



NEWS & TRENDS

2mm Bone Screw vs. MIA



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I would like to express my sincere gratitude to Dr. Kyung's comments¹ on my article about MIA in News & Trends in Orthodontics². However, my concern is that Dr. Kyung might have misunderstood my comments about MIA (Micro-Implant Anchorage) due to incomplete translation. So I'd like to further explain my points of view and clarify some misunderstandings about MIA.

I respect and appreciate the wonderful MIA group led by Dr. Sung, Dr. Kyung, Dr. Bae and Dr. Park very much. They are some of my best international orthodontic colleagues.

I have learnt so much from Dr. Kyung's group's lecture in Taiwan years ago, when I was the president of Taiwan Association of Orthodontists. Due to their great leading contribution to

TADs, it encouraged and stimulated the development of TADs in Taiwan. Through the collective effort of James Cheng-Yi Lin, Eric Liou, Johnny Joung-Lin Liao, Ming-Guay Tseng, Zeng-Yang Hwang, and Hwai-Nan Chang's efforts, now we have our own bone screw system in Taiwan.

I observed Dentos from the beginning, and now they have become a well developed micro-implant company. AbsoAnchor products are selling in over 60 countries (Congratulations!). There is no doubt that their products are among the most popular TAD products in the world, and have contributed to TADs' worldwide popularity. Their book is the first well-documented TADs reference book. **The orthodontic world should pay the highest respect to the invaluable contribution made by Dr. Kyung's group.**

Before proceeding to discussion regarding 2 mm bone screw and MIA, I'd like to present two of the most common applications of 2 mm bone screw in my practice.

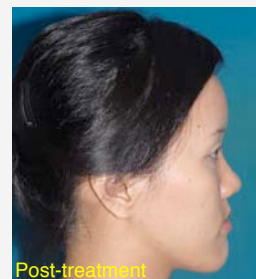
22y9m: Two 2 mm x 14 mm bone-screws were placed over the buccal shelf.

22y10m → 23y → 23y1m → 23y4m: The whole lower arch was distalized by the buccal shelf bone screws.

22y5m → 23y11m: The Class III malocclusion has been corrected by distalization of the whole lower arch.



Pre-treatment



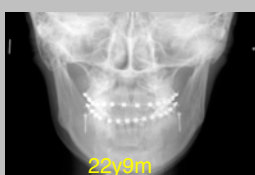
Post-treatment



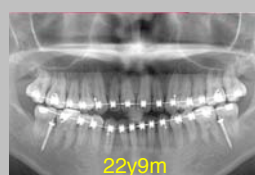
22y5m



22y9m



22y9m



22y9m



22y9m



22y10m



23y



23y1m



23y4m



23y11m



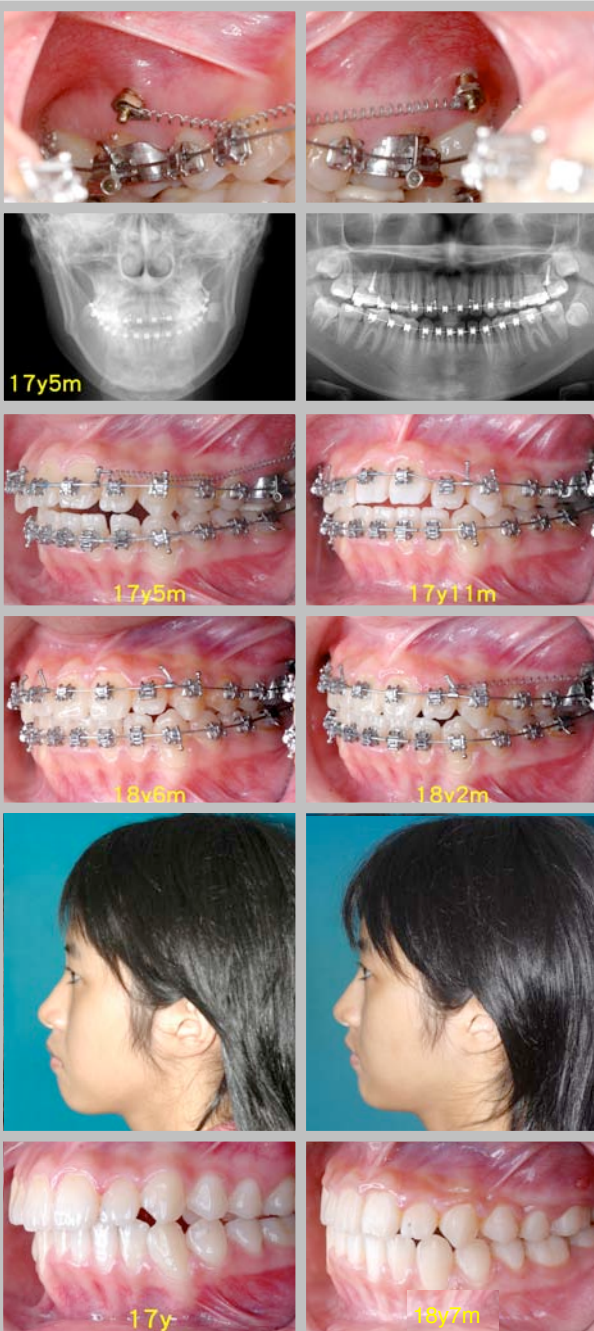
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17y5m: Two 2 mm x 12 mm bone screws placed over infrazygomatic crest region.

17y5m→17y11m→18y2m→18y6m: The whole maxillary dentition distalized by the bone screws.

This case was treated by distalization only. The nonextraction Tx. gets the extraction-like appearance. (The author prefers to call this kind of treatment: "Extraction like Nonextraction Treatment.")



Below is a summary of my views on what constitutes ideal TADs and MIA.

(1) Size of TADs

Dr. Kyung is right that the sizes of products range from 1.2 to 2.7mm. However, the most popular size for pre-drilling and inter-radicular placement of TADs as instructed in their manual is 1.3 mm in diameter and 7 mm in length. Their tapered tip is only 1.2 mm in diameter.

My point is that 1.3 mm is too thin and therefore sometimes has a risk of fracturing (Fig. 1). The earlier version of the pure titanium microscrew fractures a lot. The later version of titanium alloy reduces the fracture rate, but sometimes it still

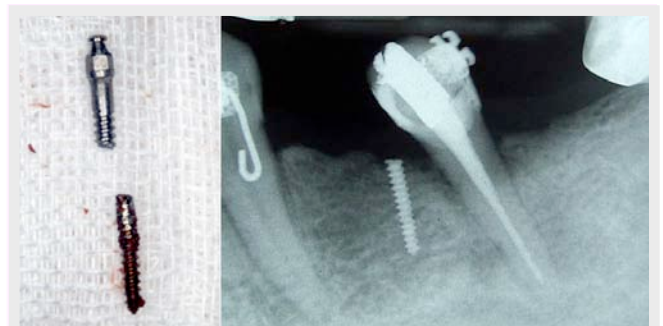


Fig. 1: In this case, the micro-implant was fractured at insertion. It took considerable effort to remove the micro-implant. Note the obvious scratches from the pliers at the fractured end of the screw. (Courtesy of Dr. Shou-Hsin Kuang)

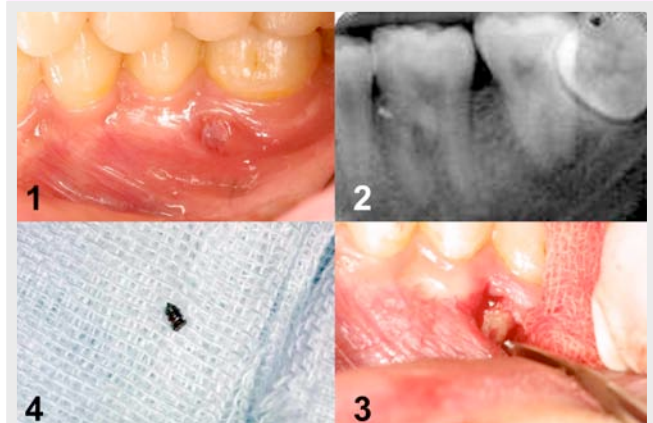


Fig. 2: A case of damage to the root with micro-implant. Whenever placing the screws between roots, there is a risk of either root damage or screw fracturing.

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1. Chronic abscess around the mesial side of the lower first molar, after debonding.
2. Apical film showed fragments of micro-implant over mesial root.
3. A concavity on the mesial root on the lower first molar.
4. The screw tip fragment was removed.

(Courtesy of Dr. Johnny Joung-Lin Liao)

breaks due to its tiny diameter. In addition, the inter-radicular placement often causes damage to the root surface (Fig. 2).

