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Editorial

By Dr David Muscat

Dear colleagues,

The Council of European Dentists Conference was held in Malta on 25/26/27 May this year. The two voting delegates from Malta were Dr Audrey Camilleri IRO and Dr David Muscat DAM Secretary. Dr David Vella President DAM and Dr. Adam Bartolo Vice President DAM also attended.

Dr David Vella as President gave a speech at the welcome reception. MEP Dr Roberta Metsola addressed the conference on the first day.

About 120 delegates representing the National Dental Associations of Europe attended the conference which was excellent both in content and undertaking. The work carried out in the preparation for the event was done by Dr Audrey Camilleri and she did this admirably. She was assisted by members of the DAM committee but the credit goes to her as it was her initiative. This involved many meetings and hours of planning and chasing sponsorships. She did us proud. The 3D Printing for Digital Dentistry Workshop is being held on 14 June at Cherubino Ltd Gzira. This is being held in conjunction with the Dental Association of Malta.

At the time of writing this article it is envisaged that there will be a lecture on Forensic Dentistry by Dr Scerri. This lecture was co-ordinated with the DAM and is sponsored by A and M Mangion-Menarini – Keral at Baia Beach Armier on 27 June 2017. On the 3 and 4 July there is to be an Orthodontic course by Dr Neville Bass (Bass appliance) at Smart City. The DAM is also planning sailing and clay pigeon shooting events in the near future.

On Tuesday 4 July at Federation Gzira there is to be an event called 'Blue M Oxygen for Health' organised by Marletta Enterprises Ltd in conjunction with the DAM.

The DAM mourns the loss of Dr Edwin Galea whose funeral was on Wednesday 24 May. He was 92 years old and a former DAM President and British Navy dental surgeon. He is the brother of Dr. Charles Galea.

The front cover photograph is by Dr Josef Awad, one of many talented dental surgeons in Malta. It is entitled 'RedBlue'.

Best regards,

David

Dr David Muscat B.D.S. (LON)
Editor / Secretary, P.R.O. D.A.M.

EDWIN GALEA (1925-2017)

An appreciation by Professor George Camilleri

The death of Edwin Galea on 22nd May 2017 has robbed the dental profession of its much loved and respected doyen. Edwin was born in 1925 in Valletta, educated at St. Aloysius College and served as a Gunner in the WWII when he was awarded the War and Defence Medals. He entered the Royal University after the War and graduated as a dental surgeon (Dip. D.S.) in 1946. 1958 was to prove a landmark year for Edwin as he married Mary Brown and joined the Royal Navy as a Surgeon Lieutenant. He served in England, Singapore, Hong Kong and Japan till 1963. He then, along with his brother Charles, opened his main clinic at Birkirkara with other clinics at Valletta and Rabat. Edwin's quiet disposition belied his drive and abilities in his many hobbies.

He was a knowledgeable gardener and a mainstay of the Malta Underwater fishing scene with several competition successes. His bird shooting interest was later followed with several boar and deer shooting trips to Germany. There is no doubt however that his family and ever present and beloved Mary, together with his children Louise, Leonard, and Andrew, were his prime focus, later extended to his grandchildren and great grand children. We remember him as an assiduous attender at Dental Association activities, both academic and social, when his infectious smile and quiet demeanour made him beloved by all of us. He was President of the Association from 1981 to 1985 and later made an Honorary member. Our condolences to his family, we shall miss him greatly. R.I.P.

COUNCIL OF EUROPEAN DENTISTS MEETING IN MALTA

Representatives of the Council of European Dentists' (CED) member and observer organisations met at the Westin Dragon Malta recently, for the regular bi- annual General Meeting. This year the meeting was held under the chairmanship of CED President Dr. Marco Landi and hosted by the Dental Association of Malta (DAM) in the context of the Maltese EU Council Presidency.

CED is a European not-for-profit association, which represents over 340,000 practising dentists through 32 national dental associations and chambers from 30 European countries. Its key objectives are to promote high standards of oral healthcare and effective patient-safety-centred professional practice across Europe, including through regular contacts with other European organisations and EU institutions.

The meeting attracted the participation of 120 delegates and some 40 accompanying persons who arrived from all EU member states, representing their respective National Dental Associations.

The opening reception was held at the Westin Dragonara and an introductory speech was given by the principal co-ordinator of the meeting Dr Audrey Camilleri, whilst a welcome speech was given by DAM President Dr David Vella. The following day saw a full day general meeting being followed by a gala dinner at the Casino Maltese in Valletta. Delegates enjoyed pre-dinner drinks and canapés watching the Grand Harbour at sunset from the vantage point of the Upper Barrakka Gardens. During the conference days accompanying persons could enjoy a varied social programme and delegates were also taken on an evening tour of Mdina, with pre-dinner drinks on the Mdina Bastions and dinner in the courtyard of Medina Restaurant.

Important topics were discussed during the meeting namely the CED revised code of ethics which takes into account national codes and the provisions of the General Data Protection Regulation. First adopted in 1965 and regularly amended, the CED Code of Ethics contains guiding principles for professional conduct and ethics of dentists, which underpin high quality dental care throughout Europe. It covers the commitment to the patient and the public, the practice of the profession and electronic commerce.

A second key topic discussed was CED's position on the proportionality test for regulated professions. CED opposes the inclusion of healthcare professions in the proposed Directive on a proportionality test before the adoption of regulations for professions. Together with other healthcare professions, CED calls for the exclusion of healthcare professions from this Directive, as public health and patient safety are put at risk by this approach. EU legislation and EU case law have established the special status of healthcare services over the years and the competence of Member States to determine the level of protection they want to afford to public health.

MEP Dr Roberta Metsola addressed the assembly and shared the healthcare professions' concerns about this proposal, calling for the exclusion of healthcare professions at the recent European Parliament exchange of views with the European Commission. She praised DAM with regards to their constant efforts in this regard, confirming the importance of the relationship between CED and DAM. She emphasized that healthcare is fundamentally different from other services and should therefore not be dealt with by means of the same instrument. CED's position was unanimously adopted and clearly laid out why healthcare professions should be excluded.

A resolution on the dentist of the future was made, in view of the fact that the profile of the future dentist is constantly evolving and the expected competences and skills need to be updated and new ones created. The Resolution that was unanimously adopted by CED members describes the competences and skills that dentists will need to overcome and the future challenges of the profession.

The ultimate future objectives are for dentists to be competent in managing traditional as well as new challenges in oral health, the ability to practise evidence-based, comprehensive dentistry independently, in group practice and in close collaboration with other health professionals; safeguarding ethics; and patient safety.

With regards the EU skills agenda, members adopted the revised mandate of the Working Group Education and Professional Qualifications. As part of the new mandate the Working Group will cover the EU Skills Agenda, monitor developments of new challenges and trends affecting the profession and continue to discuss the strategy for the future revision of the V.3/5.3.1 of Directive 2005/36/EC.

A final topic concerned digitization and eprescriptions wherein the revised mandate of the Working Group eHealth includes a focus on monitoring and guiding ePrescriptions as well as monitoring digitization in general, the data information exchange and links to dental practices and third parties.

Malta's voting delegates during the meeting were DAM International Relations Officer Dr Audrey Camilleri and DAM Secretary Dr David Muscat. Dr Adam Bartolo and Dr David Vella also attended the meeting.

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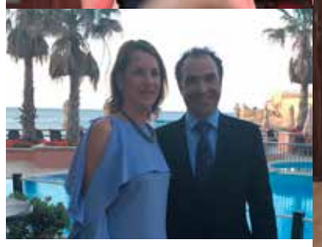
CED
COUNCIL
OF EUROPEAN
DENTISTS



PRE-PROSTHETIC ORTHODONTIC TREATMENT OF AN ADULT PATIENT WITH THE INVISALIGN TECHNIQUE

By Dr Gina Theodoridis DMD, specialist in Orthodontics Athens Greece.

Article based on presentation on 29/3/17 in Malta by Align Technology Ltd and Page Technology Ltd.

INTRODUCTION

During the past decade there has been a substantial increase in the number of adult patients seeking orthodontic treatment.

Today one out of five orthodontic patients is an adult. This could be a result of the development of aesthetic orthodontic techniques that can fit in the modern lifestyle and also the universal acknowledgement that orthodontic treatment is the basis of good dental health.

Advances in orthodontics have made treatment even more comfortable and more successful than ever for the adult patient. Invisalign aligners are an aesthetic type of orthodontic appliance that is proven to deliver orthodontic forces in the required range in order to effectively move teeth.

Because of their clear material, Invisalign aligners are very well tolerated by adult patients, who find it easier to incorporate this type of orthodontic treatment into their lives, compared to traditional braces. Furthermore, aligners are removable and thus allow better oral hygiene; this is of ultimate importance in patients with a predisposition to periodontal problems.

Adult orthodontic treatment comes with further special considerations. Teeth that are part of a malocclusion may be prone to attrition and unevenness in shape. There are also a number of patients that are eligible for prosthodontic intervention due to misshapen or missing teeth. Occasionally the malocclusion may not allow the dental practitioner to perform an ideal preparation for prosthetics, as the tooth or teeth involved may not be ideally located in the dental arch. Therefore, the malocclusion may impose a limitation for a lege artis dental restoration.

