Issue 7
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A 50 YEAR PERSPECTIVE INTO AN ORTHODONTIC JOURNEY

THE PROTOCOL MAGAZINE™

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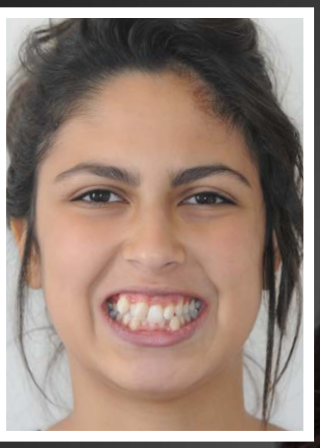
WORLD WIDE PINNACLE SNEAK PEAK



INITIAL PHOTO

Actual Patient of Dr. Wassim Bouzid
H4 Patient, 17 Months

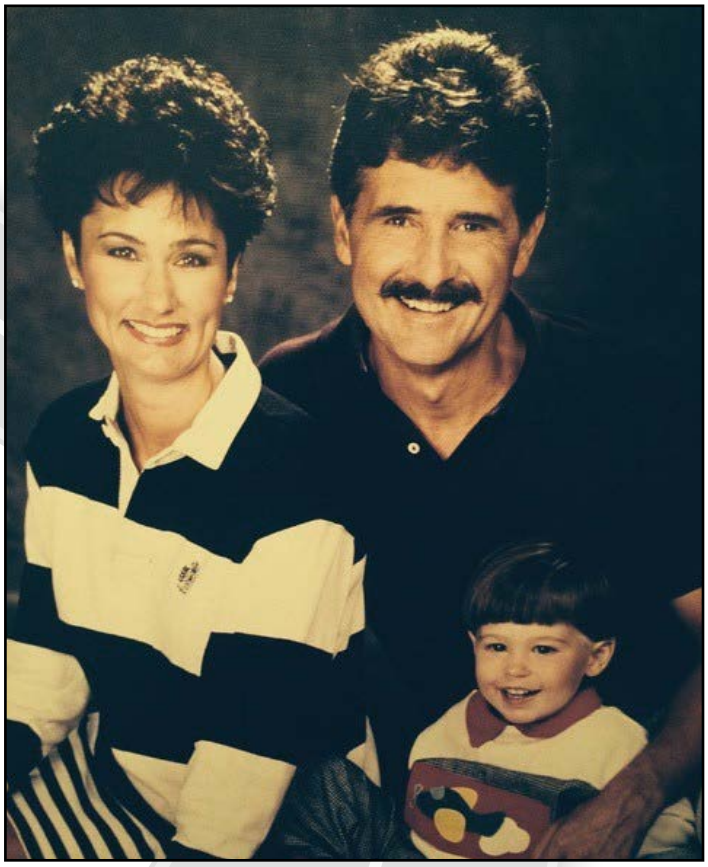
YOU CAN HAVE IT ALL

Drs. Tom Pitts, Duncan Brown & James Morrish

PRACTICE SPOTLIGHT - DR. WASSIM BOUZID

A 50 year perspective into an Orthodontic Journey

When I began my orthodontic career in 1968, not only were treatment goals limited by overly narrow definitions of occlusion and stability, but the fixed appliances available were primitive by today's standards.



The "cost" of clinical inefficiency on practice performance and, in turn, on clinical and personal clinical excellence is a paradox that still haunts us today.

After watching several "time in motion" Orthodontists and adopting "pre-adjusted" appliances in the 1970's, clinical results improved and appointment numbers decreased. Beginning in 1975, after an intensive Ricketts' course, I began to dream about attaining better esthetic outcomes sooner, in an efficient, biologically sensitive, and simple manner.

My first experience with PSL occurred in 1985, while working with the "A Company " and the "Activa" appliance. PSL provided a means of attaining

quicker results in non-extraction treatment of crowded cases, better arch development, more predictable open bite closure and non-surgical class III resolutions than traditional ligation. It was still a lengthy treatment to finish beautifully.

During my 20+ years of working to improve the PSL mechanism with a rectangular slot, treatment times dropped to 18 to 22 months with

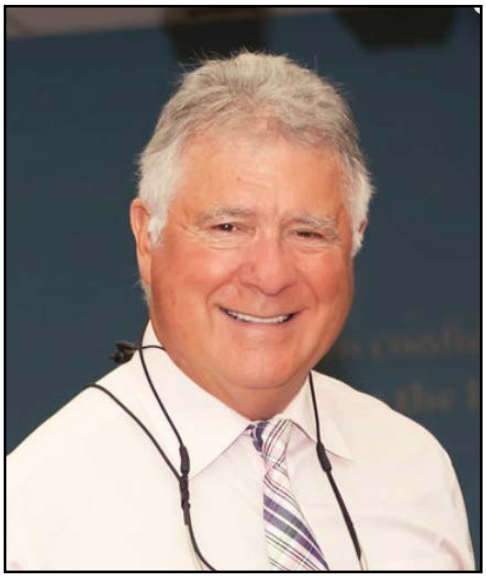
fewer appointments, but 3D control of the anterior teeth was still problematic.

In 2013, I was able to convince OC Orthodontics into shortening the depth of the slot. Working with the H4 and the .022 x .026 bracket slot, we were able to save a few months of treatment and attain better rotational and torsion control.

Today, fixed appliance orthodontics is under assault. Clear Aligner technology has become more sophisticated and popular with the public. Aggressive direct to public marketing, training and engagement of the PCD (76% of which now provide orthodontic services), and a strategy of becoming both the "gatekeeper" and "source of financing" for aligner treatment, is impacting every Orthodontist. Most Orthodontists use aligners not because they deliver a better esthetic result, or are quicker or simpler in treatment, but because they feel they don't have an alternative.

I am committed to provide Orthodontists with the simple, cost effective means to deliver superior esthetics, better 3D control, attained sooner in treatment, with lighter forces, and more predictably than may be attained with any other treatment method. The **Pitts 21 system** is the next step forward in that direction.

An educated public is our strongest advocate, and a trained esthetically aware Orthodontist, our best hope for the future.



Tom Pitts D.D.S., M.S.D.

"I began to dream about attaining better esthetic outcomes sooner, in an efficient, biologically sensitive, and simple manner."

CONTRIBUTORS

Thomas Pitts D.D.S., M.S.D.
Ortho Country Orthodontics

Dr. Pitts is a world renowned lecturer and clinician. He is highly recognized for his continued teaching of orthodontic finishing and clinical excellence. Dr. Pitts is a clinical professor at UNLV and founder of the well-respected Pitts Progressive Study Group.

Dr. Pitts has been published in multiple journals and clinical publications. He has been actively teaching the orthodontic community in a variety of settings both nationally and internationally since 1986.

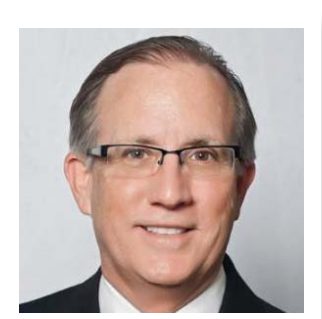
Duncan Brown B.Sc., D.D.S., D. Ortho
Smile Zone Orthodontics

Dr. Duncan Brown is a highly regarded international speaker and educator in passive ligation bracket systems. Dr. Brown teaches regularly at the University of Alberta and University of Manitoba and is also a Kodak/Carestream Dental speaker and consultant.

Dr. Brown has made large contributions to the orthodontic community including creating effective hygiene programs for patients and much more!

Wassim Bouzid D.D.S., M.S.D.
Ortho Vision

Dr. Wassim Bouzid is an Algerian board-certified Orthodontist with a private practice in Constantine, Algeria. Dr. Bouzid has studied all over the world, he received his doctorate of dental medicine from Constantine University in 2007, following his dental school graduation. Dr. Bouzid completed his 3 year residency in orthodontics and obtained his master degree in orthodontics and dentofacial orthopedics from Wuhan University in China. Dr. Bouzid was a member of the second Pitts Masters Program, and has published multiple articles, is a professional photographer, and is certified in Digital Smile Design. Dr. Bouzid goes beyond straight teeth to create the most aesthetically pleasing smiles possible.



James Morrish D.D.S.
Morrish Stewart Orthodontics

Dr. James (Jim) Morrish graduated from the University of Florida in 1983 and immediately began practicing in Bradenton, Florida. Over the years Dr. Morrish has been honored with many awards, including: American Association of Orthodontists Award, Emory University School of Dentistry, Omnicron Kappa Upsilon Dental Honor Society, and the "MAL" Award for Outstanding Teaching of the Post-Graduate Orthodontic Residents at Nova Southeastern Dental School where he served as an Adjunct Clinical Professor. He is now currently serving as an Adjunct Clinical Professor in the Department of Orthodontics at the University of Florida College of Dentistry.

