What I Wish I Knew 36 Years Ago

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Presented for:

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Thank you to:

Dr. Jared Marks

Dr. Hisham Mohammed, Discipline Lead

Dr. Desmond Ong, Clinical Academic

Dr. Brett Kerr, Clinical Lecturer



Starting Practitioners, Job Options





Job Options for Younger Orthodontists

- Buy a practice (Includes associateship leading to partner or owner)
- Associateship
 - Private practice
 - Corporation
 - **▶** OSO
- Orthodontist for a group
 - Private dentists
 - Pediatric dentists
- Private Practice Startup



Associateship Advantages

- Immediate income
- Highest immediate income of all options
- ► The security of a regular paycheck
- May lead to a partnership, or eventual buyout.
- Can be an excellent learning opportunity.
 - A built-in mentor
 - · Learn how a practice is managed
 - Mistakes are not made in your own practice
- No stress of management
- You can leave whenever you want



Associateship Disadvantages

- ▶ There is a glass ceiling to income, unless this leads to a partnership or buyout.
- Long term, this is usually the lowest income option.
- ▶ Job insecurity. In an economic downturn, and you will be the highest compensated non-owner employee.
- To make this worse, there is the poor associate suddenly and unexpectedly jobless and job hunting during a recession.
- If this situation does not lead to a purchase or partnership, it ultimately winds up being lost sweat equity. Sweat equity is what builds a practice.
- ► Even partial partnership does not provide economic security unless clauses are specifically written into the contract.



Unbiased lecturers on Corporate Orthodontics and DSOs

- ▶ Bill Layman series of interviews on corporate orthodontics and DSOs by Neal Kravitz in JCO:
 - https://www.jco-online.com/archive/2024/09/553-jco-interviews-dr-bill-layman-on-corporate-orthodontics-part-i/
- ▶ **Glenn Dubroc** on the benefits (financial and otherwise) of non-corporate small private practice. AAO lectures:
 - https://education.aaoinfo.org/p/s/give-me-more-yolo-and-a-lot-lessfomo-16249
 - https://education.aaoinfo.org/p/s/give-me-more-yolo-and-a-lot-lessfomo-16846



Orthodontist for a Group, Advantages

- ► Eventually, much higher income than associateship
- ▶ Treatment autonomy
- ► Far greater job security than associateship. Even in a recession, you will be the only one in the group with your skill set.
- Near zero worries about referrals.
- Limited time commitment, usually one day per week at most. Free to do other things.
- Doctors in that practice can handle emergencies.



Orthodontist for a Group, Disadvantages

- ▶ Initial income is much lower than associateship, if starting from scratch.
- ► You will always be a visitor in someone else's office
- ▶ Generally, there is some level of conflict regarding time put into the office.
- This cannot be done too near where your own practice.
- ▶ These situations are rarely permanent.
- Leaving. You cannot just walk away. Don't start without an exit plan. Options for patients:
 - Replacement doctor
 - Transfer to another practice
 - Transfer to your practice
 - You complete all (Don't agree to this)



Practice Startup Advantages

- Highest long term financial reward, over associateship or working with group
 - ▶ Paid for orthodontic skills and for managing a practice.
- Complete clinical and managerial control.
- Your sweat equity gets put into your own practice.
- ▶ You have something to sell upon retirement
- ► The reward of having created and grown something on your own.



Practice Startup Disadvantages

- ▶ The lowest starting income, is negative.
- ▶ The longest wait until a steady income is obtained.
- All the management mistakes that will be made are expensive.
- Uncertainty.
 - Insurance
 - Referral uncertainty.
 - General dentists doing Invisalign
 - ► Large groups buying solo, referring, practices
- ▶ The buck stops with you.



My solution, all three:

- Associate for immediate income
- Group practice for higher mid term income
- Start from scratch for long term investment
- Dropped associateship first, groups second, one by one.