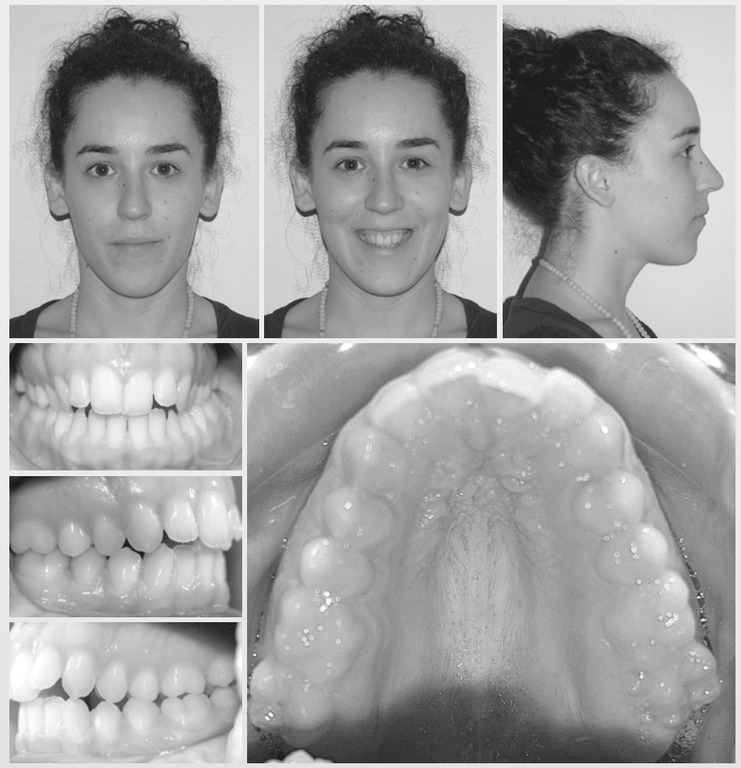


Figure 1

Orthodontics can largely contribute to the general dental treatment plan in those situations. The Invisalign system in particular, can be applied very effectively in interdisciplinary cases by correcting the malocclusion and simultaneously moving teeth to a more favorable position for prosthetics to follow.

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PRE-PROSTHETIC ORTHODONTIC TREATMENT OF AN ADULT PATIENT WITH THE INVISALIGN TECHNIQUE

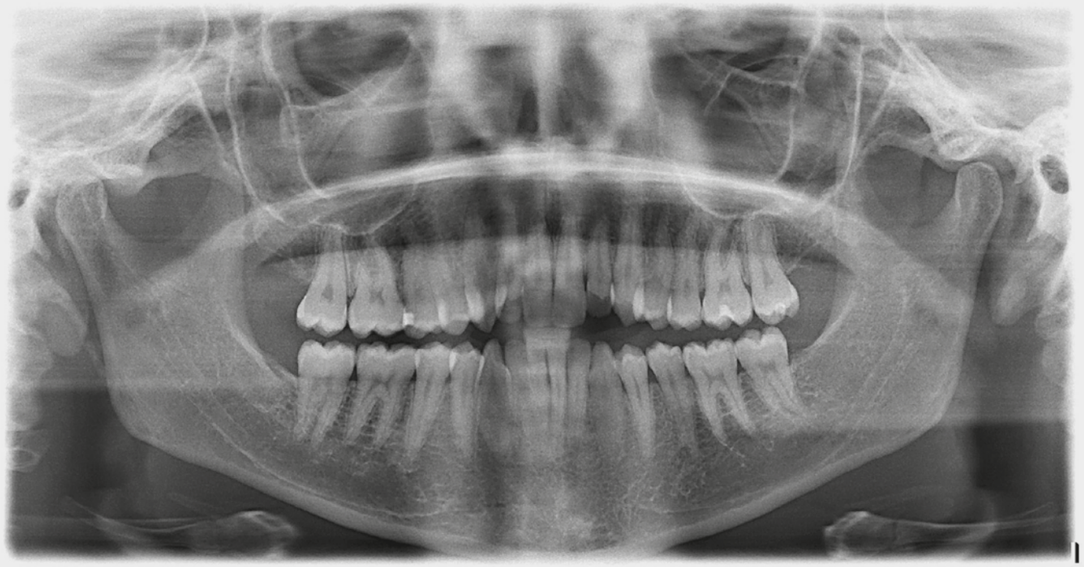

Figure 2

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CASE PRESENTATION

A thirty-year-old female patient (Fig. 1) presented to the office with the chief complaint of narrow front teeth and anterior open bite. She was mostly interested in the correction of the anterior maxillary teeth and had visited a prosthodontist before, who referred her for orthodontics.

The prosthodontist's opinion was that it would not be possible to increase the width of the maxillary incisors due to lack of space. An attempt to close the open bite via prosthetics would also result in an unnatural anterior tooth shape and long crowns.

The patient had a unilateral end-on Class II malocclusion on the left side and a Class I dental relationship on the right. An opening-closing click on the left temporomandibular joint was observed. There was mild crowding and narrowness present in both arches. Additionally, an open bite component was evident in the malocclusion.

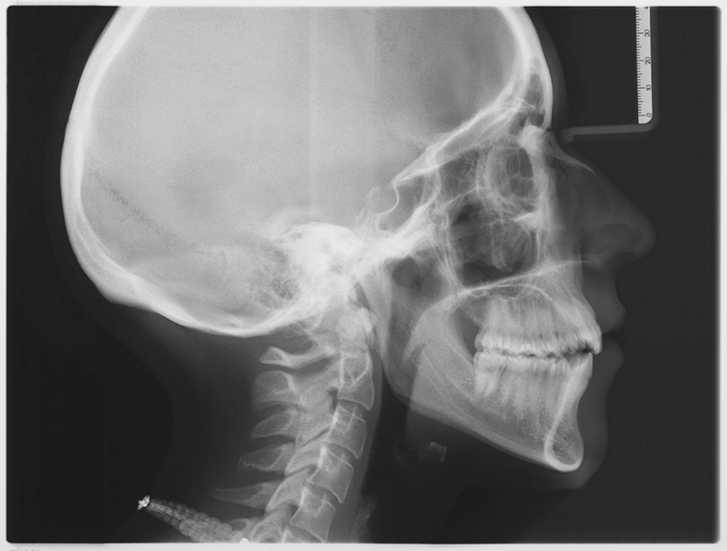
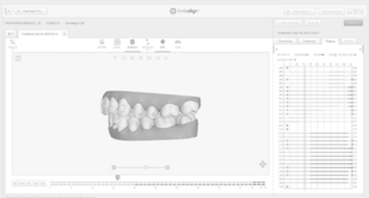


Figure 3

The panoramic x-ray (Fig. 2) revealed normal tooth anatomy; third molars were absent in all quadrants. The cephalometric x-ray (Fig. 3) revealed that the open bite was of dental nature; there was also vertical maxillary excess present with an increased lower facial height. This was expressed clinically with a gummy smile, with a gingival exposure that was increased throughout the entire maxillary arch (Fig 1.)

The surgical option in order to reduce the vertical maxillary excess was suggested to the patient, but she declined this treatment option.



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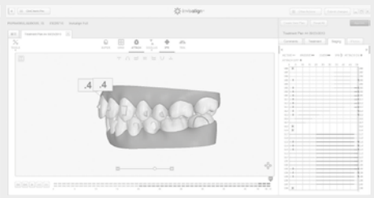

Figure 5

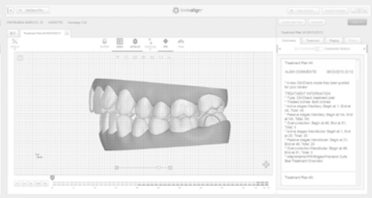

Figure 6

Figure 7

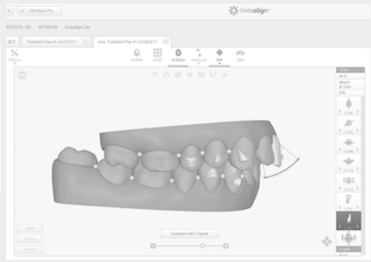

Figure 8

Figure 9

The benefits of establishing a normal occlusion on the left side in addition to creating space for prosthetics in the maxillary anterior teeth were thoroughly explained and she decided to choose this treatment option.

Orthodontics would aim in expanding the arch form to the maximum degree as determined by the underlying jaw structure, elimination of the crowding, correction of the end-on Class II malocclusion on the left and creating space for the prosthetic restoration of the maxillary incisors. The open bite would also be eliminated. It was noted that third molars were not present in the maxilla (Fig. 2) and there was sufficient bone in the area of the maxillary tuberosity. The ClinCheck that was created by the orthodontist entailed a sequential posterior distalization (Fig. 4) of the left posterior segment in order to correct the Class II relationship to Class I. A total distalization of 4.5mm would be needed in order to lead to a Class I molar relationship (Fig.5-6)

The size of the anterior teeth was measured using the tooth measurement and Bolton analysis tool of the ClinCheck ǀ(Fig.7). There was a Bolton discrepancy of 1.28mm mandibular excess (measured form first molar to first molar).

It was also noted that the natural width of the maxillary left lateral incisor was smaller than the right and the maxillary left central incisor was larger than the right. Orthodontic treatment planning included opening spaces for bonding. Using the 3D controls of the ClinCheck, the spaces mesial and distal of both lateral incisors were adjusted.