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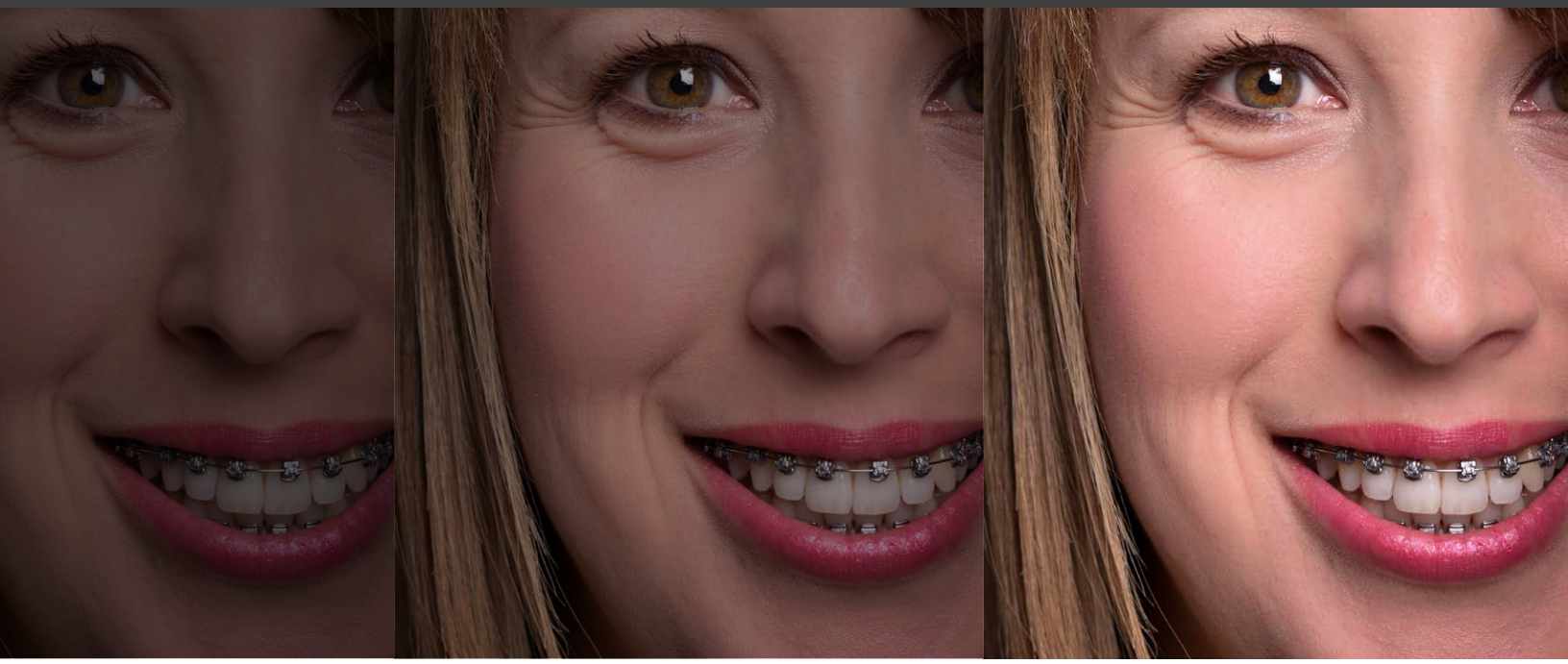
orthodontics

PRACTICE SPOTLIGHT



MY LIFE AFTER PITTS

WASSIM BOUZID
D.D.S., M.S.D.

Full, Healthy, Beautiful Smiles Attained with Pitts Protocols

Forward by Dr. Duncan Brown

Dr. Wassim Bouzid is an Algerian board-certified Orthodontist, practicing in Constantine, Algeria.

Wassim has been a true student of the world, receiving his Doctorate of Dental Medicine (DMD), from Constantine University in 2007, and his Master's Degree in Orthodontics and Dentofacial Orthopedics from Wuhan University in China.

I really got to know Wassim when he became a member of the second Pitts Masters in Finishing Group, with the other members from Algeria, Ilies and Fayçal. It's exciting to see how "our Algerians" have gone beyond straight teeth to create the most esthetically pleasing smiles. I am delighted that they are paying this knowledge forward in the first Pitts Algerian Masters in Finishing meeting. I was honored to attend their first session in Constantine, hosted at Wassim's home with his wonderful family. It is a memory that my wife Debbie and I will treasure.

Wassim and his lovely wife Amira, are raising their sons Fady and Yanis, which keeps them more than busy. Amira has the hardest job in the world, keeping Wassim from traveling to study everywhere, buying too much photography equipment, and spending far too much time on social media.

We all have much to learn from Wassim, especially me.

I would love to say that I enjoyed my own orthodontic treatment so much so that I decided to become an orthodontist, but sadly that is not the case. I didn't have the opportunity to have braces when I was young but I would love to get bonded when Dr. Tom Pitts comes to Algeria next year.

My mother (a periodontist), never pushed me to study dentistry, but my father (a lawyer) did (that probably says something about law). As soon as I entered dental school, orthodontics immediately became my goal.

I graduated from Constantine University in 2007 (Algeria), and was lucky enough to do my Orthodontic residency in China (Wuhan University), living there for 4 years. That opportunity was enormous and it is really hard to summarize China in any concise way. China is so different and so many things happened that I still don't understand, but one thing that I'm sure about is that I feel like China is home.

I am very grateful to have had Dr. He Hong as my mentor. She pushed and challenged me in ways that other professors have never done before, and most importantly she shared her passion for orthodontics and she made me a better clinician and a better person.

We have the greatest profession in the world and an opportunity to make a HUGE impact on people lives. We should never forget that we don't sell an orthodontic treatment...we provide life changing experiences.

I finished my orthodontics residency in 2012 and I have been practicing ever since for the last five years.

MY PRACTICE BEFORE PITTS

I considered myself a good orthodontist. I thought that I was doing a great job. I thought I liked my treatment outcomes and that my patients did too.

That perception changed in Taiwan in one of Dr. Chris Chang's in-office courses. During that same course I also met some other very talented clinicians: Drs. John Pobanz, Daniela Storino, and Patricia Vergara. They all spoke of Dr. Tom Pitts. Even Chris

Chang said that Tom Pitts produced the greatest smiles in the world. At that moment I decided I had to meet the man.

One year later, I was in Las Vegas attending the first OC Pinnacle and I finally got to meet the most talented clinical orthodontist in the world, Dr. Tom Pitts. The meeting was fabulous, and I saw the best cases that I had ever seen. It was overwhelming (brackets just under the nose, little light elastics, etc.). In speaking with Tom I made the BIG decision, to attend the "Pitts Masters in Finishing" course.

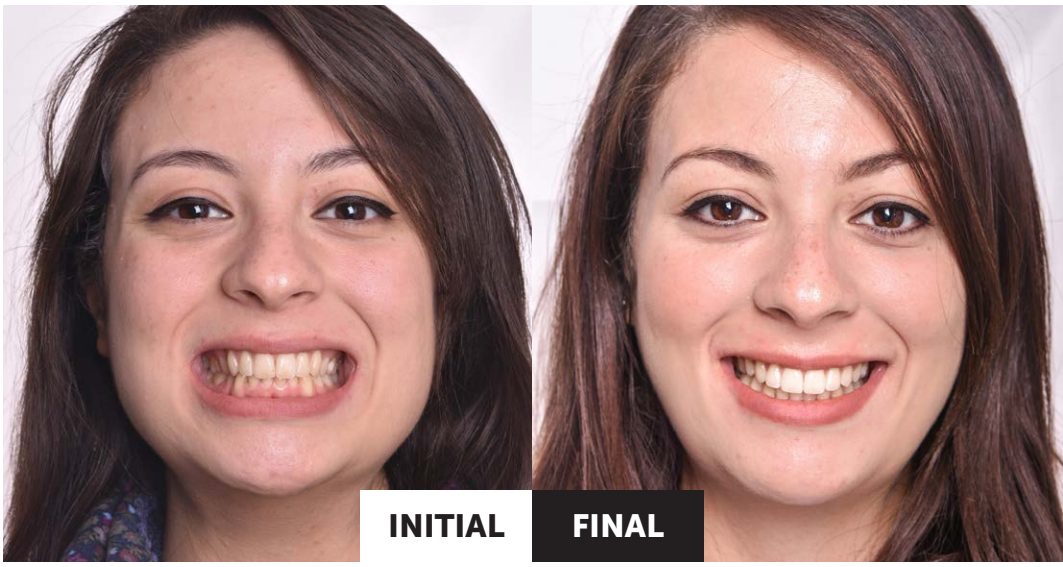
Back in Algeria, I began to see orthodontics differently, focusing on esthetics rather than occlusion, debonding, and rebonding many brackets to move them more gingivally. I recognized (painfully) that my best cases were total esthetic failures. Most of my old cases had extractions because I was struggling to have the lower incisors at 90 degrees, the profiles were flat, buccal corridors were large, smile arcs were flat, and vertical incisor position was not adequate.