(2) Fracture of bone screws vs. their diameter

Jolley et al's recent JCO article³ compares 5 kinds of bone screws examining the peak torque value at fracture. The result shows that as the core diameter decreases, the lower the value gets. It takes only 23.26 NCM to fracture a 1 mm core diameter screw, but takes up to 78.24 NCM to fracture a 1.5 mm core diameter screw. Although there is no data yet for Bioray stain-

1. For the smaller core diameter screw the PTV (peak torque value) is very low, it means the smaller the diameter, the easier it is to be fractured.
2. The same 1.2 mm core diameter, titanium alloy (Orus) is much stronger than pure titanium (TOMAS).
3. The OrthoImplant has the thickest core diameter in the study and the highest PTV.
4. The 2 mm x 12 mm stainless steel has not been studied, but because of its 1.3 mm core diameter and the strength of stainless steel it has never had a fracture reported in clinical use.
5. The A1-screw data was added by the author.

less steel bone screws, due to its large 2.0 mm diameter and good ductility, no fracture has ever been reported (Table 1).

Miyawaki's study⁴ suggests bone screws larger than 1.5 mm in diameter are safer.

In Kravitz and Kusnoto's⁵ recent review of risks and complications of orthodontic bone screws, they recommend a minimum diameter of 1.6 mm for self-drilling bone screws that are placed in dense cortical bone.

Melsen⁶ emphasizes that even though a small diameter

Table 1
Peak Torque Value at Fracture (NCM)

| | LO-MAS Quattro | Dual-Top | TOMAS | Orlus | Ortho Implant | A1 Screw |
|-----------|-----------------|------------|-------------------|-------------------|---------------|---------------|
| Fracture | Yes | Yes | Yes | Yes | No | No |
| Mean | 23.26 | 29.72 | 32.44 | 58.33 | 78.24 | Not available |
| Diameter | 1.5 mm | 1.6 mm | 1.6 mm | 1.6 mm | 1.8 mm | 2.0 mm |
| Core | 1 mm | 1 mm | 1.2 mm | 1.2 mm | 1.5 mm | 1.3 mm |
| Length | 7 mm | 6 mm | 8 mm | 7 mm | 6 mm | 12 mm |
| Materials | Ti6Al4V | Ti6Al4V | PureTi | Ti6Al4V | Ti6Al4V | SS |
| Company | Mondeal Germany | Jeil Korea | Dentaurum Germany | Ortholution Korea | Imtec America | Bioray Taiwan |

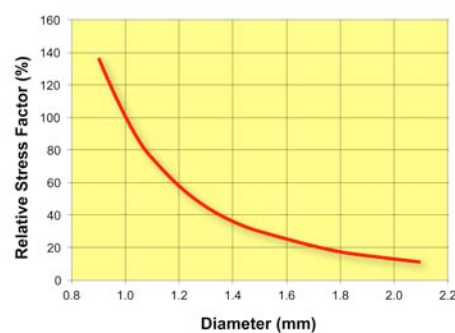


Fig. 3: The larger the screw diameter, the smaller the relative stress. Compared to the 2 mm screw, the 1 mm screw has a much higher relative stress rate. Therefore, it will fracture much more easily.

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(1~1.4 mm) facilitates placement between roots, this small diameter bone screw⁷ reduces its mechanical properties. In Aarhus anchorage system, only two diameters 1.5 mm and 2.0 mm are available. (Fig. 3)

(3) Reports of fracture of MIA

Dr. Kyung states “ ... However due to changing the material from the pure titanium to titanium alloy since 2003, fracturing is very rare. Also we have never broken the small titanium alloy microimplants over the last 6 years, even when we placed the 1.2~1.4 mm diameter microimplants without drilling on 95% of maxilla and 90% of mandible... ”.

I admire that Dr. Kyung's group have never broken the small microimplant over the past 6 years. My own experience and cases reported by other practitioners indicate otherwise. Please refer to Figure 1 and 2 for two examples. Even though the fracture rate may not be very high, the risk is still there. When a fracture happens, it's a very frustrating experience.

Due to the MIA system's emphasis on inter-radicular placement, sometimes it can cause damage to the root as in Figure 2.

In a clinical study using microimplants, Chen et al⁸ reported only two microimplants (one 1.2 mm x 6 mm, one 1.2 mm x 8 mm) fractured during insertion, out of some 59 microimplant placements. The fracture rate was 3.39%.

In an animal study using microimplants, Buchter et al⁹ found that 6 microimplants (1.1 mm x 10 mm) fractured during insertion out of some 102 microimplant placements. The fracture rate was 5.88%.

According to Dr. Kuang and Dr. Wu's study of fracture rates of MIA at the Veteran's General Hospital, there were only 6 micro-implant fractures out of a total of 339 micro-implant placements; the fracture rate was only 1.77%. If there were only concerns over fracture, MIA might have been an acceptable choice. In practice it often causes abscesses as shown in figure 2. Additionally it can also interfere with tooth movement.

When a fractured screw occurs, there is a very well designed fractured screw remover from Biomaterials Korea (<http://www.biomk.com>, Tel: +82-2-2025-0720) (Fig. 4).



Fig. 4: This fractured screw remover from Biomaterials Korea, is very convenient for removing small size broken micro-implants or mini-screws.

Of course, the best solution is to use a larger diameter screw to prevent any fractures.



(4) Disadvantages of pilot drilling

1. More facilities are required, such as low speed engine.
2. Overheating: If not irrigated with copious amounts of water, overheating may result in bone necrosis and mini-implant failure.
3. Overenlarge: If the drill is not held steady enough, overenlarging may happen, and the loosening of the mini-implant will result.
4. Fracture of a drill: If the drill is over used, or is of poor quality, it may break.
5. Reduced stability: Kim et al's study¹¹ showed drill free mini-implants have better stability than the pre-drilling mini-implants.

If we can use a self-drilling mini-implant without fractures, it will not only save a lot of time but also will have satisfactory primary stability of TADs.

(5) Distalization of the whole dentition

In Dr. Kyung's article it reads“ ... However, small diameter of microimplants placed in the molar area is strong enough to move the whole mandibular dentition as well as the whole

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maxillary dentition without touching the roots. Dr. Bae already showed that only 1.2 mm & 4 mm lengths of microimplants can move the whole mandibular dentition even in an adult patient...”.

If Dr. Bae placed microimplants between the roots, it'll be more inconvenient to do the whole dentition distalization. Now the 2 mm bone screw system can be placed over the non inter-radicular area on the mandibular buccal shelf area (Case 1) and maxillary infrazygomatic area (Case 2) and , instead of the inter-radicular area, which allows us distalizing the whole dentition directly.

(6) Osseointegration

Dr. Kyung's article: “ ... However, we prefer to use titanium material for orthodontic microimplant because if osseointegration occurs between the microimplant and the bone, we can have mechanical stability during treatment...”

Osseointegration might help increase mechanical retention. However, if osseointegration¹¹ does happen, it will cause even more fracture problems for the small diameter titanium alloy microimplant. Fracturing may happen more easily during extraction of ankylosed tooth. That explains that sometimes the micro-implant will fracture while removing the MIA at the end of orthodontic treatment. When using 2 mm stainless steel bone screws you never have to worry about osteointegration or fracturing issues at all.

(7) Stainless steel materials

Stainless steel screws have been used in Orthopedics for a long time and are still used without any side effects. The stainless steel bone screws are made of medical class 316 LVM materials so there is no need to worry about the release of nickel. The author has never had any nickel sensitivity problems while using stainless steel bone screws. Bioray is not the only company which supply stainless steel bone screws; the Leone Company in Italy also has stainless steel bone screws available.

Conclusion

There is no doubt that MIA is a very effective TAD system. However, inter-radicular placement and its small diameter render me hesitant to use it. The author's comment about the fracture of MIA are facts confirmed by clinicians and researchers. Drill-free alternatives have been proven to offer better stability. Sometimes on dense cortical bone like the buccal shelf, the author also uses pre-drilling. **In conclusion, it's strongly recommended whenever one use skeletal anchorage systems, one should choose larger screws, such as the 2 mm bone screw. In addition, the chance of fracturing screws and damaging the root will be significantly reduced by avoiding inter-radicular placement.**



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MAGIC DAMON

高效矯正學習法



我愛 Keynote

我參加了10月10日的貝多芬講師研習營。除了分享矯正的知識外，由資深的講師們分享高效學習的方法，更回顧 Steve Jobs 和 Kokich 的演講內容，學習 presentation 的祕訣。豐富的上課內容，不只令人大呼過癮，更有滿載而歸之感，這次研習營在他們的身上，我學到的更多！



許瑞升 醫師

熱愛矯正學

Damon system 我是有過接觸，case 也接了一些，只有感到在初期治療時的 leveling 及 aligning 是快了些，其他與一般的 bracket 並沒有兩樣，但是心有很多疑慮與疑問。剛好張慧男博士在高雄有相關課程，想了解更多，就參加了。

上了課及參觀了貝多芬診所後，才慢慢了解用此系統，可以做出一般edgewise達不到的效果，使 case 可以變得簡單許多，再加上課程中很強調以 Soft-Tissue-Based Diagnosis Treatment Planning，不只考慮 profile，更要做到 smile arc。為了練習，所以每位學員，都要收集 Case，進行分析、診斷、計畫及治療計畫，並且要在課堂上以 Keynote 報告給大家聽。有了好的工具最重要的是馬上用它，就像張博士一樣，相信了 Damon 馬上把以前最專門的舌側矯正放棄，只專心它，就會有好的 case 完成。總之這是我參加過矯正 course 最興奮的一次，因為我的收穫超乎預期。