The size of the spaces was relevant to the clinical findings and based on the predicted result with the restoration. A consultation with the prosthodontist followed, in order to determine the final predicted position of the anterior teeth. Using the 3D controls and specifically the tooth crown angulation adjustment tool (Fig. 8)final adjustments were performed in order to adjust the front teeth as ideally as possible for the final restoration.

The initial staging for this patient included fifty-one pairs of aligners to be changed biweekly at first until Class I was established and weekly thereafter.

Class II elastics were used bilaterally for anchorage control during the course of distalization. The open bite was controlled via use of vertical attachments on the anterior teeth (Fig. 9). Treatment was completed in twenty-one months. No refinement aligners were required.

RESULTS

Orthodontic treatment resulted in significant widening of the dental arches, elimination of the crowding and open bite and establishment of a bilateral Class I occlusal relationship (Fig.10). The predicted spaces were evident in the front teeth; their values matched the predicted values on the initial ClinCheck.

Continues on page 12.

PRE-PROSTHETIC ORTHODONTIC TREATMENT OF AN ADULT PATIENT WITH THE INVISALIGN TECHNIQUE

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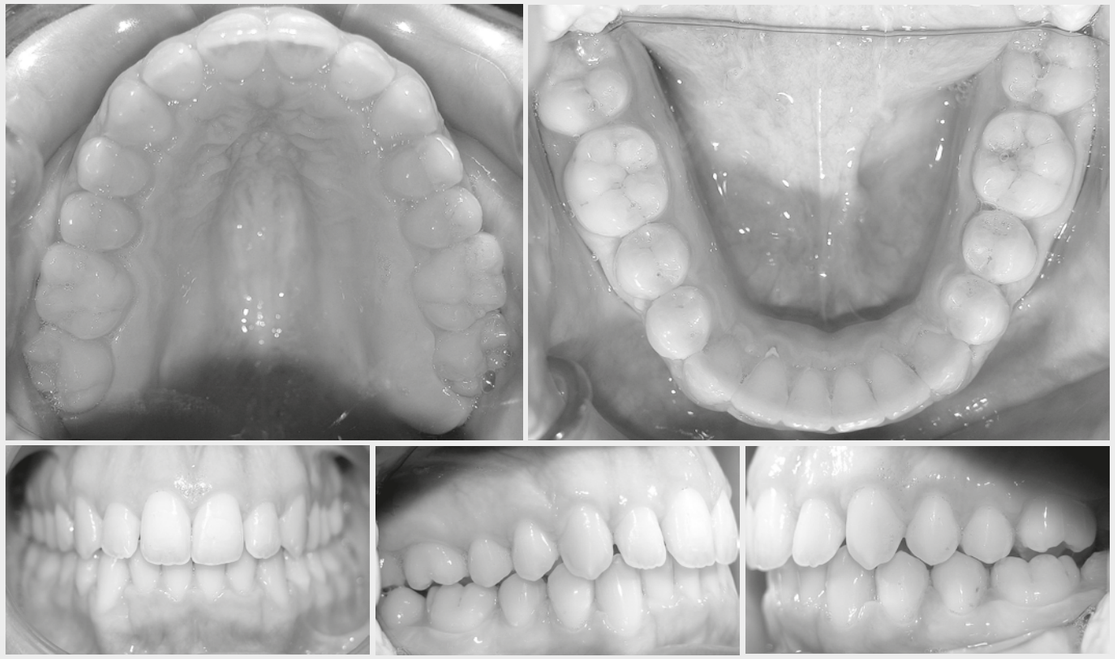


Figure 10

Figure 11

Continues on page 16.

KA1 MOBILITY REPORT: THE USE OF DENTAL COMPOSITES

Co-funded by the Erasmus+ Programme of the European Union

By Dr Peter Borg
KA1 ERASMUS+ PROJECT DISSEMINATION

One of the highlights of the KA1 mobility timetable was the 20th National Congress of the Italian Society for Conservative Dentistry (SIDOC). The SIDOC is a scientific non-profit society based in the Department of Dental Sciences at the University of Rome "La Sapienza".

Its aims include scientific research in the field of conservative dentistry, scientific and cultural cooperation with similar institutes and associations both nationally and internationally, as well as the organization of seminars, conferences and congresses.

We were fortunate enough to be given the opportunity to attend one of these congresses during our KA1 mobility programme.

The second talk of the first day of the 20th National Congress of the Italian Society for Conservative Dentistry was titled "From the single tooth to a full mouth rehabilitation: how to plan a more comprehensive treatment" which was presented by Dr. Francesca Vailati from the University of Geneva.

The subject tackled by Dr. Vailati was pertinent to everyday clinical practice and dealt mainly with the rehabilitation of the heavily worn down dentition.

Tooth wear has a multi-factorial aetiology with the clinical presentation dependent on the predominant aetiological factor. The significance of tooth wear as a dental problem is increasing.

A recent UK Adult Dental Health Survey (ADHS) showed that moderate wear increased from 11% in 1998 to 15% in 2009. 77% of 6469 participating adults in the 2009 survey had signs of tooth wear, 15% of participants had moderate wear and 2% severe tooth wear. This same survey showed that tooth wear was related to age with more than 80% of over 50 year olds in the UK exhibiting some tooth wear.

However, the survey also demonstrated that there is an increasing proportion of young adults with moderate wear[1].

Cases of tooth wear were traditionally restored with indirect ceramic restorations. However, improvements in composite materials have allowed dentists to utilize direct composites in the restoration of these cases.

Within the limitations of one in vitro study, direct composites showed better results than their indirect counterparts. This study suggested that dentists should consider direct composites as a good choice for restoring severe tooth wear.

This study recommended that for some brands of materials the thicker the layer the stronger restoration[2]. In one clinical study 26 subjects were treated with a mixture of 283 indirect and direct composites having been placed by different practitioners. Direct composite for worn mandibular anterior teeth resulted in 94% survival after 2.5 years and 85% survival after 7 years[3].

Posterior direct composites in increased vertical dimension scenarios were reviewed in another clinical study.

This study reported 7% failure over 4 years in 18 patients and "acceptable to excellent performance" in only 6 patients over a mean 5.5 year observation period using the modified USPHS criteria[4].

This study concluded that the technique provides a possible treatment option for at least the displayed observation period of 5.5 years. In another study with a small sample size the use of direct and indirect microfilled posterior resin composite was deemed to be contra-indicated as 50% of 32 restorations failed over 3 years[5].

In a larger more recent study 1010 direct composite restorations were used to restore severely worn teeth. 661 were on the upper six anterior teeth and 242 on the lower six anterior teeth.

A total of 71 restorations failed during the average 33.8 month observation period, of which only 4 were on posterior teeth. This study showed time to failure to be lower in older patients and when a lack of posterior support was present. Interestingly, bruxism and an increase in the OVD were not associated with composite failure. Wear modality also did not show a significant association with time to failure. In patients with a Class 3 or edge-to-edge incisal relationship, the proportion of failures was greater compared to Class 1 and Class 2 cases but this did not reach significance[6].

In a recent literature review three prospective and two retrospective studies were selected for inclusion. Included studies involved placement of 772 direct and indirect anterior composite restorations with observation periods of between 5 months and 10 years. The survival rates of anterior composites were of more than 90% at 2.5 years and 50% at 5 years. Posterior occlusion was re-established in 91% of patients within 18 months.

Continues on page 16.

KA1 MOBILITY REPORT:
THE USE OF DENTAL COMPOSITES

Continues from page 15.

The authors of this literature review concluded that there is evidence to support the use of anterior composite restorations at an increased vertical dimension of occlusion in the short to medium term, whilst long-term reporting of outcomes remains limited[7].

Many of the authors in the studies mentioned agree with Dr. Francesca Vailati about the benefits of direct composite restorations.

The additive approach of this treatment modality as opposed to the more destructive conventional method of restoring worn teeth cannot be undervalued in these patients, where an amount of tooth structure has already been lost to wear. Most studies demonstrated a positive use of direct composite especially in the short to medium term. Further improvements in composites will only serve to tip the balance towards such additive techniques, eventually securing such treatment as the gold standard for the management of tooth wear patients.

REFERENCES

1. UK Adult Dental Health Survey 2009. The Health and Social Care Information Centre, London 2011.

2. JT. Hamburger, NJ. Opdam, EM. Bronkhorst, MM Huysmans. (2014). Indirect restorations for severe tooth wear: Fracture risk and layer thickness. J Dent. 42(4):413-418.

3. AS Al-Khayatt, A. Ray-Chaudhuri, NJ. Poyser, PF. Briggs, RW Porter, MG. Kelleher, S. Eliyas. (2013). Direct composite restorations for the worn anterior dentition: a 7-year follow-up of a prospective randomised controlled splitmouth clinical trial. J. Oral Rehabil. 40:389–401.

4. T. Attin, T. Filli, C. Imfeld, PR. Schmidlin. (2012). Composite vertical bite reconstructions in eroded dentitions after 5.5 years: a case series. J. Oral Rehabil. 39:73–79.

5. D. Bartlett, G. Sundaram. (2006). An up to 3-year randomized clinical study comparing indirect and direct resin composites used to restore worn posterior teeth. Int. J. Prosthodont. 19(6): 613–617.

6. A. Milosevica, G. Burnsideb. (2016). The survival of direct composite restorations in the management of severe tooth wear including attrition and erosion: A prospective 8-year study. J Dent. 44:13–19.

7. KE. Ahmed, S. Murbay. (2016). Survival rates of anterior composites in managing tooth wear: systematic review. J Oral Rehabil. 43(2):145-153.

