

# THE DENTAL SURGEON

JUNE 2018 ISSUE



LION

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Healthy Gums  
& Teeth**

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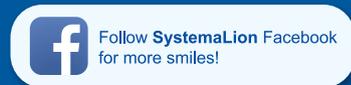
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EDITORIAL TEAM

# Farewell For Now

**M**y dear readers, colleagues, friends: for the past three years, it has truly been an immense privilege to have shared with you a record of what our community has achieved, here within the pages of *The Dental Surgeon*. Through these past seven issues, I hope that you have been able to witness the dedication, commitment, professionalism, resilience, selflessness, creativity, curiosity and enjoyment that embody the best of our profession.

It is now time for me to step down as Editor of *The Dental Surgeon*, and as Council Member of the Association for the term 2016 - 2018. Again, there is no end to the gratitude I owe my team of regular editors and contributors. To Drs. Tong Huei Jinn, Dephne Leong, Tan Keng Wee, Asha Karunakaran, Surinder Arora, Michael Lim, Wong Li Beng and Kevin Co, this publication would not be possible without your steadfast support.

Thank you to all the wonderful and varied guest contributors who have stepped out of your comfort zones to share your thoughts with our readers. To Dr. Kuan Chee Keong and Dr. Lim Lii, thank you for believing in me and giving me this opportunity. I also wish to acknowledge my fellow Council Members for your companionship along the way, and the excellent ColorMagic, responsible for the lush aesthetics of this publication. Last but not least, my deepest thanks goes to Ms. Norjana Taib from the SDA Secretariat, who enables this publication to come to life every issue.

In my first issue on June 2015 I introduced readers to Ms. Josephine Chia, an internationally published Singaporean author who writes about kampong life. I close this circle in the seventh issue by sharing with you the work of another local author, my very own sister Sharlene Teo, whose novel has been published both here and overseas to critical acclaim. Please allow me the indulgence of a proud brother and Singaporean, excited to share a piece of our culture with the world. At the end of the day, *The Dental Surgeon* would not be possible if we dentists did not possess a love of the written word, and for the feel of pages beneath our fingers. This need to chronicle our community's achievements will always flourish, thus I'm confident that the next Editor will carry this publication onwards to greater heights. For now it is goodbye from me; it has been an honour and a pleasure writing for you.



Dr. Terry Teo  
Editor-in-Chief  
*The Dental Surgeon*

EDITORIAL TEAM



## Editor-in-Chief

**Dr. Terry Teo** is a paediatric dentist at Q&M Dental Group, and a part-time tutor at the Faculty of Dentistry at NUS. When he was young he loved reading and writing, until life and dentistry got in the way. He thus relishes this opportunity to have his cake and to eat it at the same time.



## Convener and Editor

**Dr. Dephne Leong** is an endodontist at JurongHealth. Dephne is a Singapore Dental Association Council Member and has recently joined *The Dental Surgeon* team. With her eye for detail, she hopes to contribute to maintaining the high quality of the publication so that readers will continue enjoying it. Dephne loves travelling and playing squash in her free time.



## Layout Editor

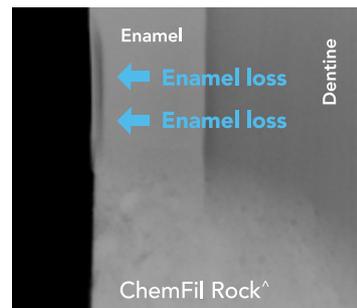
**Dr. Tan Keng Wee** is a general practitioner in private practice and has recently joined the editorial team of *The Dental Surgeon*. He hopes to be able to contribute to the publication and help maintain its high quality. Keng Wee also volunteers with the SDA Ethics Committee as a mediator, and spends his free time practising yoga and searching for the perfect waffle.



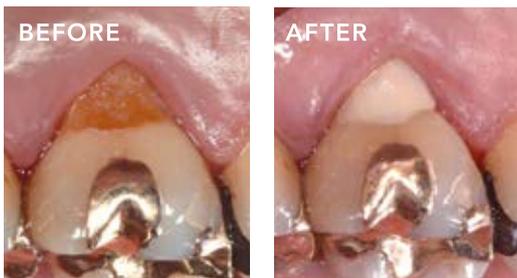
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## Editors



**Dr. Tong Huei Jinn** is currently teaching at the Faculty of Dentistry in NUS, and works as a Paediatric Dentist in NUH and School Dental Services, HPB. Huei Jinn is delighted to return to *The Dental Surgeon* after her stint as its Editor before leaving for post-graduate studies in 2007, and hopes to continue to do the magazine and our profession proud. When time permits, Huei Jinn loves travelling.



**Dr. Ivan Koh** is an endodontist in private practice, and a part-time tutor at the Faculty of Dentistry in NUS. Ivan has been with *The Dental Surgeon* since 2005, starting off by contributing an article or two per issue. He then took on the role of layout editor for 3 years before taking a hiatus for his MDS studies and he is now back as Assistant Editor. Ivan likes to read in his free time and that has been one of the driving forces for him to rejoin *The Dental Surgeon* team. He hopes readers find joy in this publication, not looking at it merely as a “dental newsletter”, but perhaps, as a magazine worth its weight to leave on the coffee table at the reception area of their clinics!

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**NEW**

# LISTERINE® GUM CARE: KILLS GERMS ABOVE & BELOW THE GUM LINE

**CHRONIC GINGIVITIS AFFECTS OVER 90% OF THE WORLD'S POPULATION.<sup>1</sup>**

LISTERINE® mouthwash penetrates deeply into the bottom layers of the plaque biofilm and also cleans areas that patients may miss after brushing and flossing.<sup>2-4</sup> This reduces plaque and helps to prevent gingivitis. Proven by our landmark analysis of over 5000 subjects.

## 29 RANDOMIZED, PLACEBO-CONTROLLED, OBSERVER-BLIND, PARALLEL-GROUP CLINICAL TRIALS

N=>5,000 subjects with mild-to-moderate gingival inflammation and dental plaque



**CONTROL GROUP**  
Mechanical Methods Alone (MM)  
n= 2,562



**EXPERIMENTAL GROUP**  
Mechanical Methods + Essential Oil-containing Mouthrinse (MMEO)  
n= 2,544

Following a complete prophylaxis on Day 1, subjects were instructed to:

Brush 2x daily + floss 1x day (MM)

**6**  
Month period

MM + rinse with 20mL of their assigned essential oil-containing mouthrinse for 30 seconds 2x daily

Plaque, gingivitis, and bleeding assessments were conducted at:

Baseline

Month 3

Month 6

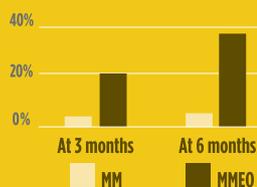
Patients who added LISTERINE® to mechanical methods (MM) had

**OVER 7X HIGHER ODDS FOR "PLAQUE-FREE" SITES**

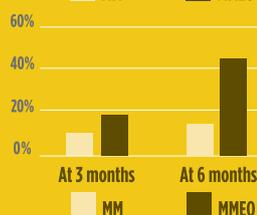
**AND 5X HIGHER ODDS FOR "HEALTHY" SITES**

when compared to MM alone.<sup>5</sup>

PERCENTAGE OF RESPONDENTS WITH 50% "PLAQUE-FREE" SITES



PERCENTAGE OF RESPONDENTS WITH 50% "HEALTHY" SITES



### RECOMMEND LISTERINE® GUM CARE WITH 4 ESSENTIAL OILS



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and Dipotassium Glycyrrhizate, which is known for its anti-inflammatory action.



**ZERO ALCOHOL**

1. Coventry J, Griffiths G, Scully C, Tonetti M. Periodontal disease. *Brit Med J*. 2000;321(7252):36-39.  
 2. Foster JS, Pan PC, Kolenbrander PE. Effects of antimicrobial agents on oral biofilms in a saliva-conditioned flowcell. *Biofilms*. 2004;1(1):3-10.  
 3. Minah GE, DePaola LG, Overholser CD, et al. Effects of 6 months use of an antiseptic mouthrinse on supragingival dental plaque microflora. *J Clin Periodontol*. 1989;16(6):347-352.  
 4. Walker C, Clark W, Wheeler T, Lamm R. Evaluation of microbial shifts in supragingival plaque following long-term use of an oral antiseptic mouthrinse. *J Dent Res*. 1989;68:412.  
 5. Araujo MWB, Charles CA, Weinstein RB, et al. Meta-analysis of the effect of an essential oil-containing mouthrinse on gingivitis and plaque. *J Am Dent Assoc*. 2015;146(8):610-622 and/or post hoc analyses of data.

# SDA President Address 2018-2020

BY **DR. LIM LII**

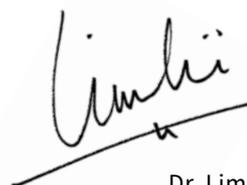
Dear members of the Singapore Dental Association,

I am full of gratitude for the strong mandate you have given me to lead our Association into another two-year term. I am totally humbled by the love and support from all of you who came down for our Annual General Meeting on Sunday 27th April 2018 to cast your vote for my team. I promise to work harder to do our Association and profession proud.

I firmly believe that in order to improve for the future, examining past successes and mistakes is crucial. Reflecting on my first term over the past two years, I have grown through circumstances both exhilarating and challenging. From organizing our Association's 50th anniversary celebrations to the procurement of SDA's second property, from coping with bad local publicity against our profession to fighting for our interests in the regional dental arena, the journey has only just begun.

My council of 2016 to 2018 has been my pillar of strength. They gave me their full support, fellowship, and most of all, their valuable time to ensure meticulous success in all of SDA's projects. I could not have wished for a more hardworking and cohesive Council. They were also my family, sharing with me their lives. Indeed, in the course of two years, I saw two "sisters" married off, one "brother" proudly set up his own clinic, and another "brother" expanding his family. What more can I ask for! Some of them are leaving the Council to pursue their careers and family life. Although sad to see them leave, I sincerely wish them the very best, and thank them for their contributions.

I welcome the new Council of 2018 to 2020 into my expanding Council family. We are a team that is diverse in seniority, experience and ideals; yet aligned in our passion to serve the Association. I know that the term ahead will be even more challenging, but together with my Council, I am confident in charting a steady course ahead for our Association's future. Once again, thank you from the bottom of my heart for your continued trust and support.



Dr. Lim Lii



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**Dr. Lim Lii** is a Singaporean who graduated from the University of Western Australia. She came back home in 1997, after a two-year working stint with Australian Dental Services, to be closer to her family. She has been in private practice since and now maintains a part-time position, allowing her to contribute wholly to SDA. She has thus served SDA since 2003 in almost every subcommittee. She is married to Desmond, and they are blessed with two teenage sons, as well as two adopted fur-kids.



*Old and New Council dinner*



*SDA Council 2016 - 2018*



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## Raring To Go

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In May 2018, Dr. Chng Chai Kiat officially succeeded Clin A/Prof Patrick Tseng as the new Chief Dental Officer (CDO) of Singapore. In our exclusive feature, *The Dental Surgeon* offers a first glimpse of his outlook and vision for the future of the profession.

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BY **DR. TERRY TEO**

**Congratulations on becoming the next Chief Dental Officer of Singapore! So much responsibility for someone relatively young! Can you reveal to us your age?**

Thank you! I'm 43 years old, but age, I feel, is always relative. If you think about it, compared to other countries, our dental profession is also relatively young. And it is evolving and moving forward at breakneck speed. I hope being "relatively young" will allow me to have the energy, flexibility and perspective to steer our profession forward

into this uncertain state of flux, while I work together with the dental fraternity to ensure that the needs of our profession are balanced with the needs of the population.

**Could you share with us about how you were led towards the calling for public service?**

Nobody sets out at the beginning of his dental career aiming to be the next CDO! Like most young dentists, the allure of private practice was strong when I first graduated.

But the reason I am where I am today is somewhat serendipitous, where things occurred such that some doors opened, while other circumstances nudged me away from another path. If I were to give this higher force a name, I would call it mentorship.

In my early days as a registrar at National University Hospital, the then Dean of the Dental Faculty A/Prof Keson Tan gave me the opportunity to manage the Dental Centre. I still remembered it was both exciting yet terrifying, but I pulled through and took my first steps towards my life as an administrator.

Next A/Prof Patrick Tseng (the then CDO) approached me to assist him in the Ministry of Health (MOH) with policy matters. Soon after I was also asked to take on the role as Executive Secretary in the Singapore Dental Council (SDC) by Professor Chew Chong Lin, who was and still is President of the SDC. Along the way, I left NUH and joined KKH as Head of the Dental Service, and took on the responsibility of building the clinic up from scratch.