竺翼飛 醫師

熱愛學矯正

因緣際會，自己有幸成為 Damon 課程助教，對於初擔此重任，實為誠惶誠恐。參加了今年的貝多芬講師研習營，給了我們很好的心理教育：「我們不只是助教，更是能上台做一場精彩演講的講師」。現在的我更忙碌了，不僅要一邊上課、一邊作筆記，輔助學員醫師 Hands-on，更要回家看文章，準備報告，有時還陪著學員醫師玩 Keynote 玩到三更半夜。這樣的日子真是非常的充實，也讓我學矯正的更紮實，臨床面對矯正患者心裡也更踏實。偶然坐再轉角咖啡一隅，眼中看的不只是美女辣妹，而是 Apple 螢幕中精彩的矯正檔案。手中把玩的也不再是股票機，或者是高爾夫球桿。而是“會飛天，會鑽地”的 Keynote。轉角遇到愛，沒錯！矯正是我的真愛，我熱愛學矯正！



李裕隆 醫師



第六屆貝多芬高爾夫邀請賽 暨金牛頓藝術科技教育中心開幕

時間：97年元旦 7：00 am

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~ Chris HN Chang, Publisher, News & Trends in Orthodontics

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3. How to provide nonextraction therapy for Class II malocclusions by direct retracting the entire maxillary dentition with miniscrews - even with adults.

4. How to treat severe Class III open bite malocclusions in a nonextraction manner by direct retracting the entire mandibular arch with miniscrews.

5. How to reduce high mandibular plane angles by intruding maxillary posterior dentition with miniscrews, i.e., a slow Le Fort I procedure.

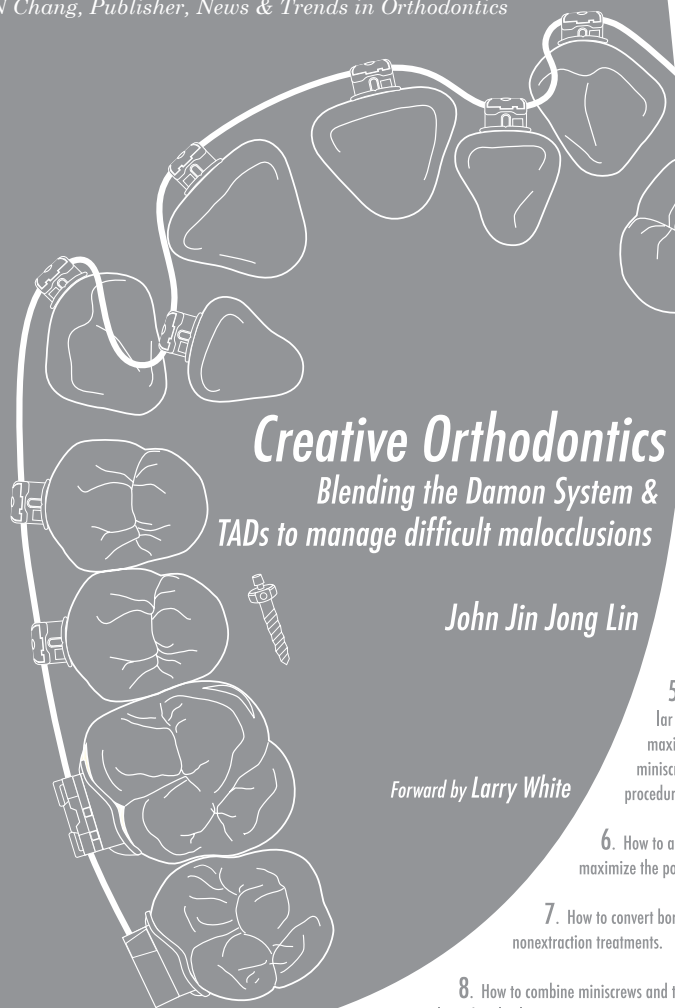
6. How to apply practical techniques to maximize the potential of the Damon system.

7. How to convert borderline extraction therapies into nonextraction treatments.

8. How to combine miniscrews and the Damon system to treat complicated malocclusions.

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14:00 ~ 15:00 model 操作 (未參加矯正植體基礎班者)

15:00 ~ 20:00 植法及用法實習

20:00 ~ 20:30 植體病例討論



講師 張慧男 博士

新竹貝多芬齒顎矯正中心負責人

美國印第安那普渡大學齒顎矯正研究所博士



ORTHO BONESCREW

3D Control of An Ectopic Tooth



Dr. Chris HN Chang (middle),
Dr. Hao Yi Hsiao (left),
Dr. Yu Lin Hsu (right)
Beethoven Orthodontic Center, Hsinchu, Taiwan

Management of impacted maxillary canines is one of the most challenging tasks in orthodontic treatment. Integrating diagnosis, surgical methods, and orthodontic mechanics is crucial, and even more so in complex cases. Without correct diagnosis, a treatment plan can lead to completely opposite results. With appropriate surgical uncovering technique, an orthodontic eruption process can be simplified and stability as well as esthetics can be predicted. Finally, correct mechanics make a treatment process simple and efficient.

According to the previous research, one third of impacted maxillary canines are positioned labially or within the alveolus, and two thirds are located palatally. The orthodontic-surgical management of impacted canines requires accurate diagnosis and precise location of impacted canines and the surrounding structures. Recently, cone beam computed tomography (CBCT) has been used, because it can provide more reliable information than conventional methods. With this invaluable information provided by 3D volumetric imaging, orthodontists and surgeons can treat these cases more confidently (Fig. 1).

There are three techniques for cases in need of uncovering surgery, including **excisional uncovering**, **apically positioned flap**, and **closed eruption technique**. Four criteria should be considered to

determine the most appropriate method. In theory, a closed eruption technique will provide adequate gingiva over the crown and will not result in reintrusion of the tooth over the long term. However, cases with specific spatial relation to surrounding structures render this technique infeasible. In this condition, apically positioned flap is preferred.

Finally, choosing suitable orthodontic mechanics to pull out the impacted canine is essential for the final outcome. This process involves two phases: the first one is creating canine space if the treatment plan is nonextraction therapy; the second is the guidance of canine eruption orthodontically. Traditionally there are some limitations regarding the design of treatment mechanics. For example, if we want to create space and retract an impacted canine simultaneously, it often results in mesialization of dentition, or “canoeing effect”. In class II cases, this effect will exacerbate the overjet. Besides, if we want to exert force with cantilever from the molar tube, we have to establish anchorage to avoid undesired tooth movement. This will complicate the treatment procedure. Most importantly, orthodontists should clearly understand the spatial relationship between impacted canines and the surrounding structures to design customized mechanics for individual cases.

With the popularity of the temporary anchorage devices (TADs), they can be incorporated in many clinical situations.¹¹ In addition to the major function of supplementing molar anchorage in order to retract anterior teeth, the versatile design on the screw head can widen their applications. In this article, **we provide a case report to show the combination of the CBCT and bone screws with square holes - a simple method to simultaneously create space, and to guide eruption of impacted canine while preventing undesired tooth movement.**



ORTHO BONE SCREW

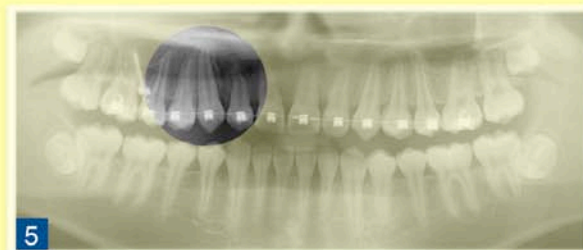
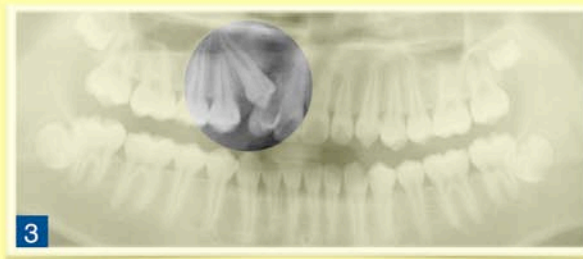
3D Control of An Ectopic Tooth

Case Report

A male adolescent aged 14 years and 2 months, had a maxillary right canine transposed between the central and lateral incisors (Fig. 2). The panoramic x-rays showed transposition with the maxillary left canine erupting between the lateral and central incisors (Fig. 3). Correction with nonextraction was chosen as the treatment goal. Treatment started with placement of the Damon appliance and put a NiTi opening spring between the 12 and 14. In the second month, a screw with the square hole (18 x 25 slot; 2 x 12 mm) was inserted at the infrazygomatic crest. For correction of transposition, we should design a force system that separated the 12 and 13 while maintaining the vertical level of 13. According to this mechanical goal, a 0.017- x 0.025-inch TMA lever arm was fabricated with its mesial end ligated to the exposed canine and the distal end extending to the square hole of the bone screw (Fig. 4). This force system consists of three force vectors: distal, outward, and a little downward. In addition, this lever arm composed a helix to avoid take-out activation during the treatment. With the aid of bone screws, we can simultaneously move the transposed canine and create space. After 10 months, the canine has passed above the lateral incisor and was brought down to the level of the dental arch (Fig. 5, 6).