PRE-PROSTHETIC ORTHODONTIC TREATMENT OF AN ADULT PATIENT WITH THE INVISALIGN TECHNIQUE

Continues from page 12.

The patient had the bonding procedure performed on all four maxillary incisors in one appointment and returned for retainer impressions (Fig. 11). The orthodontic result was maintained with Vivera retainers.

DISCUSSION

Prosthetic restoration of anterior teeth is not an uncommon need in adult patients and this procedure may increase the aesthetic result of a successful orthodontic treatment. Especially in cases of severe crowding where restorations are needed, practitioners encounter various challenges upon tooth preparation. Some of these challenges include too much removal of tooth substance, inability to prepare and polish restorations interproximally and difficulty in providing an ideal tooth shape.

Orthodontics may unarguably contribute to the delivery of better prosthetic restorations by moving teeth to more ideal positions. The Invisalign technique brings this relationship to a whole new level, as the interdisciplinary treatment plan can be visualized at the very beginning of treatment with millimeter accuracy. The control of space opening performed with aligners appears to be easier to similar movements performed via brackets and open coils. In the later, more finishing corrections are usually required.

Additionally, the Bolton analysis tool that is available in ClinCheck allows the orthodontist to closely observe and determine if prosthetic intervention is required, something that could otherwise be overlooked.

Furthermore, prosthetic restorations performed on teeth in ideal occlusion are performed with just the right amount of tooth substance removed and are likely to have a longer life span in the mouth.

CLINICAL PHOTOGRAPHY

PART 2: IMPROVING YOUR IMAGE

By Dr Dennis Cutajar BChD MSc (Restorative and Aesthetic Dentistry)

Images like these really help patients understand what's going on in their mouths, things like 'white spot lesions' and 'gingivitis' are perhaps easier to demystify once seen at this magnification.

ABSTRACT
Digital clinical photography is a powerful tool. It is invaluable as a documentation medium and greatly facilitates communication between all parties involved in patient management. Modern equipment has rendered photography user-friendly, enabling rapid transfer of information to our patients, laboratory technicians and colleagues. (Lozano, 2015)

CLINICAL RELEVANCE
The main aim of clinical photography is to obtain excellent intra and extra –oral images that represent a comprehensive quantity of structured clinical information. This brief overview of the topic aims to explain the indications of clinical photography, how a simple suitable camera setup may be utilised on a daily basis in both academic and general dental practice settings.

OBJECTIVES
To outline the value of clinical photography in our daily practices, evaluate the standard views, and identify other views commonly captured by the dental team.

CONSENT
Patients should to be fully aware of who has access to their images, and their permission obtained prior to image transfer to colleagues, including specialists and laboratory personnel. It is good practice to obtain signed informed consent prior to any photography, however, as a bare minimum, consent forms are a must prior to publication of images, including their use as promotional material over the internet.

WHY PHOTOGRAPH TEETH?
The four main reasons why clinical photos of all our patients should be taken on a regular basis are:

- Documentation
- Communication
- Audit
- Marketing

DOCUMENTATION
Clinical images are an accurate, quick and easy adjunct to our clinical records.(Snow, 2009) Human memory is rather unreliable, hence clinical images are definitely recommended prior to invasive procedures, especially elective ones.

AT CONSULTATION APPOINTMENT
Taking a standard set of clinical images at the initial consultation appointment, enables us not only to record the state of the mouth, but perhaps more importantly, provides us with the ability to give the patients' with an educational 'tour of the mouth', instigate co-diagnosis and motivate oral hygiene.

DURING TREATMENT
Images may be taken at different treatment stages as required, including photographs of impressions, mounted casts, wax-ups, any labwork etc.

COMMUNICATION

- Specialist referral
- Laboratory
- Patients

REFERRAL
When referring a patient to a colleague, it is good practice to provide a comprehensive set of images as an adjunct to the referral letter, which should still include patient details, a reason for referral, a comprehensive history, clinical findings, charting, and radiographs. Clinical images should be used to document soft and hard tissue lesions. In these cases it is important to note:

1) The magnification ratio, which enables the clinician to accurately monitor any changes in size of lesion.
2) Ensure accurate and faithful colour rendition. Simply ensure the 'daylight' or 'flash' white balance setting is selected at all times.

LABORATORY COMMUNICATION
We communicate with our labs on a daily basis. Photographs can be very easily used to provide dental technologists with information on our patients' soft tissue profile, tooth structure, texture, colour, fracture lines etc. It is also a very convenient way of recording both the static and dynamic occlusion in both centric occlusion and centric relation as required. (D.R.Llop, 2009)

PATIENT COMMUNICATION
Photography is a very powerful educational tool. It may be used to facilitate a thorough explanation of our diagnosis, and perhaps encourage co-diagnosis.(Goodlin, 2011)
By taking regular images, we can monitor the progress (or otherwise!), of our patients and hence reinforce oral hygiene at every visit.

Most patients are visual learners. Showing them before and after images helps ensure realistic expectations and avoidance of medico- legal issues. This is especially important when elective treatment is being discussed.

AUDIT / SELF LEARNING
It takes courage to own up to our own mistakes. Taking a look at our own work can be a rude awakening as to how flawed our dentistry really is. It is good practice to take images at different stages of treatment, in an attempt to assess the quality of our own work.

MARKETING
Before and after images are commonly used for marketing purposes. Care should be taken to ensure patient expectations are kept as realistic as possible. It is often better to avoid retracted shots, or images where patients are easily identifiable.

THE COMMON VIEWS
The images presented here should be treated as a baseline for recording patient information and should not be viewed as the only images that should be obtained. It should be immediately clarified that the method employed here is simply the preferred method of this particular author and should by no means be considered to be the only correct one.

CAMERA SETTINGS
Using the camera and flash on full manual modes gives the clinician the ultimate control over the results obtained.
For all the imagesin this article, a canon dSLR system was utilised with the following settings selected in manual mode:

- An ISO of 100
- A shutter speed of 1/160th
- White balance set to 'flash' or 'daylight'
- Ring flash set to half power. (A canon MR 14EX ring flash unit was used)

The only settings requiring the occasional change are the magnification ratio and aperture, which are correlated as follows:

- Magnification ratio of 1:1.5 – Aperture f32
- Magnification ratio of 1:3 – Aperture f29
- Magnification ratio of 1:5 – Aperture f22

For the complete novice who trembles with fear at the very thought of using a camera in manual mode, the safest approach is to leave the flash on auto (TTL metering) and select the narrowest aperture (commonly f22-f32) for all intra oral shots, and a middling aperture (f8-f11) for all extra oral shots. (Lozano, 2015)

THE STANDARD VIEWS (TABLE BELOW)
Standard views represent a comprehensive amount of structured patient information. Most academic boards recommend that these images should be taken as a baseline for all patients, together with any additional views, as required. (L. Mackenzie, 2014)
With an appropriate camera setup and correct technique, any clinician or member of staff should be able to capture this sequence of images in 2 to 3 minutes. Clinical judgement should dictate what other images could be taken for individual cases.

Continues on page 20.

STANDARD VIEWS	APERTURE	MAGNIFICATION RATIO
Full face	F8	1:15
Anterior smile	F29	1:3
Retracted views, anterior – in occlusion	F29	1:3
Retracted views, right lateral – in occlusion	F29	1:3
Retracted views, left lateral – in occlusion	F29	1:3
Lower full arch Occlusal view	F22	1:5
Upper full arch Occlusal view	F22	1:5

CLINICAL PHOTOGRAPHY
PART 2: IMPROVING YOUR IMAGE

Continues from page 19.

Keep in mind that patients are unlikely to be impressed or even able to judge the outcome of aesthetic restorative dentistry from occlusal views and retracted images. Always try to include some images that centre the tooth or teeth in question, ensuring they are dried first, from a more natural perspective. Even if these shots would not be ideal for documentation and academic purposes, they may be a better option for patient communication.

REFERENCES:

D.R.LLOP 2009. Technical Analysis of Clinical Digital Photographs. Journal of the California Dental Association, 37, 199-266.
GOODLIN, R. 2011. Photographic-Assisted Diagnosis and Treatment Planning. Dental Clinics of North America, 55, 211-227.
L. MACKENZIE, M. S. 2014. Clinical Photography Technique Guide. Manchester: University of Manchester.
LOZANO, F. E. 2015. Digital Clinical Photography. In: LOZANO, F. E. (ed.). International Team for Implantology.
SNOW, S. R. 2009. Assessing and Achieving Accuracy in Digital Dental Photography. Journal of the California Dental Association 37, 185-191.

EXTRA ORAL IMAGES

Far left: Full face smiling (Portrait). Aperture: f8, Magnification ratio: approx. 1:15, (1.5m away)

Left: Incisal/interpupillary line relationship (retracted/teeth apart/eyesAperture: f8, Magnification ratio: approx. 1:15, (1.5m away). NB: relationship between interpupillary line and incisal line should ideally be parallel to the horizontal border of frame

Profile (left) Lips at rest

Profile (right) Lips at rest

Profile (left) Smiling

Profile (right) Smiling

THE SMILING SHOTS

Incredibly easy to photograph. These shots are possibly the most commonly used for mar-keting and patient communication purposes.