Through all these opportunities, I learnt valuable lessons in working and managing people from within and outside the profession, as well as how the business of dentistry truly worked. Needless to say, everything is interdependent: manpower planning, policy matters, professional management, and most importantly, listening and communication. Putting this down on paper has made me appreciate the diversity of roles that I have had over the past ten years, and the opportunities that were given to me by my mentors.

And just like that a decade flew by serving our national healthcare institutions! Having worked closely with Clin A/Prof Patrick Tseng in CDO's Office for more than ten years, I was then approached by the Director of Medical Services, A/Prof Benjamin Ong, to be the next CDO. This is now the beginning of the next leg of my journey here within public service.

#### **What are the primary roles and duties of the CDO?**

In general I am to advise and support the Minister of Health on all matters relating to dental services and oral health in Singapore. This will involve looking at dental policy and strategy to promote and improve the general health of the population and ensure timely access to dental services. My other main role will be to look into the development of evidence-based standards, with the aim to achieve and maintain high quality dental services that will be made available to the nation. I will also be engaging all main and



allied dental care professionals on workforce planning to further optimise their professional roles.

#### **Could you give us an insight of how your daily and weekly schedule is like now that you have assumed your new role? How will your official and clinical time be divided?**

I start most of my days at 6am by either hitting the gym, or going for a run or a swim. My official workday starts at about 8.30am and this involves clinics on certain days of the week with intra-ministry meetings interspersed throughout week. There are also weekly update meetings with the Minister of Health, Permanent Secretary and the Director of Medical Services to report on the status of Dentistry in Singapore.

As Registrar of the Singapore Dental Council, I will also be spending time there and working with the new Executive Secretary to oversee the running of the SDC.

To make time for my new duties, I will be relinquishing my role as Head of the Dental Service at KKH but will still maintain some clinical practice there. I will be also stepping down as Executive Secretary of the Singapore Dental Council. My time will now split between 60% official work with MOH as CDO, while still maintaining 40% clinical practice. Remaining clinically active, I believe is vital to the role I am taking on.

I also teach in the Orthodontic Residency Program with the National University of Singapore Faculty Of



Dentistry and spend half a day a week at the National Dental Centre Singapore for clinical teaching.

Most of my weekdays stretch into the late evenings where meetings with the professional dental groups and associations take place. Meetings with our professional colleagues tend to be scheduled in the evenings to allow them to run their clinics with minimal disruption. There will also be scheduled monthly or bi-monthly meetings with the Dental Specialist Accreditation Board, Oral Health Therapist Accreditation Committee, Fluoride Committee and other various workgroups. This is also the reason why I exercise early in the morning!

**Dentists have received negative publicity in the press in recent years. Is this something that the Government is monitoring closely in order to regulate our profession more? If so, how will our profession be safeguarded from such excessive regulation?**

When I first started managing complaints against dentists in my previous role as Executive Secretary of SDC, we had only one or two complaints to deal with per year. A short seven years later, we now have about 10 to 15 complaints a year. This is a function of our patients being more educated and aware about their own health. This increased awareness has resulted in patients taking on the responsibility of medical and dental health decision-making, instead of trusting things to the pa-

ternalistic doctor. This paradigm shift in population mindset impacts on how dental practice must now be taught and carried out.

There has also been an absolute increase in our population by about 1 million people in the past decade. We would consequently expect an increase in the number of complaints over time when we consider all these factors. The government has always been monitoring this, as its role is to primarily safeguard patient safety whilst upholding the standards of the profession.

Often times, the publication of cases of professional misconduct and negligence in the press serves to educate the public and the profession at large, contrary to what some may perceive as the newspapers sensationalizing the “downfall” of a dental practitioner. This education is not only important to raise awareness among the public, but also to increase the complimentary powerful factor of professional self-regulation.

I believe that it is a very small number of individuals within our fraternity that stir up sometimes repeated negative publicity, but the overall report card of the profession with regards to professional ethics, conduct and integrity still scores extremely high. As long as our fraternity can uphold our professional integrity and be trusted by the people to be able to self-regulate, there will be little reason to have excessive regulation implemented.

**Tell us more about yourself as a person. What are your hobbies and what do you do to relax during time off from such a punishing schedule?**

Is food considered a hobby? I love to eat, from Japanese cuisine, to our tze char places and my very favourite hawker food! I am always looking for the best wanton mee, bak chor mee, hokkien mee or chicken rice. All my close friends can attest to my love for food. When I am eating, I do enjoy some wine to go with the food. Appreciating and collecting wine is a side interest of mine that complements my passion for food.

As you already know, exercise is an important part of my routine: running, gym and tennis keep me sane throughout my otherwise punishing schedule. Outside of work events or speaking engagements, I generally prefer to spend my time in small intimate group of friends: some home-cooked food, a nice bottle of wine and great conversation. Perfect! When I am not eating, I am also looking forward to my next ski trip or a relaxing beach holiday where I can just do nothing and relax.

Whenever possible I volunteer my dental services to Voluntary Welfare Organisations such as the AGAPE-run dental service at Mount Alvernia Hospital, and the overseas cleft lip and palate missions organized by SmileAsia.

**Wonderful. Any more words for us before you begin your term of service as our next Chief Dental Officer?**

I am most of all indebted to A/Prof Patrick Tseng and Prof Chew Chong Ling, both of whom mentored, guid-



ed and counselled me through institution practice and public service. As I take on this role on behalf of our fraternity and profession to serve all the dentists, oral health therapists and related oral healthcare professionals in Singapore, I am truly thankful to those who have assisted me in my journey, as well as those who helped build up my strengths. With this, I look forward to serving you all. 



**Dr. Chng Chai Kiat** graduated with his Bachelor Of Dental Surgery from the National University of Singapore in 2000, and subsequently with a Masters Of Dental Surgery in Orthodontics in 2007. He currently holds the following positions:

1. Chief Dental Officer, Ministry of Health, Singapore
2. Program Director, Centre for Advanced Dental Education, Fellowship in Cleft & Craniofacial Orthodontics, NUS
3. Visiting Consultant, Orthodontics Unit, Ng Teng Fong General Hospital
4. Registrar, Singapore Dental Council
5. Clinical Senior Lecturer, Faculty of Dentistry, NUS
6. Director, Clinical Service KKH, Clinical Service of SingHealth Duke-NUS ORH-ACP (Oral Health Academic Clinical Program)

He currently sits on the Dental Specialists Accreditation Board, and in addition to other numerous fellowships and memberships in various international dental bodies, has lectured and published widely.

# IDEM 2018 Takes Clinical Excellence to the Next Level

KOELNMESSE PRESS RELEASE



**1** 9 April 2018 – SINGAPORE – The 10th edition of the International Dental Exhibition and Meeting (IDEM) successfully concluded after three days of exhibition, meetings, conference and insightful discussions on the latest breakthroughs in dental innovation and practices.

Co-organised by Koelnmesse and the Singapore Dental Association, Asia Pacific's cornerstone event

in dentistry drew 8,571 attendees from 71 countries. The exhibition floor hosted 13 national pavilions and a total of 506 exhibitors from 41 countries.

“We are proud of how IDEM has developed since its inauguration 18 years ago. The 10th edition of IDEM once again focused on integrating breakthrough technologies into dental and biomaterial sciences, as well as better care for patients. Looking ahead, we will





continue to provide our audience with a world-class event that is cutting-edge and contemporary. This includes the further blending of education, trade, and networking, and full use of digital technologies to facilitate maximum interactions between exhibitors and visitors,” said Mr. Mathias Kuepper, Managing Director, Koelnmesse Pte Ltd.

The exhibition floor featured the latest innovations, including 3D printing, an integrated blade that min-

imizes the risk of injuries during surgeries as well as the latest range of intraoral scanners that are ergonomic, portable and able to provide real-time scanning with no ongoing calibration requirements, which are designed for patient comfort.

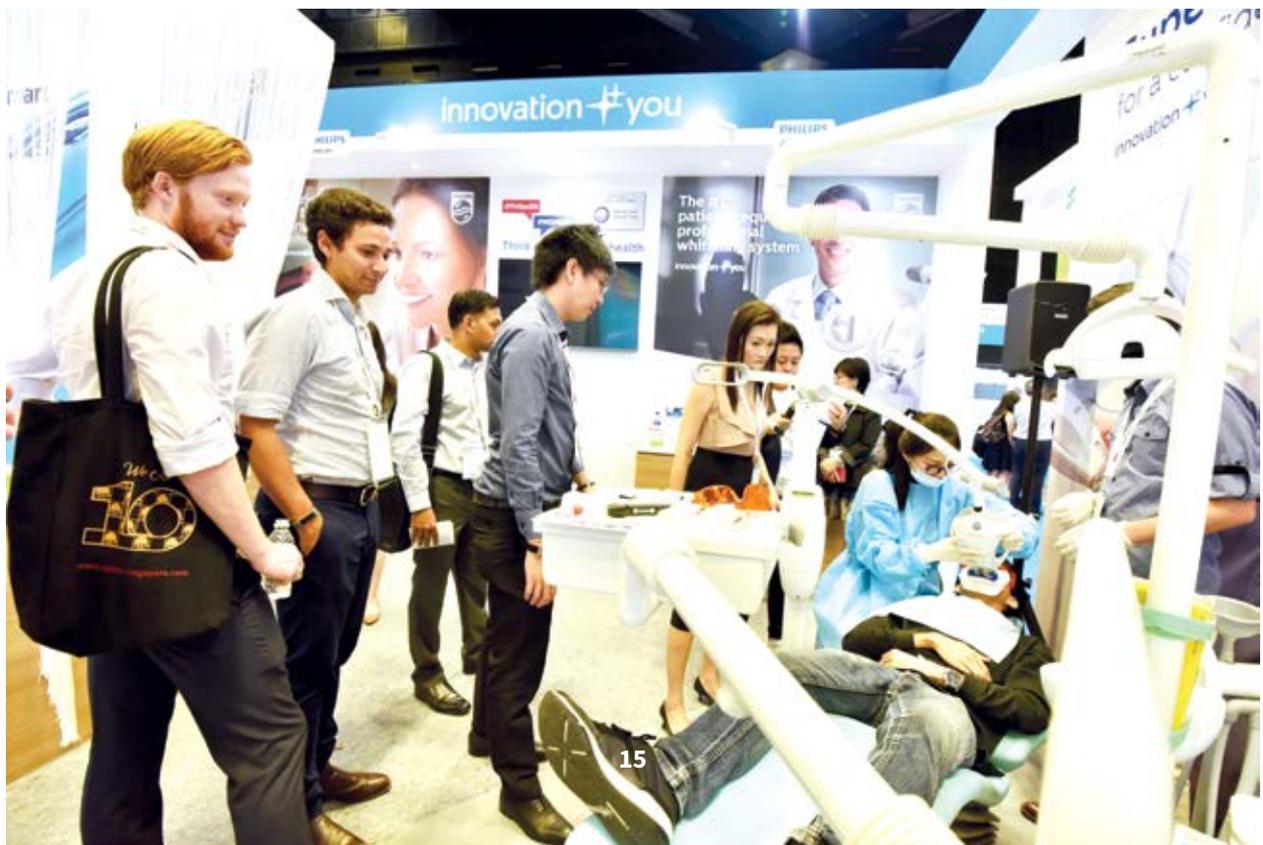
“The IDEM exhibition is the perfect event to meet all the Asian customers at a central location,” said Stefan Leben, A. Schweickhardt GmbH & Co. KG, an exhibitor who participated at IDEM 2018.





Highlights from the conference floor included key sessions by Dr Christopher Ho, who shared concepts of additive dentistry and went into detail on how to select the techniques and materials of choice for various clinical scenarios; Dr Sergio Piano, who proposed a simplified approach for minimising both the surgical impact and the treatment time; and Dr Anthony Mak who discussed restorative treatment planning and how to choose the correct preventive or restorative materials and techniques for the older dentition.

“IDEM provides dental professionals with the best opportunities to further their professional education and development as well as strengthen their practices and industry knowledge,” said Dr Kuan Chee Keong, Chairperson, IDEM 2018 Committee. “We are working closely with the Koelnmesse team to deliver an even more attractive programme for dental professionals and will look for opportunities to showcase the latest technological advances as well as increase the engagement between speakers and the audience at the next edition of IDEM.”