I was excited to make a change, so I convinced two of the best Algerian orthodontists (Ilies and Fayçal) to take the course with me. They did, and we all feel that is was the best professional decision we have ever made.

MY PRACTICE TODAY

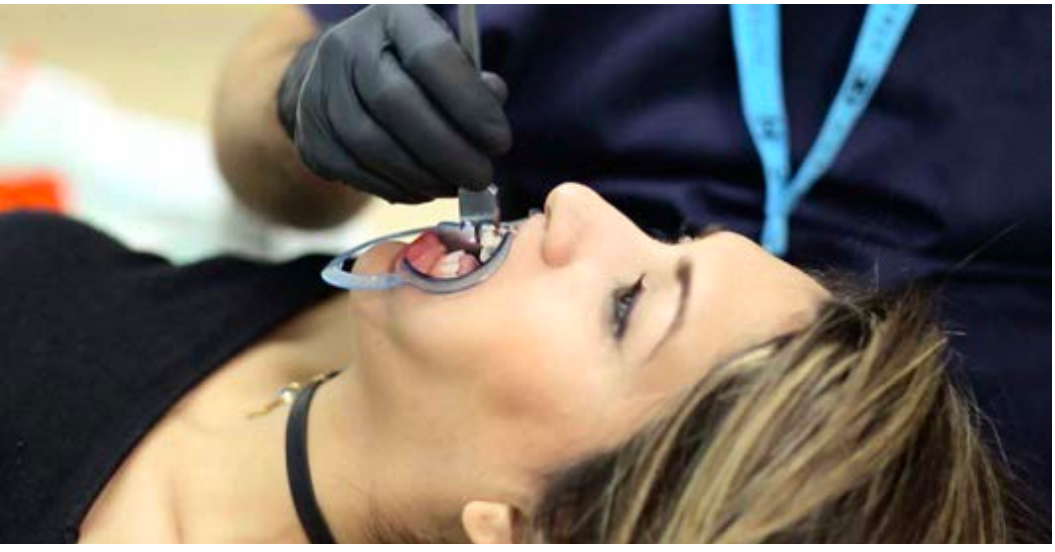
What can I say, other than WOW!

The Pitts experience has been an eye opener, and my orthodontic practice today is 100 % guided by Pitts Protocols.



These new protocols start at the very beginning of the new patient process with how you examine the patient. No more evaluating in the chair, instead I evaluate them standing in front of me.

Planning is based completely on gaining an optimal outcome. Rather than speaking on the bite, I now explain to my patients the importance of smile and of facial esthetics. I explain to them how the face will age and how all of our treatment is directed towards anticipating aging, and how developing the arches and creating the smile arc will transform them esthetically. I am saddened to think of the many faces that were ruined by poor orthodontics in the past (my old work included).
I admire Dr. Tom Pitts for what he is doing, his skills, his passion and his love for orthodontics. What I admire him the most for, is his tireless engagement to make every orthodontist think outside the box and make them care about esthetics.



My goal for the next few years, is to combine the technology of the Pitts 21 system with 3D planning and bracket positioning so we can minimize the bracket repositioning and finish cases faster.

I have now treated over a 1000 patients with H4 brackets, and the "Active Early" case management protocols, and can attest that this combination offers a level of precision and control that is currently unequaled with far, far, fewer extractions. Working with Tom's case management protocols, I see orthodontics differently, an experience shared with virtually every person who has attended "the Masters". I am forever grateful for that.

However, it is not time to sit still. I'm always looking for new digital tools that will make my practice better. I believe that the future of orthodontics will be full of technology and I want to continue incorporating new ideas and concepts to reduce chair time, increase treatment efficiency, and improve results. I'm a real lover of clinical photography. My wife thinks I spend more time in photography courses than orthodontics courses. It's not true, but it's close, I'm very passionate about clinical photography. I absolutely believe that outstanding clinical photography can have a direct impact on our business and patient acceptance.
I know that many orthodontists think that taking excellent quality photos can be difficult and time consuming, however I believe that orthodontics is an art and a piece of art, especially one that moves you emotionally should be immortalized with great photos. All of us have been depressed when one of our really good cases has poor quality records.

The good news is that it's a learnable skill, and it takes the same amount of time to take an outstanding photo as a bad one. So, what are you waiting for? The most recent concept I have put into place in my practice is the use of Digital Smile Design (DSD), a concept permeating from restorative dentistry. When I started taking courses on it, I was the only orthodontist in the group.

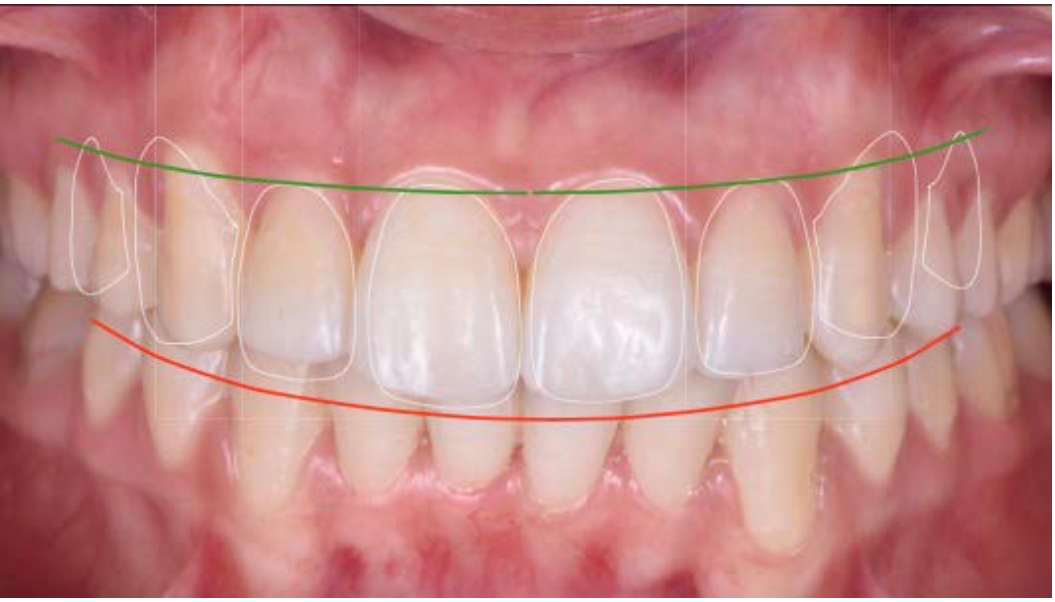
If we, as orthodontists, accept the fact that we should communicate visually, it's much clearer and easier. We can stop talking to the patient about crowding, stripping, brackets, and nasolabial angle and start speaking to them visually with an emotive esthetic message.

I started incorporating digital smile design into my cases about 4 years ago, and I love it. The esthetic aspects of both diagnosis and assessment of progress is far more precise, finishing with more predictability and far better patient communication than anything else I have seen.

I am so proud that I could convince Dr. Duncan Brown to come with us (Ilies, Fayçal, and I) on this journey. He is a genius, he learned so fast and he is now using this tool for his patient communication and in his lectures. Duncan spoke at the second DSD Summit this year, the only orthodontist to do so. Duncan cares about top quality orthodontics, he is an amazing teacher, and always gives the time and attention to each and every one of us. He is a true inspiration to me, and his passion and love for orthodontics has no limits. He is understanding useful new tools, and incorporates them immediately in his practice. He is a leader, and gives back all the time.

Tom and Duncan instilled in me the desire to teach, share, and spread the PHILOSOPHY they taught me; the joy of surpassing myself, pushing the limits, being creative, and always trying to get better.

It's amazing to be able to engage a full dimensional wire in the very early stage of the treatment. It is a game changer, the sooner a dimensional wire is in, the sooner we can repo our case to refine the esthetics, and the faster the patient will see the results. We will be able to finish sooner and more gently for the patient.



THE FUTURE:

The future began 6 months ago, during the AAO in San Diego where one of the most advanced appliance was launched (the Pitts 21 bracket system). I'm really excited about the introduction of the Pitts 21 brackets, and can't wait to see the results on my patients.

I think that moving from a rectangular slot to a square slot is an awesome idea that allows a very early, near perfect, 3D control with very gentle forces (thanks to the ultra-soft wires). We know that the .020 X .020 is an amazing wire (even in the old system) with its great ability to deliver torsional forces, as well as developing the arches very well. In combination with "Active Early" case management principles, this will perform even better in Pitts 21, since the play is reduced in the anterior. Full engagement should be obtained from the 2nd or 3rd archwire.

