain management is a clinical practice that needs intensified training and knowledge. Pertinent details of the signs, symptoms, and history should be properly noted and consider in order to come up with a good diagnosis. It is with a substantial diagnostic tools that a clinician can come up with a sound differential diagnosis for a patient experiencing orofacial pain syndrome. Treatment planning in orofacial pain management is patient-centered, that focus on a philosophy that directly treat the cause not the symptoms. A clinician must not hesitate to dig deeper and to ask more relevant questions that directly concerns the condition of the patient; Medical History, Dental History, Psychological, physiological, physical, and even travel history must be asked. An orofacial pain questionnaire or form is a useful to outline these details.

Due diligence of patient evaluation and spending appropriate time for diagnosis and evaluation are essential to come up with differential diagnosis. We must not be too abrupt in coming up with a treatment that will only addresses the symptoms. As physician of the stomatognathic system, we dentist are expected to consider every relevant variables that the patient present us and to what we have discovered during clinical examination and record analysis. It is also expected to from us to collaborate with other medical professional on dealing with orofacial pain. DAC

For years, Dental practices in the Philippines have been dominantly focused on generalized procedures for common complaints of patients that clinically expressed pain or discomfort due to reversible and irreversible dental condition; somehow this lead the patients to have the pain complains but with no significant clinical cause. Moreover, such complaints compelled some dental practitioner to overlook necessary diagnostic and evaluation tools to identify the cause of orofacial pain. Patient may complain of a simple toothache with no clinical evidence of a pathology. These will give us a clue already that it could be related to a more serious underlying condition, that if rendered with a wrong treatment, could give more harm to the patients.

Orofacial pain management is prematurely introduced as a specialty in the Philippines. Orofacial pain specialty is now recognized by the American Dental Association since 2019. It primarily deals with physiological and physical cause of orofacial pain. This specialty demands collaboration of treatment modalities from different fields of medicine and associated health care providers. Making it as the most diversify clinical management that can be given to a dental patients.

Orofacial Pain can be either acute or chronic in nature. It can affect the general population but sex predilection is included to female. The extent of orofacial pain syndrome compasses of acute dental problem, neuromuscular, musculoskeletal, and neuropathic clinical cir-

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40. INTERNATIONALE DENTAL-SCHAU
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A portrait of Dr. Abhishek Parolia, a man with dark hair and a beard, wearing a dark suit, a light blue shirt, and a striped tie. He is smiling and looking towards the camera. The background is dark with some light streaks.

“Be Honest to Yourself and Develop A Passion for Life-Long Learning”

One of Asia Pacific’s top calibre dentist, Dr. Abhishek Parolia started his journey as an Endodontist in 2006 after finishing his specialization in Conservative Dentistry and Endodontics in Manipal University. Later in his career, he joined as an Assistant Professor in the Department of Conservative Dentistry and Endodontics in Manipal University where the enriching academic environment gave him the freedom to enhance his clinical, research and administrative skills. Currently, Dr. Abhishek continues his teaching prowess as the Associate Dean of Postgraduate, Continuing Education and Research at the School of Dentistry, International Medical University (IMU), Malaysia. “I have been responsible for developing the Endodontic curriculum for undergraduate and postgraduate training here at IMU and have been practicing micro-endodontics for more than fifteen years. I chose Endodontics as a specialization because I found it very interesting and satisfying as a professional. Practicing as an Endodontist gives you immediate rewards, especially after relieving pain of the patients and improving their oral health and wellbeing. Endodontics is one of the few branches or specializations in dentistry where there is always something new happening, that allows me to keep myself updated with the latest technology and advancements in instrumentation and material science. I feel very passionate about endodontics, and I don’t think I could have done anything better than Endodontics.”

As a notable professor and lecturer, what are the poignant moments that make you pursue this profession? What continually inspires you to this practice?

It has been a very exciting journey that has helped me to become a more matured professional. I believe in lifelong learning and recommend everyone to follow this. I have had multiple roles in my academic career including Assistant Professor in Endodontics, Programme Director of Postgraduate Diploma in Endodontics (PGDEndo), Head of Oral Health Centre, Lead for Research in the school, Head of Restorative Dentistry Division and Associate Dean for Postgraduate, Continuing Education and Research. I have been the Council member of International professional bodies including IADR and playing my role as an Adjunct Professor in Airlangga University, Indonesia, Manipal College of Dental Surgery, Manipal and SPDC, Wardha, India. Every role comes with new challenges requiring different approaches to manage them. I personally feel that everyone needs to love their job and enjoy it day to day. Negative moments and emotions are bound to take place especially when you are leading any portfolio or running your clinic. I have tried to imbibe three key values that were taught to me by my current institution. Be Imaginative, Innovative, and Insightful, keeping the core values of trust, responsiveness, service, unity, and tenacity that have inspired and motivated me to try something new without fearing failure.

When the pandemic occurred in 2020, did you have fears in addressing your treatment to your patients? And what measures did you take in order to keep your staff and patients safe?

Last two years have been very challenging for the entire world due to 'CORONA'. The closure of clinics has impacted dental health professionals not only financially but also psychologically. When the first lockdown was announced in March 2020, we had no idea how to react to it. Everything was so new to all of us and for first three months we could

hardly see any patient due to lack of awareness of new guidelines to be followed in the clinical practice. Thereafter, we as health care professionals had multiple meetings and went through National/International guidelines and standards of practice to implement them in our clinical practice. Finally, guidelines to reopen clinics and patient management were implemented and reference guide was provided for all dental health professionals to follow. Additionally, we had to do certain changes even at infrastructure level including the building of rooms to carry out aerosols generating procedures. Everyone was advised to strictly follow the policies and infection control protocols in the clinic. Patients were asked to follow a protocol before entering the clinic and only appointment-based patients were seen. Important visual alert signs, posters, or video demonstrating hand hygiene, respiratory, cough etiquettes, and social distancing while refurbishing the entrance and patient waiting area were put up.

The aerosols were reduced by the adopting the procedures such as by scheduling one patient at a time in the dental office; isolating all sterile instruments and dental supplies in closed storage areas; minimizing the contents in the operatory; advising the patient to do preprocedural mouth rinse with 1% povidone iodine or 1 to 1.5% hydrogen peroxide for 60 seconds before intraoral examination and performing a four-hand dentistry approach with use of rubber dam and continuous high evacuation suction.

At school, what were the hurdles you faced as a professor in relation to COVID 19 health protocols? And what did you think was an important key factor in keeping safety regulations in check among teachers and students?

There were financial, psychological, training and education related challenges faced by all of us as healthcare professionals due to COVID-19 that created immediate and long-term consequences on the dental profession. However, to meet these crisis situations contingency plans were formulated keeping the current COVID-19 pandemic and safety

regulations in vision. Training, education, and mode of delivery were totally revised to meet the demands and safety of the faculty and students. Online learning resources were developed, and the faculty and students were trained to get familiarized with guidelines to conduct online teaching and learning activities and make these activities user friendly and engaging. Enhancement of e-learning portal, strengthening the information technology security for the remote access, and use of new software enabling virtual applications were applied to ensure the delivery of curriculum up to profession's contextual needs and standards. An innovative, adaptable, needs focused curriculum was considered to achieve a virtual learning environment integrated with authentic experiential learning.

How do you continually inspire your undergraduate and graduate students To continue their practice in spite of the varied covid strains that appear every now and then?

I like to interact with students and share my experiences with them. I always tell them that University is place where you can develop professionally and personally. I miss my university days, where you could explore and expand your learning, friendships, skills dreams, and future goals. I tell my students to enjoy this journey of learning and do your level best to achieve your goals or desires. This pandemic was very challenging for students, and we could not see each other face to face for some time. Their clinical training was getting affected and they started feeling insecure regarding the timely completion of their course. However, we ensured to stay in touch with our students using an online platform, continued teaching and learning activities and innovated few strategies to make the discussions more interactive. We delivered a lot of hands-on demonstrations using an online platform and created interactive videos for them to improve their knowledge. We had to keep motivating them and reinforcing that this odd time will pass on and their clinical training will not be affected. We had to take few strong decisions with the consent of all stakeholders specially extending

the course period for few batches to ensure the high quality of graduates.

About your personal life, what is the most important factor for you at this moment? Family? Career? Health, etc. Did the pandemic greet you with life changing experiences?

I think, at any given time the most important factor in anyone's life is his/her own health. If you are healthy then you can enjoy the family, friends and achieve a lot more in your career. Though Pandemic came with a lot of serious psychological setbacks, with numerous healthcare professionals developing anxiety but there are several ways to cope up with stress such as taking breaks from acquiring pandemic news, practicing meditation, yoga, eating healthy, exercising routinely, and taking to people. It is important to realize that we need to create a friendly and approachable working environment, show gratitude, make everyone feel valued for their efforts to adapt to the changing methods of treating patients and be empathetic so that they feel respected and motivated.

Pandemic greeted all of us with life changing experiences. Everyone started discussing about the real meaning of healthy lifestyle. I am very fortunate that as an Endodontist I can have a sense of work life balance. Being a dental professional, you can be very satisfied as a professional, at the same time, you can enjoy your personal life as well.

How would you describe yourself today after all the many achievements you received in your professional career? And would you have a figure of inspiration at this time - like family or an icon who you wish to emulate?

It has been a very satisfying professional journey for me. When I started my career as a young endodontist, I always wanted to learn more and try new things. I never believed in competing with others rather tried my level best to keep improving myself. I would like to give credit to my parents and teachers who have always motivated me and guided me to do the

right things. I had faced few failures in my professional career, but I always learnt something positive from them and converted them into my experiences. I am an outcome-based person and I feel very humble to mention that I was awarded few prestigious awards including Research Incentive Awards in 2010 and 2011, Marquis Award, USA in 2011, awards for a significant contribution in 2011, Invaluable contribution in leading ICDAS initiative in 2014, E-learning Innovation in 2016 and the best faculty presentation (ERG) in International Association of Dental Research (IADR) held in San Francisco, USA, 2017. All this could happen due to the hard work and dedication towards the profession.

There are few key members who have been the driving force in my professional life and I would like to thank them here, specially Professor Kundabala M, Professor Isabel Porto, Professor Toh Chooi Gait, Professor Allan Pau, Professor Patrick Tseng, Professor Frederic Smales, Professor Shashi Rasmi Acharya, Professor Vasudev Balal, and Professor Vidya Saraswati. There are two giant personalities in the world of Endodontics who have inspired me a lot to carry out high level research, Professor Anil Kishen and Professor Brenda Gomes. I have been privileged to secure national grants worth of total 100,000 USD as a principle and/or co-investigator and published more than 75 scientific papers in national and international peer-reviewed journals and authored five chapters in three textbooks. Aristotle famously wrote, "The more you know, the more you realize you don't know." suits me very well and I still have a lot to learn and explore.

I have constantly been involved in conducting workshops and lecturing locally and internationally at many countries namely Singapore, India, Malaysia, Philippines, Indonesia, Vietnam, Cambodia, Thailand, Dubai, Brazil, Hong Kong Australia, Dominican Republic, Belgium, and Canada. Travelling has made me a better person and I recommend everyone to travel, because it helps you to interact with people of different values, regions, backgrounds, mindsets, and skills and thereby broaden your thought process and adaptability. As what I always live by, "Be Honest to yourself and develop a passion for lifelong learning" DAC



photo: AON



AON's successful debut at IDEM2022 Singapore for Asian dental market

AON has participated in IDEM2022 Singapore as exhibitor from October 7 to 9, 2022. This is the first time for AON to introduce its technology and products for the Asian dental market.