The next edition of IDEM will take place on 24 – 26 April 2020 at Suntec Singapore Convention and Exhibition Centre. Attendees will be able to look forward to re-energizing their business with more intensive educational sessions, interactive presentations, engaging meetings, and learning about new advancements in dentistry.

#### **About IDEM Singapore**

IDEM Singapore, a specialised dental trade fair accompanied by a professional congress, has developed since its premiere in 2000 into the leading dental event in the Asia-Pacific region. At IDEM 2020, participants will meet key decision-makers, strengthen valuable contacts with customers and partners, and explore the potential of an exciting growth market.

#### **About Koelnmesse**

Koelnmesse is one of the world's largest trade fair companies. Its more than 70 trade fairs and exhibitions have the broadest international scope in the industry, as 60 percent of the exhibitors and 40 percent of the visitors come from outside Germany. Koelnmesse events include the leading global trade fairs from 25 sectors, such as Imm Cologne, Anuga, Interzum Cologne, Photokina, Gamescom, and the International Hardware Fair Cologne. The Singapore subsidiary, Koelnmesse Pte Ltd also organizes the dental events DAMA, AOSC and IDEC.

For all enquiries please contact Andrea Berghoff at [a.berghoff@koelnmesse.com.sg](mailto:a.berghoff@koelnmesse.com.sg) 

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# Bruxism Through the Eyes of A Wet-Fingered Dentist

BY DR. DAVID K. L. TAY

## Introduction

Dentistry is fast changing and we all struggle to keep up. What I was taught about bruxism as a student in dental school in the late seventies and what I taught at the faculty of dentistry had expiry dates.

As part of the forward planning for the NUS Edmund Tay Mai Hiong endowment fund, a questionnaire survey (n=74) was conducted to assess the current knowledge and attitudes of local dentists regarding sleep and airway issues in dentistry. Alarming, 45% of responders were unaware that most sleep bruxism (SB) episodes occurred as a consequence to sleep micro-arousals and, worse, 39% still believed erroneously that '*SB is an occlusal disorder*'. Only 35% (not necessarily those who answered the two previous questions correctly) volunteered that they 'felt confident' in managing patients with SB!

I have been in private practice limited to the specialty of prosthodontics since 1993. My three areas of special interests are: interdisciplinary full mouth occlusal rehabilitation, the management of chronic orofacial pain and temporomandibular disorders (TMD), and dental sleep medicine. What I have learnt from the latter two sectors have transformed my practice of prosthodontics, and I would like to share some of my clinical insights with you.

## Consensus in the definition & diagnosis of bruxism

Bruxism is defined as "*a repetitive jaw-muscle activity characterized by clenching or grinding of teeth and/or by bracing or thrusting of the mandible. It has two distinct circadian manifestations: it can occur during sleep i.e. Sleep Bruxism, or during wakefulness i.e. Awake Bruxism.*" (Lobbezoo F et al 2013)

Many full-mouth prosthodontic reconstruction cases are the deleterious consequences of bruxism. Whenever I see any patient referred to me for the management of 'abnormal' tooth wear, I would always ask the following questions:

- *Is this wear functional or parafunctional?*
- *Is it historic or ongoing?*
- *If ongoing, is it occurring when the patient is awake, asleep or both?*
- *If during sleep, does it occur in Non Rapid Eye Movement (NREM) sleep only, Rapid eye movement (REM) sleep only or both?*
- *Are we dealing with a primary (idiopathic) sleep bruxism, secondary sleep bruxism, or a combination of the above?*

Bruxism is usually categorized as *possible, probable, putative or definite*. A diagnosis of 'definite' bruxism can be made only if there is polysomnographic (PSG) evidence, in addition to self-report (usually collected via questionnaires and/or patient history), and physical examination. Although the use of PSG for diagnosing bruxism may be useful in research, it is not routinely used in daily clinical dental practice.

## Disadvantages of PSG in the diagnosis of Sleep Bruxism (SB) in daily practice

In diagnosing SB, a very specific electromyographic (EMG) surrogate called **rhythmic masticatory muscle activity (RMMA)** is studied. RMMA is defined as 3 masseter muscle bursts or contractions (phasic, tonic or mixed) within an episode in the absence of teeth grinding.

This type of attended sleep study requires sophisticated instrumentation, high levels of technical competence, is time-consuming and very expensive. Patients are made to sleep and are studied in a very unnatural setting with two belts around their chest and abdomen, and many recording electrodes on their face and body.

## Bruxism Phenotypes

Dentists generally become involved only when there is observable occlusal interface and/or other stomatognathic damage (e.g. TM joint dysfunction, masticatory muscle symptomology). It is paramount to understand the subcategories of bruxism in order to tailor appropriate treatment for these patients.

### (A) NREM Sleep Bruxism (SB)

In NREM sleep, most micro-arousals tend to occur in a structured and repetitive manner known as the cyclic alternating pattern (CAP). SB patients are thought to have a heightened responsiveness to sleep arousals. NREM SB is likely '*an extreme manifestation of a complex physiologic oromotor behavior*' that serves a homeostatic purpose for maintenance of oro-esophageal pH and lubrication as well as upper airway patency during sleep. Therefore, there is intensification of the rhythmic masticatory muscular activity (RMMA) in either frequency and/or amplitude in predisposed individuals. This is the same for those with hyper-arousal from other painful comorbidities, insomnia or fragmented sleep due to unresolved Upper Airway Resistance Syndrome (UARS) or Periodic Limb Movement Syndrome (PLMS). Fluctuations in central nervous system neurochemicals (e.g. dopamine) and drugs (e.g. clonidine) that influence sleep architecture by altering REM sleep onset (e.g. in depression) may also influence the occurrence of RMMA during sleep.

#### i. Implications 1: NREM SB in children

We used to reassure worried parents that 1 in 3 children typically stop their nocturnal tooth grinding when they reach their twelfth birthday. The observation was valid although previously we really didn't know the reason for it. Since the human airway only reaches its mature dimension around 12 years, whereas adenoid growth begins at 2.5 years and peaks at around 5 to 6 years, manifestations of NREM SB in children should therefore alert us that there are ongoing airway patency issues during sleep (e.g. adeno-tonsillar hypertrophy, chronic nasal congestion, allergic rhinitis). Hence sleep bruxism, snoring and restlessness in bed observed are likely the consequence of airway challenges during sleep. Therefore, these children should be referred to the paediatric sleep physician or ENT surgeon for further investigation.

#### ii. Implication 2: SB in patients with erosive wear

SB may also be a protective arousal-related response to stimulate saliva secretion, which enables the neutralization of oesophageal acid. NREM sleep bruxers with comorbid Obstructive Sleep Apnea (OSA) or Upper Airway Resistance Syndrome (UARS) who also present with severe dental attrition combined

with erosive wear should be screened for sleep-related gastro-esophageal reflux disorder (GERD) and laryngeal-pharyngeal reflux (LPR) because of the associated increase in negative intrathoracic pressure. If confirmed, these patients should be treated with proton pump inhibitors e.g. *Omeprazole* in addition to protective occlusal appliances worn during sleep. (Figure 1)



Courtesy of Edmund Toy Mai-Hiong Endowment

Figure 1: Phasic NREM SLEEP BRUXISM with comorbid UARS and GERD (i.e. Secondary SB)

### **iii. Implication 3: Choice of nocturnal occlusal devices**

Interestingly, the conventional full occlusal coverage flat plane '**stabilization splints**' we were all taught in Dental School to fabricate for bruxism are now *contraindicated* in patients with sleep disordered breathing as they have been shown to actually worsen the sleep apnoea and cause respiratory disturbance!

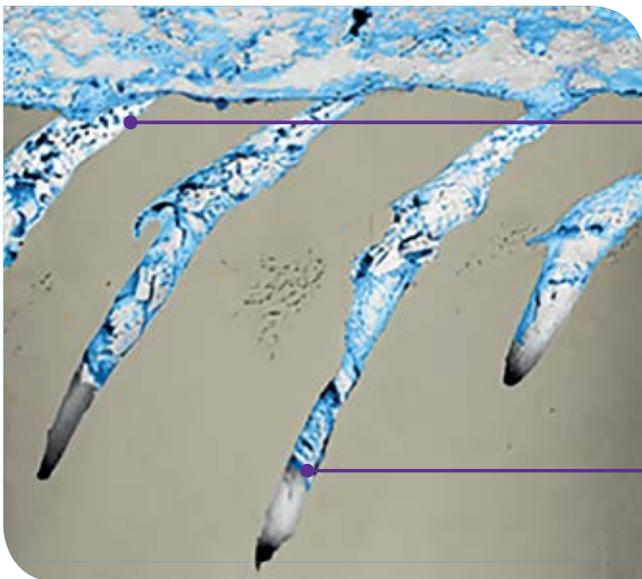
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Representative FIB-SEM image, combining multiple imaging techniques (STEM-EDS, DSIMS, FIB-SEM/EDS).

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STEM-EDS = Scanning Transmission Electron Microscope-Energy-Dispersive Spectroscopy. DSIMS = Dynamic Secondary Ion Mass Spectrometry. FIB-SEM = Focussed Ion Beam-Scanning Electron Microscope. FIB-SEM/EDS = Focussed Ion Beam-Scanning Electron Microscope/ Energy Dispersive Spectroscopy.  
<sup>†</sup>vs. toothpaste containing 0.454% stannous fluoride and lower polymer level.  
<sup>†</sup>with twice-daily brushing.

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**(B) REM Sleep Bruxism**

Only 10% of sleep bruxism occur in REM sleep. REM SB has an entirely different etiopathology from NREM SB and is possibly a subclinical manifestation of REM sleep behaviour disorder (RBD).

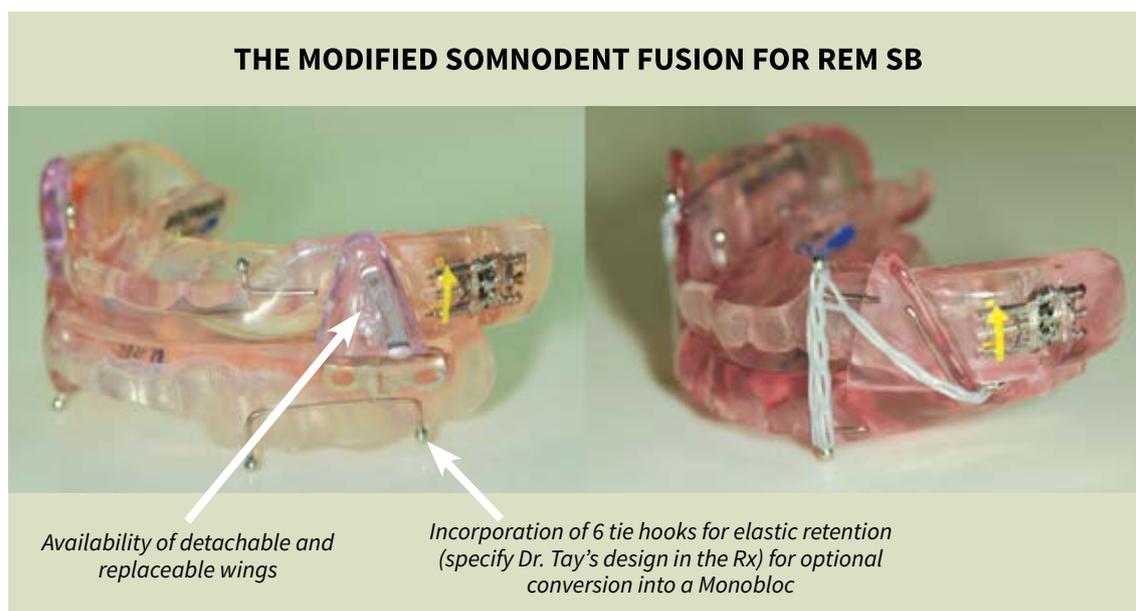
RMMA-SB occurring during REM has special clinical significance because of the general attenuation of protective reflexes during this phase of sleep. REM SB has previously been referred to as “**DESTRUCTIVE BRUXISM**”. About 1 in 4 patients referred to me for prosthodontic full mouth reconstruction for severe dental attrition exhibited REM SB confirmed by PSG. They were found to have more RMMA-SB episodes and more bruxing per min of REM sleep. They presented with significant morning symptomology (dental damage, odontalgia, TMJ arthralgia, masticatory muscle myalgia, delayed onset muscle soreness and/or transient headache). Without nocturnal occlusal splint protection, many properly osseointegrated implant-supported prostheses will fail in these patients.