Keys

- Costs low. What don't I need
- Sublet from specialist is ideal
 - ► Oral surgeon, periodontist, endodontist, podiatrist
- ► Patients don't care: Fancy x-ray machine, most expensive chairs, expensive braces, etc.
- Need: Professional looking waiting room, consult room
- Digital does not save us money



Startup Pearls

- Don't need money from the startup
- ▶ Banks will lend, if can show that can pay loan
- Use a small local bank (Learned through mistake)
- Use a professional, accountant and attorney
- Used Radiographic equipment (Renew Digital, Ebay, Facebook)
- Art carts: Very low cost startup delivery system
- Custom cabinetry is less expensive than dental supplier stock
- Digital will not save you money (with one exception)
- Watch and learn from technicians, computer and otherwise (\$750/month = \$9,000/year = \$360,000/40-years)





Books:

► The Four Pillars of Investing: Lessons for Building a Winning Portfolio, by William J Bernstein

American financial theorist and neurologist

Unconventional Success: A Fundamental Approach to Personal Investment 1st Edition, by David F. Swensen

Institutional investor for Yale

- Also: The Ages of the Investor: A Critical Look at Life-cycle Investing (Investing for Adults Book 1), by William J Bernstein
- The Bogleheads' Guide to Retirement Planning
- Stocks for the Long Run: The Definitive Guide to Financial Market Returns & Long-Term Investment Strategies, by <u>Jeremy J. Siegel</u>

Professor of Finance at the Wharton School

- Asset Allocation 5E (PB): Balancing Financial Risk, by Roger C. Gibson
- ► The Only Guide to a Winning Bond Strategy You'll Ever Need: The Way Smart Money Preserves Wealth Today 1st Edition, by Larry E. Swedroe, Joseph H. Hempen



Books Cont.

- ► The Little Book of Common Sense Investing: The Only Way to Guarantee Your Fair Share of Stock Market Returns (Little Books. Big Profits), by John C. Bogle
- Where Are the Customers' Yachts?: or A Good Hard Look at Wall Street, by <u>Fred Schwed</u>
- Winning the Loser's Game, Seventh Edition: Timeless Strategies for Successful Investing, by <u>Charles D. Ellis</u>
- ▶ All About Asset Allocation, Second Edition Kindle Edition, by Richard A. Ferri
- One Up On Wall Street: How To Use What You Already Know To Make Money, by <u>Peter Lynch</u>
- Common Stocks and Uncommon Profits and Other Writings, by Philip A. Fisher
- University of Berkshire Hathaway: 30 Years of Lessons Learned from Warren Buffett & Charlie Munger at the Annual Shareholders Meeting, by <u>Daniel</u> <u>Pecaut</u>, <u>Corey Wrenn</u>



American Podiatric Medical Association (APMA) Disclosure Rules

- ▶ All speakers present must disclose every financial connection within their profession, regardless of its relevance to the presentation.
- ▶ All speakers must present is a disclosure of any financial connection with any product or service they are about to discuss. This applies even if they are not being reimbursed to speak.
- Any lecturer who breaks the above two rules is barred for life from speaking at any APMA-affiliated events.
- For any lecture where the speaker is presenting on a product or service with which they have a financial affiliation, no continuing education credits are given. The APMA takes the stand that any speaker with a financial affiliation has an unavoidable bias that is more promotional and less educational.

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Discover Financial Bias:

https://openpaymentsdata.cms.gov/





KOLs, the Good, the Bad, the ...

- ▶ 4% of the population or 1 in 25 people are sociopaths, have no sense of right and wrong, lack empathy for others
- We will work with these people, treat their children, and listen to them lecture
- Certain jobs have higher percentages.
 - ► CEO's, Yes
 - ► KOL's ?
 - Facebook Group Administrators?
- The recommended method of dealing with them is to avoid them at all costs

Temin, Davia. "The Sociopath in the Office next Door." Forbes, Forbes Magazine, 11 July 2012, www.forbes.com/2010/11/19/sociopath-boss-work-forbes-woman-leadership-office-evil.html.



Rhetorical Techniques

The Illusory Effect:

- The tendency to believe false information to be correct after repeated exposure
- A form of "Cognitive Ease"

The Speaker believing the lie themselves:

* A result of the speaker repeating the lie

Paltering:

* Telling many truthful things before delivering a lie

Hasher, Lynn; Goldstein, David; Toppino, Thomas (1977). "Frequency and the conference of referential validity". Journal of Verbal Learning and Verbal Behavior. **16** (1): 107– 112.

Rogers T, Zeckhauser R, Gino F, Norton MI, Schweitzer ME. Artful paltering: The risks and rewards of using truthful statements to mislead others. J Pers Soc Psychol. 2017 Mar;112(3):456-473. doi: 10.1037/pspi0000081. Epub 2016 Dec 12. PMID: 27936834.



My Philosophy in a Sentence:

With rare exception:

▶ We should not do anything in Phase I that can be done in phase II.



