

Texas Orthodontic Study Club
Challenges of Modern Orthodontic Practice
Part II

Lessons Learned From Patient Re-treatment:

*An analysis of 200 patients who had orthodontics as children
and who sought re-treatment as adults*

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Part I: Historical background

“Retention is one of the most difficult problems in orthodontia; in fact it is the problem.” Oppenheim, 1890

- *Rogers: Dent. Cos. '24 = Muscle balance*
- *Tweed: A.J.O., '44 = Incisors upright*
- *Strang: A.J.O., '46 = Teeth over apical base*
- *Nance: A.J.O., '47 = Maintain arch form & intercanine distance*
- *Reitan: A.O., '59 = Over-correct rotations*
- *Goldstein: A.J.O. '65 = Functional occlusion*
- *Edwards; Brain; '70's = Fibrotomy for stability*
Boese, Vanarsdall '80's

Part II: Description of study

200 consecutive adult examinations who checked **yes** on their health history to “previous orthodontic treatment”

Analysis of these records to answer the following questions:

1. Percent of patients who had treatment by non-specialist
2. Percent of patients who had extraction of teeth other than 3rd molars
3. Analyze-- chief concern & most significant orthodontic problem — not always same
4. Can any changes be made to reduce # of re-treatments?
5. Post-study recommendations for *at risk* patient management?

Part III: Findings, i.e. results of “failure analysis”

“Thus sometimes mistakes occur. Then it is failure analysis—the discipline that seeks to reassemble the whole into something greater than the sum of its broken parts...”



- **43%** had teeth extracted (other than 3rds)
- Compliance (*self-reported*): **65%** Excellent/Vg for retainer; **52%** E/VG for elastics; **36%** E/VG for headgear
- Reason needed re-treatment (*self-reported*): **30%** growth issues; **18%** lack of compliance; **14%** 3rd molars.
- **54%** -- problems were U/L alignment (crowding and rotations);
- **35%**-- skeletal malocclusions—CI, II, CI III, Open bites, Maxillary Transverse deficiencies
- **11%** -- trauma related, TMJ, periodontal and other issues

Lesson I—H R I:

Problem of incisor alignment (54%) –Unstable lower/ upper incisors

Lower incisor “crumple zone”; upper incisor “esthetic zone”

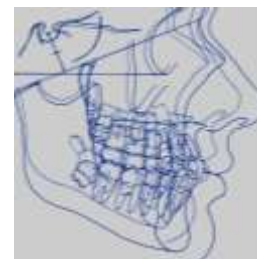
Solution--Root torque, root angulation, & proper finishing including equilibration of upper incisor marginal ridges, prescribe fibrotomy for rotated teeth and/or long term bonded retainers when indicated.



Lesson II –H R I:

Problem with jaw growth variation— Unpredictable differential jaw growth leading to skeletal problem outside range of non-surgical management (39 Class II's and 21 Class III's)

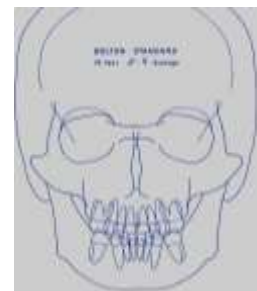
Solution – Maximize effects of orthopedics; Growth Treatment Response Vector (GTRV) analysis with communication, consultation & conditioning. (Identify “at risk” patients. Formal report system with clear information--incorporate progress report (#2).



Lesson III—H R I:

Problem in diagnosis and management of SMTD—Several re-treatment cases had undiagnosed or *undertreated* SMTD with mean maxillary underdevelopment of -7.3 mm.

Solution--Routine diagnosis with PA cep; early treatment SMTD with orthopedic RPE: if late (after 14 F. and 16 M treat with SARME)



Lesson IV—H R I:

Problem created using fixed retention -- Lower / Upper incisor relapse &/or “kick-out” from accidentally activated bonded retainer.

Solution-- Passive, fixed retainers--Ortho Flextech Retention System.

(Reliance Ortho Products)



Lesson V—H R I:

Problem created by lack of clarification--Poor patient compliance & reality of post-treatment changes requires patient education and a business plan.

Solution-- Post-treatment Conference & Post-retention Conference to prepare at risk patients; clarify fee conditions and fee structure for re-treatment if necessary.

Retention/Stabilization (Report #3) & Post Retention Conference (Report #4)

8 Step Discipline
4 Reports to tx plan
“H.R.I.” patients

Lesson VI—H R I:

Problem— **Advances in technology** creates situations that require updated management protocols. (Eg. Implants for replacement teeth and skeletal jaw growth imbalances.)

Solution– Integrate advances in technology to serve patient needs as updated diagnosis and treatment planning allow.



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