During REM bruxism, recurrent microtrauma from unrestrained mandibular torquing caused by the vector combinations of *all* the contracting elevator and depressor muscles, including the masseter, temporalis, medial and lateral pterygoids commonly occur. In some cases, the torquing is so extreme that the coronoid process of the mandible gets repeatedly wrenched against the buccal aspects of the maxillary tuberosity of the patient causing unusually sited mucosal ulcers. These patients are not able to reproduce this parasomniac range of movement whilst awake!

Suggested management of REM bruxism include the following:

**i. Orthotic Therapy - Mandibular Advancement Splints (Figure 2)**

These are the same devices used in the management of sleep-disordered breathing to prevent upper airway collapse. They are especially effective in reducing waking symptoms in patients presenting with low frequency RMMA by preventing mandible torquing during REM SB episodes. When the upper and lower plates are tied together (Figure 2), it converts potentially injurious involuntary eccentric muscle contraction (associated with delayed onset muscle soreness), into less damaging isometric contractions.



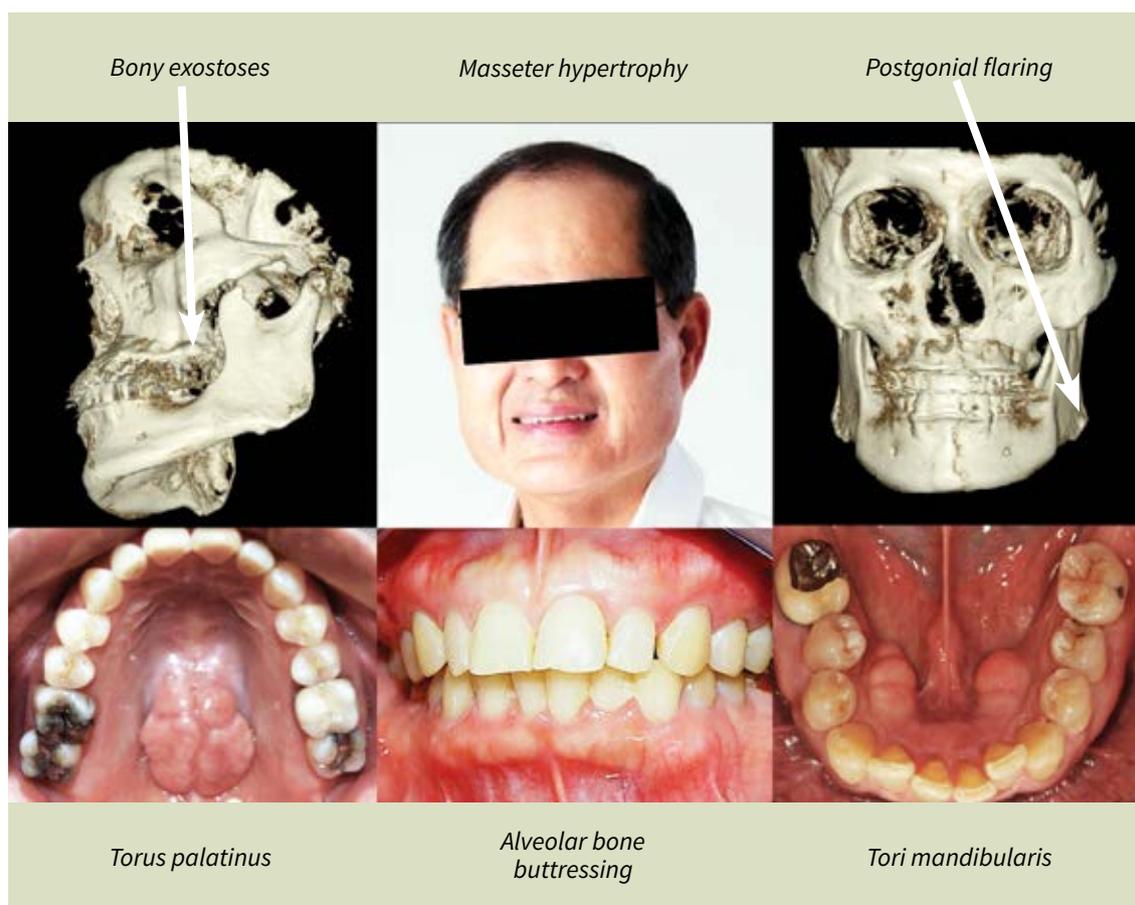
Courtesy of Edmund Tay Mai Hong Endowment

Figure 2: Orthotic therapy for REM SB

**ii. Botox Injections**

Although NREM-SB classically occur secondary to arousals, we have PSG documentation that some RMMA-SB episodes actually precede and cause REM arousals! It has been our experience that Botulinum toxin type A injections into the superficial masseter & temporalis muscles can stop REM arousals for up to 6 months and should be considered in patients with severe stomatognathic pain and/or associated violent and disruptive REM arousals. It should be pointed out that Botox reduces the amplitude but not the frequency of the RMMA episodes.

**(C) Awake Bruxism (AB) (Figure 3)**



Courtesy of Edmund Tay, Mai Hiong Endowment

Figure 3: Awake Bruxism

Approximately 1/3 of patients with SB also exhibit concomitant wake-time bruxism. This has an estimated prevalence of 12% in children and >20% in adults. Psychosocial factors like stress, anxiety-hypervigilance and personality traits have significant influence on AB. The stoic socio-cultural environment (*rewarding self-control, discouraging the open expression of emotions, keeping your mouth shut and your teeth together!*) rather than genetics are thought to be responsible for the higher prevalence of oral tori/bony exostoses in Asians.

Even though the AASM clinical diagnostic criteria for **Sleep** Bruxism (ICSD-2, 2005) listed '**Hypertrophy of the masseter muscles on voluntary forceful clenching**', it is imperative to realise that muscle hyper-

trophy in the elevator muscles can only be produced by habitual repetitive submaximal contractions occurring in association with parafunctional tooth contact when **awake** (which may exceed several diurnal hours unlike that which occurs during SB episodes). In other words, it is the wake-time parafunctional bracing/clenching that is responsible for the hypertrophied musculature, but it is during SB episodes that the resultant movement vector and/or loads generated by them are unleashed!

Despite strong clinical belief and traditional dental school teaching, awake bruxism is held by leading researchers to be the more relevant risk factor for the development of persistent myofascial TMD than sleep bruxism.

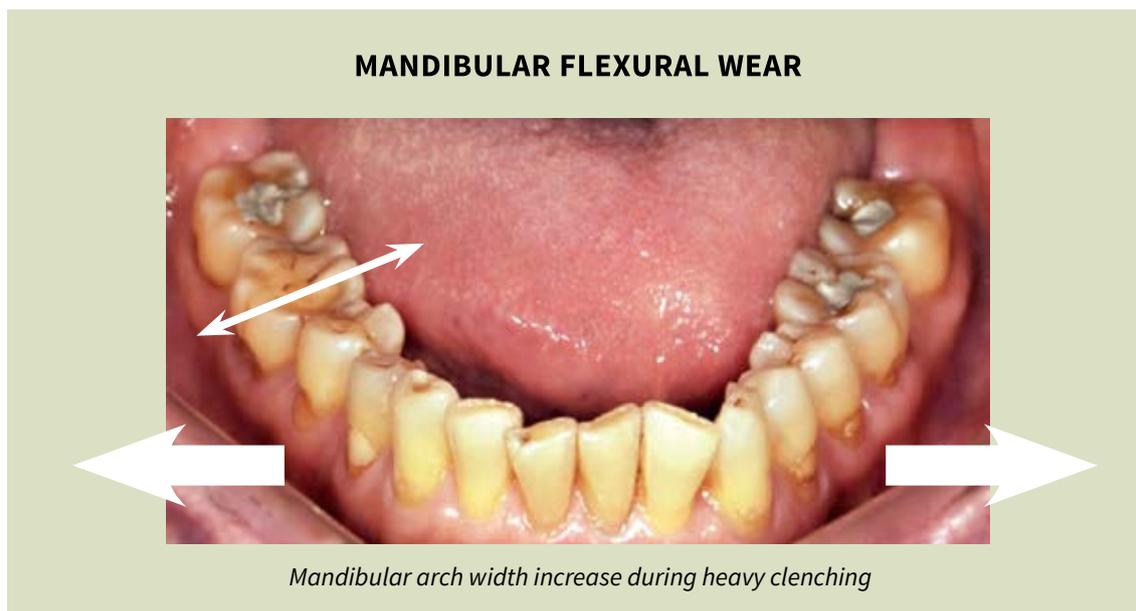
Besides masseter hypertrophy, there are several orofacial features that may be associated with AB:

**i. Presence of Tori**

The prevalence of **tori mandibularis** and associated jaw parafunction were reportedly higher in patients with TMD and migraine. Similarly, torus palatinus can be found in subjects who brace eccentrically and simultaneously on working and non-working (balancing) side occlusal contacts.

**ii. Pathognomonic occlusal wear patterns (Figure 4)**

**Mandibular lateral flexure** associated with parafunctional jaw clenching produces non-carious cervical abfraction lesions, dislodged fillings and pathognomonic occlusal wear patterns where the lingual cusps are cupped and higher than the buccal.



Courtesy of Edmund Toy, Mai Hiong Endowment

Figure 4: Pathognomonic occlusal wear pattern related to lateral mandibular flexure associated with habitual (awake) parafunctional clenching

**iii. Buccal mucosal ridging**

This is yet another interesting phenomenon associated with AB. Because the masseter muscle lies superficial to the buccinator muscle, the *linea alba* (or white line) commonly seen in chronic habitual clencher is the result of pressure necrosis of the lining buccal mucosa trapped between the horizontal fibers of the

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buccinators. The masseters are engaged whenever there is *active* posterior tooth contact. Therefore, no mucosal ridging is observed wherever there is an edentulous span or break in the dental arch.

**iv. Parotid-Masseter Hypertrophy Traumatic Occlusion Syndrome**

The Stenson's duct which passes through the Buccinator muscles can sometimes be occluded producing a Mumps-like parotid gland swelling which characteristically lifts the earlobe. Unfamiliarity with this syndrome often results in unnecessary investigations/surgical interventions by medical colleagues.

Some possible strategies for these patients include:

- a. Teaching the patient to self-monitor this parafunctional habit. There are free mobile phone applications (e.g. *No Clenching* (Live Ideas Creative Mobile Solutions Ltd))
- b. Prescribe the use of posterior disengaging devices (e.g. NTI device) - These buccal mucosal elevations will disappear, and decrease in its severity
- c. "Chemical paralysis" (using Botox) of clenching muscles - In therapeutic Botox use, the awake bruxer is not able to continuously coactivate the muscles for 3 months or so, which results in disuse atrophy and associated weakening of the elevator muscles. Resultantly, some patients with AB would notice the improvement in frequency and severity of their daily 'end of day' jaw aches and temporal headaches.

The same phenomenon also occurs in patients with AB who are undergoing orthodontic treatment. Others may complain of the undesirable cosmetic consequences (e.g. looking gaunt) when temporalis and masseter muscles atrophy as their bracketed teeth become mobile or too uncomfortable for them to continue with their unconscious parafunctional behavior. Unfortunately, this pernicious habit resumes once the teeth regain stability after debanding. (Figure 5)



Figure 5

#### ***(D) Secondary Bruxism***

We have always to be vigilant that we're not actually dealing with a secondary bruxism i.e. comorbid sleep disorders, neurologic or psychiatric conditions, GERD, drugs/chemicals that may induce tooth grinding and/or clenching during wake or sleep.

##### ***i. Association with Upper Airway Resistance Syndrome (UARS)***

UARS should always be excluded in these cases. The tell-tale signs during clinical examination and/or CBCT imaging include evidence of chronic nasal congestion (e.g. swollen nasal turbinates, a deviated nasal septum, presence of Donder's cavity), habitual mouth breathing, incorrect resting tongue posture, a restricted V-shaped maxillary arch, a deep palatal vault, retrognathia, posteriorly displaced condyles, or a forward head posture as documented on the lateral cephalogram (Tay & Pang, 2017).

##### ***ii. Association with the use of medications***

Severe bruxism (both SB as well as AB) occur in children who are on methylphenidates (e.g. Ritalin, Concerta) for Attention Deficit Hyperactivity Disorder (ADHD). Despite the obvious damage to their dentition, the child continues taking the medication until they finish school or university! I have also in the past consulted with psychiatrists whose patients suffer severe phasic SB as a side-effect of serotonin specific reuptake inhibitors (SSRIs) like fluoxetine, to either alter the dosage or change to another antidepressant.