Anterior crossbites, options







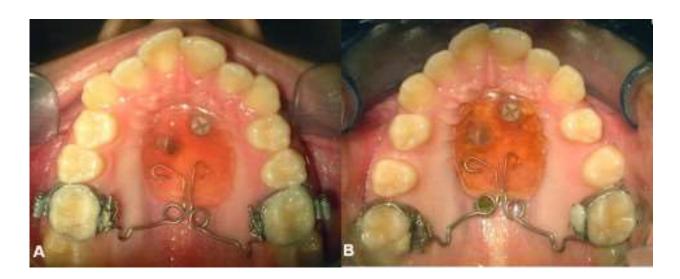




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What about TAD anchorage?

- ► Gerc RH, meta-ananysis, 2013
 - * TADs help reduce relapse during anterior retraction



Grec RH, Janson G, Branco NC, Moura-Grec PG, Patel MP, Castanha Henriques JF. Intraoral distalizer effects with conventional and skeletal anchorage: a meta-analysis. Am J Orthod Dentofacial Orthop. 2013 May;143(5):602-15. doi: 10.1016/j.ajodo.2012.11.024. PMID: 23631962.



Pendulum vs. Beneslider:

Bullet P, PRCT, 36 Patients, 2024

Beneslider to Miniscrew-supported pendulum appliance:

- * Failed to provide distalization at the apex
- * Caused posterior rotation of the mandible
- Worsened the sagittal and vertical parameters

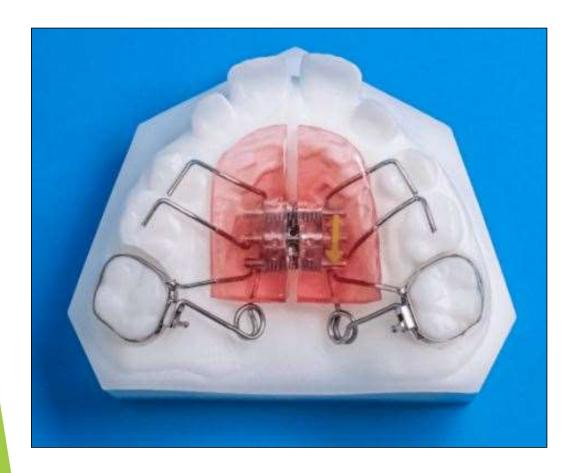




Bulut P, Tunçer Nİ. Flexible and rigid guidance in skeletally-anchored maxillary molar distalization: The miniscrew-supported pendulum vs the Beneslider. Am J Orthod Dentofacial Orthop. 2025 Feb 14:S0889-5406(25)00007-1. doi: 10.1016/j.ajodo.2024.11.015. Epub ahead of print. PMID: 39955669.



T-Rex:





Nance for Vertical Anchorage

▶ .036 wire from Nance with loop at desired point of applied force





Wilson Inserts



Space for Crowding?

- M. Adkins, R. Nanda, and GF Currier, 1990, AJO-DO
 - ▶ 1mm increase in premolar width increases arch perimeter by 0.7mm.
- N. Kravitz, 2023
 - ► The maximum arch perimeter increase obtainable through maxillary expansion is 5 to 6mm, about the width of a mandibular central incisor.

Adkins MD, Nanda RS, Currier GF. Arch perimeter changes on rapid palatal expansion. *Am J Orthod Dentofacial Orthop.* 1990 Mar;97(3):194-9. doi: 10.1016/S0889-5406(05)80051-4. PMID: 2178393.

Kravitz, Neal. (2023). Everybody gets an expander. *Seminars in Orthodontics*. 29. 10.1053/j.sodo.2023.05.002.



Classic Hyrax Limits, Early:

- Kinzinger GSM Et al., 114 patients, 2022
 - Palatal expansion results in more parallel expansion when done in the mixed dentition.
- Research does not support expansion before the eruption of the permanent first molars
- ► Anchorage off of primary second molars is ideal
- ▶ Age 7, 8

Kinzinger GSM, Lisson JA, Buschhoff C, Hourfar J, Korbmacher-Steiner H. Impact of rapid maxillary expansion on palatal morphology at different dentition stages. Clin Oral Investig. 2022 Jul;26(7):4715-4725. doi: 10.1007/s00784-022-04434-9. Epub 2022 Mar 10. PMID: 35267098; PMCID: PMC9276570.