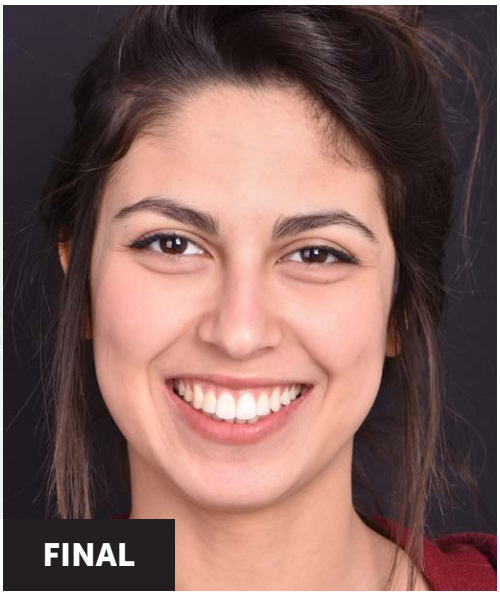
"The most esthetic orthodontic appliance is NO appliance", and finishing sooner will appeal to everybody.

It's time to wake up and realize that things are changing very quickly. In the near future the average time of orthodontic treatment will be reduced and orthodontic planning will focus on esthetics as a primary and most important goal.

Digital will be king. Communication between orthodontists, dentists, and lab technicians will be fully incorporating the concept of the "digital clone" (JPG, STL, DICOM), will allow full access to records securely stored in the cloud. The typical initial exam will include photos, a video recording session, CBCT radiology, and intra-oral scans.

Intraoral scanning and 3D printing will change the way we practice orthodontics in the future. Every case will be planned with digital smile design in order to determine the ideal esthetic smile. This planning will be turned into a 3D digital set, digitally superimposed on the patient's actual smile using software. Once the esthetic goal is validated by the patient, brackets will be placed virtually on the 3D model to achieve an ideal bracket set up, then transferred to the mouth of the patient via a 3D printed transfer tray.

INITIAL



FINAL

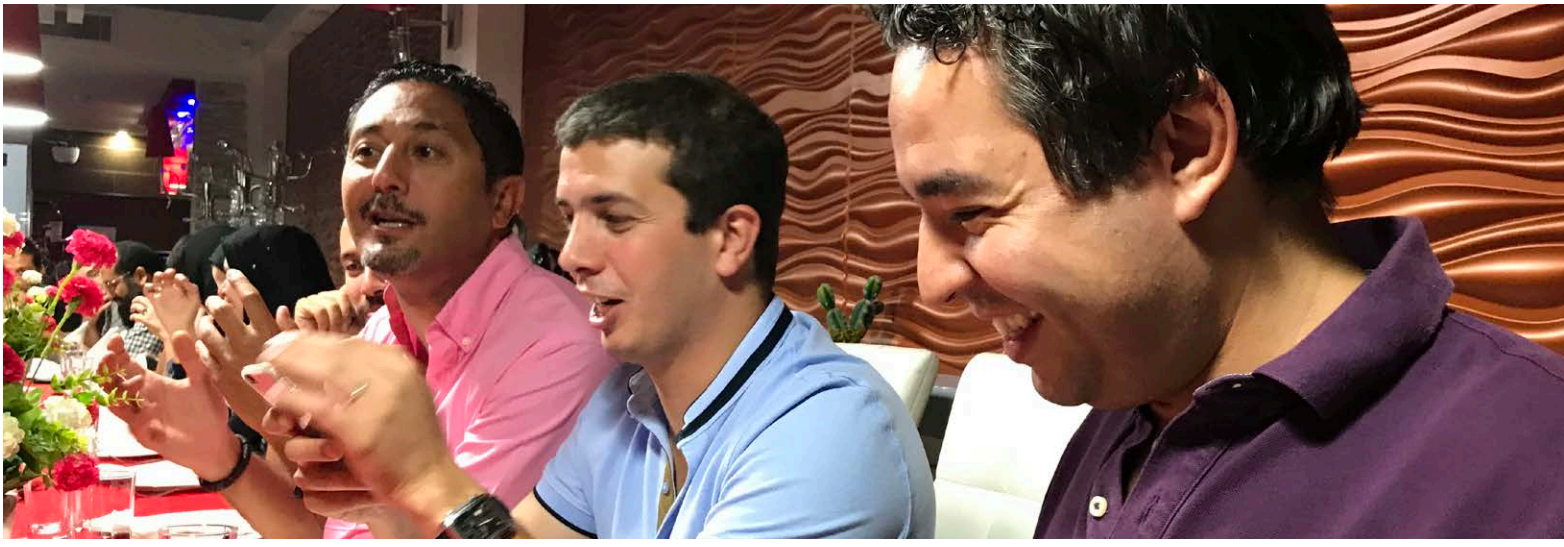
The advantages of intraoral scanning in orthodontic clinics is so powerful with the model storage savings, communication, reduced chair time, and efficient treatment planning software tools – that success in the market will soon be defined by those who have adapted to the technology.

My goal for next few years, is to combine the technology of the Pitts 21 system with 3D planning and bracket positioning so we can minimize the bracket repositioning and finish cases faster.

Tom's Pitts 21 appliance and "Active Early" case management strategies fit into this vision perfectly, and when combined with digital planning will result in a new face of orthodontics. More human, more emotional and artistic, more efficient, more precise, and gentler to the patient.

I can't wait to get started!

WASSIM BOUZID
D.D.S., M.S.D.



YOU CAN HAVE IT ALL

Tom Pitts D.D.S., M.S.D.
with Duncan Brown B.Sc., D.D.S., D. Ortho
and James Morrish D.D.S.

Fixed orthodontic appliances have slowly been losing market share throughout the world as aligner treatment has become more sophisticated. Marketing pressures from aligner giants have intensified and primary care dentists are aggressively providing "orthodontic treatment" in their offices. At the same time, mainstream orthodontics has not been progressive enough in either their fixed appliances techniques, or their ability to provide esthetic results "beyond straight teeth".

Many years ago I selected the passive self-ligating (PSL) mechanism as my fixed appliance of choice as it has helped many of us treat difficult malocclusions more easily with less extractions, less surgery, while developing stunning smile esthetics. However, for many users, it has taken too much time to finish due to loose fit of the wire in the passive slot, especially in the anterior teeth. The commonly applied clinical PSL approach was limited to increasing the arch wire size in a rectangular slot, which was inefficient, and increased applied forces to levels that were too much force for my liking.

"Creativity is seeing what others see and thinking what no one else has thought" - Einstein

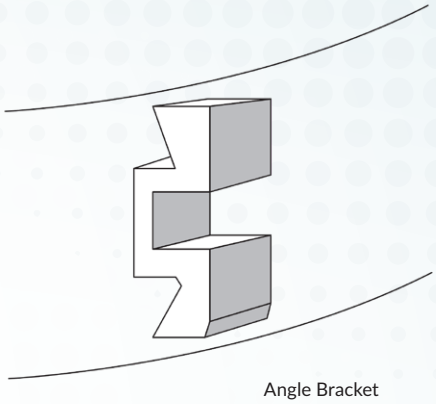
What do Patients really want?

Dr. Jerry Watanabe spoke with me years ago about the notion that the general public believes Orthodontists or Practitioners doing orthodontics only "straighten teeth". If we can deliver a superior cosmetic smile and outstanding improved facial esthetics, validated by excellent photos and videos of other patients, the patients will always choose "WOW" smiles (*great phrase created by Dr. Nimet Guiga*) and facial esthetics. They immediately appreciate the difference between straight teeth and appealing esthetics. The common response is, "You can do that? Can you do it quickly?"

It is time to rethink our role and save the specialty!

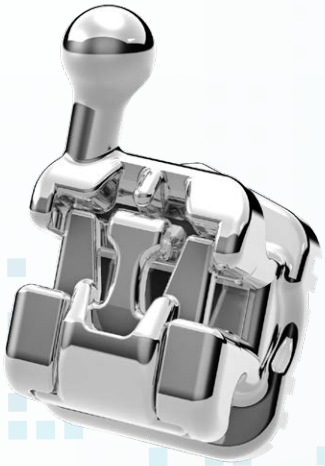
Over the last several years it became obvious to me that orthodontic thought needed a "reset". Early on I tried .018 slotted appliances and square wires, which provided very satisfying torsional control with light forces, but was disappointing due to insufficient leveling forces and inadequate rotational control. Some years ago, I began testing .020 x .020 square NiTi and Beta Titanium wires in a .022 x .028 appliance. Both torsional control and leveling were excellent, but of course rotational control was lacking. I began thinking of the potential benefits of reduced buccal lingual slot depth to improve rotational control.

At the same time, we introduced "Active Early" case management strategies that went a long way to mitigate the challenges imposed by rigid adherence[1] to "straight wire theory" (which has dominated our profession since Larry Andrews' breakthrough article[2] in the 1970's), and the limitations of rectangular slotted appliances in a PSL system.

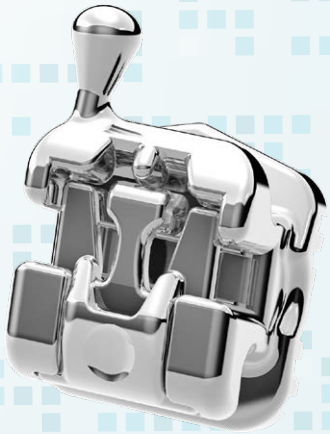


Angle Bracket

Activa Bracket



H4 Bracket



Pitts 21 Bracket

Figure 1: Amazing changes in bracket technology.