AON got a great attention from all visitors and other exhibitors during the IDEM2022. AON was honored to interview Mr Ong Ye Kung, Singapore's health minister representing all Korean exhibitors. AON had strong leads from big dental distributors, dental labs & clinics from Singapore, Vietnam, Thai-

land, Indonesia, India, etc and got an order from a dental product trading company in Singapore. In addition, AON has agreed to designate a Singapore trading company as distributor for Singapore and neighboring countries. They are expected to promptly penetrate into the Asian dental market in the coming months leveraging from a successful debut at IDEM2022.

ABOUT AON:

AON Co., Ltd is a Korean company manufacturing bio-ceramic 3D printer and the materials for dental and non-dental purpose. AON is the first mover pioneered additive manufacturing technology to produce dental restorations and has begun a new paradigm in dental equipment markets. It has been founded in 2016 by those who have successfully developed and commercialized bio-ceramic orthodontic brackets for the first time in the world. Based on the bio-ceramic technology applied to production of the orthodontic brackets, AON has successfully developed the 3D printer and slurry products and is ramping up to global markets. DAC





International Dental Show (IDS) 2023 demonstrates targeted prophylaxis regarding teeth brushing and beyond

International Dental Show positions good bacteria as a means of combatting potential germs - IDS 2023 is celebrating its 100th anniversary. Brushing teeth forms the basis of good oral care, however it can be supported in many other ways. As the leading industry trade fair, the coming International Dental Show (IDS), from 14 to 18 March 2023 in Cologne, offers a comprehensive overview.

Whereas brushing teeth is still accepted as the solid and absolutely necessary basis of oral care, the question that automatically arises is: "What can one do beyond that to ensure the health of the teeth and gums?"

Among others, mouthwashes have come under increased attention over the past months. For example, a survey carried out by researchers at the Claude Bernard Lyon I University that was presented at IDS 2021 came to the conclusion that mouthwashes can reduce the risk of virus infections. They already reduce the number of viruses in the mouth by 71% after one single rinse - welcome support for the immune system in fighting infections. Basically different antiseptic mouthwashes could be suitable for this purpose (i.e. which contain the active ingredients alcohol or chlorhexidine). At IDS, the visitors can gain a broad overview of the products available and their application according to the current state of scientific knowledge.

In addition to the trusted methods to prevent tooth decay, innovative approaches are evolving for special sections, for example in the field of orthodontics. It is a well-known problem: Oral care can be difficult when braces are in place. Fluoride varnish offers additional support here. Based on current studies, in the case of initial lesions a better effect can be achieved when it is applied in combination with the peptide P11-4.

Domestic oral care is best enhanced by professional measures - in the form of supragingival and, where necessary, subgingival measures. Here, mechanised processes have established themselves (i.e. ultrasound, sonar and powder jet devices), because the patients often find them more comfortable than when hand instruments are used. Furthermore, in the case of powder jet devices there are variable opportunities, for example glycine powder for cleaning more sensitive root surfaces underneath the edge of the gum or in deep, inflamed gingival pockets, sodium hydrogen carbonate for stubborn stains on the intact enamel of heavy smokers. In addition to the mechanised tools, hand instruments remain to be a practicable option - in the case of patients with severe respiratory diseases they may indeed be the only possibility. DAC



Korea Announced as AEEDC Dubai 2023 Guest of Honour

AEEDC Dubai has officially announced The Republic of Korea as the Guest of Honour for the 27th edition of the annual International Dental Conference and Arab Dental Exhibition - AEEDC Dubai 2023, the largest international scientific dental conference and exhibition in the world which witnessed more than 60,000 visitors to its last edition.

The announcement was made during the recent Korea International Dental Devices Exhibition in Seoul, Korea, which was attended by Eng. Anas Al Madani, Vice Chairman and Group CEO of INDEX Holding, representing AEEDC Dubai Organizing Committee. Eng. Anas made the announcement in the company of the Korea Dental Devices Industry Association - KDIA, which represents over 430 member companies including manufacturers and importers.

More than 130 Korean companies are set to participate in AEEDC Dubai 2023, which is also set to host more than 155 countries for three days beginning on February 7th, 2023, in eight exhibition halls of the Dubai World Trade Centre, including seven major conference halls. Korean companies have a long history of attending AEEDC Dubai dating back to 2008. Only nine companies attended initially, but today, that number has grown significantly to more than 130 companies participating annually and covering nearly 3,000 sqm of stands within AEEDC Dubai.

Mr. Hoon Taek Lim, Chairman of KDIA, stated: "With the growth of Korean dental industry over the past 15 years, we are happy that AEEDC Dubai has also grown into the world's largest annual dental conference and exhibition. We are very proud that the Republic of Korea has been chosen as the Guest of Honour at AEEDC Dubai 2023 and I think it would be an important example of the rising status of Korean dental brands in the global market. The Korea Dental Devices Industry Association will continue to support Korean dental brands and AEEDC Dubai to grow together."

Notably, Korean dental companies have shown to be prominent with implants from notable brands like Osstem Implant, Dentium, Neobiotech, Dio Implant, Megagen, Dentis, and IBS Implant; and popular with dental imaging from notable brands Vatech and Genoray. Dental implant production is around USD 2 billion a year and ranks as their number one domestic production item. Dental implant exports account for 9.5% of Korea's total medical device exports - approximately USD 340 million.

Korea is also one of the leading countries in the world for medical device market size where production amounts to over USD 11 billion, a figure that has nearly doubled within the last four years. The dentistry profession is one of most admirable professions in Korea where more than 80% of Korean dentists can perform implant surgery, one of the highest in any nation. DAC

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3DII SUCCESSFULLY ATTENDED THE GNYDM 2022

3DII successfully participated in the exhibition at 2022 GNYDM last November 26-29, 2022 held at the Jacob K. Javits Convention Center. Many visitors showed interest in the DENTIQ products promoted by 3DII company, accompanied with good feedback about the products.

To know more about 3DII, you may visit their website www.3dii.net. 3DII is among the exhibitors at the upcoming IDS2023 this March. DAC

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Allied Star received the “Key Science and Technology Innovation Project Selection Certificate”

The first “Technology China Tianfu Technology Cloud Service Conference” was successfully concluded in Chengdu, Sichuan on December 17, 2021. Our product AS 100 was exhibited at the conference as a key high-tech promotion project.

AS 100 has been launched in Europe and the United States in advance, and will be launched in China in early 2022. Through the application of a number of innovative technologies and advanced processes such as precision opto-mechanical design, high-

speed image acquisition and front-end processing, high-speed digital circuits, 3D graphics processing algorithms, artificial intelligence algorithms, and complex system integration, all performance indicators of AS 100 have reached.

The world’s leading level, the average error of its entire dental arch is as low as 20 microns, which is the highest accuracy in the world at present; its reliability far exceeds the industry level, it does not require regular calibration, and can withstand certain shocks, which is the first in the world; the USB interface is directly powered, only It only needs a single cable to connect to the computer to work, and there are only two products in the world that implement this technology.

Recently, the company received the “Key Science and Technology Innovation Project Selection Certificate” issued by the organizer of the conference. In the future, Allied Star will continue to promote the technological and manufacturing progress of domestic oral digital impression instruments, and work with strategic partners to promote the development of global dental digital technology.

ABOUT ALLIED STAR

Founded in 2019, Shanghai, Alliedstar Medical Equipment Co., Ltd. focus on digital dentistry and imaging solutions. The core founding members came from the industry with profound understanding and know-hows. To help more people to live a better life, Alliedstar is committed to providing innovative, cutting-edge and easy-to-use digital solutions for dental professionals. DAC



3Shape Dental System 2021.2 released

For your lab, being a strong digital partner means more than designing great restorations. It's about customer service, transparency, and being there when your customers need you.

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We've optimized the workflows and added exciting new tools like real-time communications with chat, an auto case status update timeline, and a do-it-yourself profile builder for your lab on the 3Shape Unite platform.

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About 3Shape:

The 3Shape story began in 2000, with two people determined to unlock opportunities in 3D digital technology. The founders started with scanning for the hearing industry, and now lead digital dentistry with ground-breaking, award-winning 3D scanners and software for clinic and lab. 3Shape's mission has never faltered. It still advances and connect medical professionals to create better patient experiences. By 2011, 3Shape is firmly established as a CAD/CAM leader for laboratories. In 2012, 3Shape opened an academy in Copenhagen and several other global locations to provide expert training for professionals.



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Radicular cyst associated to trauma: A case report

Dr. Maria Tanya Cruz-Dizon

ABSTRACT—Radicular cyst is the most common odontogenic cyst. This inflammatory cyst originates from epithelial remnants of the periodontal ligament as a result of inflammation consequence of pulp necrosis. It appears as round or oval shaped radiolucent image at the apex of a tooth during routine radiographic examination.

This case presents radicular cyst on a 14 year old male patient with history of tooth fractured and complaining of painless swelling on the anterior maxillary region and it describes differential diagnosis of the case. The patient was treated surgically by enucleation of cyst along endodontic treatment and fractured was restored with direct composite build up.

Keywords—*radicular cyst, odontogenic cyst, enucleation*

INTRODUCTION

Radicular cyst is also known as periapical cyst, apical periodontal cyst, root end cyst or dental cyst. They are the most common inflammatory cyst in the jaw that is of odontogenic origin.¹ Odontogenic cysts are derived from tooth germ, epithelial rests of malassez, reduced enamel epithelium of a tooth crown, remnants of dental lamina or possibly the basal layer of oral epithelium.² Radicular cysts are inflammatory jaw cysts at the apices of teeth with infected and necrotic pulps³, believed to be derived from the cell rests of Malassez.⁴ They are the most common of all jaw cysts and comprise about 52.3%⁵ to 68%⁶ of all the cysts affecting the human jaw.⁷ Treatment of radicular cyst depends on the size of the lesion and can be treated with a simple conventional therapy or may require a surgical intervention.⁸

CASE REPORT

A 14 year old male patient presented with a chief complaint of painless swelling in the maxillary anterior area. Patient had a history of tooth fractured on upper right central incisor a year ago, no treatment was done. Swelling had been evident 6 months prior consultation, patient experience swelling of the nose up to the mid right side of the face under the eye and medication taken as prescribed Co-Amoxiclav (Augmentin) 625mg 3x a day for 7 days. After medication upper anterior swelling under the nose was not resolved even with debridement and canal opening.

Extraoral clinical examination patient's lip was competent, no signs of draining discharge, and it shows a slight elevation of the philtrum of the face below the nasal septum. (Fig. 1a)

Periapical radiograph examination shows a unilocular radiolucency on the apical area of upper right central incisors, tooth 11 and presented with narrow canal (Fig. 3). A fine needle aspiration of the swelling very little amount of blood and air was extracted. Based on the history, clinical examination and radiograph was suggestive of radicular cyst. Treatment plan was formulated and performed access opening of 11 for debridement and drainage of the canal. Considerable reduction in size of the swelling after the removal of the cyst was observed. Postoperative instructions were given to the patient and prescribed antibiotics and pain reliever. Post-surgical follow up after 10 days for suture removal shows appreciable healing and normal consistency in color (Fig. 5). Restoration of the tooth fracture with composite build up on 11 and orthopantomograph (OPG) to evaluate the healing of the bone (Fig. 6).