1:3 Frontal smile views, anterior. NB: the magnification ratio may need some adjustment to ensure that both commissures are visible

1:3 Lateral smile views, right

1:3 Lateral smile views, left

THE OCCLUSAL SHOTS

These shots may be taken with the patient sitting up, partially reclined or supine.

Safety glasses should be used for all supine photography.

Aim to centre the arch, in order to demonsttrate the occlusal surfaces of all teeth.

When taking a full arch occlusal view, place the back of the wide end of the mirror against the opposite teeth and apply gentle pressure to facilitate maximal opening.

1:3 Upper full arch occlusal view. NB: An assistant blowing air on mirror greatly helps reduce fogging.

1:3 Lower full arch occlusal view. NB: You may need to ask patient to move tongue if it obscures occlusal surfaces of teeth.

PHONETICS

1:3 Incisal display "M" position, anterior. The 'rest position' may be assessed by measuring the incisal display as the patient says 'M'

1:3 Incisal relationship to lower lip "F" Position. Used to document relationship of upper incisal tips to lower lip. Ideally, the upper centrals should be in contact with the wet/dry border of the lower lip

1:3 Incisal line/Lips at "E" position, anterior. Used to document relationship between the upper and lower lip. In an ideal relationship the incisal line should equidistant between upper and lower lips

1:3 Upper lower incisor relationship "S" Position. Documents the relationship between the upper ad lower incisal edges. The 'S' position is when the edges of the upper and lower anterior teeth are closest. Diagnostically important to assess the contour of provisional and definitive restorations

RETRACTED VIEWS

1:3 Retracted views, anterior - in occlusion. NB: Individual retractors are far more versatile then joined ones.

1:3 Retracted views, right lateral - in occlusion. NB: Aim to keep the occlusal plane horizontal

1:3 Retracted views, left lateral - in occlusion. Release pressure on the contralateral side, and ask patient to turn head in that direction.

1:3 Retracted view, right lateral excursion

1:3 Retracted view, left lateral excursion. NB: in this example, I should have either moved further to the side, or asked patient to turn her head further

1:3 Protrusion

1:3 Retracted views, anterior - teeth parted

1:3 Retracted views, right lateral - teeth parted

1:3 Retracted views, left lateral- teeth parted

CLOSE-UP VIEWS (POSTERIOR QUADRANTS)

- Shot through warm mirror, (assistant may help by blowing air) to prevent fogging.
- Retract the side being exposed with slight upwards pressure. The side of the mirror itself may be used to retract the buccaal mucosa further.
- Make sure teeth are dry
- Try to keep teeth at approximately centre frame and record as much or the posterior quadrant as possible.
- In lower quadrants, an assistant retracting tongue with dental mirror could prove to be invaluable.

1:1.5 Upper left quadrant

1:1.5 Upper right quadrant

1:1:5 Lower right quadrant

1:1:5 Lower left quadrant

CLOSE-UP VIEWS OF UPPER ANTERIOR SEXTANT (WITH CONTRASTOR)

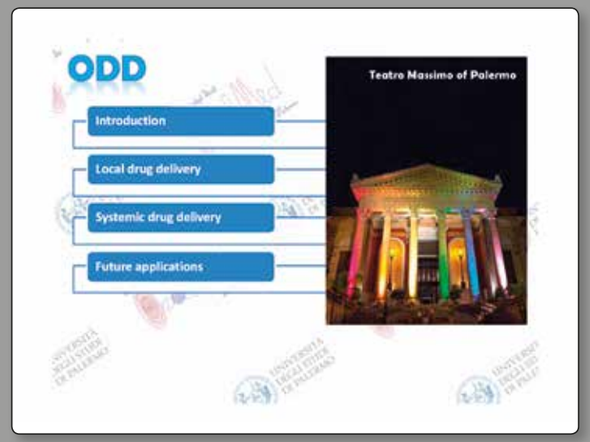
1:2 Anterior close-up view (upper incisors & canines). NB: Try to maintain a horizontal incisal line, whilst keeping the midline in the middle of the frame. This might not be possible in patients with marked midline shifts.

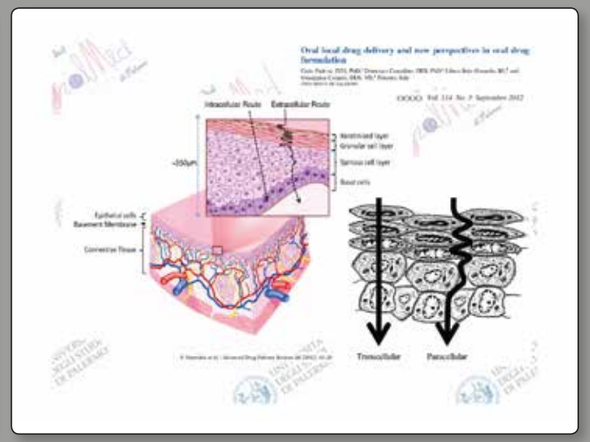
1:2 Right lateral close up view. NB: In this case, inadequate retraction meant the entire crowns and marginal gingivae were not revealed

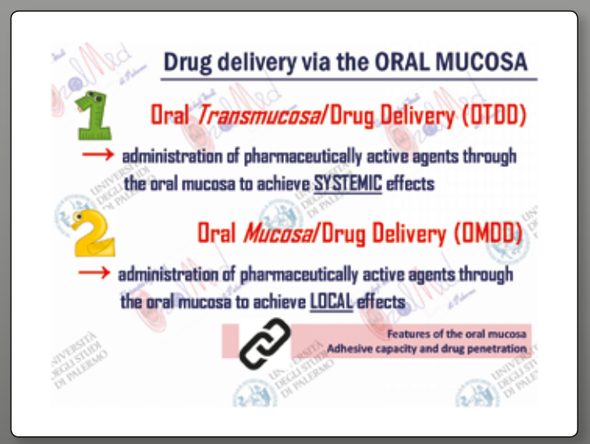
1:2 Left lateral close up view. NB: Try to demonstrate the emergence profile of the central incisors, lateral incisor and canine.

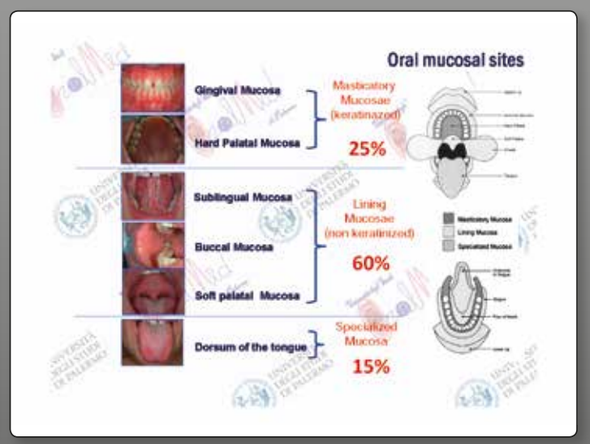
ORAL DRUG DELIVERY:
NEW HORIZONS OF CLINICAL PRACTICE

Vera Panzarella, DDS, PhD
Sector of Oral Medicine "V. Margiotta", University of Palermo









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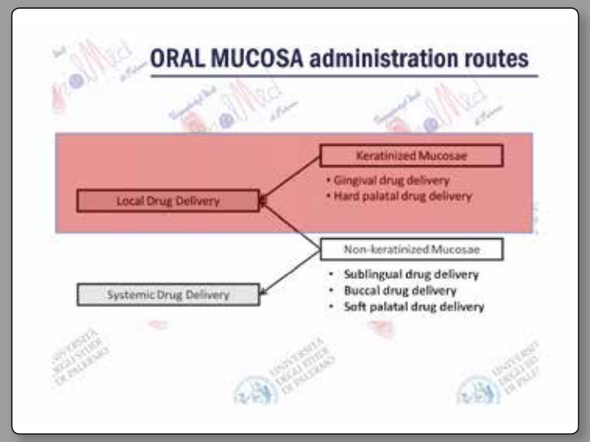
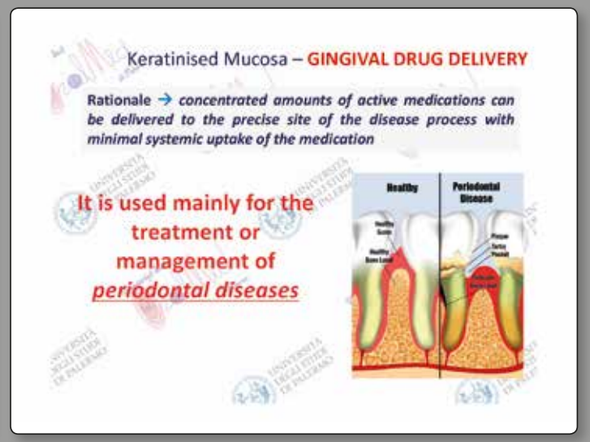
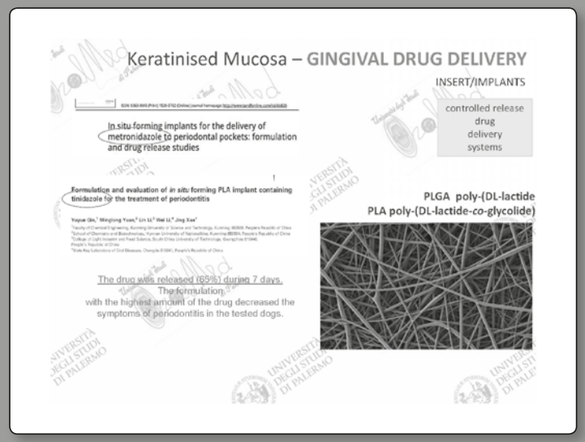
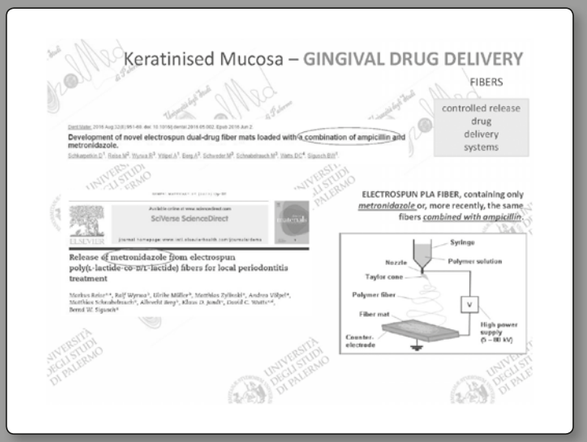
ORAL DRUG DELIVERY:
NEW HORIZONS OF CLINICAL PRACTICE

Continues from page 23.