Conclusion

In this article, we report on the treatment of ectopic canine in the maxilla. The predictable outcome and simplified mechanics are presented to demonstrate the utility of combination Cone beam CT and bone screw anchorage. It is concluded that this method provides a promising future for the treatment of the maxillary ectopic canine.





MAGIC DAMON

Sandra Diver on Damon Then and Now



Sandra Diver

37 years ago in my NZ government dental clinic I was mixing amalgams in a mortar and pestle, using Silicates for anterior teeth and melted copper pellets in deciduous teeth. Since moving to manufacturing, research and marketing in Dentistry and Orthodontics

I have been involved in introducing dramatic changes to the dental profession- composite resin, capsulated Glass Ionomers, high speed hand pieces, capsulated amalgams, digital Apex locators, orthodontic straight wire appliances, copper NiTi and TMA wires and many more. These changes were embraced with vigor because they made clinical and scientific sense—and more importantly they delivered major benefits to the patients both short and long term.

Nothing, over those years, has come close to the extraordinary impact the Damon system has had on the orthodontic profession, from what I have witnessed at 100s of presentations and clinics around the world.

Ten years ago I was privileged to see Dr. Damon introduce Damon System to the profession with case after case of the most astounding results I have ever seen—and he achieved these results with 70% less extraction, no RPE, no Nance neither TPAs, and much reduced surgery cases etc. *He was using well documented lowest possible friction appliance with high tech wires to produce a force so low it allowed the muscles of the face and the system to work together to re-establish a new neuromuscular balance. The palatal vault very often deepened and widened to accommodate the tongue, the Mx posterior transverse developed from between 2 mm to 14 mm (with just two Copper NiTi wires).*

In cat scans, the cortical plate was perfect, despite such dramatic transverse change (because teeth moved with bone not

through bone) and all the cusp tips were level (so tooth tipping was not the major reason for such change). The periodontal and gingival tissue was much healthier, and root resorption negligible in all cases.

These results applied to adults exactly the same as to children. In adults, I have met and observed so many patients in my home town who have become absolute raving fans of the Damon system, primarily because of the extraordinary changes to the midface (with non-extraction transverse adaptation)—plus the fact they had almost no discomfort, they only had an average of 8 to 10 visits to the office, very few extractions and the treatment time was half what their children and friends had experienced with previous orthodontic treatment.

My own huge family (aged 9 years to 78) have seen and heard all of this, have visited the website, talked with Damon system patients and all have become passionate about ONLY having the Damon system treat their face and teeth. It still astounds me that the average person (child and adult) needing braces—when shown what can be achieved with today' s low force technology- understands it and becomes excited about it, simply because to them it seems less invasive in every sense. It



4 months



MAGIC DAMON

Learning from the Master

truly demonstrates that patients are very receptive to new technology and how it will benefit them during treatment and in the long term.

During 2007 over 5000 Doctors world wide attended extensive forums and seminars JUST to learn how to achieve the Damon system results. This alone is orthodontic history ---- never before have so many gathered to learn about one philosophy of treatment. I congratulate these Doctors, because to me, they have committed to change for the benefit of the patient, regardless of how difficult that change is for them, and they are determined to move forward to a new era of Orthodontics.

Low friction, low force Orthodontics is now one of the most extensively documented orthodontic philosophies to date. More interesting for me to observe, is that the enormous body of clinical evidence for the Damon system has often been ignored, dismissed by the use of ANECDOTAL as a pejorative term—yet — clinical results are what the profession sees and measures every day, all day. It is fascinating to me also, that many I talk to quote scientific evidence to support a stance on remaining with RPE, higher force Orthodontics etc—yet the body of evidence against such force is ignored by them. Interesting debates indeed.

In addition, Dr. Damon, Dr. Pitts and others have so many ten year old cases that are stable beyond belief – we can now truly say these results will last. Damon is worldwide and applies to every malocclusion – the thousands of orthodontists around the world using Damon system attest to the fact that these results are attainable for ALL orthodontists willing to make the change—**NOT JUST A CHOSEN FEW CASES!!!**

When I first saw the evidence proving Dr. Damon's claims, plus longer term retention results—I knew for the first time in my life- I was participating in a large slice of orthodontic history. It is the most exciting time of my career to date—and I am grateful for the chance to participate on every level.

*Reshaping before bonding*

I think the first protocol prior to the initial bonding is reshaping the teeth, particularly from cuspid to cuspid, with a high speed handpiece and diamond bur. It is much easier to place the brackets more accurately after this macro reshaping. After this reshaping I polish with a white shofu stone and a brown rubber point. This takes very little time if the doctor has a plan prior to sitting down with the patient.



Dr. Thomas R. Pitts

MAGIC DAMON

Stunning Changes of Arch Width and Smile



Dr. Derick Tagawa, DDS (Right)
Brea, California

Many different fixed orthodontic systems have been developed over the years. For most of my 36 years in practice, I used variations of the standard twin bracket system. Now, after experiencing the tremendous benefits of the Damon System in my practice for over ten years, I have made the following conclusions:

1. The Damon System delivers consistently excellent clinical results.
2. The Damon System has increased the efficiency, effectiveness and comfort of orthodontic treatment.
3. Treatment times have decreased on average by six months, and initial leveling of the arches occurs with exceptional speed and comfort.
4. Treatment efficiencies combined with the convenience of ten-week appointment intervals and reduced need for extraction therapy serves to overcome obstacles for patients to travel long distances to receive the benefits of the Damon System from my practice.
5. The Damon System has also made staff training easier and has reduced the number of in-depth skills that employees need to succeed clinically.
6. Use of the Damon System has dramatically reduced the number of patients we see each day without reducing quality, productivity or profitability.
7. Precision bracket placement is extremely important with the Damon system.



Case 1 : severe crowding and anterior crossbite, non-extraction



Case 2 : anterior open bite with tongue-thrust, non-extraction



Case 3 : Class III with severe crowding and anterior crossbite, non-extraction



Case 4 : narrow upper arch



Case 5 : narrow upper arch, Class II malocclusion

MAGIC DAMON

Stunning Changes of Arch Width and Smile

8. Adherence to the Damon System treatment protocols makes treatment more effective and predictable.

Treatment with the Damon System can yield outstanding results in a very effective and efficient manner. The results shown here are typical of the results seen in over ten years of use of the Damon System.

Treatment with the Damon System can create remarkable improvements in the esthetics of patients' smiles. In addition to the effect of straightening the teeth and establishing an excellent occlusion, there are the additional benefits of creating beautiful, wide

smiles, and reduced buccal corridors, without using any form of rapid palatal expansion.

Treatment planning and arch wire sequencing are very important to experience the maximum effect of the Damon System. Current treatment sequencing for most cases in our practice is as follows:

1. .013 or .014 copper niti
2. .018 or .014 x .025 copper niti. Reposition brackets as necessary.
3. Take panoramic radiograph and reposition brackets as necessary
4. .016 x .025 or .018 x .025 copper niti
5. If necessary, .0175 x .025 or .019 x .025 TMA
6. .019 x .025 stainless steel

Additional techniques to enhance treatment results and effectiveness include:

1. Use of differentially torqued brackets
2. Start treatment with very light arch wire forces
3. Start light elastic forces very early in treatment
4. Routine bracket repositioning early in treatment
5. Maintenance of a low-friction environment during treatment

Retention is accomplished through use of Hawley retainers, fixed upper lateral to lateral and lower cuspid to cuspid retainers, clear vacuum formed retainers, and on some occasions include use of the Damon splint. The specific type of retainer used is dependent on the requirements of each case. Long term post-treatment stability appears to be excellent. In one of our studies, we asked patients who had full banded treatment with the Damon bracket system and were out of retention at least two years to return for an evaluation. We gave them an examination, study models, panoramic radiograph, and intra-oral photographs. The information gathered was compiled and studied. The synopsis results are as follows:

1. Post-treatment stability was excellent, with up to 94.7% of the arch width increases remaining an average of two years after retention
2. The pre-treatment maxillary arch perimeter was maintained
3. The pre-treatment mandibular arch perimeter was increased

Treatment with the Damon System yields consistently excellent and stable results with exceptional patient comfort, satisfaction, and convenience. It is important to follow the Damon treatment protocols and to make correct bracket placement a priority.



Case 6 : narrow arch, dark buccal corridors



Cases 7 : beautiful smile arc



Case 8 : broad smile



MAGIC DAMON

How Do You Close A 13 mm Molar Space?



