

“Achieving Excellent Clinical Results with Invisalign®: Philosophy & Technique”

*By
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RMSO/GLAO Annual Session
Colorado Springs
September 2013

Achieving Excellent Clinical Results with Invisalign®

1. Treatment Goals
2. ClinCheck Treatment Plan
3. Overcorrection
4. Finishing Elastics & Other Auxiliaries/Adjuncts
5. Trim the Posterior Segments of the Aligners
6. Accurate IPR
7. Detail Pliers
8. Occlusal Adjustment
9. Monitor Aligner Tracking & Interproximal Contacts
10. Case Refinement

Achieving Excellent Clinical Results with Invisalign®

1. Treatment Goals:

- Esthetics
- Function/Occlusion
- Stability

*Regardless of the system/appliance used

“In a broad sense, the major goals of orthodontic treatment are ideal occlusion, ideal facial esthetics and ideal stability of results”.

*William R. Proffit
Contemporary Orthodontics, 5th edition
Page 256*

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1. Treatment Goals & Philosophy:

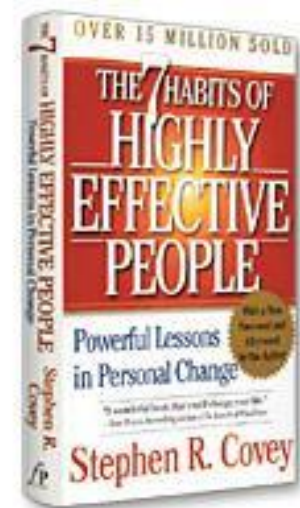
- Expansion vs. Extraction?
- Surgery vs. compromise?
- Dental vs. skeletal?
- Missing teeth: close space vs. open space?
- Interproximal reduction?

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1. Treatment Goals

2. ClinCheck Treatment Plan

- Habit 1: Be Proactive
- Habit 2: Begin with the End in Mind
- Habit 3: Put First Things First
- Habit 4: Think Win-Win
- Habit 5: Seek First to Understand, then to be understood
- Habit 6: Synergize
- Habit 7: Sharpen the Saw