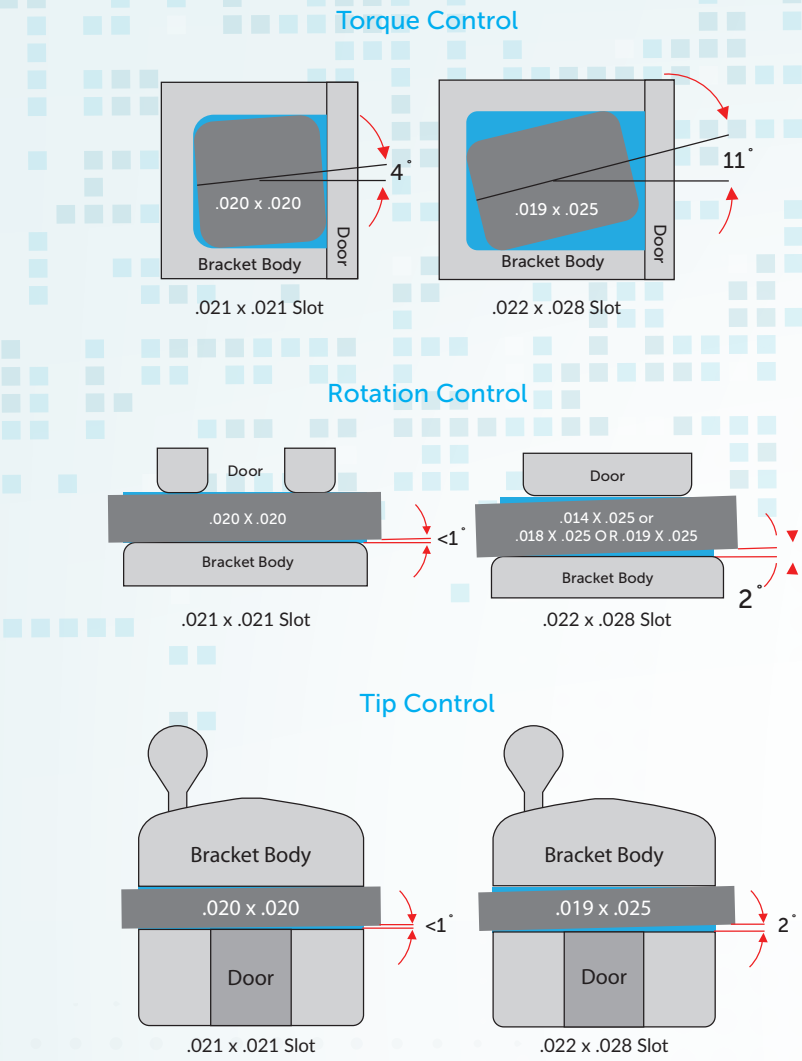


Figure 2: Superior torsional, rotational, and tip control in the Pitts 21 "Progressive Slot" appliance attained with .020 x .020 arch wire. The 3D control attained is roughly 3X better than that present in any .022 x .028 rectangular slotted appliance with a .019 x .025 arch wire.

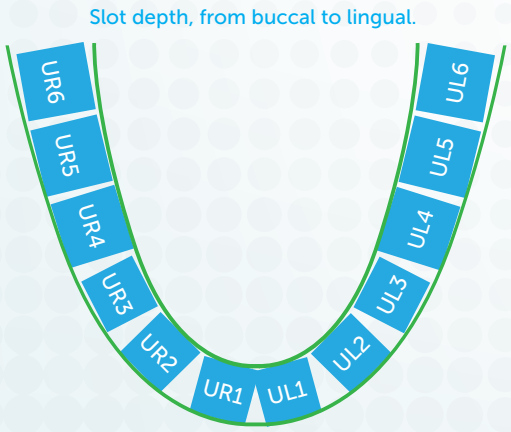


Figure 3: In the Pitts 21 "Progressive Slot" the maximum arch wire cross section required is .020 x .020, gaining far superior 3D control than is generated by any .022 x .028 rectangular slotted appliance in a .019 x .025 arch wire. The slot retains an .021 slot OG dimension throughout the bracket set, while the BL dimension "progresses" to a bit wider in the bicuspids and molar slot for settling and space closure.

What do Orthodontists want in their appliance systems?

Orthodontists want improved control of tooth movement, greater predictability, simpler "systems and processes" in clinical practice. They also want earlier control of critical tooth movement, fewer appointments and adjustments when in treatment. This includes reduced treatment times, while finishing with better esthetic results.

Control problems that we face daily can be largely related to "finishing" in wire sizes that are less than full dimension than the designed bracket slot dimension, resulting in "play" in the system. Torsional, rotational, and tip play are factors that prolong treatment and can adversely affect the quality of the final result.

Wire properties seem to have driven slot size of popular orthodontic appliances. The earliest edgewise appliances designed by Angle in the early 1920's employed a slot height of .022 while using highly malleable precious metal arch wires. This used fairly low forces but had less torsional control. The development of more rigid steel wires permitted the reduction in wire dimension with Steiner designing the .018 slot bracket. This marked the start of the divergence between two widespread orthodontic systems (.018 and .022), with adherents to each design extolling the merits of their chosen appliance. There have even been attempts to gain the benefits of combining both slot dimensions.

The current clinical reality is accurately reflected in a current survey of appliance preferences[8] with about 55% routinely choosing .022 appliances, and only 5% a combination of .018 and .022 slot profiles.

Incremental increases in arch wire size is not an efficient means of controlling 3rd order tooth position (as a result of play in the system when the slot isn't filled), and while "filling" the rectangular slot provides good control, the applied forces are too heavy for my liking.

What is apparent is that: **conventional slot profiles are not ideal, and that while mixing the slot profiles has limited advantages, they have not captured the imagination of the majority of orthodontists.**

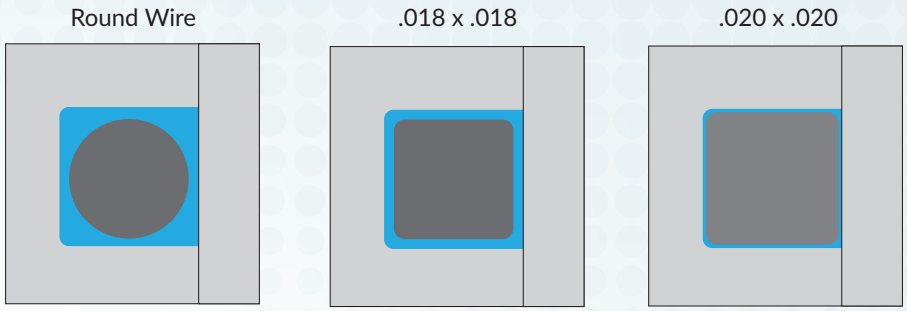


Figure 4: Typical arch wire profiles used in the Pitts 21 "Progressive Slot" system. Patient discomfort associated with arch wire profile changes is reduced, wire progressions simplified, all while gaining superior 3D control far earlier than is possible in .022 x .028 rectangular slot system.

Reduced B/L slot dimension in the H4 bracket was a significant advance ment in improving anterior control.

In the H4 bracket, reduced B/L slot dimension provided some significant clinical advantages. A few years of collective experience with the H4 bracket, in addition to refinement of "Active Early" case management protocols, and simplifying the esthetically based Pitts Broad arch wire suite confirmed many of our long-held beliefs.

Early adopters were quick to appreciate the reduced inventory of a single bracket prescription. They enjoyed the simplicity of "flipping and flocking" (bracket inverting) approach to torque selection. This, coupled with the widened and esthetically based arch wires and "active early" protocols, allowed them to save treatment time with beautiful results.