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CYBER LIABILITY COVER

Unfortunately in today's world cyber attacks and data breaches are increasing. Did you ever stop and think of how your practice could be effected if you suffered a cyber attack?

Dentists like other medical professions have a vast amount of data including names, addresses, birth dates and also sensitive information such as health history and possibly banking information.

The threat of this information being stolen is tremendous. A cyber breach can lead to significant expenses, reputational damage, possibly fines and wreak havoc on your dental practice.

We are pleased to inform you that MIB has the solution!

A Cyber, Privacy & Media risk policy is designed to respond in the event of a data breach and/or cyber attack. This policy would include cover for the following:

- Full third and first party cover including
- Electronic and traditional privacy breach cover
- Cyber theft and extortion cover
- Breach notification and mitigation
- Regulatory investigations and fines/penalties cover
- Business Interruption recovery
- Reputational Damage
- Rapid response service

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CLINICAL CASE

Treatment of fractured composite restoration of first lower molar with 3M™ Filtek™ One Bulk Fill Restorative

Clinical dentistry and photography by: Dr. Giuseppe Chiodera, Brescia, Italy

About the Case:

Male patient. Patient needed treatment due to a fractured composite restoration. Fractured restoration was causing patient significant discomfort.

Challenge:

The complete removal of the fractured composite restoration resulted in a large restoration that needed to be completed in a short amount of time.

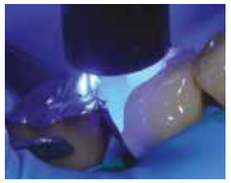
Step-by-Step:

1 • Initial situation: Fractured composite restoration of first lower molar.

2 • The tooth is isolated and the insufficient composite restoration completely removed.

3 • Tooth is etched with a selective enamel etching technique using 3M™ Scotchbond™ Universal Etchant.

4 • 3M™ Scotchbond™ Universal Adhesive is applied for 20 seconds.



5 • After air drying for approximately 5 seconds, 3M™ Elipar™ DeepCure-S LED Curing Light is used to light cure for 10 seconds.

6 • 3M Filtek One Bulk Fill Restorative, shade A3, is placed directly into the cavity and then cured according to the Instructions for Use.

7 • 3M Filtek One Buk Fill Restorative surface finished before final polishing.

8 • Pre-polishing of restoration with 3M™ Sof-Lex™ Pre-Polishing Spiral

9 • Polishing with 3M™ Sof-Lex™ Diamond Polishing Spiral to create a final smooth and high-gloss polish for a natural-looking restoration.

10 • Final restoration at a recall visit 4 months after placement is natural-looking and esthetic.

The 3M Difference:

With its one-step placement and easy handling, 3M Filtek One Bulk Fill Restorative enabled a fast and easy posterior restoration without compromising on esthetics. The patient was very satisfied with the efficiency of the procedure and natural-looking result.

Refer to Instructions for Use (IFU) for complete product information.

ORAL DRUG DELIVERY:
NEW HORIZONS OF CLINICAL PRACTICE

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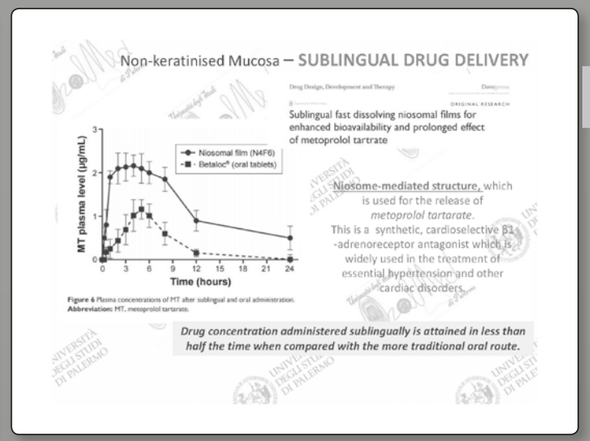
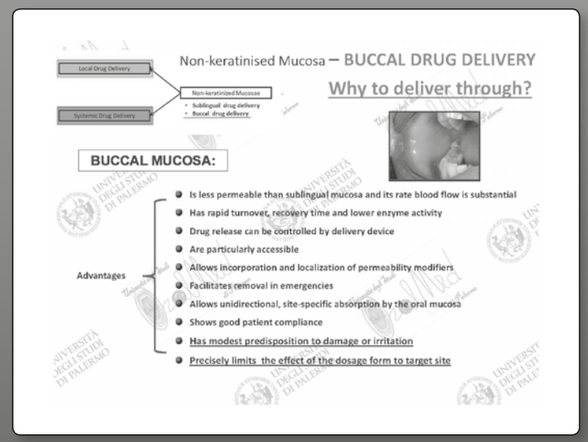
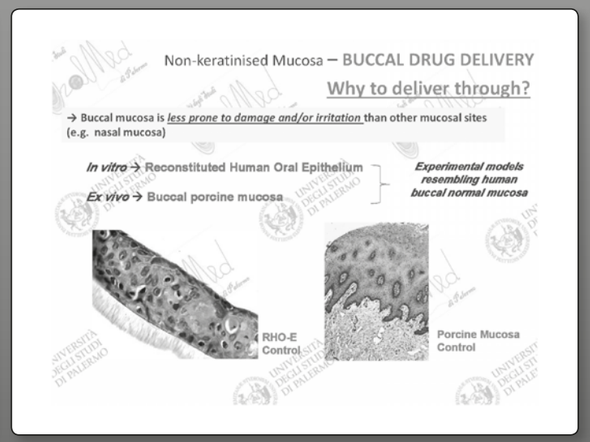






Continues on page 30.

ORAL DRUG DELIVERY:
NEW HORIZONS OF CLINICAL PRACTICE

Continues from page 29.

Non-keratinised Mucosa – BUCCAL DRUG DELIVERY

Why to deliver through?

→ Buccal mucosa is *less prone to damage and/or irritation* than other mucosal sites (e.g. nasal mucosa)

Eur J Pharm Biopharm. 2007 Feb;65(2):238-46. Epub 2006 Jul 26.

Diffusion of naltrexone across reconstituted human oral epithelium and histomorphological features.

Giannola LI[1], De Caro V, Giandalia G, Siragusa MG, Campisi G, Florena AM, Ciach T.

Eur J Pharm Biopharm. 2007 Sep;67(2):425-33. Epub 2007 Mar 3.

Release of naltrexone on buccal mucosa: permeation studies, histological aspects and matrix system design.

Giannola LI[1], De Caro V, Giandalia G, Siragusa MG, Tripodo C, Florena AM, Campisi G.

Eur J Pharm Biopharm. 2008 Nov;70(3):869-73. doi: 10.1016/j.ejpb.2008.06.025. Epub 2008 Jul 4.

Evaluation of galantamine transbuccal absorption by reconstituted human oral epithelium and porcine tissue as buccal mucosa models: part I.

De Caro V[1], Giandalia G, Siragusa MG, Pademi C, Campisi G, Giannola LI.

Curr Pharm Des. 2012;18(34):5405-16.

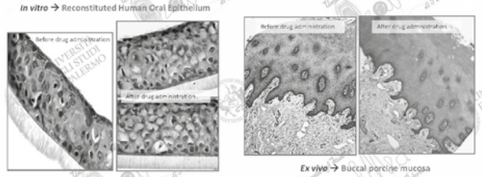
Buccal delivery of methimazole as an alternative means for improvement of drug bioavailability: permeation studies and matrix system design.

De Caro V[1], Giandalia G, Siragusa MG, Giannola LI.

Non-keratinised Mucosa – BUCCAL DRUG DELIVERY

Why to deliver through?

In vitro → Reconstituted Human Oral Epithelium



Ex vivo → Buccal porcine mucosa

NO SIGN OF FLOGOSIS AND/OR INJURY

Non-keratinised Mucosae – BUCCAL DRUG DELIVERY

Local Drug Delivery

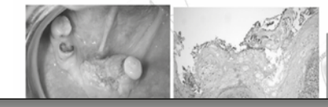
Novel local drug delivery and therapeutics for specific

- *Oral cancer and potentially malignant disorders*
- *Oral mucositis*
- *Immunologically mediated diseases:*
  - *Oral Lichen Planus (OLP)*
- *Oral infections*
- *Salivary hypofunction and xerostomia*

ORAL CANCER

state of the art

GLOBOCAN 2012: Estimated Cancer Incidence, Mortality and Prevalence Worldwide in 2012

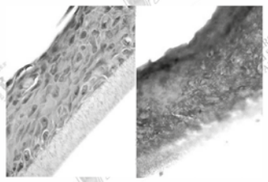


More than 90% of oral cancers are squamous

Non-keratinised Mucosa – BUCCAL DRUG DELIVERY

Why to deliver through?