DISCUSSION

Radicular cyst is the most frequent odontogenic cyst observed in tooth-bearing areas.⁵ It involves both the primary and permanent dentition with a range of 0.5%–3.3%. They are more common in males compared to females with a ratio of 1.6:1. Females are more concerned about their teeth, which might be a reason for lower frequency of the lesion in females [3]. The anterior maxilla is more common as compared to the mandible. The involvement of anterior maxilla may be due to trauma, caries, and old silicate restorations in the anterior teeth.¹⁰

They arise from epithelial remnants which are stimulated to proliferate, by an inflammatory process which originates from pulpal necrosis of a non-vital tooth. The natural history begins with a non-vital tooth which remains in situ, long enough to develop chronic periapical pathosis.¹¹ Radicular cysts generally originate after trauma or dental caries. Dental caries cause inflammation of the pulp cavity, leading to pulp necrosis.¹²

In our case report, trauma was the cause of the cystic lesion. There are various opinions put forward for explaining the formation of this cyst according to the two main theories “breakdown/” and “abscess cavity theory.” The “breakdown/ nutritional deficiency theory” theory based on the proliferation of the central epithelial strands get removed from their source of nutrition from the surrounding connective tissue undergo liquefactive necrosis. According to the “abscess cavity” theory, the epithelial lines proliferate as abscess cavity formed by necrosis tissue and lysis because of their inherent nature to cover exposed connective tissue surfaces.¹³ The infection then spreads to the tooth apex of the root, causing periapical periodontitis, which leads to either an acute abscess or a chronic granuloma. Persistent chronic infection can lead to formation of a periapical cyst.¹⁴ Radicular cysts are diagnosed either during routine radiographic examination or following their acute exacerbation.¹⁵ Radicular cysts exist in

two structurally distinct classes namely, those containing cavities completely enclosed in epithelial lining (periapical true cysts) and those containing epithelium-lined cavities that are open to the root canals (periapical pocket cysts).³ The periapical true cyst may be defined as a chronic inflammatory lesion at the periapex that contains an epithelium lined, closed pathological cavity. An apical cyst is considered to be a direct sequel to apical granuloma, although a granuloma need not always develop into a cyst.³ The periapical pocket cyst is a radicular cyst containing an epithelium-lined pathological cavity which is open to the root canal of the affected tooth.³ Based on the opening or connection of the root canal to the epithelium-lined cavity, periapical cysts were categorized into bay cyst or apical cyst.³ The cystic cavity with epithelial linings that are open to the root canal is considered as a bay cyst (Simon 1980), which is now renamed as “periapical pocket cysts” (Nair et al 1996) due to its similarities with the marginal periodontal pocket.³

The treatment of choice is dependent on the size and localization of the lesion, the bone integrity of the cystic wall and its proximity to vital structures.¹⁶ Enucleation is the preferred treatment for odontogenic cysts.¹⁷ When the cyst is involving the periapical region of the teeth and the teeth are salvageable, radicular cysts are treated by enucleation followed by periapical surgery.¹⁸ That’s why differential diagnosis of the radicular cyst should include dentigerous cyst, residual cyst, lateral periodontal cyst, paradental cyst, glandular odontogenic cyst, incisive canal cyst, Stafne bone defect, traumatic bone cyst, and odontogenic tumors (ameloblastoma, KOT).¹⁹ Total removal of the cystic membrane is essential to prevent the recurrence of the lesion, which was the probable cause of relapse in our case; also it allows a complete histopathological examination.¹⁹ Long-term follow up is necessary because the re-ossification of the cyst generally takes two years.²⁰

CONCLUSION

Radicular cyst is a common cystic lesion on everyday clinical practice. A thorough history taking, clinical examination and diagnostic test aids to proper treatment. The treatment depends on the size and extent of lesion. Surgical management like enucleation is the preferred treatment for odontogenic cyst done conservatively as possible to lessen the damage to adjacent surrounding structure. The report presented radicular cyst on infected fractured tooth which was managed successfully by enucleation of cyst and removal of granulation tissue along endodontic treatment and restoration of the fractured tooth.

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Fig. 6.2 Postoperative follow up after 10 days



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Fig. 1.a Preoperative facial photograph front view



Fig. 1.b Preoperative facial photograph rear view



Fig. 2 Intraoral photograph showing distended labial vestibule and tooth fracture on 11, 21

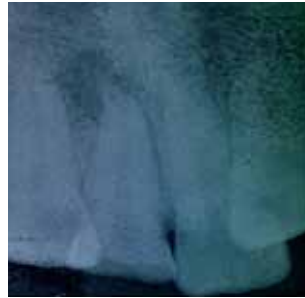


Fig. 3 Radiograph shows apical radiolucency of 11



Fig. 4.a Operative and post-op procedures removal of cyst

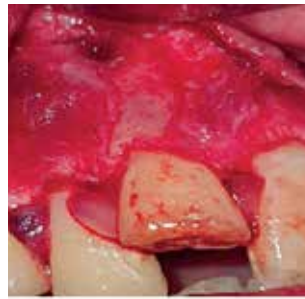


Fig. 4.b Operative and post-op procedures cystic cavity



Fig. 4.c Operative and post-op procedures flap closure



Fig. 4.d Operative and post-op procedures specimen



Fig. 5 Postoperative follow up after 10 days



Fig. 6,1 Restoration of tooth 11 fracture and crop OPG

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Effect of Orientation on the Perceived Levels of Dental Anxiety on Endodontic Patients

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Abstract—Introduction. Dental anxiety, a specific reaction towards stress related to dental treatment, is known to compromise the success of dental procedures. This can be terminated by providing patients with a factual basis of their predictions through orientation which aligns one's self or ideas to surrounding or circumstance. To address the anxiety of first-time mono-rooted endodontic treatment patients, this study applied different forms of orientation, namely: verbal only orientation (VeOO), visual only orientation (ViOO), and combination verbal and visual orientation (CVVO). This study aimed to know the most effective form of orientation at each given time: immediately after orientation (IAO) and before the treatment (BT).

Methods. Within-Between Completely Randomized Design was utilized in determining the effect of different forms of orientation on perceived levels of dental anxiety of 30 first-time mono-rooted endodontic patients. Subjects were equally randomized as to: 1. verbal only orientation (VeOO), 2. visual only orientation (ViOO), and 3. combination verbal and visual orientation (CVVO) groups. The Dental Fear and Anxiety Maintenance Questionnaire was adapted, translated in Filipino, and used in measuring patients' level of dental anxiety. The validated orientation materials involved detailed written and visual step-by-step procedure of endodontic treatment; were given before orientation, immediately after orientation, and before treatment. Gathered data were analyzed as means and

standard deviations, and were interpreted using Likert scales. Inferential analyses were made using Analysis of Variance and Bonferroni's test with < 0.05 level of significance.

Result. The subjects' level of anxiety before orientation is measured at MODERATE LEVEL. Comparative analysis within groups yielded the following results: No significant difference on level of anxiety from baseline with IAO and BT with VeOO and CVVO.

While no significant difference was measured on, IAO of ViOO, dental anxiety BT in ViOO (p -value=0.0004) had a significant difference with baseline measurement. In three forms of orientation, level of dental anxiety measured IAO does not give significant result in terms of percentage of anxiety reduction (p -value=0.9058) while the level of anxiety measured BT rendered a striking reduction in percentage of anxiety reduction (p -value=0.0143).

Bonferroni's test revealed that ViOO rendered most significant anxiety reduction measured BT with a p -value=0.032 compared with VeOO and a p -value=0.034 when compared with the CVVO. Conclusion. Orientation has no immediate effect on dental anxiety level. Of the three forms of orientation, visual only orientation yielded a significant reduction in the level of anxiety prior to endodontic procedure.

Keywords— orientation, dental anxiety, endodontics, endodontic patients, pain perception

I. Introduction

Proper dental education is one of the most important part of the procedure before doing the appropriate dental treatment on a patient. A good and efficient dentist knows how to thoroughly orient their patients. With better communication, a dentist can help their patients deal with anxiety towards a dental procedure because perhaps, of unpleasant experiences that happened in the past especially during their childhood days.¹

Endodontic procedure is one of the most frightening methods in dental treatments.² There are complex procedures that may cause patients to become reluctant inside a dental clinic, and among these managements are root canal treatment, endodontic surgeries, and other specialty procedures that aim to save a tooth either from being badly carious or even from dental traumatic injuries.³

Root canal treatment is done to be able to repair and save a badly carious or infected tooth. In this procedure, the nerve and pulp are removed and the inside of the tooth is cleaned and sealed. Without doing this, the tissue surrounding the tooth may become infected and the occurrence of abscess formation is high.³

Most patients become anxious once they hear the word "root canal treatment" because they sometimes associate these words to pain and with that anxiety that comes with it. Dental anxiety is a state wherein there is an unpleasant feeling combined with an associated feeling of impending doom or danger from within than from without. Once anxiety happens, a stimulus that is unknown, vague, or not present at the moment feeling happens during dental treatment that may result to an unsuccessful outcome.^{2,4}

The tell-show-do technique was one of the mostly used techniques inside a dental clinic

before starting the treatment process to reduce the feeling of anxiousness among patients.^{5,6}

Despite the advancements in the technologies and specialized techniques used by the endodontists, the increase in patient's anxiety level lead to the failure of the treatment. Dental anxiety presents as a challenge in doing a dental procedure because of the patient's fear of pain.²

One way to relieve the patients' stress and anxiousness towards dental procedures is through the proper and effective communication or the proper demonstration of a certain dental procedure from the very start to reduce their uncertainty towards it. By doing these techniques, the patients' trust will be achieved before the procedure is executed.^{5,6}

The purpose of this study was to know what kind of dental intervention - verbal, visual, or the combination of both was more appropriate when it comes to educating their patients before the dental procedure and help alleviate anxiety associated with endodontic treatment.

II. Methods and Materials

A. Research Method

The study utilized a Within-Between Completely Randomized Design method of research with the aim of determining the perceived levels of dental anxiety of endodontic patients.

The Within-Subject Study Design was utilized in this study through the comparison of the level of dental anxiety of each individual subject prior to the orientation, immediately after orientation (IAO), and before the endodontic treatment (BT).

The Between-Subject Study Design was utilized in this study through the comparison of the dental anxiety of different patients who have re

ceived the different forms of orientation, namely: verbal only orientation (VeOO), visual only orientation (ViOO), and combination of verbal and visual orientation (CVVO).

Because the subjects in this study are randomly assigned to the different forms of intervention, this study uses a completely randomized design.

B. Sampling Technique

The researchers used the purposive sampling technique. This sampling technique included the selection of the specific people, group, or place within the population for the research to conduct the study. The researchers selected the subjects that will participate in the study basing on identification variables under consideration.

C. Subject of the Study

1. Male or female subjects ages eighteen (18) and above;
2. They were approved case for monorooted root canal therapy;
3. Subjects were first timer endodontic patients.

D. Instruments Used

The instruments used by the researchers were questionnaires. The researchers adapted the Dental Fear Maintenance Questionnaire ⁷ to measure the dental anxiety of the subjects. This is a standardized instrument that has been used in measuring dental anxiety level. The researchers only included items from the original questionnaire that were significant in the study. This was originally developed in English and was translated into Filipino in order to provide easier comprehension for the test subjects. To ensure the equivalence between the original and the translated forms, the back-translation method was used, in which the materials were translated into Filipino by a Filipino major professor and was back translated by the researchers. The translated and back-translated questionnaires are both validated by a Filipino major professor from Cen-

tro Escolar University Filipino Department.