Figure 5: Pre-treatment IO Photographs. cl II div 2 - Courtesy Tom Pitts

Figure 6: Pre-treatment pano - Courtesy Tom Pitts

ACTIVE EARLY PROTOCOLS

1) Bracket Position
2) Slot Right Side Up or Inverted
3) Proper Disarticulation
4) Immediate Light Short Elastics
5) Archwire Sequence
6) Archwire Shape & Width

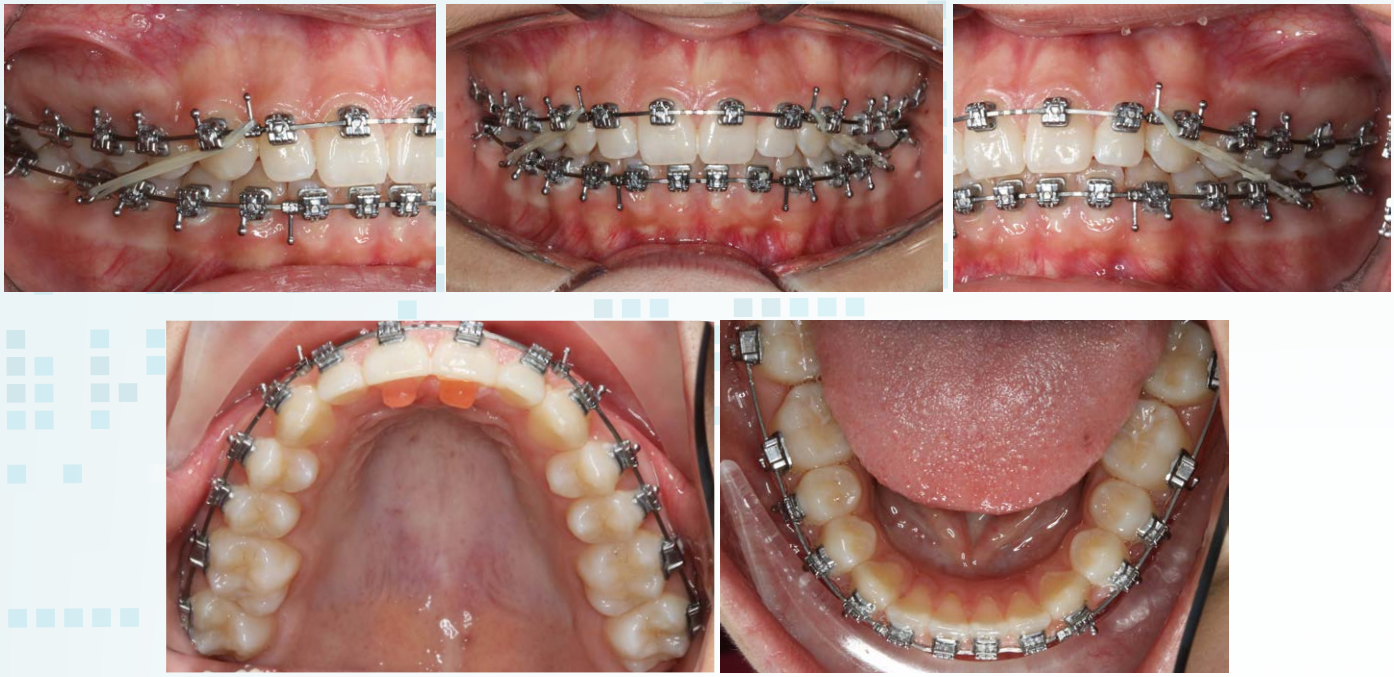


Figure 7: 4 Months - Courtesy Dr. Tom Pitts

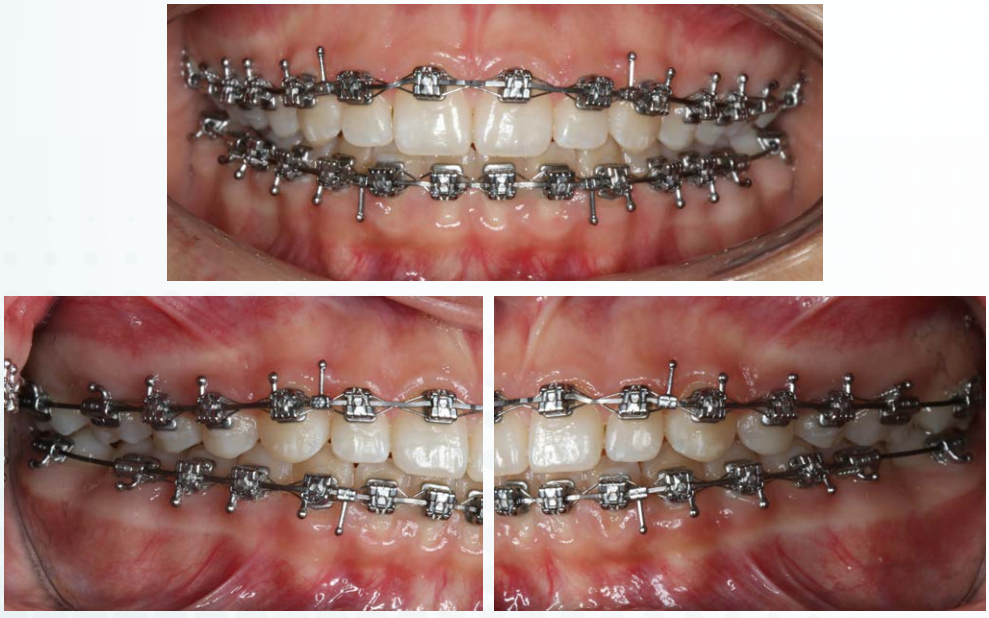


Figure 8: 8 Months - .020 x .020 Beta Titanium - Courtesy Dr. Tom Pitts

Figure 9: 9 Months - Active early protocols with square wire - Courtesy Dr. Tom Pitts

Intial

Final - 9 Months

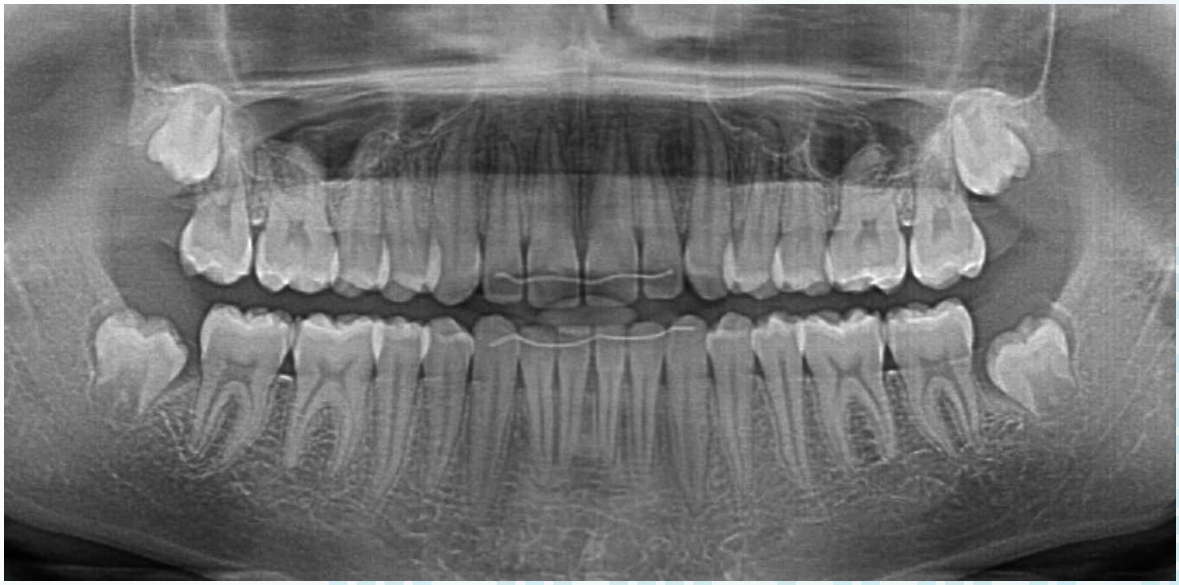


Figure 10: Very nice accelerated treatment with low forces and no root absorption. - Courtesy Dr. Tom Pitts

This experience also pointed out some design concepts that could benefit from further refinement. Having 3rd order pressure on the slide was an issue and we still couldn't fill the slot occlusally/gingivally with the biologically sensitive forces. Rectangular wire treatment had grown in disfavor with me and many other orthodontists.

I am excited to introduce you to a "revolutionary" development in appliance design, the "**Pitts 21" appliance**, incorporating the "progressive slot" concept and **"square wire finishing"**. The "Pitts 21" appliance is a "next generation" PSL appliance designed to enable the Orthodontist to efficiently attain effective tooth movements that are more predictable, earlier in treatment, using gentler forces and fewer arch wire changes than ever before. When coupled with Active Early case management strategies, wonderful esthetics can be developed very efficiently.

"Pitts 21" system affords the potential for a true 4 wire system, with superior 3D control, and can deliver outstanding smile esthetics using our protocols.

In vitro research confirmed our clinical experience that reduction of the BL slot dimension facilitates generation of clinically effective torsional forces in smaller arch wire profiles and that plastic deformation of the slide under repeated cycles or high torsional loads can and do adversely effect performance of H4.

Square Wire Finishing is Exciting!

For years I have minimized the .022 rectangular slot problems by using .020 x .020 square wires and then adjusting the wires to correct the ro-

Figure 11: Pre-treatment EO Photographs - Courtesy Dr. Tom Pitts

Figure 12: Pre-treatment IO Photographs - Courtesy Dr. Tom Pitts

Figure 13 SAP bracket position*, Flipped Mx 2-2, posterior disarticulation, ILSE TTB 3/16 2.5 oz, Anterior Rainbow 5/16 2.5 oz, PT Squeeze exercises - Courtesy Dr. Tom Pitts
***Tooth 22 is bonded for initial alignment but will be removed due to tooth size**

tations. This works well, but is not really efficient, so further refinement in the slot profile was required.