Drs. Chris HN Chang, Yi Lung Tsai, Chin Huang Tseng
Beethoven Orthodontic Center, Hsinchu, Taiwan

Orthodontic treatment involving the extraction of permanent molars is thought to be technically difficult and even a good result may in some ways be a compromise. Graber stated that space closure of the molar area is seldom possible or desirable with limited orthodontic therapy.

In Taiwan, we usually find molars with large restoration, poor endodontic treatment or improper prosthesis. So many patients might benefit from the extraction of questionable molars instead of the extraction of healthy premolars because of the doubtful long-term prognosis of their molars.

Sliding mechanics and closing loop mechanics have been used to close the space between missing or extracted molars. We present a case who was treated with a simple and efficient method to close the spaces without complex wire bending.

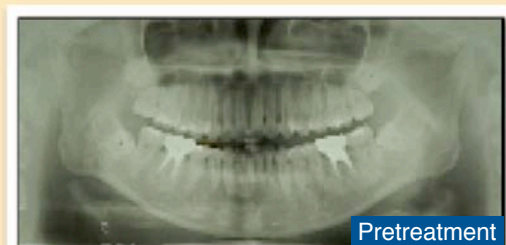
This female patient, 22 years of age, had a Class II bimaxillary protrusion with mild crowding, the mandibular right and left first molars had endodontic problems and four 3rd molars were unerupted. Maxillary left and right 1st premolars and mandibular 1st molars were extracted because of bimaxillary protrusion and long-term poor prognosis of mandibular first molars. Closing of the extraction spaces would serve to reduce the bimaxillary protrusion and simultaneously facilitate third molar eruption.

After initial leveling and alignment, we found that maxillary extraction spaces were diminished a little but mandibular

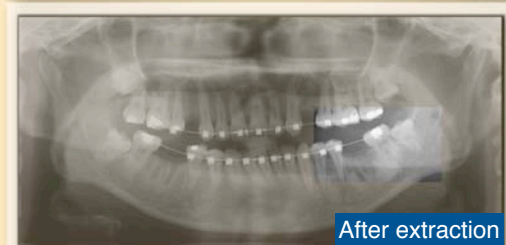
extraction spaces were still the same. A 0.019 x 0.025-in stainless steel archwire was placed with a crimping hook mesially to the canines. The six anterior teeth were consolidated with ligature wire. Space closure was achieved on 0.019 x 0.025-in stainless steel archwire with nickel-titanium coil springs (150-250g) from the crimping hook to the first molar tube and co-operating with 6 oz class II elastics.

After 8 months of active treatment, the maxillary extraction spaces closed using a sliding mechanism. To our surprise, the mandibular left first molar space was almost fully closed and the mandibular right 1st molar space remained 4~5 mm.

This case makes us wonder why the spaces closed so quickly? What made the difference between the left and right side of mandible? What made the 3rd molars move mesially with the 2nd molars?



Pretreatment



After extraction



8 months

LESSONS FROM THE MASTER

Dr. Roberts Talks about Molar Spaces Closure



Mechanics used in this case



After extraction



8 months since space closing



Our sliding mechanism works on 0.019 x 0.025-in stainless steel archwire. Rigid wires prevent the teeth from a tipping movement when closing spaces. Sandler et al suggest that active space closure should rarely be attempted before the patient has achieved full alignment of all teeth and has a full-sized working archwire. Even if the molars have been uprighted, they tend to tilt mesially and roll lingually when they are subjected to a mesially directed force.

Nickel-titanium coil springs offer a continuous light force, and optimal light forces stimulate cellular activity without completely occluding the blood vessels in PDL to maximize tooth movement. The difference between individual structures might influence tooth movement, even if one person has the same tooth problem or the

same arch. Some common reasons are edentulous ridge width and height, root width and root surface of the teeth, occlusal interferences of opposing teeth and bone quality. Adjacent teeth are connected with transeptal fibers. When the second molar moves mesially, transeptal fibers will guide the third molar movement in the same direction, therefore we might not have to bond the 3rd molars. Since the friction between brackets and archwires may disturb the interaction of transeptal fibers, we also found the same effect between maxillary 1st and 2nd molars. Why? The possible answer is, the friction is too minuscule to have an adverse effect on tooth movement in this case!

Although we have spent a long time leveling and aligning before active treatment, we believe that the total treatment time will not be too long, because our mechanism is simple and efficient.



Dr. Roberts Talks about Molar Spaces Closure



W. Eugene Roberts, DDS, PhD.
Department of Oral Facial Development,
Indiana University School of Dentistry, Indianapolis

If teeth are periodontally healthy, there is no physiologic limit to closing atrophic edentulous spaces. However, the rate of tooth movement may be slow. Mandibular molars can only be translated about 0.36 mm/month. Closing large spaces takes a long time. Sometimes it is more expedient to upright mandibular molars, close part of the space and restore the rest of the space with an implant-supported crown. On the other hand, maxillary molars move twice as fast as mandibular molars, so closing edentulous spaces in the maxilla takes much less time.





MAGIC DAMON

Learning from the Master

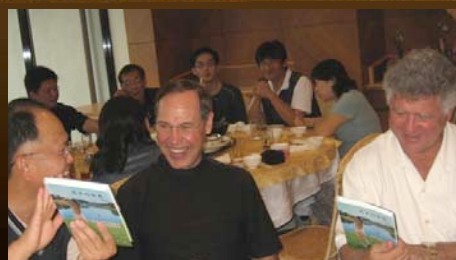


Dr. Chris HN Chang, Dr. Yu Lin Hsu, Dr. Thomas R. Pitts
Beethoven Orthodontic Center, Hsinchu, Taiwan

I began using the Damon system nearly three years ago and continue to be amazed by its simplicity and effectiveness. From my experience I have found that one of the key features of the Damon system is its standardized, easy-to-follow treatment protocols which can ensure reasonable treatment outcome when followed.

Last month a referral to our clinic from the US confirmed my beliefs. This patient is a student from Taiwan who went to the US on a one-year exchange program. He was referred to us by Dr. Tom Pitts, one of the co-founders of the Damon system, because his studies in the US finished before his treatment was complete. Our clinic gladly accepted this patient and observed many clinical techniques from the master Dr. Pitts.

From the many things we found in this case I chose to highlight several key points to share with our readers:



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Learning from the Master

1. **The position of brackets:** Brackets are positioned near the gingiva (Fig. 1). Dr. Tom Pitts believes a better torque control and smile arc can be achieved when brackets are placed closer to the center of resistance.
2. **Bracket selection for incisors:** U1 and U2 are both the standard type but are placed upside down while he used -6° low torque bracket on the lower and lower central incisors. His rationale was that this non-extraction case can obtain a better profile with less pronounced protrusion (Fig. 2).
3. **Finish bending:** he performed finish bending using an in-out bend on both upper and lower central incisors. It is still possible to apply moderate simple bending to achieve a better finish even with a straight wire system (Fig. 3 & 4).
4. **Use of elastics:** Use elastics to improve intercuspation at the finish stage (Fig. 5 & 6).

In consultation with Dr. Tom Pitts regarding the patient's treatment objectives, he suggested widening the 0.019 x 0.025 steels so that with the detorquing of the anteriors, the lip bumper effect could be fully expressed. In addition, he recommended slenderizing the contacts of the lower anteriors for tooth size.

This case provides our clinic with a great opportunity to observe up close the excellent work of the master of the Damon system. In addition, it proves that once the protocols are vigorously followed, a case started in the US can easily be finished elsewhere without compromising treatment quality.



A Wonderful Interlude which Changed My Life The First Contact with "Braces"



Michael Ho

I was an exchange student in the US last year. By chance, I met Dr. Tom Pitts there and he used the braces to change my life. I look much different than I used to. I have a great big smile now! Also, to my amazement, it didn't hurt at all!! That's totally different from what my friends told me. I didn't feel any pain with braces on my teeth, and I have learnt to clean my teeth much carefully. When I came back to Taiwan, I found Dr. Chang who Dr. Pitts strongly recommended. In Beethoven Orthodontic Center, I find nothing different from Dr. Pitts' Clinic in the US; they have the newest instruments, well-trained doctors and great services! The only differences are the decor and that the people speak Chinese! I feel great going to Beethoven Orthodontic Center not only because of the great doctors but also the marvelous treatment they gave me! These braces have totally given me a whole new life!! It's not only about braces; it's about your health!! Give my sincerest gratitude to Dr. Pitts, Dr. Chang and the Beethoven Orthodontic Center!