The researchers obtained their questionnaire from a study that is published in 2014 and is entitled "The Cognitive Vulnerability Model and its Role in Dental Anxiety Acquisition and Maintenance".⁷ The authors, Heather Buchanan and Gogem Topcu, discussed the correlations between the Cognitive Vulnerability Model and anxiety in a dental setting. This study and the Dental Fear Acquisition questionnaire are readily available online but the researchers opted to contact the authors to ask for permission for the use of the said questionnaire. The authors of the Dental Fear Acquisition questionnaire have given the researchers the permission to use this questionnaire in this study given that proper acknowledgements will be done.

The Dental Anxiety and Acquisition management questionnaire was used in the study to measure the baseline anxiety level; anxiety level immediately after orientation, and the anxiety level before treatment.

Significant questions were included but the researchers kept the number of items as few as possible for the patient's convenience. Questionnaires were provided and were personally given out by the researchers.

This study made use of orientation in three different forms: (VeOO), (ViOO), and (CVVO). For the VeOO, the researchers provided a detailed outline of the endodontic procedure and instruments to be used. The detailed information regarding the endodontic procedure was relayed by the researchers to the patients using verbal approach only.

For the ViOO, the researchers provided step-by-step pictures of the endodontic procedure as well as the pictures of the dental instruments used. These materials were utilized by the researchers using visual approach only without any

verbal explanation.

For the CVVO, the researchers used a combination of the verbal explanation of the detailed outline accompanied by the pictures of the step-by-step endodontic procedure used in visual orientation.

E. Validation of Instrument

A validation and administration were needed to recognize the importance of the instruments used and the questionnaire answered by the respondents. The gathered information was verified to clear the questions regarding the apprehension of dental anxiety of Endodontic patients. The questionnaire was validated by a Filipino professor in Centro Escolar University Filipino department. The aids used in administration of orientation was validated by the head of Endodontic Section, a Clinical Instructor in Endodontic Section, and the dean of School of Dentistry.

F. Research Protocol

1. Immediately after approval, the subjects were asked to fill out the dental anxiety scale questionnaire.
2. The subjects were divided into three groups using simple random sampling technique. Each patient was oriented and the form of orientation was chosen through the use of fish-bowl method.
3. For the intervention, one researcher per orientation was assigned.
 - For the VeOO, the researchers provided a detailed outline of the endodontic procedure and instruments that were used. The detailed information regarding the endodontic procedure was relayed by the researchers to the patients using only verbal approach.
 - For the ViOO, the researchers provided step-by-step pictures of the endodontic procedure as well as the pictures of the dental instruments used. The pictures were presented through a PowerPoint presentation. These

materials were utilized by the researchers using visual approach only without any verbal explanation.

- For the CVOO, the researchers used a combination of the verbal explanation of the detailed outline accompanied by the pictures of the step-by-step endodontic procedure used in visual orientation only.

All of the materials that were used for the orientation procedures were approved by the clinical instructors and the head of Endodontics Section, and the Dean of Dentistry of Centro Escolar University, Manila.

1. After the endodontic patients have received the different methods of orientation assigned to each group, the subjects answered the same dental anxiety scale questionnaire given after case approval.
2. The subjects filled out the same dental anxiety scale questionnaire for the last time while they were seated on the dental chair as the clinician was preparing for the endodontic procedure. This was filled out within a week after the approval of the endodontic procedure.

G. Statistical Treatment

Anxiety level was computed and summarized as means and standard deviations. Then means were described using Likert Scales. Differences on the level of anxiety by intervention groups were assessed statistically using Analysis of Variance and Bonferroni's test for the post hoc-analysis, while paired T-test was utilized to determine the significance of within effect of the intervention or comparison of baseline and post intervention.

To describe the categorical variables of the socio-demographic profile of patients, frequencies and percentage were computed. Comparison of the proportions by intervention groups is

done using Fisher’s exact test. All p-values that are less than or equal to 0.05 are considered significant.

III. Results

The baseline level of dental anxiety of endodontic patients prior to different interventions was determined to be in moderate level based on the Likert scales. Keep your text and graphic files separate until after the text has been formatted and styled. Do not use hard tabs, and limit use of hard returns to only one return at the end of a paragraph. Do not add any kind of pagination anywhere in the paper. Do not number text heads-the template will do that for you. The comparison between the reductions of the endodontic patients’ anxiety level IAO from their baseline level of dental anxiety (table 2) shows that the patients who had received the different forms of orientation had computed means that fall under moderate level of anxiety. The percent reductions for the three forms of orientation had computed p-values that suggests that there was no significant difference between the baseline level of anxiety compared with the anxiety level immediately after receiving the different forms of orientation.

Table 3 shows the comparison between the percent reduction of endodontic patients’ anxiety level BT from their baseline level of dental anxiety. The result shows that the level of anxiety of patients before the treatment falls under the moderate level regardless of the form of orientation. However, the percent reduction between the baseline and BT of the ViOO had a computed p-value of 0.0004 that yields a significant difference.

In table 4, the percentage on the reduction of anxiety scale of endodontic patients immediately after different interventions shows that patients who have received VeOO, ViOO, and CVVO have

means resulting to a p-value of 0.9058, which is suggestive that no statistically significant difference was obtained.

In table 5, the anxiety scale reduction percentage of endodontic patients before treatment by different interventions shows that the patients who have received VeOO, ViOO, and CVVO had a mean value of -1.26%, 16.52%, and -1.10%, and a standard deviation of 21.92, 9.41, and 7.64 respectively. A p-value of 0.0143 was yielded, which is lower than the 0.05 level of significance which implies that there was significant difference in the anxiety scale reduction of endodontic patients before treatment.

Table 6 shows the post-hoc analysis on the comparison of the percentage of anxiety scale reduction of endodontic patients before treatment by different interventions done using Bonferroni’s test revealed that ViOO rendered most significant anxiety reduction measured BT with a p-value=0.032 compared with VeOO and a p-value=0.034 when compared with the CVVO.

I. Baseline Anxiety Level of Endodontic Patients Prior to Different Interventions

Group	Mean	Verbal Interpretation	SD
A	3.10	Moderate	0
B	3.44	Moderate	0
C	2.72	Moderate	0

II. Endodontic Patients’ Anxiety Scale Reduction Immediately After Different Interventions

Intervention	Baseline	Immediately after intervention	Percent reduction	P value	Interpretation
VeOO	3.10 (Moderate)	3.10 (Moderate)	0.97%	0.8924	No significant difference
ViOO	3.44 (Moderate)	3.10 (Moderate)	16.28%	0.0004	significant difference
CVVO	2.72 (Moderate)	3.10 (Moderate)	-0.37%	0.8302	No significant difference

III. Endodontic Patients' Anxiety Scale Reduction Before Treatment by Different Interventions

Intervention	Baseline	Immediately after intervention	Percent reduction	P value	Interpretation
VeOO	3.10 (Moderate)	3.10 (Moderate)	0.97%	0.8924	No significant difference
ViOO	3.44 (Moderate)	3.10 (Moderate)	16.28%	0.0004	significant difference
CVO	2.72 (Moderate)	3.10 (Moderate)	-0.37%	0.8302	No significant difference

IV. Comparison of the Percentage of Anxiety Scale Reduction of Endodontic Patients Immediately after Different Interventions Using Analysis of Variance

Treatment	Mean	SD	P Value	Interpretation
VeOO	2.26%	14.15	0.9058	No significant difference
ViOO	-0.05%	19.35		
CVO	-0.62%	11.45		

V. Comparison of the Percentage of Anxiety Scale Reduction of Endodontic Patients Before Treatment by Different Interventions Using Analysis of Variance

Treatment	Mean	SD	P Value	Interpretation
VeOO	1.26%	21.92	0.0143	Significant difference
ViOO	16.52%	9.41		
CVO	-1.10%	7.64		

VI. Comparison of the Percentage of Anxiety Scale Reduction of Endodontic Patients Before Treatment by Different Interventions using Bonferroni's Test

Comparison Groups	P-value	Interpretation
Verbal vs Visual	0.032	Significant
Verbal vs Combination of Verbal and Visual	1.000	Not significant
Visual vs Combination of Verbal and Visual	0.034	Significant

IV. DISCUSSION

A study of Perkovic, et. al. states that endodontic treatment is commonly accompanied by negative thoughts caused by the patient's own unfounded perceptions and this can be correlated to the patients' level of anxiety prior to receiving any form of orientation in this study.⁸ The anxiety level of the patients immediately after the orientation remained in moderate level despite of the percentage reduction. The results of this study as to why the different forms of orientation were not highly evident to give a statistically significant result could be correlated with the previous studies. According to Marcus, verbal orientation is either partially understood or misinterpreted. The use of visual aids can be effective in educating patients and audio-visual distraction might be beneficial for those who are anxious.^{5,6,9}

The level of anxiety of patients before the treatment remained in moderate level justifies Armfield's statement that detailed discussion of the treatment should be avoided to anxious patients. But despite of the different forms of orientation remaining in moderate level during the before treatment interval, the visual only orientation yielded a significant difference in the reduction of the dental anxiety which matches the statement of Bharath et. al. who stated that modeling is effective in decreasing fear and anxiety.¹⁰

The significant percent reduction that was evident before the treatment can be pointed to the results of the visual only orientation. The post-hoc analysis confirmed that among all the forms of orientations, the visual only orientation resulted to the highest percent reduction in anxiety level. The following results can be correlated to a study conducted by Kaur (2016) where it was stated that visual memory is far superior to verbal memory and can persist for a

longer time [9]. This also explains why the *effects* of the visual only orientation was only evident before the treatment and not immediately after receiving the orientation.

V. Conclusion

Within the limits of this study, three forms of orientation has no immediate effect on dental anxiety level. In terms of anxiety level reduction, only the visual only orientation yielded a significant result in the level of anxiety prior to endodontic procedure.

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Enhancing Indirect Vision: Anti-moist Self-adhesive Film for Mouth Mirrors

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Abstract— Despite the advances in mirror technology, one of the biggest challenges that every dental practitioner faces is how to efficiently and effectively keep the mirror surface clean and fog-free. The accuracy of a procedure is compromised if the mirror is heavily scratched, dirty, or fogged up. There is an apparent demand for the improvement of the current use of the dental mirror. The mirror must be cleaned repeatedly throughout any given dental procedure. This cleaning operation is currently performed by removing the mirror from the patient's mouth, taking a cloth material, wiping the mirror clean, and then re-positioning the mirror in the working area within the patient's mouth. Some dental procedures can take place over extended periods, on the order of hours. Because of these, the researchers introduced a film that effectively resists moisture build-up on the surface of the mouth mirror while maintaining its reflective qualities inside the patient's oral cavity. This study aimed to determine the level of satisfaction of the clinician in using the anti-moist self-adhesive film. Applying the film allows indirect vision by the clinician, reflecting light onto desired surfaces without any moisture build-up and no fog appearance. It is less time consuming during dental procedures because of no more constant wiping of the mirror. These results gave a higher quality of dentistry, which increases productivity during working time. The study was conducted in the Restorative Department Infirmary, University of Baguio School of Dentistry. The respondents of the survey included 30 clinicians performing a restorative dental procedure that require long-term use of mouth mirrors. The group was divided into two, 15 clinicians used the conventional or standard mouth mirror, and the rest used a mouth mirror with an anti-fog solution and the proposed film. Among

the three groups, the anti-moist self-adhesive film had the most favorable feedback and satisfaction to clinicians with regards to its consistency in providing good quality and visibility during lengthy procedures and its difference to conventional mouth mirror and mouth mirror with defogger solution. Thus, the anti-moist self-adhesive film for mouth mirror is effective in preventing moisture, thus providing better visibility during dental procedures.