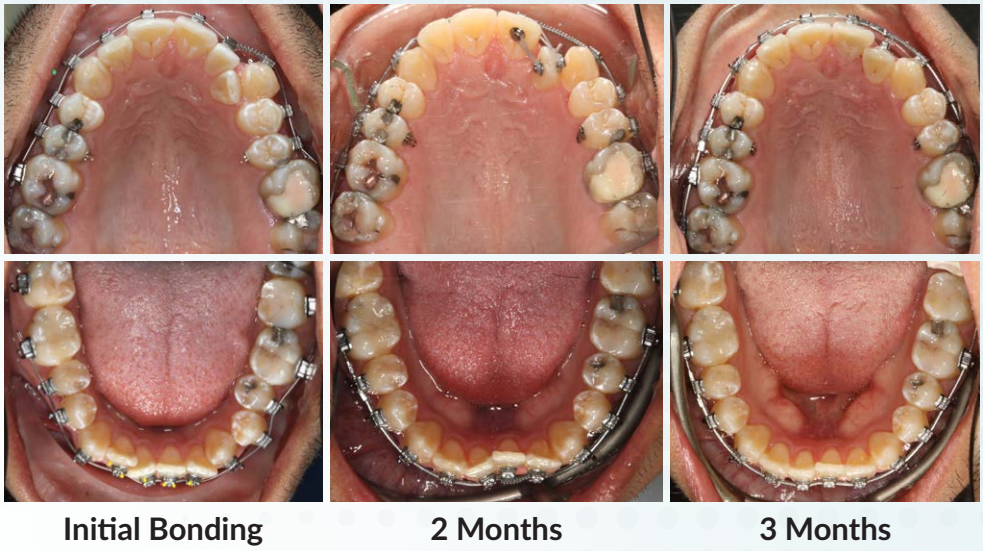
I am grateful to OC Orthodontics, and the design engineers for embracing a visionary concept and releasing the Pitts 21 "Progressive Slot" System, the first labial fixed appliance that will allow **"square wire finishing"**. The system leverages "Active Early" Case Management practices, the Pitts 21 "Progressive Slot", and esthetically optimized Pitts 21 Broad Arch Wire Suite to provide **better** control, **earlier** in treatment, more **simply**, and with far **lighter forces** than any rectangular slot based system. In the Pitts 21 .021 x .021 slot, torsional couples are developed between the rigid parts of the bracket body, so we don't have to worry about slide deformation.

The bottom line is: **these improvements in appliance design generate the most effective results plus sound case management strategies = Pitts 21 system**

The Pitts 21 "Progressive Slot" is just better!

This (patent pending) slot profile provides far **superior 3D control** throughout the bracket set, allows sliding of the posterior teeth to facilitate space closure, while facilitating BL settling of the occlusion in the buccal segments.

I've been asked about root end resorption possibly associated with our decreased treatment times and more rapid tooth movement, but we have not found this to be the case. It has been a common experience that more root end resorption occurs with heavier forces than with gentle forces applied earlier in the treatment cycle (see panorexes).



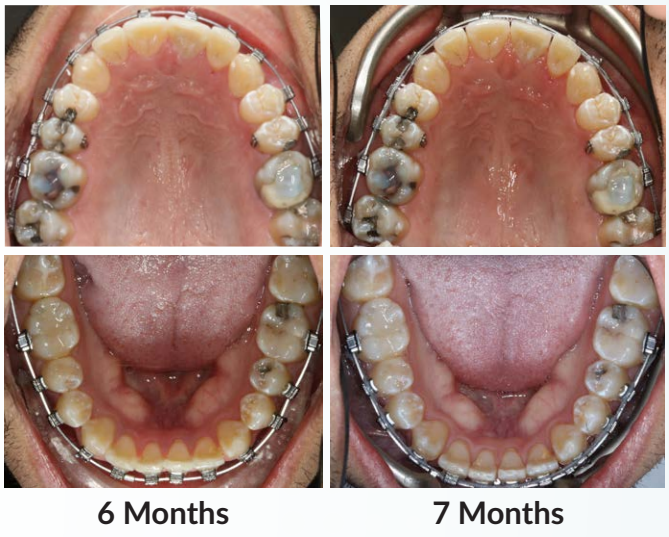
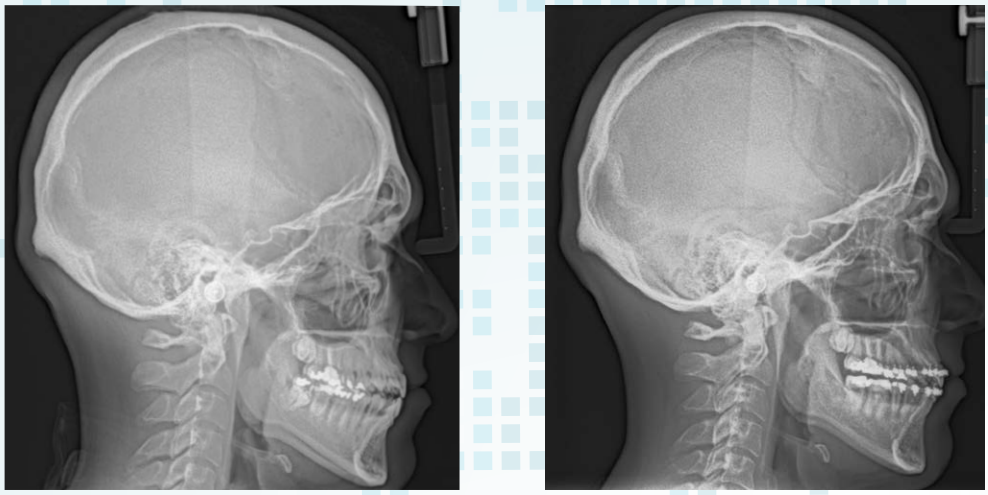


Figure 14: Progress IO Photographs* - amazing control and progress in only 7 months - Courtesy Dr. Tom Pitts

*Notice the torsional control of the upper anterior teeth, excellent 3rd order control of lower incisor position and arch development

Figure 16: Progress IO Photographs* - amazing control and progress in only 11 months - Courtesy Dr. Tom Pitts
* progress could have been quicker but given the presence of the supernumerary lateral, went well



Initial Bonding 11 Months

Figure 17: Excellent control of vertical tooth position, which improves VID (Vertical Incisor Display) as a result of Active Early Case Management strategies - courtesy Tom Pitts

Initial Bonding 11 Months

Initial Bonding 11 Months

Figure 18: Excellent esthetic outcome in less than 11 months of active treatment - Look at the positive change in facial taper courtesy Dr. Tom Pitts

The Pitts 21 "Pitts Broad" Arch Wire Suite

The Pitts 21 arch wire suite is comprised of a selection of arch wires in the Pitts Broad esthetically optimized arch forms, which reduces wire shaping required for optimal esthetics, and enables **"square wire" finishing.** The "Progressive Slot" provides the potential to utilize a 4-wire sequence during treatment. This reduces inventory, enables superior 3D control earlier in the treatment cycle than rectangular slot based systems and utilizes fewer arch wire profiles, **simplifying wire progressions** and improving efficiency. When the .021 slot is "filled" with a Pitts Broad arch form early, desired development happens.

Rather than rely on incremental increases in arch wire profile to increase delivered forces in the system as required in rectangular slot systems, the Pitts 21 "Progressive Slot" system utilizes a variation in metallurgy to increase force. We are in full size NiTi by the 3rd wire. This approach provides **effective tooth movement earlier.**

Only when faced with very narrow arches, is a widened .019 x .019 Stainless Steel arch wire used, but most of the time, this can be managed by shaping a .020 x .020 Beta Titanium arch wire early and thoroughly while using early, light cross bite elastics as necessary.

Torsional force loads are reduced to 60% to 70% of those delivered in rectangular wire system over large working ranges, **increasing patient comfort, and are seemingly kinder to the biology.** Reduction in OG dimension of the bracket slot when combined with a .020 x .020 wire size delivers gentler forces with only a 7% reduction in rigidity (for tipping control), allowing efficient space closure, and broadening of the arches.

Summary & Case Management Considerations

The "Active Early" Case Management strategy, combining the **SAP** (Smile Arc Protection), **VID** (Vertical Incisor Display), and **VIP** (Vertical Incisor Position) bracket position. It also includes **ILSE** (Immediate, Light, Short, Elastics) and disarticulation, aesthetically based **Pitts Broad arch forms**. **"Flipping and Flocking"** approach to appliance selection and can provide **significantly more esthetic clinical results.** In Pitts 21 we have a fixed appliance system that delivers superior control in all 3 planes of space, simplifies mechanics, reduces applied forces to improve patient comfort and does it in a fairly predictable manner.