##### ***iii. Association with neurologic conditions***

Because the etiology of bruxism is not fully understood, there are those who continue to advocate that the treatment of SB should be palliative. The following is one case to illustrate the error of such an approach.

I had seen a teenager with severe REM SB with complaints of severe myalgia and TMJ arthralgia on waking. She had also complained of vivid, action-filled dreams and involuntary limb movements during sleep. She did remarkably well on a stabilization splint but stopped appliance therapy after a relatively pain-free year on advice of her regular dentist who believed that her pains were psychogenic in nature. Several years later, she found me again in my private practice when all her symptoms resurged and in addition, she now presented with a huge anterior open bite. She was diagnosed with bilateral Idiopathic Condylar Resorption - at that time a relatively unknown low serum 17 $\beta$ -estradiol-related disorder. Together with my orthodontic colleague, we successfully managed her AOB and put her on a modified SomnoDent MAS, which worked as an orthodontic retainer whilst protecting her compromised joints from further occlusal loading during REM SB episodes. We also worked with a neurologist specializing in movement disorders, who put her on a maintenance doze of Clonazepam 1 - 1.5mg at night.

I also insisted that she undergo a full night level I PSG study. In preparation for this, she was slowly weaned off her nightly Clonazepam medication. This unmasked a late onset epileptic seizure and she was subsequently referred for a MRI scan, which discovered a dysembryoplastic neuroepithelial tumor (DNET) in left frontal lobe bordering the interhemispheric fissure. This slow growing primary brain tumour was likely responsible for epileptiform activity in the frontal lobe manifesting as REM SB-like oromotor behavior since her teenage years. Imagine how ridiculously inappropriate it would have been for us to have continued managing a brain tumor with a piece of plastic!

#### **Conclusions**

There is an urgent need for a paradigm shift in how we approach the management of the bruxing patient. One size does not fit all!

Dentists should begin to look upon RMMA-SB as a normal albeit complex, centrally regulated, oromotor behavior occurring during sleep. We have a duty of care to discover and understand the individual prevailing circumstances that may have caused this RMMA transition into its maladaptive form. Our identification of masseter hypertrophy (e.g. by increasing the amplitude of RMMA) as one such risk factor, puts the spotlight on Awake Bruxism thus making it a logical interventional target in the overall management of 'destructive' sleep bruxism and persistent myofascial TMD.

If NREM SB is a physiologic compensatory mechanism to halt airway collapse, it is essential that we place efforts to first find out the reasons for the airway challenge. Patients, including children, with NREM SB should be investigated for comorbid sleep disordered breathing, in particular UARS, if they also complain of unrestorative sleep, excessive daytime sleepiness, chronic nasal congestion, forward head posture and/or TMD. Patients exhibiting REM SB should always be closely followed up to exclude neurologic disorders like sleep epilepsy, RBD or synucleinopathies.

In the holistic and individualized management of SB, optimal results for the patient are obtained when dentists work closely with a team of dedicated sleep professionals. An overnight PSG study remains an important consideration whenever secondary bruxism is suspected. 



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He is presently the Clinical Director of the Specialist Division, T32 Dental Centre at Camden Medical Centre.

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The citations for the above article can be found in the 'Clinical Tips' section at [www.etmh.com.sg](http://www.etmh.com.sg)

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# Writers of Our Own Story – A Glimpse Inside The Society For The Aged Sick

“It is not death that the very old tell me they fear. It is what happens short of death – losing their hearing, their memory, their best friends, their way of life.” — Atul Gawande, ‘Being Mortal’

BY DR. PAUL SIM



*A meaningful Sunday afternoon for both SDA Council Members and Dentistry Freshmen*

**W**hat started off as a way to spend Saturdays meaningfully outside of National Service led me to an enriching journey at The Society For The Aged Sick (SAS). As a volunteer with the Hougang-based nursing home for the past seven years, I consider myself a small peg in SAS’s aims to provide quality care to the aged sick and destitute,

as well as to help these individuals lead meaningful and enriching lives.

My rude awakening to SAS came when I mistook a resident’s urine bag for a packet of milk tea. Later, the shock at seeing a nurse feed another dysphagic resident through a syringe made me realise I had a



*Kopi Talks with Rotary Club of Singapore-West (Photo courtesy of Dr. Dominic Leung)*

long way to go in understanding the elderly. Befriending them soon bridged that divide, and remains a big part of my volunteering duties at SAS. Spoiled relationships or neglect from next-of-kin can exert a tremendous emotional toll on the residents. Human contact from nursing home staff and volunteers then becomes a crucial part of maintaining their social well-being, in turn improving their overall health.

Despite the initial doubts about bridging a generation gap, interacting with the elderly became most rewarding when they shared their treasure chests of life experiences. Their stories ranged from the amusing, such as a particular *Aunty's* snake-catching exploits in her youth, to poignant ones. Like how *Aunty R* was raised in a wealthy family (she cheekily boasts how she always got the chicken drumstick during dinners) but dwindled finances and family tussles meant she was later abandoned. The silver lining in each resident's sometimes chequered but often heartbreaking background story is a caring community that now exists among them. One touching episode saw *Aunty B* requesting to share a packet of noodles I had bought for her as a treat, before personally dividing the food for others in her ward to enjoy.

Treating residents to occasional take-away meals is always well-received in contrast to the Home-catered ones. After all, who can resist *char kway teow*? Another underestimated but highly appreciated task a volunteer can do for the residents is to accompany

them out for a stroll. Even a quick *jalan jalan* around the neighbourhood provides a refreshing respite from the nursing home walls. I try to visit the elderly especially during festive occasions: bustling periods of family, community and activity which understandably heighten their sense of loneliness, and often abandonment. Apart from befriending them, I have also assisted the Health Therapists in rehabilitating residents during physiotherapy sessions through simple functional exercises.

Besides the physiotherapy room, the Home is also equipped with an in-house dental clinic where dental volunteers may provide oral health screenings and treatment for residents. This clinic was a highlight of the Singapore Dental Association (SDA) Corporate Social Responsibility Outreach Programme 2017 which was organised by the SDA Welfare Committee. Liaising with the National University of Singapore Dentistry freshmen batch, participants engaged SAS residents on a boisterous Sunday afternoon through *Teresa Teng* karaoke medleys, *Bingo* – which revealed how competitiveness sometimes never ages – and heartfelt conversations.

The freshmen also toured the nursing home wards to observe the daily living habits and care of the elderly residents. This provided an opportunity for SDA Council Members present to share volunteering anecdotes to inspire the students beyond the classroom. Then SDA Vice-President Dr. Terence Jee had the privilege



*Getting to know new friends at the dining hall*

of handing over the donation to Ms. Kate Koh, SAS Head of Finance and Administration. Through SDA and the generosity of individual donors, a total of \$26,588 was raised – a token sum towards fulfilling SAS' vision of adding years of quality life to the elderly. The trip ended on a hopeful note, as it reminded one freshman “of what working in the healthcare profession entails, which is improving people’s lives regardless of their background.”

However, volunteering at a nursing home entails its unique set of challenges. For a start, a sensory assault on all fronts: the bawling of those with dementia, drooling of stroke victims and perfusion of that ‘geriatric smell’. At a deeper level, the experiences mould a familiarity with morbidity; sometimes even mortality. While not all residents have terminal illnesses unlike at a hospice, a sizeable proportion present with mul-

tipl medical conditions, often part of the ‘Giants of Geriatrics’: incontinence, immobility, instability and intellectual impairment. I was confronted by the stark eventuality of old age through *Aunty C*, an affable lady whose first signs of failing health rendered her incapable of heading down to the dining hall for meal-times, robbing her of an important source of fellowship. She was eventually diagnosed with acute leukaemia, declined treatment and ultimately passed on. Witnessing a resident’s health deteriorate is always trying, but it never prepares one for the end.

Despite these challenges, what brings me back through the years are the genuine friendships and partnerships forged with residents and nursing home staff. As compared to the euphoria of episodic volunteering, serving with the elderly has quietly nurtured me to observe the age-old virtues of patience and

filial piety. The nursing home staff – many of whom hail from regional countries such as Philippines – are an inspiration through their efforts to better care for the residents beyond nursing home protocols. Fancy a Myanmar nurse picking up casual Hokkien to communicate with an aunty! Meeting like-minded volunteer groups who serve the elderly in different ways is also energizing. For instance, I joined members from a Rotary Club in *Kopi Friends*, a programme designed by SAS for volunteers to bond with residents over food at a nearby hawker centre.

Above all, there is immense joy in seeing residents age actively with fierce autonomy, despite the very fears that some may harbour during their silver years. Like the determined uncle who pushes himself around in his wheelchair, and the granny who folds napkins for her table-mates during lunch time. Especially *Aunty C*, who exercised her freedom of choice to not receive medical treatment for a debilitating condition, and made the brave decision to ultimately stop intervention altogether.

To be part of a larger community that helps empower our elderly to “remain the writers of their own story”, as Atul Gawande elegantly describes, has been most humbling. 



*Visiting residents during Chinese New Year 2018*

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**Dr. Paul Sim** graduated from NUS and is currently a Dental Officer with MOHH. He has been a regular face at The Society For The Aged Sick since 2011 and is an active grassroots volunteer in Kembangan-Chai Chee. He also serves with SDA in both the Welfare and Oral Health Awareness Committees. Away from Dentistry, he enjoys long jogs along park connectors and has been a Red Devils fan since the days of Giggs and Scholes.





## The Plastic Problem: what can we do for a better planet?

How much plastic do you use in a day? How about a week, or a month? Where does it all go?

BY DR. SURINDER ARORA

**J**ust over three years ago my partner and I were invited to a wedding in Thailand. It was my first time in Asia and I'd heard amazing things. I was excited and intrigued: a new culture, Thai food, and not to mention the renowned beautiful beaches.

We arrived at the pre-wedding dinner on the beach just as the sun was setting. It was a beautiful evening so we took a stroll down to where the tide was com-

ing in. Suddenly my partner yelled, 'Look, a jellyfish! Stand back!' I laughed at him. 'Don't be ridiculous, it's just a plastic bag,' I observed as I went over to investigate. I wished I had been wrong in my assumption, but it was indeed a plastic bag. We turned our heads to view the coastline. There were much more.

Looking back on this incident, I cannot help but feel sad. What have we done to our planet?



### What is plastic?

The term “plastics” includes materials composed of various elements such as carbon, hydrogen, oxygen, nitrogen, chlorine and sulphur. Plastics typically have high molecular weight, meaning each molecule can have thousands of atoms bound together. The manufactured or synthetic plastics are often designed to mimic the properties of natural materials. Plastics, also called polymers, are produced by the conversion of natural products or by the synthesis from primary chemicals generally coming from oil, natural gas, or coal (American Chemistry Council 2005)<sup>1</sup>.

It is estimated that:

- 1 trillion bags are used globally each year – that works out to about 2 million bags per minute<sup>2</sup>.
- 136kg of plastic is thrown away per person each year.
- There are 5 trillion microplastics in our oceans (excluding the big guys such as bags, bottles and others).
- Plastic is often mistakenly eaten by our wildlife. Microplastics release chemicals that travel into the

bloodstream of these animals and the parts that humans like to eat, allowing an accumulation of toxic substances along food chains that then enter our systems<sup>3</sup>.

### Plastic in Singapore

I was at the Singapore Botanic Gardens in April for an Earth Day showing of ‘A Plastic Ocean’. Dr. Amy Khor, Senior Minister of State for the Environment and Water Resources, kicked off this particular awareness campaign. ‘People, public and private sectors need to work together to tackle climate change,’ she stated. A population behaviour change could prevent the situation from getting worse. Research by the National Environment Agency (NEA) in 2011 estimated that 3 billion plastic bags were used annually in Singapore alone, but the actual figure could be as high as 27 billion.

The NEA also reported that 822,200 tonnes of plastic was used in 2016. A mere 7% of this was recycled<sup>4</sup>. Another study by the NEA stated that ‘regular use of a reusable bag over a year could replace the use of

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125 plastic bags or 52 single use paper bags<sup>5</sup>. Helpful measures such as banning, restricting or taxing plastic bags have been implemented in over 40 countries around the world; Rwanda has been plastic bag free since 2006. In the UK, Prime Minister Theresa May has proposed a ban on plastic straws, cotton buds and drink stirrers<sup>5</sup>. Singapore is currently not in support of a plastic bag ban.

### Disposable items



Out in the world there are many single-use items that can be completely avoided if we were a little more mindful of our consumption: plastic cutlery, plastic straws, plastic cups, just to name a few. As dentists we use many single-use items on our patients, but this is for a good reason. Excellent infection control and avoiding cross contamination is vital for good healthcare practices. Nonetheless, could there be a way to use less plastic per patient without compromising infection control and patient safety?