Keywords— *Anti-moist self-adhesive film, Mouth mirrors, moisture build-up*

I. INTRODUCTION

In a world where instruments and technology are rapidly developing, the researchers sought to come up with a self-adhesive film capable of preventing moisture build-up on the surface of the mouth mirror, giving better visibility to dentists, dental hygienists, and dental practitioners. The researchers have experienced and observed that the building up of moisture on mouth mirrors has created many problems during dental procedures.

Mouth mirrors have been used to give additional support or aid in viewing inside a patient's mouth by dentists and dental hygienists in the oral health field for many years. This particular mirror is called the Mouth Mirror, which consists of a small, cylindrical, metal shaft with a metal disk attached at the end of it which holds the mirror. Typically, such mirrors are stable and durable and are capable of being autoclaved and sterilized. Most common dental treatments require the utilization of mouth mirrors as indirect light sources that reflect light onto the treatment area (Mittal, S., Kumar, T., Sharma, J., 2014).

Even though a mouth mirror is a critical tool for nearly every intraoral procedure, sadly, many clinicians ignore the quality of this multipurpose instrument. The accuracy of a procedure is compromised if the mirror is heavily scratched, dirty, or fogged up. Besides, not all mirror surfaces are created equal (Guignon, A., RDH, MPH, 2015). Even though the mirror is a vital retraction tool, it is indispensable for indirect vision and adding more illumination in the oral cavity. However, its value diminishes rapidly when the surface looks like a dirty windshield (Guignon, A., RDH, MPH, 2015).

Ms. Anderson explained that some procedures would last up to three hours. Understandably, the number of instances of cleaning the mirror adds up to a considerable portion of the procedure (Assessment of the Use of a Dental Mouth Mirror NeerajSurathu1, Dr. IffatNasim2 1 II Year Bds Student (Saveetha Dental College, Chennai, India) 2Department of Conservative Dentistry and Endodontics, Saveetha Dental College, Saveetha University, India)(IOSR Journal of Dental and Medical Sciences (IOSR-JDMS) e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 14, Issue 10 Ver.VII (Oct. 2015), PP 115-121).

II. METHODOLOGY

Questionnaires were distributed to 30 clinicians in the Restorative Department of a dentistry school. The clinicians who volunteered to participate gave their responses on their satisfaction on the use of the anti-moist self-adhesive film using a four-point scale to determine the ability to prevent moisture build-up; quality of visibility; and reflective quality. The control group 1 used the mouth mirror without the adhesive film and the control group 2 used a mouth mirror applied with a defogger solution while the experimental group used the mouth mirror with the anti-moist film. Analysis of variance was used to determine the significance of the differences among the means.

The results gathered were tabulated to show the total and frequency or percentage. For instance, the visibility, reflective quality, and ability of the mouth mirror applied with the anti-moist self-adhesive film, without AMSAF, and applied with defogger to prevent moisture build-up.

Responses to the questionnaires made by the clinicians were analyzed using the One-Way Analysis of Variance (ANOVA) and Tukey's Test. The ANOVA test determined if the overall results derived are statistically significant but will not precisely tell where the difference of these significant remains. Tukey's test was then used to identify sources of variance. The researchers made sure that all collected data remained confidential and kept in one folder, and kept in one place where only the researchers can access it. So as all the information about the product that the researchers used from the manufacturing company. The purpose of the study was explained in great detail to the participants, clinicians, and patients, by mentioning the effects of the film. The participants were informed about the objectives and other pertinent information regarding the study. Their participation was voluntary, and if they do not wish to take part in the study, their decisions were respected. The participants were not exposed to physical or psychological harm and no invasion of their privacy.

A. Materials used:

From left to right: Defogger solution, Mouth mirror (1), Mouth mirror (2), Anti-moist Self-adhesive films, Mouth Mirror (3)



CLINICAL ARTICLES

B. Procedures:

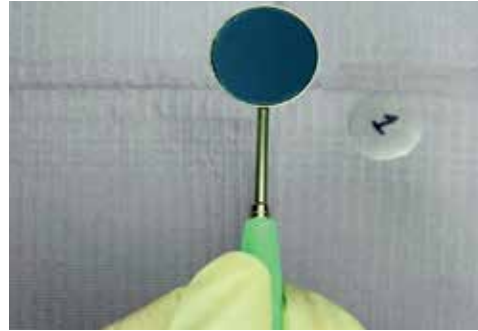
1. Wipe the mouth mirror with a clean cloth or gauze



2. Remove the first layer of the film (clear part)



3. Stick the anti-moist self-adhesive film to the mouth mirror following its shape.



4. Once the film is adapted to the mouth mirror, remove the second layer of the film (blue part).



5. Now, the mouth mirror is ready to use inside the oral cavity



III. RESULTS AND DISCUSSION

According to the interview transcripts, about 75% of the participants have good feedback about the film, and they said that the anti-moist self-adhesive film could: 1) It does resist moisture build-up on the surface of the mouth mirror because 66% says it lessens the time of procedures, since, without the film, a rapid build-up of moisture may affect the duration of dental procedures because of the tendency of repeated wiping of the mouth mirror. Also, moisture appeared, but it is longer than what the researchers expected it to happen, and according to the results, 100% of the participants did not re-apply the anti-moist self-adhesive film during the procedures. 2) The efficiency in its reflective qualities. Concerning that, the advantages that the participants enumerated were how good the indirect vision is provided because it limits moisture build-up and at the same time, the reflection of light was better than the conventional mouth mirror and the mouth mirror applied with defogger. 3) The level of satisfaction of the clinicians who were the participants. 40% of the participants said that they are delighted, while 53% said they are satisfied. Therefore, the anti-moist self-adhesive film met the purpose of the study.

Concerning the presented criteria, the mean value of 2.60 in Conventional Mouth Mirror (see Table 1) is in the fair level. The conventional mouth mirror does not perform well in terms of effectiveness in resisting moisture build-up. The mouth mirror applied with a defogger with a mean value of 2.75 (see Table 3) is at the good level, which is not effective in resisting moisture build-up, efficient in reflective qualities, and to its satisfaction as well. On the other hand, Anti-moist Self-adhesive Film with the mean value of 3.40 (see Table 2) is rated on the excellent level which is higher compared to the conventional mouth mirror and mouth mirror applied with defogger which indicates that the study that was conducted was successful and indeed helps in preventing moisture build-up.

The ANOVA test shows the result of the p-value of 0.005 (see Table 5) where it is less than 0.05, therefore the difference between groups is significant at the level of 0.05.

A. FIGURES AND TABLES

1.1 Ability to Prevent Moisture Build-up	2.33
1.2 Visibility Quality	2.67
1.3 Reflective Quality	2.8
TOTAL	2.60

Table 1. Mean value on the effectiveness of conventional mouth mirror

1.1 Ability to Prevent Moisture Build-up	3.47
1.2 Visibility Quality	3.4
1.3 Reflective Quality	3.33
TOTAL	3.40

Table 2. Mean value on the effectiveness of the anti-moist self-adhesive film

1.1 Ability to Prevent Moisture Build-up	2.8
1.2 Visibility Quality	2.8
1.3 Reflective Quality	2.67
TOTAL	2.75

Table 3. Mean value on the effectiveness of mouth mirror applied with defogger solution

CLINICAL ARTICLES

Conventional Mouth Mirror	2.8
Anti-moist Self-adhesive Film	3.33
Mouth Mirror Applied with Defogger	2.67
TOTAL	2.91

Between Groups	5.405	2	2.703	6.026	.005
Within Groups	18.837	42	.448		
TOTAL	24.242	44			

Table 4. Average mean value on the reflective quality of the three groups

Table 5. Comparison of the effectiveness of the conventional mouth mirror, anti-moist self-adhesive film, and mouth mirror

NOTE: ONEWAY means by characteristics of the use of a mouth mirror

B. RESULTS

I. BEFORE



a. Conventional mouth mirror



b. Mouth mirror with Anti-moist self-adhesive film



c. Mouth mirror applied with a Defogger solution

II. AFTER



a. Conventional mouth mirror



b. Mouth mirror with Anti-moist self-adhesive film



c. Mouth mirror applied with a Defogger solution

IV CONCLUSION AND RECOMMENDATION

CONCLUSION: After the conduct of the study, the researchers conclude that the use of Anti-moist Self-adhesive Film was good to resist moisture as compared to others. Foggy appearance is not encountered and oral structures are visible enough to work on. Also, the use of the film to reflect the structures in the oral cavity during the dental procedure was good, and that the participants were able to assess and view areas of the oral cavity that are being worked on even in long periods.

While the use of film for mouth mirrors, the researchers noticed that respondents show high satisfaction with the use of film instead of the conventional and use of defogger. Most respondents agree that it was satisfactory and others agreed to have been very satisfied.

With these results, researchers conclude that the use of Anti-moist Self-adhesive film in enhancing indirect vision is so good as compared to the use of conventional and commercial products. Its reflective ability and anti-moisture capability help a lot in the success of any treatment procedures and lessens the need for anti-defogging products. Moreover, it lessens chair time of procedures and shortens appointment time to patients.

Therefore, with a good response to the use of Anti-moist Self-adhesive film to enhance indirect vision, there is a high improvement in the quality of dental service provided by clinicians and high cooperation to treatment procedures of the patients.

RECOMMENDATION: Anti-moist Self-adhesive Film for Mouth Mirror show beyond doubt its benefits to every clinician and dentist. This research study demonstrates a big difference between conventional Mouth Mirror and Mouth Mirror with Defogger Solution for which guarantee is provided. The success rate of this research study is affluence from the data gathered. The researchers, therefore, endorse the use of this Anti-moist Self-adhesive Film for Mouth Mirrors to clinicians and dentists since it enhances better vision, clarity of structures, and lesser chair time appointments during dental procedures.

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VITA EASYSHADE

By VITA



PREFERRED PRODUCT

CHARACTERISTICS & BENEFITS

With a spectrophotometer capable of measuring from 400 nm to 700 nm, the VITA Easyshade V is designed to be the most accurate shade measurement device available. It provides accurate readings of both VITA Classical and 3D Master shades in seconds.

SPECTROSHADE MICRO

By MHT



CHARACTERISTICS & BENEFITS

SpectroShade Micro reads the color of the tooth and indicates the closest available chromatic standard for reconstruction. It calculates the numerical difference between the natural tooth and the selected color in terms of brightness, chroma and hue.

SmartShading AI

By Genoskwa Technologies



CHARACTERISTICS & BENEFITS

Using artificial intelligence and advanced image processing algorithms, SmartShading AI is a mobile app that transforms smartphones into easy to use shade matching systems. The app provides a suggested shade and the software learns from each use to provide more accurate results.

ZFX SHADE

By Zfx GmbH



CHARACTERISTICS & BENEFITS

The patented color measuring instrument consists of a spectrophotometer controlled by a Linux machine. Zfx Shade is user-friendly and compatible with Microsoft Windows. The spectrophotometer is equipped with LED lighting; for each measured wavelength another LED type is used.

EVERSTICK C&B FIBRE REINFORCEMENT

By GC Asia



CHARACTERISTICS & BENEFITS

With GC everStickC&B you can prepare composite bridges reinforced with fibres in one single visit, using a reversible and minimally invasive technique. This evidence-based fibre reinforcement technology provides you with a metal-free, cost-effective treatment method to complement your prosthetic treatment choices.