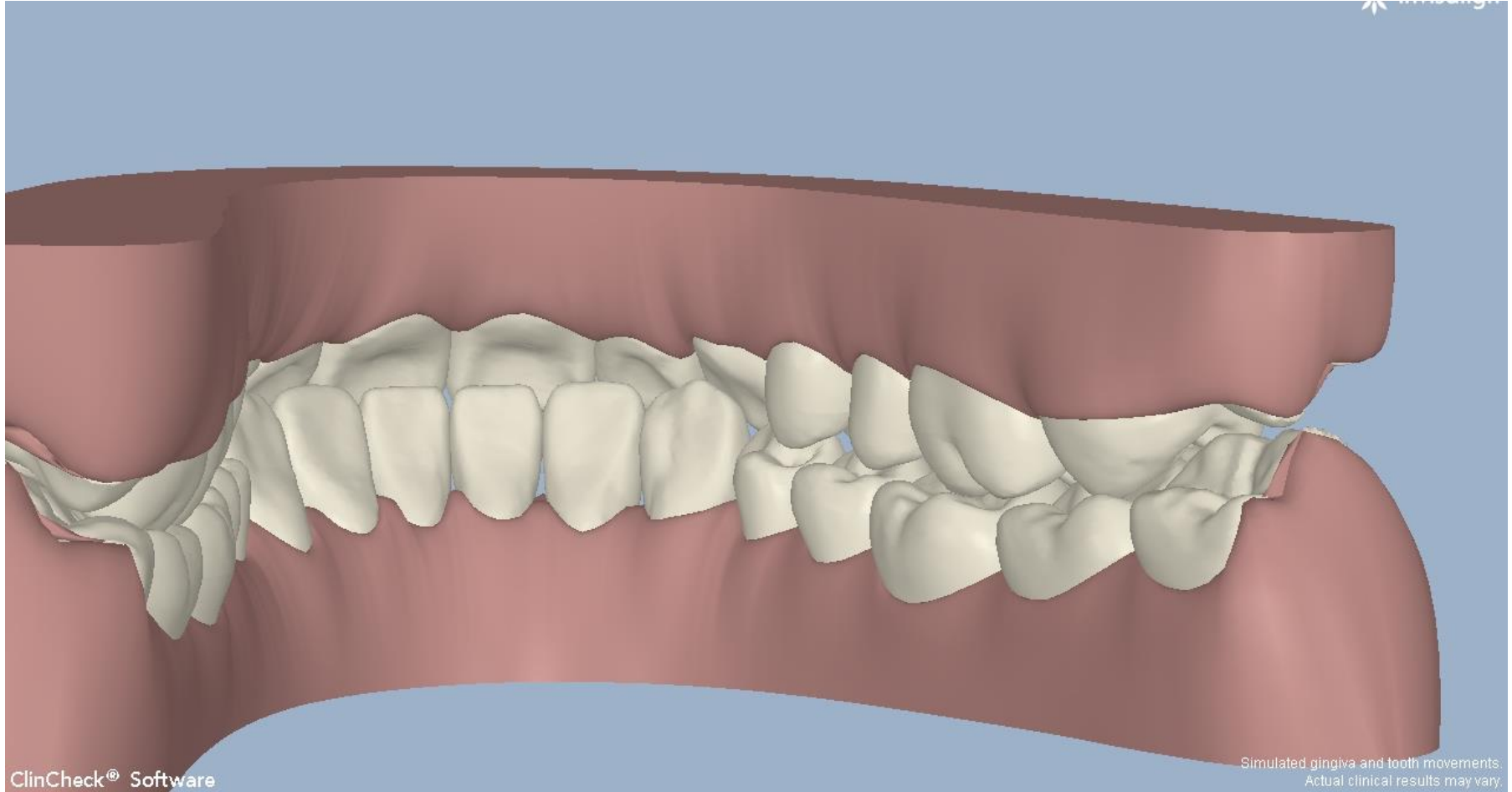


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Evaluating the ClinCheck:

- Transverse: Posterior OB/OJ, arch coordination
- Vertical: U/L intercuspatation & positive occlusal contact
- Sagittal: Functional occlusion, Level MR's, Ant OB/OJ
- No rotations, no crowding, no interproximal spaces
- Tip & Torque
- Arch symmetry
- Smile Esthetics & Midlines

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Evaluating the ClinCheck

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Evaluating the ClinCheck:

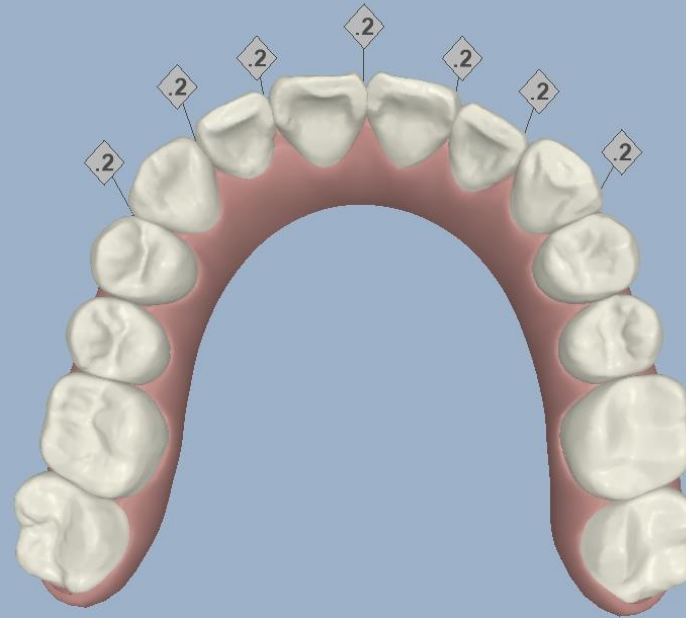
- Final tooth position
- Evaluate all stages leading to finish
- Evaluate individual tooth movements:
 - Is it what you prescribed?
 - Is it biologically realistic?