What about our toothbrushes? Who advises his/her patients to change their toothbrushes every 3

months? The first modern day toothbrush went on sale in 1938. Manual toothbrushes are made of polypropylene plastic and nylon (often sourced from non-renewable energy sources). It is estimated that 4.7 billion toothbrushes are dumped in our landfills and oceans yearly<sup>6</sup>. Could a more sustainable option be the answer?

### What can we do today for a better tomorrow?

‘What would happen if everyone did what I was doing? What kind of world do I want to bring my children into?’

When we ask ourselves these questions, we find that our daily choices actually bear greater repercussions than we originally thought. Here are some top tips to unleash the earth-loving eco-warrior within:

#### • Reduce

Do you really need that item ‘doubled-bagged’ with a plastic carrier? Do you really need the plastic bag at all? If you know in advance that you are going grocery shopping, bring along a reusable grocery bag. Avoid plastic bottles (especially mineral water bottles) and use your own tumbler or refillable bottle when you are out and about.

Bring your own cutlery to work for meals so as to reduce the amount of plastics you generate; be a trendsetter and get your friends and colleagues to follow!

Refuse plastic straws: they are completely unnecessary and have devastating effects on the environment.

#### • Reuse

Do you have anything reusable? Take these items with you and reuse them. Donate old but still usable clothes and shoes to charity organizations.

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### References

- <sup>5</sup> *Financial Times*. (2018). *May steps up war on plastic waste with straws ban*. [online] Available at: <https://www.ft.com/content/7565c85c-4328-11e8-803a-295c97e6fd0b> [Accessed May 16 2018]
- <sup>6</sup> *Brush With Bamboo*. (2018). *Our Story*. [online] Available at: <https://www.brushwithbamboo.com/story/> [Accessed May 16 2018]



#### • Recycle

Check out the process in your area and start recycling paper, card, plastic and clothes (even fabrics contain plastics; polyester is used in many clothes!). The amount of energy these items take to produce is phenomenal, and often they are tossed away too soon.

Your actions speak volumes and will inspire others to do the same. Why not share what you are doing and raise awareness so that people can make better choices? This could be via a simple conversation or a social media post, or simply through mindful actions on your part in helping to reduce waste.

#### Resources

Keen to find out more?

Check out <https://plasticoceans.org/> for a documentary that is a must-watch.

Check out <https://www.beforetheflood.com/> for what you need to know on climate change.

Check out Sustainable Singapore, Ministry of Environment and Water Resources Singapore <https://www.mewr.gov.sg/individual-pledge> for what you can do to fight climate change.

#### Interested in a 'Greener Dentistry' conversation?

E-mail me on [team@soulsmile.org](mailto:team@soulsmile.org) with your thoughts on what we could do within the profession to help. 

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**Dr. Surinder Arora** is a dentist and health coach from the UK. She is based in Singapore and is studying a Masters degree in Public Health. She has a keen interest in general health and wellbeing. Out of working hours she enjoys travelling, healthy eating, writing and yoga. For more information, visit [www.soulsmile.org](http://www.soulsmile.org).



Dr. Low Li Yong  
and Dr. Justine Lim



## The Odontogenic Union

BY DR. WONG LI BENG

When I first met my prospective father-in-law in his house, a fridge magnet with this quote caught my attention: Marriage comes with three rings, the engagement ring, the wedding ring and the suffering. While it did leave an everlasting impression on me, it did not deter me sufficiently from marrying his daughter.

Is this dentist-marry-dentist community really exclusive? Not quite. There are very few scientific articles that talk about similar unions. An early paper (Born, JADA 1991) estimated that 2% of male dentists and 30% of female dentists married someone of the same profession, a figure obtained from the American Dental Association. There is no official figure in Singapore, but anecdotally, those who have graduated from The

National University of Singapore would agree that there will be, on average, at least five dental couples (or even more) per graduating cohort.

No one in the right frame of mind will regard the rigors of the dental clinics, the dental laboratories or the seminar rooms as the most conducive venues for romance to blossom. How then did so many dental couples come together and thrive in such harsh and unforgiving environs?

I once heard this statement from a senior: "Dental school is character molding and character revealing." Dental school is not a place for the faint-hearted. The constant stress of finding patients for the right clinical indications, completing clinical requirements and

competencies, and rushing through lab work every night may leave one feeling physically and emotionally drained. It is thus in such times of extremis and vulnerability that the human spirit rises to provide mutual assistance and companionship to fellow sufferers, sometimes even beyond the call of duty.

Hearts soar when someone stays late into the night to assist with a full-full denture wax up. Relationships are forged like full-metal crowns during such trying times. Instead of having romantic dinners or watching movies, most rendezvous for dental couples during undergraduate days involve lab sessions pouring gypsum stone models. Stimulation takes on an intellectual and academic nature in the library memorizing facts from textbooks and journals. The dental couples still together this day I have interviewed agree that the bond formed during undergraduate years goes far beyond micromechanical retention or ionic exchange to set the fundamentals of a lifelong partnership.

After the euphoria of graduation, many individuals decide to restrict dentistry only to their professional lives and switch to a non-dental partner. However, the romances forged in the crucible of dental school often blossom into marriage and eventually a family nucleus of dental offspring.

What are the perks of marrying a fellow dentist? First of all, you can get a free professional consult on a difficult surgical case in the comfort of your own home. You will not be afraid to ask stupid clinical questions and you can challenge your spouse openly if you hold different opinions with regards to treatment planning. Your spouse can totally empathize with you when you have to work through lunch on an insane day of double-bookings, or when your neck is almost breaking at the end of the day after treating patients who just cannot seem to open their mouths wide. This supports a Norwegian study (Gjerberg 2003) conducted via questionnaire on dual-doctor marriages, suggesting that dual-doctor couples to a higher extent, shared in giving care to their families, had more interests in common, and were more supportive of each other's needs.

How about the flip side of the coin? While you can show off to a non-dental partner your class IV restorations or your heroic surgical procedures, a dental partner will probably know as much, if not more than what you are trying to impress him/her with. You simply



*Dr. Justin Leong and Dr. Lui Jeen Nee*



*Dr. Mervyn Ng and Dr. Chan Feng Yi*



*Dr. Hu Shijia and Dr. Bien Lai*



*Dr. Lai Ye Choung and Dr. Kueh Ling Hui*



*Dr. Chow Wai Kit and Dr. Lim Li Hong*



*Dr. Gerald Pwee and Dr. Heng Li Yun*

cannot hide from your partner all your embarrassing history of failed clinical competencies or accidentally losing your patient's cast-post-core into the spittoon basin. Your wedding anniversary dinner may be spent arguing over whether to keep or extract a guarded tooth. If an interesting dental conference is coming, both of you will have to fight over who gets to attend the conference and who has to be grounded at home to look after the screaming kids (sans grandparents).

A study presented at the British Psychological Society Division of Occupational Psychology Annual Conference in 2012 was conducted to assess how husbands and wives with similar professions impacted work-life balance. Unfortunately it was found that they were more likely to struggle with work-life balance, spend more time on their jobs and put more emphasis on their careers than families as a result of ease of "spill over" from work.

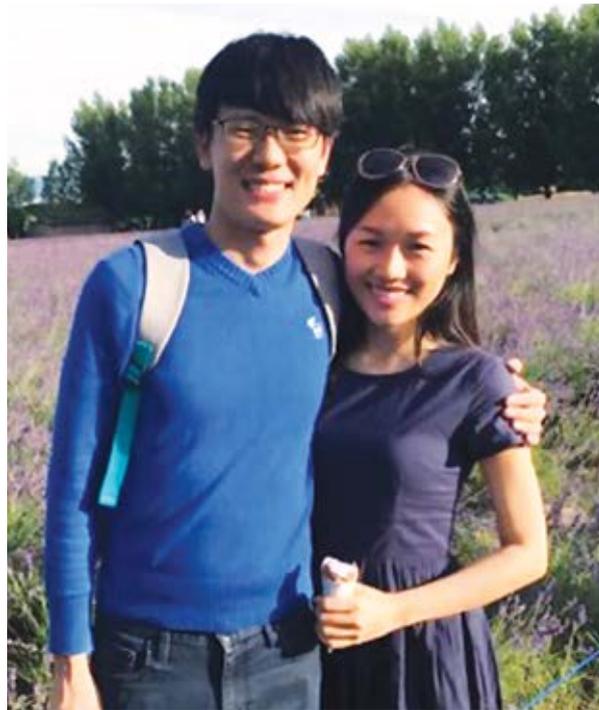
There are plenty of dentists who are happily married with non-dentists, and marrying a fellow dentist does not guarantee a long-lasting marriage of overflowing blissfulness. At the end of the day, regardless of your spouse's profession, it still comes down to how comfortable your partner sits on that sacred altar in your heart and how much effort you make to maintain this relationship and fortify this union of destiny.

When you make that leap of faith to purchase the engagement ring, the salesman will definitely quote the well-known commercial slogan from De Beers that a diamond is forever, with the understanding that due diligence has to be made to send it for regular professional cleaning in order to maintain that sparkle. This is no different from the "miracle" of dental implants, which last a lifetime provided the caveat of continuous professional and personal maintenance is observed.

I turn my thoughts once again to the fridge magnet that says marriage comes with three rings: the engagement ring, the wedding ring and the suffering. The epic trilogy *The Lord of the Rings* depicts the adventure of Frodo and his companions to destroy the Ring that has caused much suffering to mankind. It also, to a certain extent, symbolizes the ups and downs of my professional career as well as my matrimonial and paternal roles. However tough it may turn out, I can always take solace in my fellow Hobbit soul-



*Dr. Tan Jun Da and Dr. Joanne Ou Jiazhen*



*Dr. Desmond Goh and Dr. Chua Synn Tian*



*Dr. Low Yi Han and Dr. Teow Wan Wah*



*Dr. Chelsia Sim and Dr. Kelvin Khng*

mate (both of us are indeed vertically challenged) who will walk this journey with me together in our lifelong pursuit to rid ourselves of that third ring in our lives.

**What do some of our dental colleagues feel about having a fellow dental partner?**

*“It’s good because we have a big common interest (in dentistry), can fully understand what the other person is going through at work or why the other person is having a bad day. We can help and support each other both at work and home, and grow together as a couple.”*

**– Dr. Lai Ye Choung and Dr. Kueh Ling Hui**

*“It’s cool because it takes one to know and appreciate the weirdness and idiosyncrasies of another fellow dentist.”*

**– Dr. Low Li Yong and Dr. Justine Lim**

*“It’s cool because we can tell each other the exact location where food is stuck between our teeth.”*

**– Dr. Hu Shijia and Dr. Bien Lai**



*Dr. Yeo Ping Leong and Dr. Wang Yuan*

*“Can I say that’s the worst decision I have made to date?”*

**– Dr. Low Yi Han and Dr. Teow Wan Wah**

*“Being a dental couple with kids comes with the perk of added couple time when we go for courses and conferences together and legitimately drop the kids off to our grandparents”*

**– Dr. Yeo Ping Leong and Dr. Wang Yuan**

*“The benefit of being a dental couple is that we can go for CDE together.”*

**– Dr. Tan Jun Da and Dr. Joanne Ou Jiazhen**

*“Being a dental couple offers alot of synergy when it comes to lifestyle choices. We can choose to work on the same days such as on weekends and have weekdays to bring our child out to play (less crowded for sure)! Plus there is always someone to ask when you need that second opinion!”*

**– Dr. Gerald Pwee and Dr. Heng Li Yun**

*“A common language makes team work in a marriage easier.”*

**– Dr. Chow Wai Kit and Dr. Lim Li Hong**

*“We met on a dental school trip for the MUNUS games and bonded over a love for travel. Every relationship has its cusps and fissures, but the “tooth” is that the couple that travels together, stays together!”*

– Dr. Justin Leong and Dr. Lui Jeen Nee

**Acknowledgement**

I will like to thank all these lovely dental couples who have so graciously agreed to pen their thoughts in

support of my swansong article for **The Dental Surgeon**. Wishing them eternal bliss together.

My sincere thanks to Dr. Terry Teo and Dr. Seow Yian San, present and immediate past editors-in-chief and their editorial teams, for trusting me enough to publish all kinds of bizarre topics from erectile dysfunction, acupuncture, HFMD to this current one.

Last but not least, this article is dedicated to the chief governor of my family, the special guardian of my three rascals, my Hobbit soulmate. 