HERCULITE PRÉCIS FLOW

By Kerr



CHARACTERISTICS & BENEFITS

Herculite Précis Flow features a Smart Placement Technology, Herculite Précis Flow flows easily when used as a base/liner and maintains its shape when used in small restorations.

THERACAL LC

By Bischo Dental Products



CHARACTERISTICS & BENEFITS

It is a radiopaque, light-curable, flowable composite containing apatite-stimulating calcium silicates to protect and stimulate pulpal and dentin repair. It is the ideal replacement to calcium hydroxide, glass ionomer-based, or RMGI materials due to its excellent handling, ease of placement, and enhanced regenerative properties.

IONOSIT BASELINER

By DMG America

PREFERRED PRODUCT



CHARACTERISTICS & BENEFITS

Ionosit Baseline is a single-component flowable composite that virtually eliminates microleakage, sensitivity, and recurrent decay by eliminating microgaps. Through controlled microexpansion, Ionosit Baseline reduces the internal strain caused by polymerization shrinkage.

OPMI PICO DENTAL SURGICAL MICROSCOPE

By Carl Zeiss

PREFERRED PRODUCT



CHARACTERISTICS & BENEFITS

A compact, high-performance, easy-to-use microscope featuring many innovative functions that optimize the quality of treatment.

ZOOMSCOPE MICROSCOPE

By Cooper Surgical



CHARACTERISTICS & BENEFITS

Nikon stereoscopic optics with continuous variable zoom magnification of 4.5x to 20x make ZoomScope colposcopes an excellent choice.

A-SERIES DENTAL MICROSCOPE

By Global Surgical Corporation



CHARACTERISTICS & BENEFITS

Featuring a sleek design and the AXIS control system for easy maneuverability, the A-Series dental microscope is available with 3, 4 or 6 magnification steps.

MOBILOSKOP S MICROSCOPE

By RENFERT USA



CHARACTERISTICS & BENEFITS

The stereo microscope with swivel arm is an indispensable aid for precision work and optimum detail control. It is flexible and swivels and can therefore be shared by several workstations.

**GENTLETEST
PULP TESTER**

By Pac-Dent International, Inc.



CHARACTERISTICS & BENEFITS
Effectively determine a tooth's vitality. This hand-held device is powered by conventional 9V batteries, and contains sophisticated IC designed to maintain patient comfort while delivering gentle electrical stimulus to tooth without crossing the threshold for pain.

VITALITY SCANNER 2006

By Kerr Endodontics



CHARACTERISTICS & BENEFITS
Vitality Scanner 2006 Dental Pulp Tester ensures dependable and pain-free pulp testing. This outstanding diagnostic tool is automatically controlled and features large digital readouts.

**DIGITEST II
PULP TESTER**

By Parkell



CHARACTERISTICS & BENEFITS
The CS 3600 intraoral scanner from Carestream Dental puts smarter scanning in your hands, whether your practice handles restorative, orthodontic or implant cases, the CS 3600 adapts to your needs by making digital impression capture fast and easy.

**ELEMENTS DIAGNOSTIC
PULP TESTER**

By Kerr



CHARACTERISTICS & BENEFITS
Elements Diagnostic Unit Dental Pulp Tester provides the convenience and accuracy of a high quality pulp tester and apex locator in one system.

**PREXION EXCELSIOR
PRO 3D CBCT**

By PreXion, Inc.



CHARACTERISTICS & BENEFITS
The PreXion Excelsior advances all CBCT core technologies including the X-Ray Tube and FPD. In addition, the PreXion Excelsior can deliver 30% lower patient dose without compromising the image quality.

CS 9300

By Carestream



CHARACTERISTICS & BENEFITS
CS 9300 Dental Cone Beam Imaging System is multimodality imaging system from Carestream Dental. In addition to its 3D imaging capabilities, the CS 9300 also offers 2D digital panoramic imaging with variable focal trough technology for optimal clarity.

**PROMAX 3D
DENTAL CONE BEAM**

By Planmeca



CHARACTERISTICS & BENEFITS
Planmeca's ProMax 3D X-ray is a real all-in-one unit offering 3D digital imaging in addition to digital panoramic and cephalometric programs. This innovative, versatile, and dynamic imaging device will open up new possibilities for doctors.

Q3D

By Suni Medical Imaging, Inc.



CHARACTERISTICS & BENEFITS
Designed for digital workflows, the Q3D cone beam system from Suni offers high quality 3D images, a small footprint and fast scan times. Up to 10 fields of view are available to allow clinicians to capture as much or as little anatomy in an image as the case at hand calls for.

SIDEXIS 4

By Dentsply Sirona



CHARACTERISTICS & BENEFITS
SIDEKIS 4 is the upgradeable software for capturing, analyzing, processing and importing/exporting images, which also lets you store the image material of Sirona imaging systems.

**3M TRUE
DEFINITION SCANNER**

By 3M



CHARACTERISTICS & BENEFITS
The 3M™ True Definition Scanner is more consistently accurate and unlike "closed" systems, 3M True Definition Scanner digital impression files can be used with any system that accepts STL files.

CS 3600

By Carestream



CHARACTERISTICS & BENEFITS
The CS 3600 intraoral scanner from Carestream Dental puts smarter scanning in your hands, whether restorative, orthodontic or implant cases, the CS 3600 adapts to your needs by making digital impression capture fast and easy.

ITERO ELEMENT 2

By Align Technology



CHARACTERISTICS & BENEFITS
With faster processing and sharper digital images, the iERO Element 2 improves on the original Element intraoral scanner.

A-DEC 500

By A-DEC



PREFERRED PRODUCT

CHARACTERISTICS & BENEFITS

The A-dec 500 delivery system integrates everything you need to work efficiently and precisely. The flexible design lets you configure the clinical instruments you choose.

S400 F DENTAL UNIT

By MHT



CHARACTERISTICS & BENEFITS

The S 400 F Dental Unit has its joystick foot control that is more practical and easy to use, with various settings. The delivery unit also features PAD controls to activate chair functions. The water unit has a proximity sensor and the dental light has LED lighting.

SLine Dental Unit

By ANCAR



CHARACTERISTICS & BENEFITS

S LINE units are fully customizable to meet your own taste and needs. With ease-of-use in mind, the units have been designed to offer a variety of working positions and have a corrosion-resistant body made of an aluminium alloy to ensure continued enjoyment of the unit for decades.

FD5000 DENTAL CHAIR

By Finn dent



CHARACTERISTICS & BENEFITS

FD-5000 is our premium solution and is built with a zinc-galvanized steel body and molded and wet-painted aluminum backrest and seat. FD-5000 patient chair is known for being reliable and long-lasting. A built-in swivel function allows flexible working, as the seat can be rotated 30°.

ONE STEP OBTURATOR

#25

By CMS Dental



CHARACTERISTICS & BENEFITS

A biocompatible radiopaque polymere core surrounded with thermoplastic gutta percha. To be inserted using a tweezer. Packed in colour coded carousel boxes with length indications. 20 pieces in a box.

EDTA CREAM

By B&E



CHARACTERISTICS & BENEFITS

- Cream Type EDTA.
- Easier filling with lubricant action.
- Produces the cleanest wall after smear layer removal

DIRECT-R GOLD® LC

By Directendo



CHARACTERISTICS & BENEFITS

Direct-R Gold® is a single file reciprocating motion system. Cutting efficiency: Due to our unique and proprietary flute and cutting edge design. Safety: High cyclic fatigue resistance due to our innovative heat treatment. Flexibility: High flexibility that respects the root anatomy due to our innovative heat treatment.

TEMPIT®

By CENTRIXDENTAL

PREFERRED PRODUCT



CHARACTERISTICS & BENEFITS

Tempit prefilled tips let you inject direct-to-the-prep. No more messy spatulation, squeeze tubes or cross-contaminating jars. Ideal for endo access openings and short-term temporaries; Moisture-activated, sets in 5 minutes or less; Expands slightly when set, seals out microleakage and bacterial ingress; Contains calcium sulfate and zinc oxide

CHEMITEMP

By B&E Korea Co. Ltd.

PREFERRED PRODUCT



CHARACTERISTICS & BENEFITS

Easy to remove residual cement on inner surface of prosthetic appliance or tooth surface (ChemiTemp Orange)

ACCESS® AUTOMIX TEMPORARY CEMENT

By CENTRIXDENTAL



CHARACTERISTICS & BENEFITS

- Safe, simple adhesion and easy removal
- Calcium hydroxide provides bacteriostatic effect on mold
- Low film thickness, flows and places easily

ACCESS CROWN®

By CENTRIXDENTAL



CHARACTERISTICS & BENEFITS

- More Shades, speed, strength and savings
- Ideal handling characteristics: reaches elastic state and ready to remove from mouth in less than 60 seconds
- Low shrinkage, low heat generation

ACCESSFLO®

By CENTRIXDENTAL



CHARACTERISTICS & BENEFITS

- Convenient prefilled unit-dose tube: no mixing, no bulky cartridges or syringes
- Dual astringent/hemostatic action - 15% aluminum chloride and kaolin clay
- Retracts quickly, in 2 minutes
- Rinses away and removes easily

OCCLUSENSE

By Bausch Dental



CHARACTERISTICS & BENEFITS

The advantages of the Occlusense® System are obvious, as incorrect loadings of implant-supported superstructures can be avoided. High spots during occlusal corrections as well as incorrect loadings on the laterotrusion and mediotrusion side can be detected directly.

HERONTM IOS

By 3DISC DENTAL CONNECT



CHARACTERISTICS & BENEFITS

Easy to use and intuitive Software. Designed for a simpler, faster and more accurate impression, making Dentists confident in the success of their scans. You can easily navigate the intuitive, user-friendly interface to meet all your restorative, orthodontic, and implant needs.

CSA 1600 OCCLUSAL PLANE GUIDE (UPPER)

By Corident



CHARACTERISTICS & BENEFITS

The Occlusal Plane Guide is designed to be convenient in determining the occlusal plane by providing a guide when arranging teeth.

LUXABITE

By DMG



CHARACTERISTICS & BENEFITS

- The hardest bite registration material (Barcol hardness 25 after one hour)
- No compression or flexing when repositioned on the model
- Tasteless and odorless
- Excellent stability
- Easy to cut

EASY-PRESSO

By 3A MEDES



CHARACTERISTICS & BENEFITS

Strong pressurization allow precise molding, regardless of model trimming, thickness (0.5mm to 4.0mm), and size (127mm, 125mm, 120mm) square and round sheet can be used. The heater is automatically shut off when rotating to the front or center after heating the sheet.

AIR POLISHER PROPHY MACHINE SANDBLASTER

By Baru Foshan Medical Technology Co., Limited



CHARACTERISTICS & BENEFITS

Adopting the standard raw materials, BR-817-1 Air Polisher Dental Equipment Machine has the performance as we expect. Processed by the imported technologies, Dental Handpiece, Endomotor, Physio dispenser, Piezo surgery, Etc is 100% quality-guaranteed and excellent in stability. It has so many advantages.

DENTAL ULTRASONIC SCALER

By Baru Foshan Medical Technology Co., Limited



CHARACTERISTICS & BENEFITS

- Automatic frequency tracking
- Detachable, autoclavable handpiece
- Adopted aeroplastic, and light-weight
- Compatible with EMS, Woodpecker

DIA-100FS PROTECTIVE SHIELDS

By DiaDent



CHARACTERISTICS & BENEFITS

Optical grade protective shield and glasses for the face and eyes from flying debris or substances; light-weight and comfortable; shields fit eyeglasses; easy to clean and washable

TRAYDEX45

By Dentmate Tech. Co. Ltd.