MAGIC DAMON

矯正器新應用

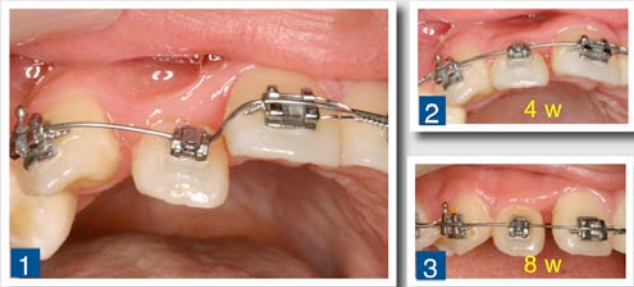


黃瓊嫻 醫師

成為 Damon user 已將近兩年，國內患者由於 profile 的關係，與國外 case 相較之下，需要拔牙的病例相對偏多，於是出現許多多餘的 premolar bracket，除了跟湧傑換 bracket 以外，這些 bracket 還可以有什麼用法呢？

目前雖然使用 Damon system 患者在門診中有增多的趨勢，但是還是有一些因為經濟因素或是只想要做 single arch 的患者，會使用 edgewise appliance，這些患者如果有單顆牙齒錯咬或特別 crowding 的情況，該使用怎樣的 biomechanics 會最快、而患者又感到舒適呢？於是我想到了，如果相對於傳統的 edgewise appliance 而言，Damon bracket 的 friction 真的比較小的話，那麼在我們有足夠空間能 relief 單顆牙齒的 crowding 時，鄰近牙齒因為 friction 比較大的關係，正好可以成為良好的 anchorage！於是，我嘗試將特別 crowding 的單顆牙裝上 Damon bracket，果然發現可以很快 relief crowding！尤其是針對上顎側門齒單顆錯咬，相對於使用一般 edgewise bracket 而言，這個方法可以使牙齒在往 labial side 移動的同時，**比較不會出現只有 crown labial flaring 的情形，而是牙根也跟著往 labial side 移動**。最後不需要再多花時間去做 wire bending 或加 torquing spring 來改善 root torque (Fig. 1、2、3)！

臨床使用 Damon system 兩年以來，有時候在門診中看到裝 edgewise appliance 的患者，會想起當初用了哪些 mechanics、費了多少時間與功夫讓牙齒可以排列成現在這樣，雖然這就是身為矯正醫師的成就感，但我仍不禁會想“如果這個患者當初是裝 Damon 的話……”，我可以在多少時間內做到同樣的進度？雖然使用不同系統是“殊途同歸”，但是在到達目的地之前，可以看到、經歷到的情境卻是大大不同！對矯正醫師是，對患者亦然。當然，不是絕對使用哪一種系統就比較好或比較不好，**從每一個 case 不同的 clinical reaction 中不斷的省思與再進化，才是我們矯正醫師所要追求的目標吧！**



我變成了醫師的好幫手！

在矯正助理訓練課程中，不論是技術上或知識上，我得到了很多東西。**每一次的實作練習，助理的專業，總是能讓我享受在每一次的課程裡，並能讓自己快速上手**。而我也可以將所學的，好好的應用在病人身上。收穫很多喔！

貝多芬的每一位助理都很專業，他們都用最熱忱的心及無私的心指導每一位學員，讓每個人都能更加了解 Damon 矯正系統的專業知識！

謝謝張醫師、高老師及助理們提供那麼好的學習環境，及在這一段時間，對學員們那麼的關心及照顧！

醫師的話：

貝多芬矯正助理訓練課程讓我找到一位好助理！從病人踏進診所後，從矯正器的介紹、問題的回答、口腔衛教，還有口內外照片的拍攝，貝多芬都幫我訓練好了，**所以初診病人的溝通和成功率變高了**，而複診的病人更讓他們看到了 Damon 矯正系統的神奇效果。



何菱華 助理及蔡尚治 醫師



CLINICAL TIPS

輕鬆成為照相達人



林錦榮 醫師

筆者每次聽完張慧男醫師的演講，除讚賞其善用 **Keynote** 外，對其完美的臨床記錄更是羨慕，筆者照了近三十年之口內攝影，上下咬合一直拍的不是很满意。

請教慧男才知道關鍵在於筆者一直使用兩個小 retractor 及反射鏡拍攝咬合面 (Fig. 1)，兩個 retractor 造成反射鏡放入口內時病患口腔很難張夠大，於是常無法只照到想拍之反射影像，往往連實際之牙齒影像也拍入鏡頭內，造成後半部有實際牙齒影像 (Fig. 2)，非常礙眼；尤其想做影像之 morph 變化時，效果變得很差，慧男不但熱心分享其實貴經驗，且即刻送筆者好多個拍上下咬合面之單一型 lip retractor，使用單一型 lip retractor 後 (Fig. 3)，因鏡子放入時，口腔有較足夠之空間，故幾乎每次均可只照反射影像，不必把不想要之牙齒實體也照入，故大平均可輕鬆照好上下咬合面 (Fig. 4)。

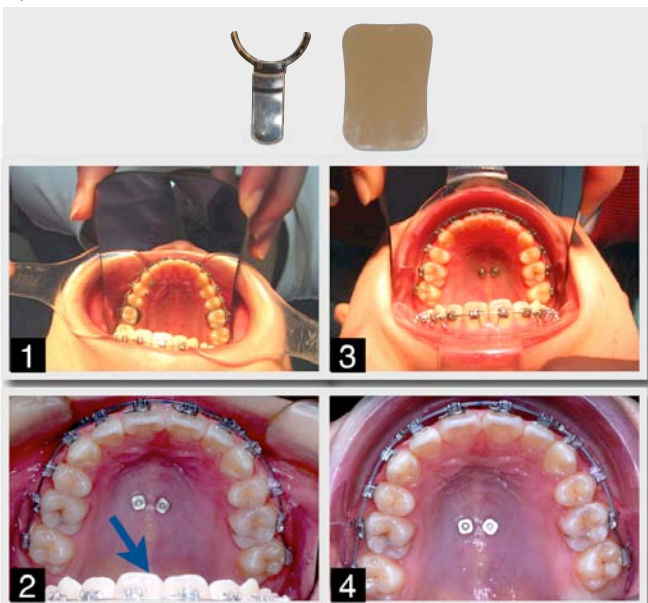


Fig. 1：兩個小 retractor 再加上反射鏡，口腔不易張大。

Fig. 2：畫面下方包含一些牙齒實體記錄，很礙眼。

Fig. 3：使用單一 lip retractor，口易張大，故拍攝容易。

Fig. 4：只有單純鏡面反射影像，遠比 Fig. 2 單純好看。

工欲善其事必先利其器 (Double Retractor)

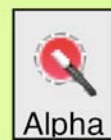


為了良好的照相記錄，我們試過許多種的輔助工具，其中記錄咬合面所使用的 Lip Retractor，即是相當方便使用。但加上正面兩側拉鉤，一次的記錄就要用掉好幾支的輔助工具。為了更方便簡潔的記錄，特別設計了多用途的 “Double Retractor”，不但更符合口內照相工學，lip 端中間修成內凹曲度，也可避開繫帶拉扯的不適感，是一個使照相工作更輕鬆完成的好工具！

吳淑鈞 技師 貝多芬齒顎矯正中心



輕鬆特寫



在臨床的照相記錄中，除了一般固定的拍攝角度外，有時會需要強調患者所想改善的部位 (Fig. 1)，這時利用黑底板可以加強近拍特寫的效果，但還是會有反光的小問題 (Fig. 2)；如果再加上 **Keynote** 工具列 **Alpha** 的去背功能，一塊黑底板加上手指點一下，就可輕鬆獲得清晰影像 (Fig. 3)！



謝曉萍 助理 貝多芬齒顎矯正中心

ORTHO BONESCREW

輕 鬆 改 善 嚴 重 暴 牙



余宗坤 醫師

Class II div. 1 malocclusion 其主要的顫顏咬合特徵為上顎較前突、下顎較後縮，或是兩者兼有，large OJ、deep OB、deep curve of Spee、canine and molar Class II relationship。針對這類患者的治療計畫常是拔除上顎第一小白齒，利用拔牙的空間來改善 OJ 及 OB。然而在力學上的設計，最主要的考慮在於後牙的 anchorage control