Our mission with Pitts 21 and the protocols are consistent, predictable, and superior esthetic clinical results delivered in shorter treatment times, fewer appointments, and more gently. Both the Patient and the Orthodontist benefit. As we say, "**you can have it all.**" The specialty hopefully does not have to rely on a 3rd party technological gatekeeper.

We encourage and support those orthodontists that strive to achieve the most healthy and beautiful esthetic smiles. Pitts 21 (with our protocols) is a step in that direction.

We have more innovations in the works so stay tuned…

Initial Bonding

11 Months

Figure 19: Excellent occlusal outcome in 11 months of active treatment. Molar bite pillows were just removed and no TADS were utilized, just light elastics - Courtesy Dr. Tom Pitts

Phase	Initial	Working		Finishing
Wire	**.014** Thermal Activated Nickel Titanium	**.018 x .018** Ultra-Soft Thermal Activated Nickel Titanium	**.020 x .020** Thermal Activated Nickel Titanium	**.020 x .020** Beta Titanium

Optional Archwires	
.019 x .019 Stainless Steel	**.019 x .019** Beta Titanium
Extra Width & Extraction Cases	Auxiliary Adjustable Wire

Figure 20: Guidelines for wire selection in Pitts 21 "Progressive Slot" system. Unique to the system are Ultra-Soft .020 x .020 arch wires, which allow repositioning of brackets without losing 3D dimensional control.

Figure 21: Pre-treatment EO Photographs - Courtesy Dr. Jim Morrish

Figure 22: Pre-treatment IO Photographs - Courtesy Dr. Jim Morrish

Figure 23: Progress IO Photographs* - amazing control and progress in only 2 months. Pitts 21 appliance in place with disarticulation and immediate light elastics. - Courtesy Dr. Jim Morrish
* patient has fixed appliances removed for a family wedding, and was so pleased with the end result she did not have them replaced
*** only Mx 2-2 and Md 2-2 are Pitts 21 brackets**

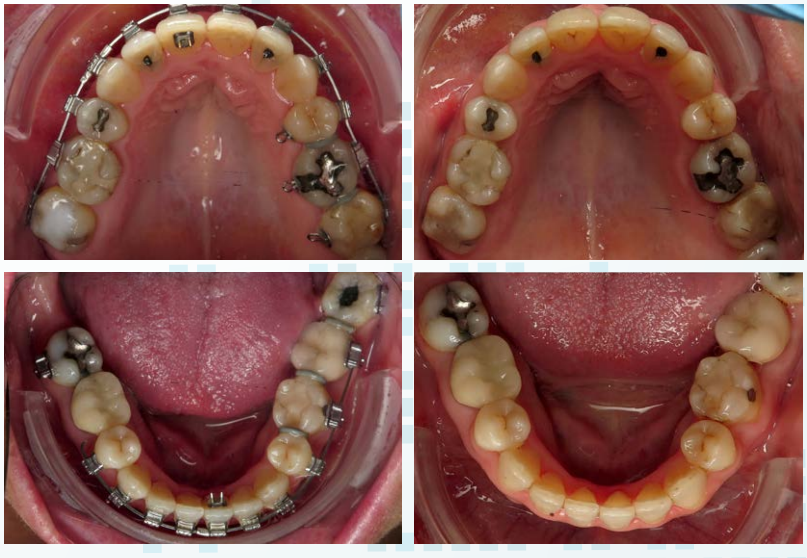


Figure 24: Progress IO Photographs* - amazing control and arch development - Courtesy Dr. Jim Morrish
* patient has fixed appliances removed for a family wedding, and was so pleased with the end result she did not have them replaced

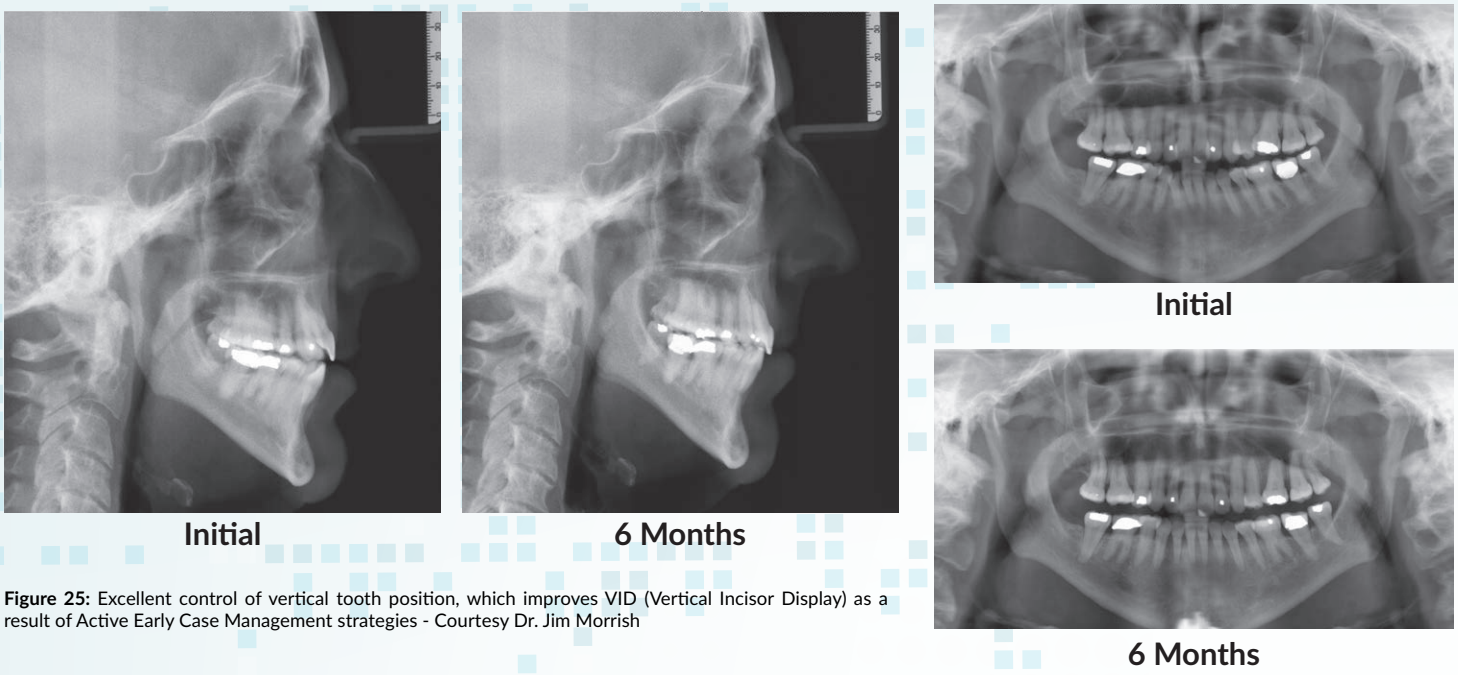


Figure 25: Excellent control of vertical tooth position, which improves VID (Vertical Incisor Display) as a result of Active Early Case Management strategies - Courtesy Dr. Jim Morrish

Figure 26: Excellent esthetic outcome in less than 6 months of active treatment - Courtesy Dr. Jim Morrish

Figure 27: Excellent occlusal outcome in less than 6 months of active treatment with never more than 2.5 oz. elastics and Pitts 21 appliance and inverted brackets on upper anteriors. - Courtesy Dr. Jim Morrish

Author's Comments

Dr. Tom Pitts

Dr. Duncan Brown

Dr. James Morrish

"Today's patients want superior esthetic results faster. Orthodontists want predictable performance, better control, sooner, and predictability with gentle forces. With Pitts 21, Pitts Broad arch forms, and "Active Early" protocols both patients and doctors can have what they want. ***You can truly, 'HAVE IT ALL'****". - Tom Pitts*

REFERENCES

1 Pitts, T and Brown, D - "Active Early" Principles, Pitts Protocols 2015 (2); 8 - 15

2 Andrews, L. - The six keys of normal occlusion: AJO, 1972; 62: 269-309

3 Badawi, H - Torque Expression in Self Ligating Brackets. a systematic review: Am J Orthod Dentofacial Orthop 2008 May; 133(5): 721-728

4 Meling, T - On mechanical properties of square and rectangular stainless-steel wires tested in torsion: Am J Dentofacial Orthop 1977 March; 111(3); 310-320

5 Pitts, T - Active Early Principles - Pitts Protocols Issue 2, 2015; 8 to 14

6 Pandis, N - Moments generated during simulated rotational correction with self-ligating and conventional brackets, Angle Ortho, Vol 78 (6) 2008; 1030 - 1034

7 Franco, E - Comparative study of torque expression among active and passive self-ligating and conventional brackets, Dental Press Journal of Orthod. 2015 Nov-Dec; 20(6): 68-74

8 Banks, P - The use of fixed appliances in the UK; a survey of specialist orthodontists, J Orthod 2010, 37: 43-55

9 Romanyk, D - The effect of buccal lingual slot dimension size on third-order torque response, European Journal of Orthodontics, 2016, 1-6

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