*Dr. Wong Li Beng and Dr. Jasmine Boey*

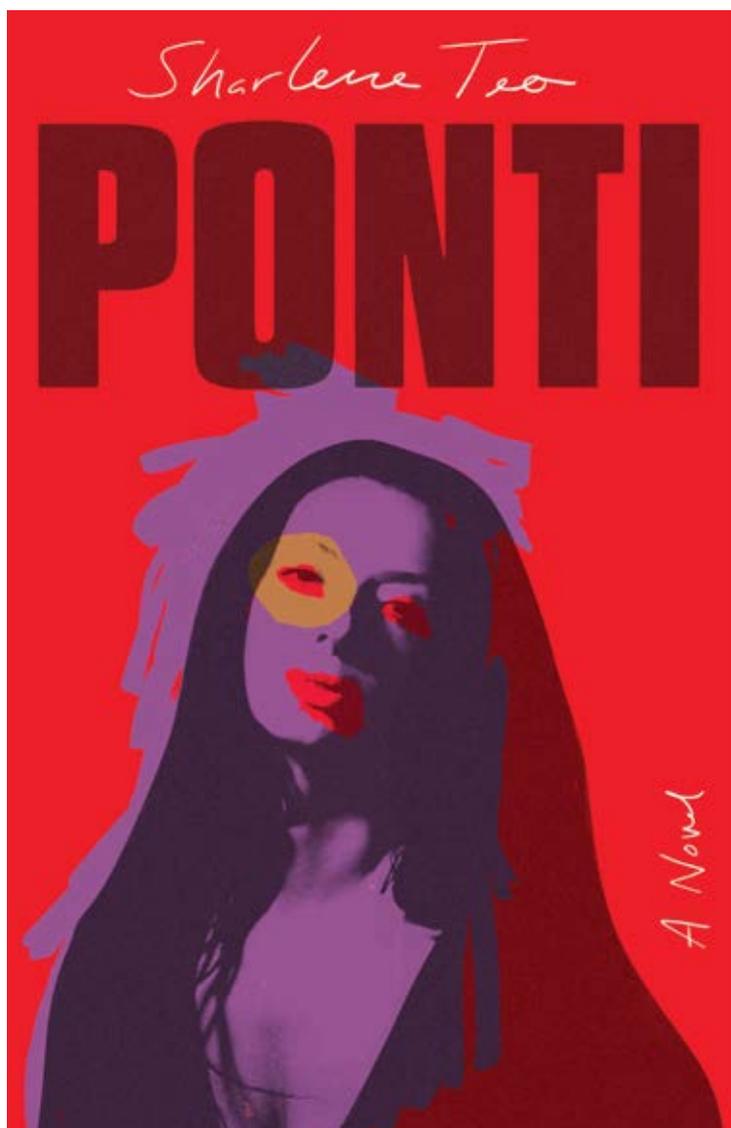
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**Dr. Wong Li Beng** graduated from NUS in 2005 and went on to obtain his MDS in Periodontics in 2010. In 2012, he received the certificate of Specialist Registration with Singapore Dental Council as a Periodontist. Besides Dentistry, he also obtained his Graduate Diploma in Acupuncture in 2011 from the Singapore College of Traditional Chinese Medicine. He is currently working in Ng Teng Fong General Hospital and Jurong Medical Centre, serving as a Consultant and Director of Service for Preventive Dentistry.

## Singapore Sings

*The Dental Surgeon* shares an exclusive excerpt from award-winning debut novel and Straits Times bestseller *Ponti* by Sharlene Teo, a writer born and bred in Singapore but now based in the UK. In 2016, her novel beat over 850 entries from the UK and Commonwealth countries to clinch the coveted Deborah Rogers Award, and continues to be critically acclaimed since publication this April. The novel is now available in all major bookstores and online bookstores in Singapore.

BY DR. TERRY TEO



**P**onti is a tale of “monstrous femininity”, told from the perspective of three women in Singapore: Amisa, an ageing but beautiful actress who starred in a failed 70’s horror Pontianak trilogy called *Ponti!*, her not-so beautiful daughter Szu who is an outcast secondary schoolgirl in haze-choked 2003, and Szu’s ex-best friend Circe who is a struggling social media consultant in modern 2020. The novel spans 50 years and interlaces a rich tapestry of motifs: how memory shapes us sometimes for the worst, how the intensity and loneliness of teenage friendship often returns to haunt us in adulthood, and how the rapid modernisation and dissonance of Singapore is keenly felt in the internal lives and conflicts of its denizens.

Since its release, *Ponti* has already garnered critical acclaim from the likes of *The Straits Times*, UK’s *Financial Times* and *The Guardian*, and *The Asian Review of Books*. Literary great Ian Mc Ewan called it “remarkable”, and Booker Prize nominated author Tash Aw called it “a milestone in Southeast Asian Literature”. To date the novel is being translated into 8 languages, and its US release is scheduled for September 2018.

The following excerpt from the novel (released with permission from the author) encapsulates the novel’s preoccupation with ageing, fraught relationships, and

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gross bodily functions. Please be warned that it contains expletives.



CIRCE 2020

*“By the time I finish my meeting and come home I’m starving. Julius is still out and I’m grateful to have the flat to myself. I change into my dreariest, comfiest pajamas. I’m too lazy to cook so I have four slices of Gardenia bread for dinner instead. One spread thickly with kaya and butter, two with strawberry jam, one with plain butter and white sugar. My tongue goes numb with too much sweetness and my gut will complain later, even without the treacherous worm. I hear the neighbors watching television from the left wall and I wonder if they resent me as much as I resent them for the noise of their living.*

*I glare into the bathroom mirror as I wipe my eyeliner off. It’s the same face, alright, I’m one of those people who has looked eerily unchanged since childhood. I’ve remained constant in my non-descriptness. I pull at my skin, the flaws I started noticing in flickers from my mid-twenties have decided to stay put and pronounce themselves even more strongly on my face. There are three lines on my forehead, stretched across my skin like guitar strings. I try to smooth them and they disappear for a moment, but only a moment. There are crinkles at the corner of my eyes, and shadows. Pigment spots where the sun hits.*

*Magazines, with their phoney advocacy of self-love, say that you learn to enjoy being yourself the older you get. In spite of your decrepitude, your decreasing worth. Be a peacefully deteriorating woman; covet, but also accept your lot. Believe in cosmetic products and their promises of preservation. You are supposed to celebrate, not to complain;*

*to ripen like a bottle of wine, not a banana; to thrive, not to rot. You are supposed to hold a hairbrush and lip-sync with gusto to Abba or Beyonce with your sisters and girlfriends. You are supposed to buy tickets for movies that feature montages precisely like that. You are supposed to hand over your money and embrace the straightjacket of who you are and your aging. Even in this stifling city where so many interminably young girls on the street seem to be made of porcelain and no matter how many bowls of mee pok they wolf down in food courts, they still seem to fit into their blog shop skirts.*

*I’m too young to say I’m too old for this. I’m too pasty for someone who lives near the Equator. I finish washing my face and turn to my hands. I can see and feel my worry all over, and it doesn’t make sense because I’ve built nothing valuable from this worry, and in my head I still feel as confused as I did at twenty years old.*

*The front door creaks open and then slams. It’s Julius, coming back from a work event at some edgy new bar in Jalan Besar. I wonder from the clumsy way he’s putting things down if he is a little drunk. I towel dry my hands and make my way to the living room.*

*‘Hey Circ,’ Julius calls out. His face is a little flushed.*

*‘Hi,’ I mumble. Julius is standing in a radius of yellow light under the living room lamp and he too looks old. Bloated and faded at the edges. I wonder how much longer we will live together. Our lease runs out in November, and it’s already August. This year is already a leathery leaf curling out at the edges.*

*We sit and drink jasmine tea at the kitchen table.*

*‘Well?’ Julius asks, after some time.*

*‘Well what?’*

*'How was your day?'*

*'Fine. I'm really tired.'*

*'You look sad. Are you okay?'*

*'Yeah, of course. Why would you say I look sad?'*

*'It's all over your face.'*

*'How was your night?'*

*'Same old lah.'* He cocks his head to one side and scrutinizes me with drunken exaggeration. *'Are you sure you're okay? You seem bothered.'*

*'I'm fine,'* I reply. *'I told you already.'*

*'What's with the attitude? Relax.'* Julius frowns and I look away.

*I've always thought that telling people to relax only makes them more rigid. The muscles at the back of my neck tense and ache.*

*'Just asking because I'm concerned,'* Julius continues, drumming his too-long nails on his ridged porcelain cup. *'I didn't mean anything else by it.'*

*'Look Julius, I'm sorry,'* I say. *'I just had a really long day. Work is a headache.'*

*'Okay,'* Julius replies.

*We sound just like a tepid, long-married couple. Both of us seem to realize this at the same moment. Julius clears his throat. I don't know how to fix the awkwardness that wafts over the table like a fart. I picture Julius naked for the very first time; get a glimpse of his long, untuned body. As if he can read my mind, he gets up in an exposed scurry. His chair scrapes against the kitchen tiles.*

*'Guess I better sleep soon, got an early start.'* He says, and yawns.

*I can see the grayish pink of his gums and gullet and it reminds me of my tapeworm and the way it abseiled audaciously down my throat, months ago. Just a faint memory now: unfunny how pain acquires a foggy, secondhand patina in order for us to endure its inevitable repetition. I wonder if I could call the tapeworm a form of pain. It didn't actually hurt. Yet the invasiveness and disgust I felt from its parasitic thievery - the outrage - pained me.*

*Julius gathers his things and gets up.*

*'You know, it wouldn't hurt you to be nicer,'* he blurts as he leaves the room. *'I was only trying to help. You shouldn't take things out on other people.'*

*He's right, and also drunk. Before I can reply he shuts the bathroom door quietly, click and lock. Julius always takes forever in the bathroom and he's deathly silent during the endless minutes between entering and the hiss of the shower. Sometimes I wonder if he goes in there to meditate. Even the gruesome, echoey plop of a turd hitting the toilet would be demystifying. It's reassuring to be reminded that we are all full of shit. It makes me feel united with my fellow humans.*

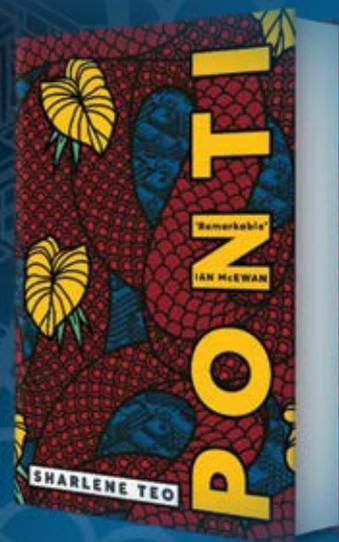
*I make my way to bed. As I smooth overpriced night cream on my face, I marvel at the irony of it: how I left one HDB flat and a marriage to move into a more impersonal, rootless dwelling-dimmer, sparsely-furnished, no strings attached, no baggage- only to have the same thing happen. Tense, arid evenings, a stalemate of two, a man telling me to be kinder, better, to try harder; giving me advice I don't want to hear, instructions. When did I become so weak and easily upset? When did I switch from doing to being done to?*



**'WITTY, MOVING AND  
RICHLY EVOCATIVE . . .  
A MILESTONE IN SOUTH  
EAST ASIAN LITERATURE'**

**TASH AW, AUTHOR OF  
FIVE STAR BILLIONAIRE**

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**PRAISE FOR PONTI:**

*“With its thoughtful plot and vibrant prose, Ponti is one of the more assured debuts I’ve read recently... Teo creates a palpable world full of sensation.... Too many novels coast along on a fad-like buzz rather than the promise of an upward trajectory, but everything about Ponti suggests it’s the rare, real deal and Teo’s a writer we’ll be reading for many years to come.”*

**- Financial Times, UK**

*“Teo deftly captures the insidious female rivalry often rife in teenage girlhood. Singapore closes in on its characters as much as its past does... her vivid descriptions of its weather – skyrocketing pollution, repressive humidity – leaves the reader almost sweating with its characters...”*

**- The Guardian, UK**

*“A multi-generational chorus of voices in a thrilling debut, by the time I finished reading Ponti, I desperately wanted to watch Ponti. By the time the novel has finished, there is no denying Amisa’s dream has been realised. These three women and their stories will live on; they have been made immortal.”*