→ Buccal mucosa *limit the effect of the dosage* form to the target site



Oral epithelium of BUCCAL MUCOSA can act as a *drug reservoir* from which medications (such as the drug-bearing phenolic groups) could be released *slowly and constantly* for *local/systemic* administration

DECREASING OF DOSE REGIMENS AND/OR DRUG SIDE EFFECT

Ther Deliv. 2014;5(9):965-8. doi: 10.4155/tde.14.64.

Buccal drug delivery: what's new and what does the future hold?

Giannola LI[1], De Caro V, Sutera FM

Nevertheless, similar to other mucosal membranes, the buccal mucosa has some disadvantages, including short residence time and small absorption area. The major limitation to buccal drug delivery is the barrier property of the tissue which has inadequate permeability for certain molecules, resulting in low drug bioavailability. Drug absorption is very satisfactory only for those actives that possess adequate physicochemical properties and the ability to permeate across the tissue. Accordingly, the formulative approach alone could be not sufficient for an effective control of drug delivery through the mucosa, and limited rate of absorption should be adjusted by simultaneous chemical and physical enhancement, including supersaturation and eutectic formation [1,2].

Buccal dosage forms reside in a taste-sensing organ, and organoleptic aspects of formulation could become crucial limiting factors for drug application. Suitable palated

Nevertheless !!

Disadvantages

- A short residence time and small absorption area
- The inadequate permeability of certain molecules
- Some external methods for penetration enhancements cannot be applied (e.g. iontophoresis or electroporation)
- The washing effect of saliva and mechanical stress result in a insufficient exposure time and unpredictable distribution of the drug to the action/absorption site

To fulfill the therapeutic requirements, formulations designed for buccal administration should contain the following functional agents: mucoadhesive agents, to maintain an intimate and prolonged contact of the formulation with the absorption site; penetration enhancers, to improve drug permeation across mucosa (transmucosal delivery) or into deepest layers of the epithelium (mucosal delivery); and enzyme inhibitors, to eventually protect the drug from the degradation by means of mucosal enzymes

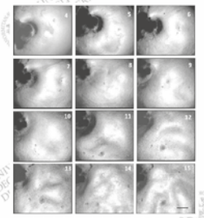
ORAL CANCER

state of the art

Current treatment modalities of oral cancer are **radiation, surgery and chemotherapy**

Chemiotherapy

Medium-term Culture of Normal Human Oral Mucosa: A Novel Three-dimensional Model to Study the Effectiveness of Drugs Administration



Buccal matrix tablets, delivering 5-FU

Apoptotic effects on cancer cells were demonstrated, following the topical administration of 5-FU matrix tablets on a 3D outgrowth model of OSCC, thereby indicating that the loco regional chemotherapy of OSCC could be effective.

Oral Diseases (2011) 17 (Suppl. 1), 73–84.

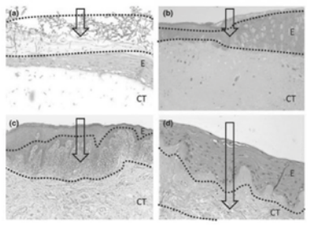


Figure 1 Level of drug penetration required depends on the condition requiring therapy. (a) Superficial infections such as candidiasis do not need to cross the permeability barrier. (b) Mucosal diseases such as dysplastic lesions require retained delivery to the affected epithelium. (c) Oral lichen planus affects basal cells and the adjacent connective tissue and requires delivery to these cells. (d) For systemic delivery, the therapeutic agent needs to cross the permeability barrier and should not be retained in the epithelium. Arrows show level of penetration required. Dotted lines show the desired area for drug retention. E, epithelium; CT, connective tissue

Non-keratinised Mucosae – BUCCAL DRUG DELIVERY

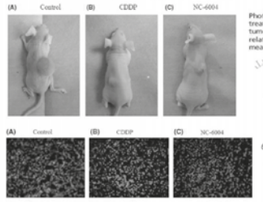
Why LOCAL drug delivery for ORAL DISEASE?

- Oral diseases are amongst the most prevalent in the humankind
- Traditional treatment of oral diseases is extremely costly
- Many oral diseases are chronic and require chronic treatment regimens
- Most oral diseases can be treated locally, without a need for a systemic distribution of drugs
- For some of oral diseases the most effective strategy is prevention (i.e mucositis, oral squamous cell carcinoma) and local pharmacological treatments and devices are preferred

Cancer Science

Tumor-targeted chemotherapy with the nanopolymer-based drug NC-6004 for oral squamous cell carcinoma

Kazuhira Endo,[1] Takayoshi Ueno,[1] Satoru Kondo,[1] Naohiro Wakisaka,[1] Shigeyuki Murono,[1] Makoto Ito,[1] Kazunori Kataoka,[2,3] Yasuki Kato[3] and Tomokazu Yoshizaki[1,3]



Photographs of representative mice and tumors treated with drugs are shown (A–C). (D) Reduced tumor volume treated with CDDP and NC-6004 relative to the control group. Each data point is the mean value (±SD) of six primary tumors.

Cisplatin-loaded nanoparticles

Both free cisplatin and cisplatin-loaded nanoparticles exhibited equivalent growth-inhibitory effects in oral carcinoma-bearing mice; however, significantly less nephrotoxicity was observed with the cisplatin loaded nanoparticles

ORAL POTENTIALLY MALIGNANT DISORDERS

«WAIT AND SEE»

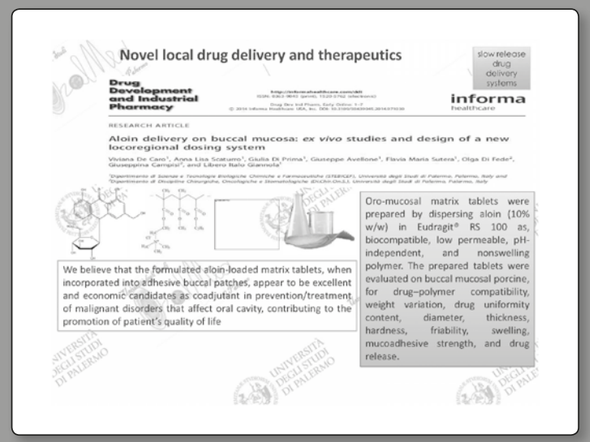
NOVEL FORMULATIONS AND RESEARCH			
MOLECULES	FORMULATION	CLINICAL APPLICATIONS	
Acitretin	Mucoadhesive two-layers tablets	Efficacy in the treatme nt of Oral Leukoplakia without side-effects	Gupta et al., 2000
Isotretinoin	Extrudates	Topical use of isotretinoin is effective in treating OLP	Fujii Pat. 2010
Ketorolac	Oral rinse	Local delivery of a COX-containing oral rinse was well tolerated but produced no significant reduction in the extent of leukoplakia	McBrinne et al., 2004
Black raspberry anthocyanins	Bioadhesive gel	Reversing or downgrading oral dysplastic lesions	Mallery et al., 200 Shumway et al., 2008
Photosensitizing agents (5-aminolevulinic acid)	10% ALA gel	Followed by photochemic therapy, a complete response was obtained in 10 out of 12 treated patients	Sieroni et al., 2003
Tretinoin	MAA/tretinoin patch	The MAA/tretinoin patch is safe and effective for such chemoprevention in the hamster model	Wang et al., 2007
Klanubicin	Solid lipid nanoparticles	--	Helpputs et al., 2011

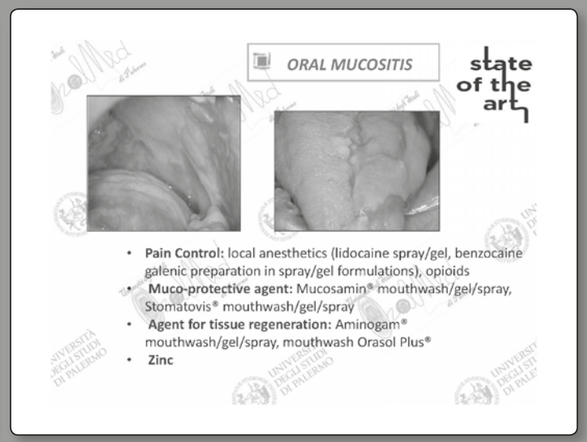
Chemoprevention has been defined as the use of natural and synthetic chemical agents to inhibit, delay or reverse the carcinogenic process in tissue at risk for the development of invasive cancer.

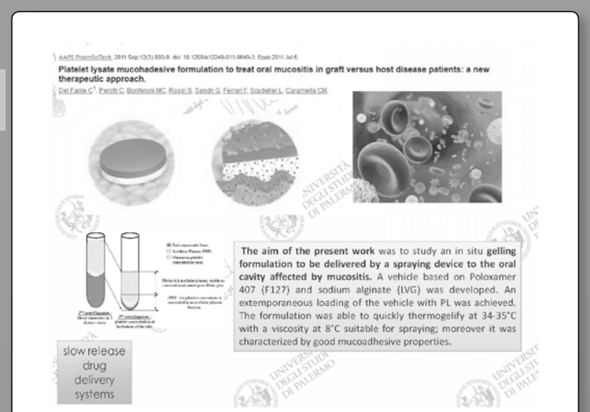
Continues on page 32.