Classic Hyrax Limit Late vs. MARPE

Bazargani F, Knode V, Plaksin A, Magnuson A, Ludwig B., CBCT and Plaster, 2023

- ► Looked at 52 consecutively treated patients
- Randomly assigned Tooth Borne (TB) or Tooth and Bone Borne (TBB)
- ► The age range was 8 to 13 years, with a mean age of 9.3 for TB and 9.5 for TBB
- Three time points: Post-expansion, 1 year follow up, 5 years follow up

What did they find?

- 0.6mm greater expansion of the palatal suture with TBB, which disappeared a year later
- 0.7 mm greater expansion of the nasal width, which did not disappear 1 year and 5 years later.

Are these differences clinically significant?

Bazargani F, Knode V, Plaksin A, Magnuson A, Ludwig B. Three-dimensional comparison of tooth-borne and tooth-bone-borne RME appliances: a randomized controlled trial with 5-year follow-up. *Eur J Orthod*. 2023 Nov 30;45(6):690-702. doi: 10.1093/ejo/cjad024. PMID: 37253126; PMCID: PMC10687513.



Leaf Spring Expander:

- Mlynarek-Zak, Et al., 2019
- ► Finite element analysis
- ► Calculated sutural splitting force of 44.2 Newtons at bicuspids
- ► 44.2 newtons = 4,508 grams = 9.9 pounds
- ▶ Leaf spring force is 450 or 900 grams

Młynarek-Żak, Katarzyna & Zmudzki, Jaroslaw. (2019). Distribution of forces on supporting teeth in the midpalatal expander during "Hyrax" screw pre-load. Journal of Achievements in Materials and Manufacturing Engineering. 1-2. 26-31. 10.5604/01.3001.0013.4138.



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Leaf Spring Expander:

- ► Zimring and Isaacson, 1965
- ▶ In Vivo, 4 patients (age <u>11.5 to 15.5 years</u>)
- ► Force measuring dynamometer
- Accumulated loads of more than 9 kg
- **▶** 9 kilograms = 9,000 grams = 19.8 pounds
- ► Leaf spring force is 450 or 900 grams



ZIMRING JF, ISAACSON RJ. FORCES PRODUCED BY RAPID MAXILLARY EXPANSION. 3. FORCES PRESENT DURING RETENTION. Angle Orthod. 1965 Jul;35:178-86. doi: 10.1043/0003-3219(1965)035<0178:FPBRME>2.0.CO;2. PMID: 14331018.

Expansion, How long to retain?

- Costa Et al., 2017
- Systematic review
- Retention periods 4 weeks to 16months
- ► Conclusion:
 - * Six months of retention with either fixed or removable appliances seem to be enough to avoid relapse or to guarantee minimal changes in a short-term follow-up.

Costa JG, Galindo TM, Mattos CT, Cury-Saramago AA. Retention period after treatment of posterior crossbite with maxillary expansion: a systematic review. Dental Press J Orthod. 2017 Mar-Apr;22(2):35-44. doi: 10.1590/2177-6709.22.2.035-044.oar. PMID: 28658354; PMCID: PMC5484268.



Expansion, How long to retain?

- Sarnas, Bjork, Et al. 1992 (Case study, Metallic Implants)
 - Relapse 10 years later
 - Expansion 2.3/2.2 ant/post, to 1.0/1.3 ant/post
 - Concluded: The rationale of RME must be seriously questioned
- Gurel Et al. (Study Casts)
 - 41 patients, expander then braces, Average 5 years post treatment follow up
 - Concluded: A significant amount of relapse occurred in maxillary arch widths at the post retention assessment, the greatest being in inter canine width

Sarnäs KV, Björk A, Rune B. Long-term effect of rapid maxillary expansion studied in one patient with the aid of metallic implants and roentgen stereometry. Eur J Orthod. 1992 Dec;14(6):427-32. doi:

10.1093/ejo/14.6.427. PMID: 1486927.

Gurel HG, Memili B, Erkan M, Sukurica Y. Long-term effects of rapid maxillary expansion followed by fixed appliances. Angle Orthod. 2010 Jan;80(1):5-9. doi: 10.2319/011209-22.1. PMID: 19852633; PMCID: PMC8978752.



Expansion, How long to retain?

- ► Krebs, 1964 (Metallic implants and study models)
- ▶ 23 patients
- Yearly radiographs
- Yearly models
- ► Followed 7 years

KREBS A. MIDPALATAL SUTURE EXPANSION STUDIES BY THE IMPLANT METHOD OVER A SEVEN-YEAR PERIOD. Rep Congr Eur Orthod Soc. 1964;40:131-42. PMID: 14318002.