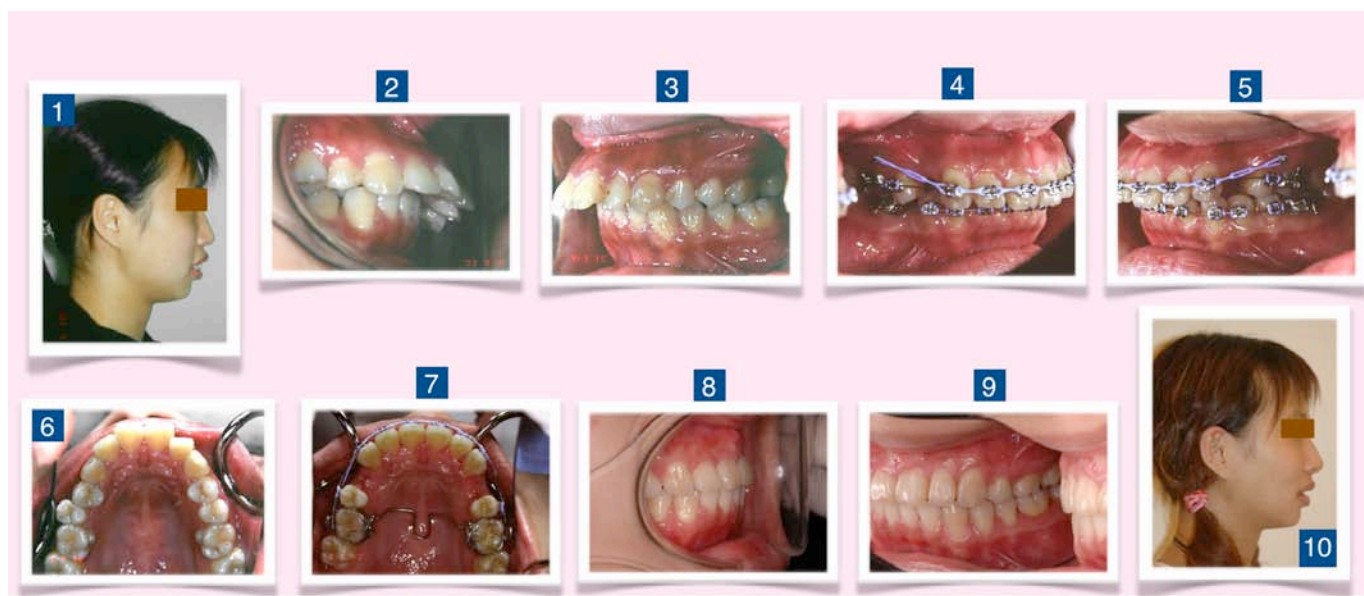
，維持後牙的位置不動，將前牙往後拉，這樣才可以將過突的前牙拉回來，達到理想的 OJ 及咬合關係。在過去傳統的治療方式是盡量維持後牙的 anchorage，常用的方法有 TPA、headgear、differential moment、inter-arch elastics，甚至是用 J-hook 直接將前牙往後推，但是這些方法需要依賴病人的合作，否則效果不彰。所幸在現今 temporary anchorage devices (TAD) 的發展之下，讓矯正醫師得到一個強而有力的工具，很多疑難雜症都可以迎刃而解。以下介紹一個 severe Class II div.1 malocclusion with large OJ 的病例，利用 TAD 改善其咬合不正與顏面外觀。

病人張小姐，23 歲，主訴是上顎前牙太突 (Fig. 1)，

而下顎門牙會咬到上面的牙肉，經過檢查 OJ：12 mm，OB：7 mm (Fig 2)；兩側的 canine 咬合關係都是 Class II，而 molar 關係在右側是偏 Class I，左側是 Class II (Fig 2、3)；Ceph analysis：skeletal Class II，Mandible retrognathism，mild high angle，protrusive upper and lower incisors；Profile：acute NLA，lip incompetence。治療計畫是拔除上顎兩側的第一小白齒，再以 mini-screws 植入在 15、16 及 25、26 之間，作為 absolute anchorage，將 anterior teeth retraction (Fig 4、5)。在 16 x 22 SS 上利用 power chain 來 retract anterior teeth，原本擔心的 anchorage 問題，現在只要利用 mini-screw 拉上 power chain，每個月回來更換，最後就可以將咬合改善到理想的關係 (Fig 6、7、8、9、10)！

本案例證明利用兩隻小小的釘子，就可以將如此嚴重的咬合不正，輕輕鬆鬆地解決，對矯正醫師來說也不必擔心 anchorage loss 或是 OJ & OB 無法改善到理想的狀態，晚上可以安心入眠。

TAD 作為 anchorage control 確實是一個很有效、可信賴的工具，特別是需要有 absolute anchorage 的病人，可以讓矯正醫師在力學設計上節省很多功夫與時間，大大提升治療結果與醫療品質！



ORTHO BONESCREW

不鏽鋼真的安全嗎？



蘇荃璋 醫師

不鏽鋼材料的使用在醫療領域中已經有一段長久的歷史，例如外傷時固定的骨釘與骨板、人工瓣膜、血管支架、心律調節器及人工關節等，因為這些材料放置在人體內往往長達十多年，甚至伴隨一生，所以關於不鏽鋼材料的生物相容性、離子釋放率、腐蝕率、過敏反應等議題逐漸受到大家的重視。究竟不鏽鋼材料置入人體中，安全性如何？離子釋放速度多快？置入多久時間後會對人體產生影響？本篇試著搜尋一些資料來與大家分享並討論：

Tomizawa Y. (2006) 追蹤病人體內所置放的不鏽鋼胸骨縫線長達 30 年的研究報告裡，確實發現有 corrosion 的現象，但只侷限在表淺層；1994年，Haudrechy 團隊針對含硫量高低不同的各類不鏽鋼材料作鎳離子釋放率的檢驗報告，指出含硫量低的不鏽鋼類如 AISI 304、316L 或 430 的鎳離子釋放率低於 0.03 microgram/cm²/week；同時也針對會對鎳過敏的病人作測試，指出低硫不鏽鋼類不會引發接觸性的皮膚過敏反應。

隨著提煉技術的成熟，純化及不易變性的不鏽鋼材料 (316L) 已成為醫療使用不鏽鋼材料的主流，Wang G. (2007) 從細胞毒性

試驗、組織學上嗜中性細胞及淋巴細胞浸潤反應的觀察發現：316L 不鏽鋼與鈦合金都表現出相似的結果；Lackowski WM. (2007) 報告指出 316L 不鏽鋼板在植入動物 54 個月後，從電子顯微鏡以及光譜分析儀中沒有發現任何物理及化學上的變化反應；進一步研究 316L 不鏽鋼腐蝕率的報告裡，Liang C. (2006) 使用恆電流線性極化法和原子吸收光譜法測得 316L 不鏽鋼材料的腐蝕率為 $21 \times 10^{-3} \mu\text{m/a}$ ，遠低於醫用金屬標準所規定的容許腐蝕率 $0.25 \mu\text{m/a}$ 。

矯正骨釘在牙科矯正的應用逐漸受到重視，其中不鏽鋼與鈦合金的材料選擇也各有其優點及支持的文獻報告。總結本篇的幾項結果：矯正骨釘選擇含硫量低的 316L 不鏽鋼材質，使用期間平均不超過兩年（低於文獻報告的 54 個月），可以大幅減低腐蝕所可能產生的危害。選擇一個價位合理、操作性佳、不易斷裂且短期置放不會對人體產生危害，生物相容性穩定，且使用結束後移除容易的產品應該是每位牙醫師所希望使用的選擇。



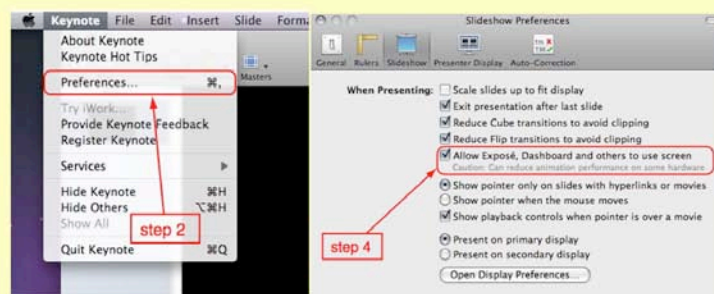
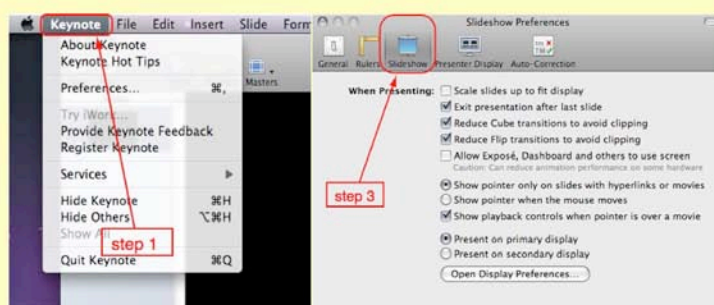
陳柏禎 Keynote 工程師
金牛頓藝術科技教育中心



Keynote Tips

當 Keynote 影片發生變黑屏的狀況時不用慌張，請跟著下面的步驟：

1. 到左上角 Keynote 點一下
2. 點選偏好設定：
3. 點擊 slideshow，並進入相關設定畫面：
4. 將 Allow Expose 這一欄打勾：
5. 最後重新播放你的檔案，就 OK 囉！





2008 元旦熱情開幕 ...