**- Independent, Ireland**

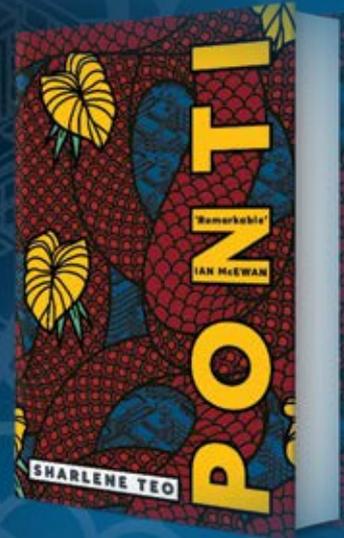
*“Teo’s writing is wonderful; Ponti, filled with spot-on vivid descriptions, metaphors, and observations, is a novel to enjoy line-by-line... Teo’s portrait of Singapore is so good it would not be a surprise if Ponti were a contender for the next Ondaatje Prize, awarded to a work that best evoked “spirit of a place”. People talk about “the great American novel”, or, in Britain, “the state of the nation novel”. Ponti is a great Singaporean novel, and a marvellous investigation of the state of the tiny island nation.”*

**- Asian Review of Books, South China Morning Post**

**'REMARKABLE . . . HER  
CHARACTERS GLOW WITH  
LIFE AND HUMOUR AND  
MINUTELY OBSERVED  
DESPERATION'**

**IAN McEWAN**

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*“(Ponti) is a languid, mesmerising debut that makes teenage girlhood in Singapore into something rich and strange, yet at the same time achingly familiar... Ponti turns a critical eye on Singapore’s modern obsession with nostalgia. It is sharp in its unpicking of glamour. It is sad too, with the intense loneliness that collects in pockets of a swiftly changing city. Debut this may be, but Teo already dazzles. The spectre of this Ponti is one that will haunt the scene for a long time to come.”*

**- The Straits Times, Singapore**

*“This image (of the Pontianak) hovers over the whole story, in which talk of spirits and magic is vivid and never far away, existing side by side with the technology and popular culture of 21st-century cosmopolitan Singapore. Sharlene Teo’s evocation of adolescent misery, unhappy families, and tropical heat is full of colour and power.”*

**- The Sydney Morning Herald, Australia**

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**Sharlene Teo** was born in Singapore in 1987. She has an LLB in Law from the University of Warwick and an MA in Creative Writing from the University of East Anglia, where she received the Booker Prize Foundation Scholarship and the David TK Wong Creative Writing award. She currently resides in London, UK, and every time she visits home she must have prawn mee or nasi lemak immediately upon landing.



## Fabulous Ferme Saint Simeon

The debonair and dashing Travelling Gourmet™ visits Normandy and goes on a gastronomic adventure to a land once ravaged by wars but is now a haven for gourmet cuisine, this especially so in the picturesque and quaint port city of Hornfleur. Great artists of the Impressionist movement loved the hedonistic Horn-fleur for the exquisite environs and the result was some of the greatest masterpieces painted of the sea and countryside.

STORY AND PHOTOS BY **DR. MICHAEL LIM**, The Travelling Gourmet™



*With modest Chef Sébastien Faramond of La Ferme Saint Simeon*

**W**hen visiting this charming port city, one must stay at the lovely La Ferme Saint Siméon. The rooms and suites are comfortable and splendidly furnished with all conceivable modern amenities. Outside, you will see exquisitely manicured gardens and many apple trees with cute little crab apples for which this region is famous.

La Ferme Saint Siméon's restaurant boasts an elegant ambience with a stunning view of the ocean. Here, savour Normandy cuisine with carefully selected country produce: I certainly did not resist food like tomatoes in season, mussels and fish cooked to perfection. I had a fine tart of spring vegetables and herbs with apples, preserved egg yolk



*Lovely La Ferme Saint Siméon*



*Gorgeous gastronomic goodies in La Ferme Saint Simeon*



*Sweet sensation*

and praline hazelnut - all surprised and delighted my taste buds. Also on offer are *plateau de fruits de mer*, lamb and beef amongst more regional specialties but all cooked to perfection. The turbot fillet from the Normandy coast is done in the Meunière style, with roasted cauliflower laced with a mild curry sauce, pickled seagrass and shellfish.

Dessert by the young, modest and dynamic executive chef Sébastien Faramond is not to be missed.

A must-taste is his dazzling sweet pavlova of strawberry and tart lemon with a dome of crisp lime meringue. Dissect it to find a symphony of tastes and textures of delicately pan-fried strawberries and sorbet of fragrant basil.

**La Ferme Saint Siméon**

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**Dr. Michael Lim** is **The Travelling Gourmet™** Travel, Food & Wine Writer/Editor/Educator extraordinaire.

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*Majestic Mont  
St. Michel*



# Gastronomic Safari Normandy

The irrepressible and debonair Travelling Gourmet™ takes a languid detour away from the heady realm of wine, flying to Normandy to taste cheeses and calvados

STORY AND PHOTOS BY **DR. MICHAEL LIM**, The Travelling Gourmet™

One of the most delightful pleasures of travelling is being able to taste and savour the food, wines and spirits of the region you visit. This is especially true of Normandy, justly famous for its coveted cheeses.

Camembert cheese was developed in 1791 by Marie Harel, the wife of a local farmer. Since then its fame has spread far and wide. It is a full-fat, fluffy, soft cow's milk cheese and the slightly crunchy and velvety textured rind is edible. I like *Président* Camembert from Domfront because of its texture and nutty taste; as it ages the pleasant mushroom flavours become stronger.

*Brie de Normandie* is another full-fat cheese made from the milk of cows, at least half of which are native to Normandy. There are four types of milk combined to make Normandy Brie: one is organic, one is raw milk, and two are *appellation d'origine contrôlée*, which designates products from a specific area. The brie from *Président* has 60% milk fat and has an über-creamy texture which the French call *texture crémeuse*. Nicknamed the 'King of Cheese' in France, the smooth texture pairs well drizzled with Sicilian honey, or with raspberry jam.

In France, cheese is served after the main course and before a sweet dessert, typically with wine left over from dinner or special wine selected to match the cheese. Try *Donnafugata Ben Rye Passito di Pantelleria* 2013. It can also be served as a snack before appetisers.

## Beurre d'Isigny

This wonderful PDO (Protected Designation of Origin) butter from Normandy is only made from the freshest cow's milk, taken within 24 to 48 hours of natural production. The milk comes strictly from cows that are born, bred and fed in the Cotentin Peninsula or Bessin area. Refined through the old fashioned churning process, Isigny butter is acclaimed for its deep yellow tint

or *bouton d'or* (buttercup). This is due to an abundance of carotenoids in the creamy gourmet butter and high levels of oleic acid and mineral salts. They give it a distinct hazelnut flavour and makes for an easy spread, delicious on a hot baguette!

## Apples, Cider, Calvados and Pommeau

Normandy is a coastal region along the English Channel east of Brittany famed for their apples and pears. The natives claim Viking ancestry because in 911, King Charles III of France ceded Normandy to Viking invaders led by Rollo. Rollo then was baptised as Robert and pledged to defend the French king. Robert's successors subsequently became the Dukes of Normandy.



*Ciders from Normandy*



Captivating caramels

Apples are big here! From the apples they make cider, calvados (apple brandy) and pommeau, which is a combination of unfermented apple juice and calvados. One summer afternoon, I went for a tour of *Maison Christian Drouin* that has been making calvados, apple cider and pommeau for three generations.

Thirty varieties of apples are harvested here between September and November when fully ripe. Natural fermentation is then allowed to occur in the pressed juice. Two distillations later with the heads and tails discarded and we get a calvados with 70% alcohol. Meticulous aging in oak barrels that used to hold sherry and port give aromas and flavours of ripe and stewed apples and dried fruit. Ultimately you have exquisite *Le Calvados Pays d'Auge XO* with enticing flavours of baked sweet apples, almonds and mixed spices, and also Pommeau de



Caramels d'Isigny et les tripes

Normandie, excellent with apple tarte tatin and vanilla ice cream for dessert.

#### Caramels d'Isigny et les tripes

The dark brown caramels of Isigny are so chewy and yet soft and yielding. The pure butter is what makes it so good! My motto rings true: "*la vita è incicura, mangia il dolce prima*" Italian for "life is uncertain, eat dessert first".

Tripes are not for the faint hearted but I adore them! *Les tripes à la mode de Caen* was first renowned as William the Conqueror's favourite dish. Made from beef offal (stomach and intestines) and laced with calvados, it is delicious but be warned, an acquired taste. But as *The Travelling Gourmet*™, I always say, keep calm and carry on eating! 🍷



**Dr. Michael Lim is *The Travelling Gourmet*™ Travel, Food & Wine Writer/Editor/Educator extraordinaire.**

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# Maserati GranTurismo: An Italian Family Car Story

BY DR. KEVIN CO

## Introduction

Before the Maserati GranTurismo replaced it in 2007, the Coupe was the first grand tourer that was developed by Ferrari. Pininfarina designed the GranTurismo, and it is available both as a coupe and a convertible. Although it was thought that 2018 might bring a full replacement based on the Alfieri concept car, what was delivered was instead a refreshed GranTurismo. Do not misunderstand - this beauty is by no means a new car; it is a facelift. The 2018 upgrade brings revised aerodynamics to the exterior and new technology inside.

## Appearance

Despite staying familiar to its roots, the GranTurismo exhibits a few significant changes with the new model. The changes are more noticeable up front, where the bumper has a larger grille, with the characteristic Maserati 'Shark Nose' profile, coupled with a chrome frame. The grille optimizes the airflow and reduces aerodynamic drag, while adding a 3D effect to the front fascia. Assumedly inspired by the Alfieri Concept, there has been a revision to the side vents with the aerodynamics and efficiency enhanced,



while simultaneously giving the front end a more “dangerous” look. Maserati also made sure to restyle the headlamps: they now include differently shaped LED running lights, grooved housing in the Xenon lamp areas, and a Maserati inscription.

### **Interior & comfort**

The changes do not stop upon entering the cabin. What strikes one is a more fashioned design of the dashboard of the passenger’s side. To achieve a more



distinctive look, Maserati added a new clock and moved it to a more prominent position at the centre of the dashboard. The leather seats with integrated headrest remain the same but this car now offers a more styled stitching. The centre console was also improved with a new touch screen for the infotainment system, with fewer buttons and a rotary dial. The changes are quite moderate; things that have remained are the Apple CarPlay, the Android Auto, and the Harman Kardon Premium Sound system.





### Family friendly

The 2018 GranTurismo is actually a family car, as it features four seats with more than enough room in the back for adults and kids. The boot has even enough space for a weekend family trip up north.

Safety is on point. The Maserati features ABS brakes, which automatically sense when a tire has stopped rotating under extreme braking. Stability control automatically senses when the vehicle's handling limits have been exceeded, reducing engine power consequently so the driver does not lose control of the vehicle. The airbags are both front-impact and side-impact, and seatbelt pre-tensioners automatically tighten seatbelts to place the passenger in the optimal safety position during a collision. It is also equipped with a security system and a new rear-parking camera.

### Performance & drive

The car offers a sports mode that punches up the parameters of the 6-speed ZF automatic gearbox. While this is not a true transformation in the dynamics of the car, it is a subtle flexing of the car's muscles. Much acclaim is made of the engine, which was de-

rived from the V8; Ferrari has always been a romantic. However, when the car starts to accelerate, the feeling at the front becomes quite numb and the brake pedal travel is a tad longer than one would expect. There is also the small inconvenience when shifting gears at acute angles of steering because the gear paddles are connected to the steering column.

The truth is that GranTurismo is not going to win any track days but the real enjoyment of the car lies in relaxed comfortable driving with the glorious engine and exhaust purr, which in the coming age of silent electric cars is something that will be terribly missed.

### Final say

Overall, the update is far from comprehensive but it is still quite significant for a small facelift. New technology keeps the GranTurismo fresh compared to newer market competition. Maserati cars are widely known for their styling, and the styling of the GranTurismo will remain iconic in the automotive world as long as rubber continues to hit the road. In the end, the GranTurismo serves to remind all that it still possesses soul and charm that most new high-tech cars can never aspire to. This one is for the keeps. 



**Dr. Kevin Co** is a full-time private practitioner at his clinic TLC Dental Centre. Cars remain his lifelong passion.

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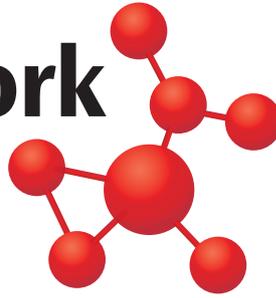
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