Phase I Exp. Retention Options:

My progression:





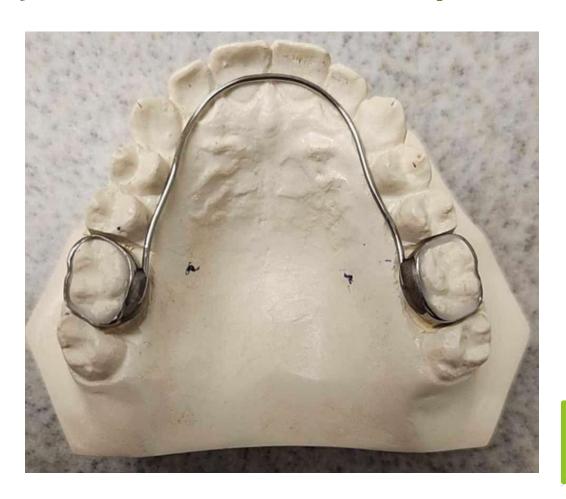




Ashari A, Nik Mustapha NM, Yuen JJX, Saw ZK, Lau MN, Xian L, Syed Mohamed AMF, Megat Abdul Wahab R, Yeoh CK, Deva Tata M, Sinnasamy S. A two-year comparative assessment of retention of arch width increases between modified vacuum-formed and Hawley retainers: a multi-center randomized clinical trial. Prog Orthod. 2022 Aug 26;23(1):40. doi: 10.1186/s40510-022-00424-5. PMID: 36018418; PMCID: PMC9415262.



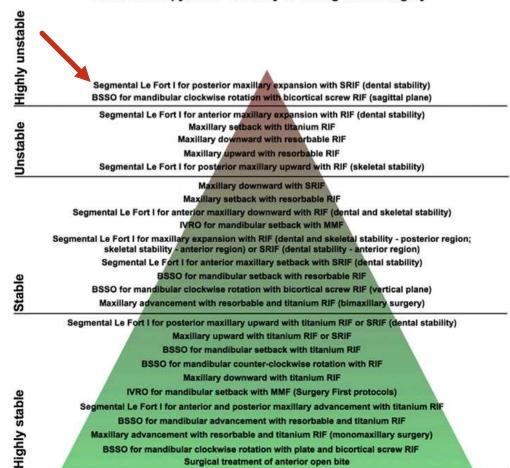
My Current Phase I Exp. Retention:





Pyramid of Surgical Stability (2019):

Hierarchical pyramid - stability in orthognathic surgery



Haas Junior OL, Guijarro-Martínez R, de Sousa Gil AP, da Silva Meirelles L, Scolari N, Muñoz-Pereira ME, Hernández-Alfaro F, de Oliveira RB. Hierarchy of surgical stability in orthognathic surgery: overview of systematic reviews. Int J Oral Maxillofac Surg. 2019 Nov;48(11):1415-1433. doi: 10.1016/j.ijom.2019.03.003. Epub 2019 Mar 23. PMID: 30910409.



Materials:









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Expander for TADS: Instructions for Lab:

- Mount Models to enclosed bite registration
- Bonded expander with acrylic occlusal coverage of upper 7654 | 4567
- Please be aware that (Patient name) will be having infra-zygomatic bone plates placed by an oral surgeon, above the 6s. Traction between these bone plates and the appliance will be used to intrude the posterior teeth and close the anterior openbite
- Please place ball clasps on the occlusal surface of the maxillary teeth with their heads bent and facing towards the occlusal. These will hold the springs attached to the bone plates.
- Please place these ball clasps so that they lay across the occlusal embrasures between upper 76s, 65s, and 54s.
- Please do not attach the ball clasps to the main framework (Solder)
- ▶ The further these enter the acrylic towards the occlusal, the better
- Please allow at least 6mm of clearance between all lingual surfaces of the expander and the palatal tissue. This is to allow room for the intrusion which will occur.

https://youngdentallab.com/

Pre-fabricated arch forms:

All G and H

Arch Form	Width/Shape	Upper/Lower
Bioform III	Narrow, tapered	Lower
Trueform II	Ovoid, most common	Upper
NA III	Moderately broad	Lower
Europa II	Broad, Very	Upper



Thank You!

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Dr. Jared Marks, Resident

Dr. Hisham Mohammed, Discipline Lead

Dr. Desmond Ong, Clinical Academic

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