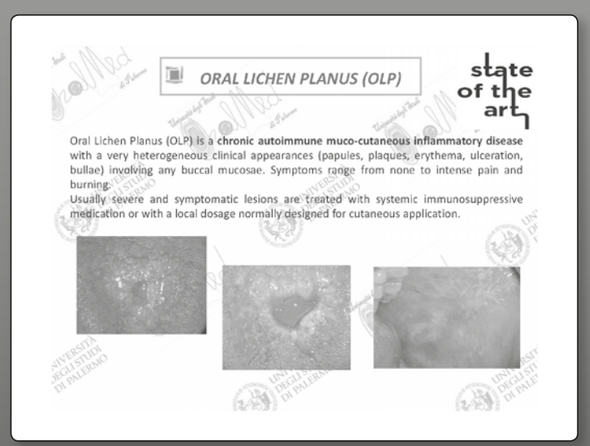
ORAL DRUG DELIVERY:
NEW HORIZONS OF CLINICAL PRACTICE

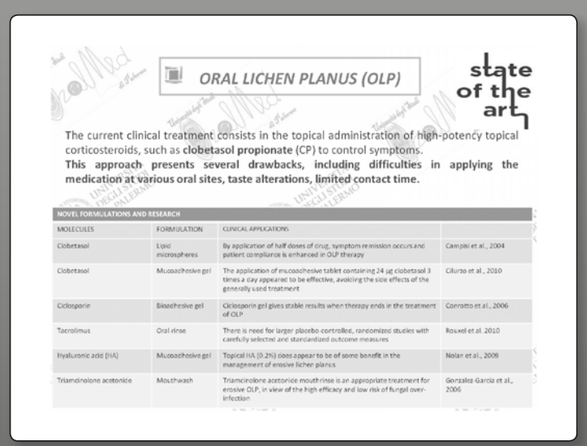
Continues from page 31.

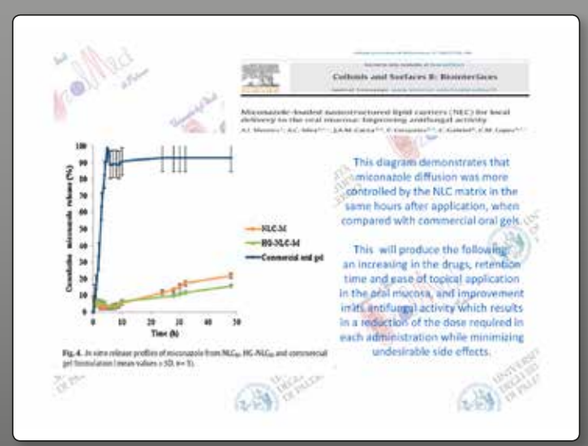


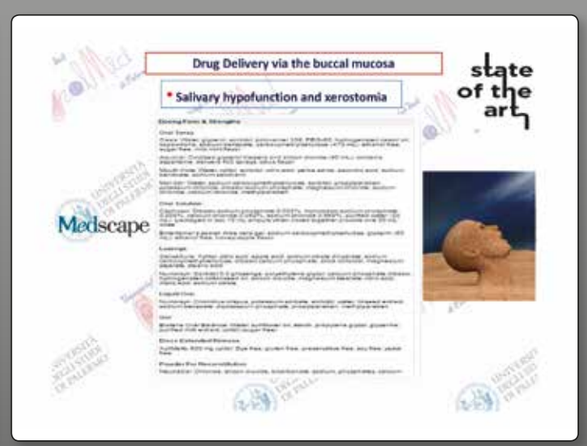












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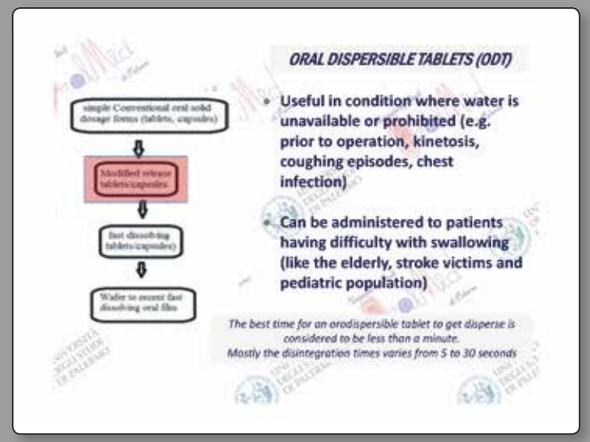
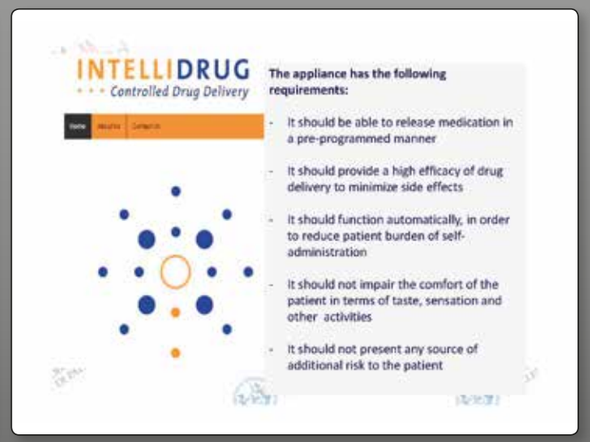
ORAL DRUG DELIVERY:
NEW HORIZONS OF CLINICAL PRACTICE

Continues from page 33.





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RESULTS OF THE CED GENERAL MEETING IN MALTA

CED PRESS RELEASE OF 29 MAY 2017

Representatives of CED Member and Observer organisations met in Valletta, Malta on 26-27 May 2017 for the regular biannual General Meeting under the chairmanship of the CED President Dr. Marco Landi. The meeting was hosted by the Maltese Dental Association in the context of the Maltese EU Council Presidency.

CED CODE OF ETHICS

The CED adopted the revised Code of Ethics that takes into account national codes and the provisions of the General Data Protection Regulation. First adopted in 1965 and regularly amended, the CED Code of Ethics contains agreed guiding principles for professional conduct and ethics of dentists, which underpin high quality of dental care throughout Europe. It covers the commitment to the patient and the public, the practice of the profession and electronic commerce.

CED POSITION ON PROPORTIONALITY TEST FOR REGULATED PROFESSIONS

The CED opposes the inclusion of healthcare professions in the proposed Directive on a proportionality test before the adoption of regulations for professions.

Together with other healthcare professions, the CED calls for the exclusion of healthcare professions from this Directive, as public health and patient safety are put at risk with this approach. EU legislation and EU case law have established the special status of healthcare services over the years and the competence of Member States to determine the level of protection they want to afford to public health.

We welcomed MEP Dr Roberta Metsola who addressed the assembly and shared the healthcare professions' concerns about this proposal and called for the exclusion of healthcare professions at the recent European Parliament exchange of views with the European Commission. She emphasised that healthcare is fundamentally different from other services and should therefore not be dealt with by means of the same instrument.

The CED Position was unanimously adopted and clearly lays out why healthcare professions should be excluded.

RESOLUTION ON THE DENTIST OF THE FUTURE

The profile of the future dentist is constantly evolving and the expected competences and skills need to be updated and new ones created. The Resolution that was unanimously adopted by the CED members describes the competences and skills that dentists will need to overcome the future challenges of the profession. The ultimate objective of the future dentist is to be competent in managing traditional as well as new challenges in oral health, and they must be able to practise evidence-based, comprehensive dentistry independently, in group practice and in close collaboration with other health professionals, safeguarding ethics and patient safety.

THE EU SKILLS AGENDA

The members adopted the revised mandate of the Working Group Education and Professional Qualifications. As part of the new mandate the Working Group will cover the EU Skills Agenda, monitor the developments of new challenges and trends affecting the profession and continue to discuss the strategy for the future revision of the V.3/5.3.1 of Directive 2005/36/EC.

DIGITILISATION AND EPRESCRIPTIONS

The revised mandate of the Working Group eHealth includes a focus on monitoring and guiding ePrescriptions as well as monitoring digitalisation in general, and the data information exchange and link to dental practices and third parties in particular.

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ORAL DRUG DELIVERY:
NEW HORIZONS OF CLINICAL PRACTICE

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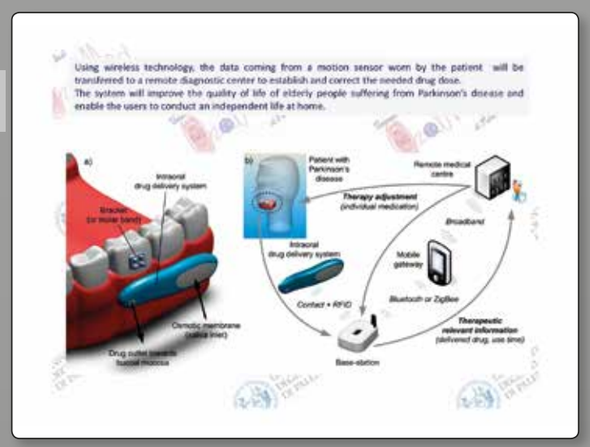

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