CHARACTERISTICS & BENEFITS

High powered LEDs and broadband LEDs to save fabricating time. High powered LEDs with constant current circuit so there's no need to change UV fluorescent light tube.

PREFERRED PRODUCT

MG NEWPRESS

By QUATTROTI



CHARACTERISTIC & BENEFITS

MG NewPress is an electro-pneumatic injection system capable of processing any thermoplastic and acrylic material up to 399°C. The heat press is easy to maintain and absolutely reliable.

DENTAL D FR THERMOPLASTIC RESIN

By QUATTROTI



CHARACTERISTICS & BENEFITS

It is a brand new hypoallergenic thermoplastic resin, monomer-free and very resistant, for the creation of partial and total prostheses, hooks, space maintainers, skeletons with aesthetic hooks.

FLEXIDY TECHNOPOLYMER

By QUATTROTI



CHARACTERISTICS & BENEFITS

Flexidy is a monomer-free, hypoallergenic thermoplastic copolymer based on Ethylene-vinyl-acetate, for the production of gnathological positioners, individual mouthguards and resilient bites.

TRIANGO 80

By DERUNGS Medical Lighting



CHARACTERISTICS & BENEFITS

The TRIANGO 80 treatment light provides 80,000 lux at a distance of one meter.

- light output 80 000 lux @ 1.0m
- color temperature 4500K
- lighting field 18cm

TRIANGO100

By DERUNGS Medical Lighting

PREFERRED PRODUCT



CHARACTERISTICS & BENEFITS

the TRIANGO 100 is not only the most powerful surgical treatment light from Derungs, but also an award-winning design product. It is equipped with first-class light properties and ergonomic comfort.

FL-210 Cordless LED Lamp

By BENQ



CHARACTERISTICS & BENEFITS

Working hours	3 - 10 hours
Colour Temperature	5,000 K
Illuminance	4,800 - 72,000 Lux
Weight	200 g
Light Field Diameter	75 mm
Battery	5,000 mAh

EXPD 1616P

By DRTECH



CHARACTERISTICS & BENEFITS

- Ultimate Image Quality at Low Dose
- Customizable & Easy Setting
- Reliable Image Acquisition with Large FOV
- Image Processing Technology for Improved Image Quality

MIRAGE70 OIL LESS COMPRESSOR

By 4-TEK SRL



CHARACTERISTICS & BENEFITS

- with floating pistons, with 2 cylinders, without dryer.
- Power (Kw): 1
- Power (HP): 1,4
- Voltage (V): 230
- Frequency (Hz): 50 (ON REQUEST 60)

MIRAGE100 OIL LESS COMPRESSOR

By 4-TEK SRL



CHARACTERISTICS & BENEFITS

- Power (Kw): 1
- Power (HP): 1,4
- Voltage (V): 230
- Frequency (Hz): 50 (on request 60)
- Pressure (Bar): 7

THERACAL LC DRY COMPRESSORS CATTANI AIR CARE

By CATTANI



CHARACTERISTICS & BENEFITS

- free from oil lubrication, furthermore the 4 standard in-line filters
- The HEPA H14 antibacterial filter is standard in the drying columns of all compressor models and can be requested for the head assemblies of all models.

AC 310 - 3 CYLINDER COMPRESSOR

By CATTANI

PREFERRED PRODUCT



CHARACTERISTICS & BENEFITS

- Single-phase motor 50 Hz - 1.5 kW - 10.2A.
- Air delivered with delivery at 8 bar effective 165 N l/min.
- 45 liter air tank.
- Sound pressure level: 73.6dB(A).

VARSEO SMILE CROWN PLUS

By BEGO

PREFERRED PRODUCT



CHARACTERISTICS & BENEFITS

The chemical and mechanical properties of the material are specially adapted to dental applications. Easy to grind and polish by using customary tools. FDA 510(k) cleared and fulfills all the requirements for a Class II medical device.

BLOOMDEN® 98MM UT - MULTILAYER ZIRCONIA

By Bloomden Bioceramics



CHARACTERISTICS & BENEFITS

The multilayer zirconia has better shade gradation and more natural on aesthetics with translucency in the incisal area and bending strength for anterior and posterior teeth restorations with up to full arch bridges.

CERAMIC FIRING TRAY SET

By BK MEDENT



CHARACTERISTICS & BENEFITS

- Longer use.
- Not easily broken due to high mechanical strength.
- Contents : B-810A : 2 Honeycomb trays, 15 Metal pins; B-810B : 5 Ceramic pins (2 Large pins, 3 Small pins)

DIAFIL ESTHETIC RESTORATIVE NANO HYBRID

By DiaDent



CHARACTERISTICS & BENEFITS

- Offers unique fillers with minimum polymerization shrinkage which reduces stress and sensitivity on the tooth
- Excellent fracture toughness, high tensile compressive strengths
- easy handling of acceptable viscosity

SELF-TAPPING SCREWS FOR SUBPERIOSTEAL IMPLANTS

By Biologitech IT



CHARACTERISTICS & BENEFITS

These exclusive screws, designed for the fixation of subperiosteal implants, have a cross connection, present on the head of the screw, which creates an optimal anchorage with the tightening tools. The design of the head allows its insertion of the implant even in cases of off-axis positioning.

MICRO IMPLANT

By Biomaterials Korea Inc.



CHARACTERISTICS & BENEFITS

Minimizes root and bone damage
Aesthetic satisfaction from small exposure in the oral cavity; Safe & Accurate, Easy, safe and accurate insertion; Decreases contamination and foreign body sensation in the oral cavity with low/simple plateau head

BIOMATE IMPLANT

By BIOMATE Swiss



CHARACTERISTICS & BENEFITS

Biomate Dental Implant is designed with New concept and technique, it possesses the best stability to ensure long-term efficacy.

AR SYSTEM

By Biodent Implant System



CHARACTERISTICS & BENEFITS

Submerged type implant with internal hex connection structure.

- Single pitch macro thread
- Morse tapered connection tapered 11 degrees
- Taper degree 1.5 degree
- Corkscrew Thread

BLUEDENT 12 BL BUILT-IN

By BGLight Ltd.



CHARACTERISTICS & BENEFITS

- High effective restoring of teeth natural whiteness even full arch bleaching with help of 10 powerful LED modules for 30 minutes*
- Easy and secure whitening - up to 8 VITA shades*
- Compatible with the well-known office bleaching systems based on peroxide and carbamide

CURASEPT LUXURY WHITENING

By Curasept



CHARACTERISTICS & BENEFITS

Acts through the toothpaste-toothbrush synergy and the effectiveness of an exclusive formulation. Thanks to the combined action of its active ingredients, Whitening Luxury System, not only whitens the teeth but also carries out a remineralising action that helps to counteract the natural aging of the enamel.

ICON - CARIES INFILTRATION

By DMG



PREFERRED PRODUCT

CHARACTERISTICS & BENEFITS

- Esthetic results on smooth surfaces
- Caries arrest at an early stage
- Preservation of healthy tooth structure
- Pain-free method, without anesthesia, or drilling

LUXACROWN

By DMG



CHARACTERISTICS & BENEFITS

- Impressively semi-permanent
- Quick & easy
- Long-lasting with excellent results
- Optimum mechanical properties
- Time- and cost-saving

ALFAMILL 5XPRO+

By Alfamill Makina San. Tic. Ltd. Sti.



CHARACTERISTICS & BENEFITS

- Stainless steel shank: D=6.0mm, H=20mm
- Unit dimensions without stylus: Ø=40mm, H=38.5mm
- Adjustable: set screws from 4 sides with included Allen key

DWX-53DC

By DGShape



CHARACTERISTICS & BENEFITS

The DWX-53DC, the latest disc changer model, enhances the value of "craftmanship" through intelligence and vitality-state-of-the-art digital technology and machine frame embodying "SMART" to unlock the next dimension.

PROX S DIGITAL XRA

By Digimed



CHARACTERISTICS & BENEFITS

- Optimized for digital sensors
- Fast setting
- Simple mounting on stand
- Touch screen control

MINIX S

By Digimed



CHARACTERISTICS & BENEFITS

- Minimized weight and compact
- Reinforced high voltage generator for more stability

AEEDC DUBAI 2022

FEBRUARY 1-3, 2022

LEADING
THE
DENTAL WORLD
INTO THE
FUTURE



RECORD
BREAKING
U.S. \$ 3.9
BILLION
IN TRADE
DEALS

The 26th edition of the UAE International Dental Conference & Arab Dental Exhibition - AEEDC Dubai took place from February 1 – 3, 2022 at the Dubai World Trade Centre. The World's Largest International Annual Scientific Conference and Exhibition attracted more than 66,000 OroDento-Facial professionals from 155 countries, over the 3 days of the event.

For the first time AEEDC offered a platform for dental start-ups to get exposure to the global dental community over the period of the event and provided the right opportunity to accelerate business on a world scale.

ORAL HYGIENE UNDER THE SPOTLIGHT

New in AEEDC 2022 Oral Hygiene companies displayed their products and services at the Concourse giving them a premium experience of visibility and exposure with their target customers. AEEDC delegates took the opportunity to learn from the top experts on various subjects like Perio-Implantology, Endodontics, Aesthetic Dentistry, Paediatric Dentistry courses.



AEEDC DUBAI STARS

Featuring key figures, celebrities, and influencers who share their success stories and insights.



Malaysia International Dental Show (MIDS) 2023

The Malaysia International Dental Show (MIDS) 2023, being the 6th Edition, is the leading international show of its kind to be held in Malaysia, organized by both the dental institution together with trade association, namely MAHSA University and the Malaysia Dental Industry Association (MDIA).

This year's theme, 'Dentistry Advancement and Technologies', is expected to draw a crowd of over 2,000 comprising private and government dentists & dental professionals, exhibitors and industry leaders from Malaysia and overseas. At MIDS 2023, you will have the privilege to:

- Learn from the industry's top-notch speakers and improve your knowledge and understanding of modern dentistry,
- Network with dentists, practice manager, hygienists, dental nurses, technicians and laboratory owners
- Witness the latest display of dental technologies and most innovative products in the market
- Enjoy surprises in the form of special offers & promotions on products and services to be given by traders during the exhibition

OTHER ACTIVITIES:

E- Poster Competition is organized at MIDS 2022 to encourage students and researchers to present their original research and case reports. All accepted abstracts will be presented at the poster sessions during the conference. The time and date of the presentation will be intimated after the acceptance of abstracts.

Awards will be given to the top Three (3) winners for the categories as follows.

- Undergraduate students
- Postgraduate students
- Researchers
- Clinicians
- Academicians



Associate Professor
Dr. Santhosh Krishna



Associate Professor
Dr. Noor Azlin Yahya



Associate Professor
Dr. Abdulkarim Parasita



Dr. Fadhlan Hussaini



Dr. Ha Kien Oon



Associate Professor
Dr. Anantaji Raja Karthikeyan



Dr. Mallikarjun Parmar



Dr. Jacob Bensen



Dr. Ahmad Bahrodin bin Ghazali



Dr. Vincent Lim



Dr. Muhammad Syarif Alauddin



Dr. Pooja



Dr. Manoj Kumar Thammannarasimhan



Dr. Subir Rathi



Dr. Liza Ling Ting Huang

1700 exhibitors registered for 40th IDS 100-year success story

IDS 2023 is not only celebrating its 40th edition, as the leading trade fair the International Dental Show has meanwhile been shaping the dental future of the global industry for 100 years. And the success story continues: So far, over 1700 exhibitors from 60 countries, including 14 group stands from 12 countries, have registered for the world's largest trade fair for the dental industry, dental medicine and dental technology, which is being staged from 14 to 18 March 2023. As such, the entire dental industry including all of the international market leaders is represented at IDS. A unique, wide-spanning constellation of areas is covered, ranging from dental medicine, dental technology, infection protection and maintenance, up to customer services, information, communication and organisational materials. No other dental trade fair presents such a wide spectrum of offers of products and services. And the online platform ID-Scconnect will allow all of the industry players to network, both physically and in digital form, and ensure they are up-to-date on the current themes.