Newton's A

金牛頓藝術科技教育中心



多媒體簡報 Keynote 輕鬆上手



牙醫師與 Keynote 第一次接觸的滋味

1. 在 Keynote 的教學上，採用獨創的 template 學習法。在短短的一天即可輕鬆的上手，兩星期後即可做一場專業級的 case presentation，是不可多得的課程。 Dr. 施弘一
2. 課程最大特色：快速入門，引導正確方向及提供新知，Keynote 是值得學的軟體，感謝張老師指導。 Dr. 郭雨文
3. 影片教學很清楚，個案討論除可體驗難得的報告感覺，且藉由 Keynote 可將所學融會貫通。 Dr. 吳智源
4. 生動活潑的 Keynote 教學，搭配清晰的影片，重點式觀念的加強，外加實習，是課程最大的特色。 Dr. 黃朝雄
5. 趕快將您收集好的資料及照的漂漂亮亮的照片存進 apple 裡吧！讓 Keynote 為您編排一段精彩的 case show。您將會有一份意外的喜悅！ Dr. 李裕隆
6. 順暢的影片和 Keynote 教學，還有教室與診間教學的結合，讓我不會有實際和想像差距太大。 Dr. 古秀傳
7. 使用 Keynote 教學，講者技巧及重點明確。 Dr. 楊堉
8. 如果你要教學、報告、或演講；如果你打算不用雷射光束標示重點；如果你想演講講得比賈伯斯還好，強烈建議你用 Keynote，因為用過的都說好 Dr. 趙德彰

金牛頓藝術科技教育課程

| | 課程名稱 | 內容 | 開課日期 | 上課對象 |
|---|--------------------------------|---|--|--|
| 1 | 牙科助理系列一：Keynote 病歷管理 | 1. Keynote 3. Morph 2. 照相 4. 衛教製作與講解 | 1月13日(日) 9:00 ~ 16:00 | 牙科助理 Damon助理訓練班學員之同事 學員醫師之助理 |
| 2 | 牙科助理系列二：科技應用於牙醫行政 | 1. Numbers 應用 2. Pages 應用 3. Keynote 應用 | 初階班：1月10日(四) 13:00~17:00 進階班：1月28日(一) 13:00~17:00 | Damon助理訓練班學員及同事 學員醫師之助理 |
| 3 | Keynote 簡報法系列一：簡報聖經 | 1. Keynote 入門 2. 簡報聖經 | 初階班：1月17日(四) 9:00~12:00 進階班：1月17日(四) 13:00~17:00 | 醫師、教師、研究生 高效矯正課程學員 |
| 4 | Keynote 簡報法系列二：Dr. Kokich 演講祕訣 | 1. Dr. Kokich 十大簡報技巧 2. 進階簡報法則 | 1月31日(四) 9:00~12:00 | Keynote 簡報法系列一學員 高效矯正課程學員 |
| 5 | 業務人必備的多媒體資訊科技 | 1. iPod 系列入門 2. Keynote 入門 3. 銷售專業體驗 | 1月19日(六) 9:00 ~ 16:00 | 業務員 湧傑公司員工 |
| 6 | 多媒體與銷售之結合 | 1. 銷售實力提昇 (iPod + Keynote) 2. 銷售實務製作 | 二月份 | 業務員 湧傑公司員工 |
| 7 | 掌握賈伯斯演講祕訣 | 1. 多媒體運用 (iPod + Keynote) 2. 提昇簡報實力 | 二月份 | 高效矯正課程學員 Keynote 簡報法系列學員 所有對簡報有興趣者 |

上課地點：金牛頓藝術科技教育中心（交大華廈2樓）；陸續開設高效簡報法及生活應用相關課程

報名專線：0972-109061 高老師 (035) 735676 黃思涵；(02) 27788315 劉姿珮 / 邵美珍；(07) 5361701 王慧靜

課程優惠：12月31日前開幕價；貝多芬高效矯正相關課程學員價



2008 Damon in-office course

學會開始做矯正需多久？48 小時讓您入門矯正。本課程採高效學習法及高效矯正簡報法—Keynote，在舒適、輕鬆的環境下，學會簡單有效的矯正方法，教室與診間結合，讓您現學現用，立即熟悉各種習得的技巧，而不需太多課後複習。全程以 In-Office Training 方式，用病例帶動分析、診斷，



治療計畫與療程技巧，每一步驟皆以圖片及影片教學，讓您很難錯失任何環節，更沒有聽不清楚或無法理解的可能。為提高課後自我學習及臨床印證之效率，另備有教學電子檔，供學員家中研習。我們的終極目標是：用最短時間、最輕鬆的方式，讓每位學員：熱愛矯正學、熱愛學矯正。

9 · 小 · 時 · 高 · 效 · 矯 · 正 · 實 · 習 · 課 · 表

- | | |
|---|---|
| 1. Initial Consultation | 7. De-banding & De-bonding |
| 2. Initial Record (Pano + Ceph + TMD + Photo + Model) | 8. Retainer (Removable & Fixed) |
| 3. Final Consultation & Tx. Plan | 9. Mini-screw Implantation |
| 4. Banding & Bonding (黏瓷牙、金牙、智齒、埋伏牙、舌側維持器) | 10. Assistant Training & Patient Instruction |
| 5. Archwire Adjustment & Bending | 11. Orthodontic Material & Instrument Selection |
| 6. Retire & Power Chain & Clinical Tips | 12. Practice Management & Office Design |

2008 Damon 高效矯正必修課表

矯正基礎

| 新竹 (二) | 高雄 (四) | 台北 (日) | LECTURE | LAB |
|-----------|-----------|-----------|----------------------|-------------------------|
| 1 4/08 | 4/10 | 4/13 | 理想入門病例 + Damon 矯正器黏著 | Bonding (D3MX) + BT |
| 2 4/15 | 4/17 | 4/20 | 快速矯正流程四部曲 | Ceph + Photo |
| 3 4/22 | 4/24 | 5/04 | 簡捷有效的固定系統 | Damon + Mini - Screw I |
| 4 5/06 | 5/08 | 5/11 | 不拔牙與拔牙分析 | Damon + Mini - Screw II |
| 5 5/13 | 5/15 | 5/18 | Damon 診斷流程及微調 | Finish Bending |
| 6 5/27 | 5/22 | 5/25 | A103 生物力學及完工之檢測 | Fixed Retainer (FR) |
| 7 6/17 | 6/05 | 6/15 | 維持及復發：持續微力的秘訣 | Presentation Demo |
| 8 6/24 | 6/12 | 6/22 | 病例示範及診斷分析 (1) | DDX + Case Reports I |
| 9 7/01 | 6/26 | 7/06 | 病例示範及診斷分析 (2) | DDX + Case Reports II |
| 10 7/08 | 7/03 | 7/13 | 病例示範及診斷分析 (3) | DDX + Case Reports III |
| 11 7/15 | 7/10 | 7/20 | 病例示範及診斷分析 (4) | DDX + Case Reports IV |

矯正進階

| 新竹 (二) | 高雄 (四) |
|-----------|-----------|
| 1 9/23 | 9/25 |
| 2 10/21 | 10/23 |
| 3 11/25 | 11/27 |
| 4 1/06 | 1/08 |
| 5 1/13 | 1/15 |
| 6 3/10 | 3/12 |
| 7 3/24 | 3/26 |
| 8 4/07 | 4/09 |
| 9 4/21 | 4/23 |
| 10 5/12 | 5/14 |
| 11 5/26 | 5/28 |

* 以病例討論為主軸，培養學員如何正確診斷及快速排
除臨床疑點，課程中亦訓練學員為學員善用 Keynote

矯正植體 (1 day course)

| 基礎 (五) | 進階 (五) |
|-----------|-----------|
| 3/28 | 4/25 |
| 7/25 | 8/15 |

* 矯正植體的製作
時機、植法與臨床
示範、臨床跟診及實作
實習、個案討論

Damon 助理

助理 (二)

| 1 | 2 | 3 | 4 | 5 | 6 |
|------|------|-------|-------|-------|-------|
| 9/16 | 9/30 | 10/07 | 10/14 | 10/28 | 11/04 |

* 針對使用 Damon 醫師之助理
小班制，公開行政、電腦資料處理，探
為培訓重點，包含臨床技術、探

International Workshop

6/09 - 6/11 * In-office
Miniscrew & Damon





From the Publisher: From Good to Great

Chris Hwai-Nan Chang, DDS, Ph.D

I

WAS CRAZY ABOUT the lingual appliance and RPE for many years. As a matter of fact, RPE was the topic of my Ph.D. studies. Three years ago, I met an amazing woman, Ms. Sandra Diver, in Dr. John Lin's office. She was trying very hard to convince us there were better ways to treat patients than the popular RPE. Her passionate speech surprised me a lot. When I returned to my office that afternoon, I decided to make a thorough study of my cases. My curiosity has driven me to investigate the difference between arch development and suture expansion as Sandra mentioned in her lecture. This shift has marked one of the most creative periods of my orthodontic learning.

Through studying my own mistakes, I find out that the more I learn, the more I realize how much I don't know. With the invention of multimedia tools, it has been easier to learn from ones' own records. You can easily look through all your cases, and compare the treatment outcomes. My new secret weapon is, an Apple software, **Keynote**. I've learned so much about the Damon effect and the value of bone screw anchorage by using **Keynote**. **Keynote, the Damon system and bone screws have become three wonderful toys for my orthodontic practice and learning.**

If there's one thing I hope you get from this issue, it's an attitude about learning. Learning should not be a challenge, a grim obligation, or a way of filling up time. Learning is man's greatest invention, a way to make improvements, and one of the most fulfilling pleasures that life has to offer. I encourage you all to consider every treatment procedure as an opportunity for learning. Regardless of your ability as an orthodontist, remember:

1. If you think you're not good at it, you can be.
2. If you think you are good at it, you can be better.

Keep learning and don't settle for less! Let's continue on this journey of going from good to great.

Chris Hwai-nan Chang



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