In addition to the largest participation from Germany, the strongest international exhibitor participants currently come from Italy, the Republic of Korea, France, Switzerland, Spain, Turkey and the USA. Beyond this, group stands from Argentina, Brazil, Bulgaria, China, Israel, Italy, Japan, Hong Kong, Korea, Singapore, Turkey and the USA are represented in Cologne. IDS 2023 will be staged in Halls 1, 2, 3, 4, 5, 10 and 11 of the Cologne fair grounds on exhibition space spanning around 180,000 square metres.

A detailed overview of the exhibitors, who have already registered for IDS 2023, is available in the online list of exhibitors and in the exhibitor search at <https://www.english.ids-cologne.de/ids-cologne-exhibitors/list-of-exhibitors/>. The exhibitors, who have already confirmed their participation, are listed alphabetically here together with additional product information - the ideal planning tool for preparing one's visit to IDS 2023.

IDScconnect

In addition to the physical exhibition, the digital platform IDScconnect, provides information on products and system solutions as well as enabling the streaming of webinars, press conferences, events and one-to-one interaction with industry decision-makers. This means consistent international reach combined with a successful trade fair experience. Trade visitors of IDS can go live any time or call up content precisely then when they have the time.

IDS 2023
SHAPING THE DENTAL FUTURE

14.-18.03.2023



A SNEAK PEAK OF IDS2023

HALL PLAN | KOELNEMESSE, COLOGNE, GERMANY



40. Internationale Dental-Schau · 40th International Dental Show
KÖLN · COLOGNE, 14.-18.03.2023

www.ids-cologne.de

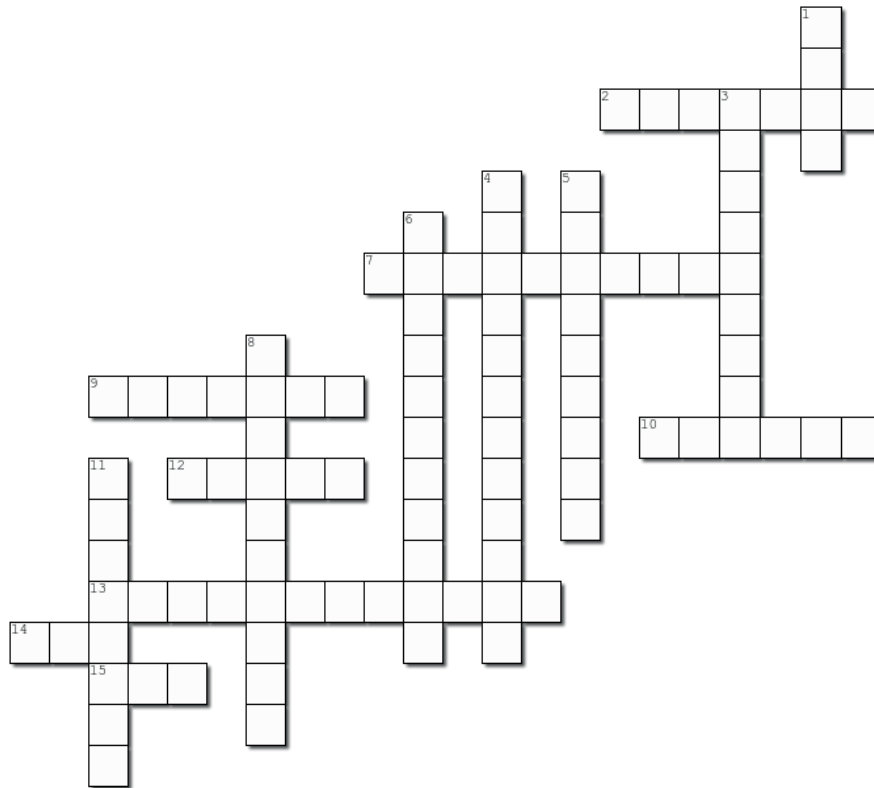
HALLENPLAN · HALL PLAN



Name: _____

Orofacial Pain Crossword Puzzle

Complete the crossword puzzle below.



Created using the Crossword Maker on TheTeachersCorner.net

Across

2. Sinusitis that is more difficult to diagnose, due to obstructed sinus ostium or chronic dental infection
7. resulting in a decrease in taste, a burning sensation in the mouth, and difficulties with speaking and swallowing
9. syndrome that causes salivary gland problems
10. initial treatment of TMD
12. 13. Pain secondary to malignancy may also be due to invasion or compression of this nerve
13. Sinus infections involving just one of sinuses
14. radiological examination for TMJ that analyzes the soft tissue especially the disc
15. most common orofacial pain conditions affecting adults during periods of stress

Down

1. most common cause for which patients seek care
3. pain present as a musculoskeletal disorder, various neurovascular disorders such as headaches, vascular pains
4. refers to various pains experienced in the oral mucosa or tongue, with no identifiable organic cause
5. Burning tongue may result from systemic causes, such as ____ deficiencies
6. pain initiated or caused by a lesion of the peripheral or/and central nervous system
8. neuralgia that exhibits spontaneous, episodic allodynia elicited by, for example, chewing and toothbrushing
11. caused by trauma to the teeth exposing dentine and possibly the dental pulp

Answer key to last issue's crossword puzzle:

Across:

4. Chlorine
5. Droplets
10. Outside
11. Cellulitis
13. Screening
14. HVE
18. PPE
21. Double Gloving
23. Air
24. Emergency
25. Vaccination
27. Bleach
28. Yellow
29. Suspect

Down:

1. Povidone
2. Five
3. Negative
4. CBCT
6. SICP
7. Fourteen
8. Polycarbonate
9. Chlorhexidine
12. Single Gloving
15. Two
16. Rubber Dam
17. UGVI
19. Physical
20. Respirator
22. Dentistry
25. Goggles

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Exhibitor Service

Tel: +86-20-83549150

Email: dental@ste.cn

Visitor Service

Tel: +86-20-83561589

Email: dentalvisit@ste.cn



CALENDAR OF EVENTS

JANUARY

ITI CONGRESS SWITZERLAND

ENGELBERG, SWITZERLAND

20-21.01.2023

Organizer:

ITI International Team for Implantology

Phone: +41 61 270 83 83

Fax: +41 61 270 83 84

E-Mail: headquarters@iti.org

MedExpo Africa (Ethiopia) 2023

ETHIOPIA, AFRICA

23-25.01.2023

Organizer: Expogroup

Phone: +971 4 3721421

Fax: +971 4 3721422

Website: www.expogr.com

CIOSP 2023

The 40th Sao Paulo International Dental Meeting

SAO PAOLO, BRAZIL

25-28.01.2023

Organizer: APCD Central

Phone: +55 11 2223 2300 / 2223-2301

Email: secretaria.decofe@apcdcentral.com.br

Website: www.apcd.org.br

Yankee Dental Congress 2023

BOSTON, MA - USA

26-28.02.2023

Organizer: Massachusetts Dental Society

Phone: +1 312 335 1550

Phone: +1 877 515 9071

Website: www.yankeedental.com

Barcelona Dental Show

BARCELONA, SPAIN

26-28.01.2023

Email: info@dentalshowbcn.com

Website: www.dentalshowbcn.com/en

FEBRUARY

AADGP 2023

LAS VEGAS NEVADA, USA

2-3.02.2023

Organizer: AADGP

Phone: +1 602 381 1185

Email: aadgp@aadgp.org

Website: www.aadgp.org

Congresso Nazionale A.T.A.S.I.O.

ROME, ITALY

3-4.02.2023

Organizer: Accademia Tecnologie Avanzate nelle Scienze di Igiene Orale

Phone: +39 080 265 2485

Email: segreteria@atasio.it

Famdent Show Hyderabad 2023

HYDERABAD, INDIA

4-5.02.2023

Organizer: Messe Düsseldorf India Pvt. Ltd.

Phone: +91 22 6678 9933 Extn: 110

Email: info@md-india.com

Website: www.md-india.com

Dental Review 2023

MOSCOW, RUSSIA

Organizer: DentalExpo

Phone: +7 499 707 23 07

Email: info@dental-expo.com

AEEDC 2023

DUBAI, UAE

7-9.02.2023

Organizer: INDEX Conferences & Exhibitions

Phone: +971 4 5208888

Fax: +971 4 3384193

Email: info@aeedc.com

Website: www.aeedc.com

JAN - APRIL 2023

MARCH

Dental Expo Krasnoyarsk 2023

KRASNOYARSK, RUSSIA

1-3.03.2023

Organizer: DentalExpo

Phone: +7 499 707 23 07

Email: info@dental-expo.com

IDS 2023 BIENNIAL MEETING

COLOGNE, GERMANY

14-18.03.2023

Organizer: VDDI - Verband der Deutschen Dental-Industrie e.V.

Phone: +49 221 50 06 87 -0

Fax: +49 221 50 06 87 -21

E-mail: info@vddi.de

Website: www.vddi.de, www.ids-cologne.de

NZAO 2023

CHRISTCHURCH, NEW ZEALAND

15-18.03.2023

For more info please contact: Alex O'Brien

(Conference Innovators)

Phone: +64 03 379 0460

Email: alex@conference.nz

SIDO International Spring Meeting

ROME, ITALY

17-18.03.2023

Organizer: SIDO - Società Italiana di Ortodonzia

Phone: +39 02 5680 8224

Fax: +39 02 5830 4804

Email: segreteriasido@sido.it, scientific@sido.it

Website: www.sido.it

BDIA Dental Showcase - London 2023

LONDON, UNITED KINGDOM

24-25.03.2023

Organizer: BDIA

Contact person: David Hussey (Event Director)

Email: david.hussey@markallengroup.com

Phone: +44 207 501 6763

APRIL

Stomatology St. Petersburg 2023

ST. PETERSBURG, RUSSIA

4-6.04.2023

Organizer: DentalExpo

Phone: +7 499 707 23 07

Email: info@dental-expo.com

IAOCI 2023

ALTANTA, GA USA

13-15.04.2023

Organizer: International Academy of Ceramic Implantology

Contact person: Dominique Lamarre

Phone: +1 301 332 7671

Email: dominique@iaoci.com

Website: www.iaoci.com/iaoci-2023

23rd SE-Asian Healthcare & Pharma Show

KUALA LUMPUR, MALAYSIA

19-21.04.2023

Organizer: ABC Exhibitions

Tel: +60 3 7954 6588 // +45 62217912

Fax: +60 3 7954 2352 // +45 62202337

E-mail: info@abcex.com

Website: www.abcex.com

ITI Congress Argentina & Uruguay

BUENOS AIRES, ARGENTINA

20-22.04.2023

Organizer: ITI

Phone: +41 61 270 83 83

Email: events@iti.org

Website: www.iti.org

MALAYSIAN INTERNATIONAL DENTAL SHOW 2023

KUALA LUMPUR, MALAYSIA

20-22.05.2023

Organizer: MIDS 2023

Phone: +60 12-334 9341

Email: enquiry@mdia.org.my

Website: www.mids.com.my

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