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1. Treatment Goals
2. ClinCheck Treatment Plan
3. Overcorrection:
 - Virtual C-chains at IPR, extraction & diastema sites

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3- Overcorrection: Virtual C-chains

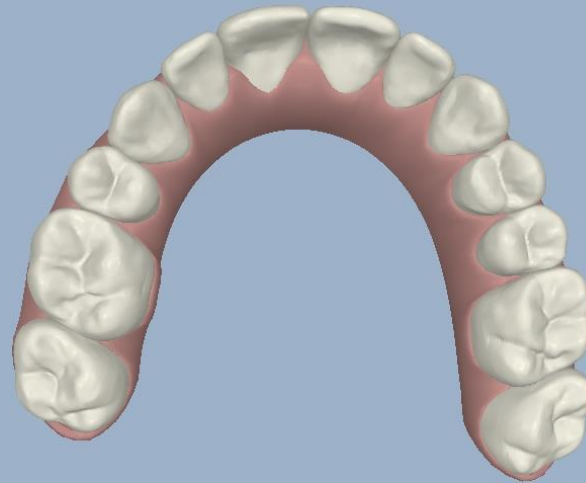


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3- Overcorrection: Virtual C-chains

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ClinCheck® Software

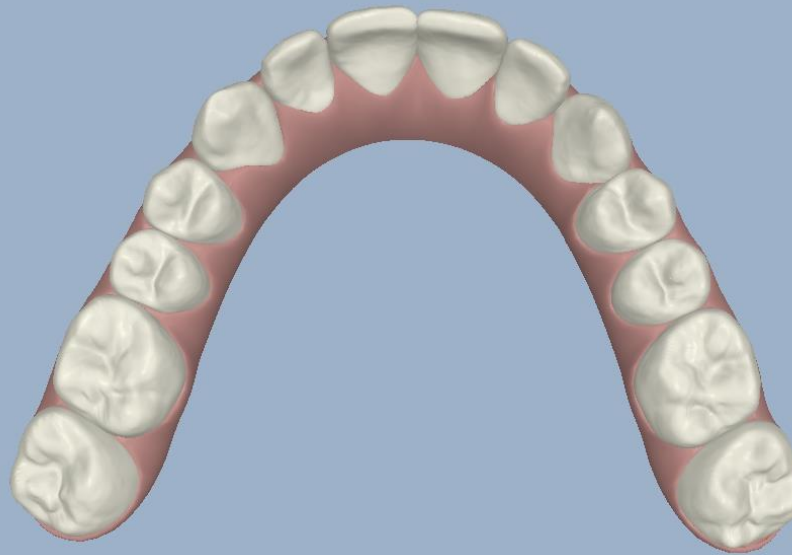
Simulated gingiva and tooth movements.
Actual clinical results may vary.


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3- Overcorrection: Virtual C-chains

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ClinCheck® Software

Simulated gingiva and tooth movements.
Actual clinical results may vary.


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1. Treatment Goals
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4. Finishing Elastics & Other Auxiliaries/Adjuncts



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4- Finishing Elastics:

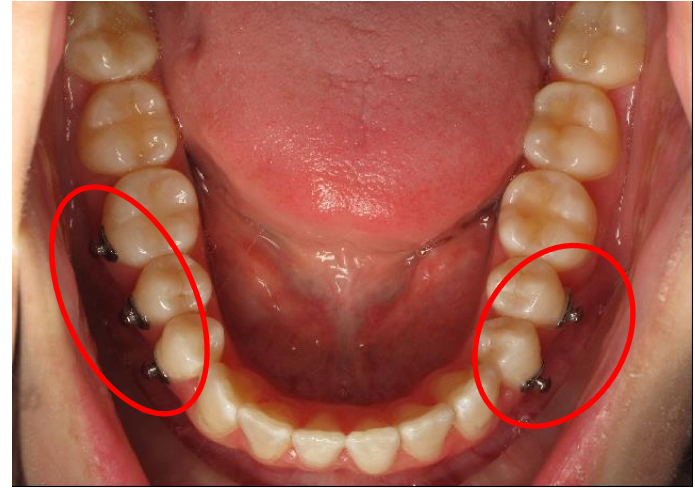
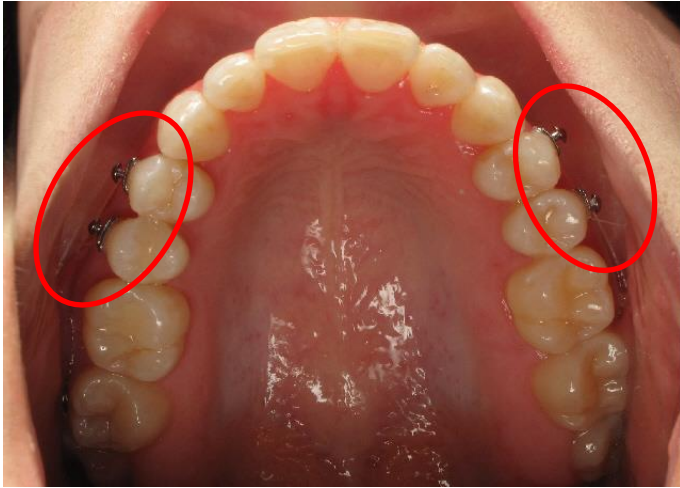
- “Settling” the occlusion
- Goal is to bring posterior teeth into a solid occlusal relationship.
- Typically ¾-inch elastics, 3.5 oz, Medium-Light force
- 2-3 weeks
- Prior to last aligner



4- Finishing Elastics



4- Finishing Elastics



4- Finishing Elastics

3 weeks

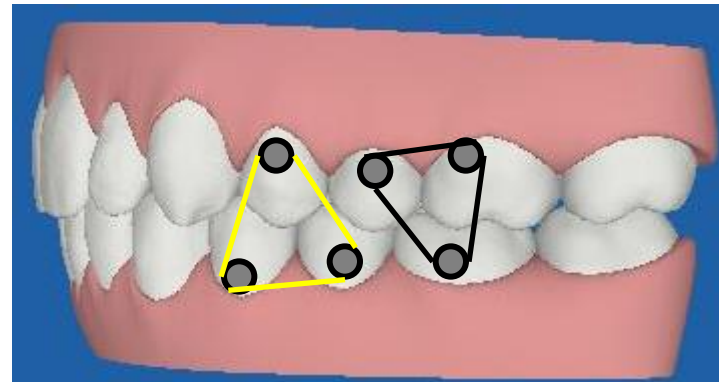
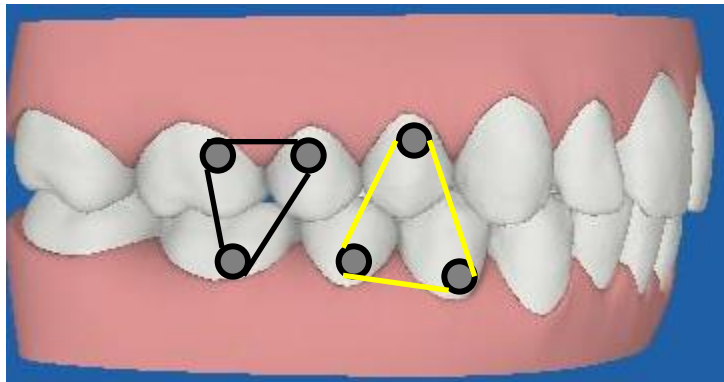




4- Finishing Elastics



4- Finishing Elastics



4- Finishing Elastics



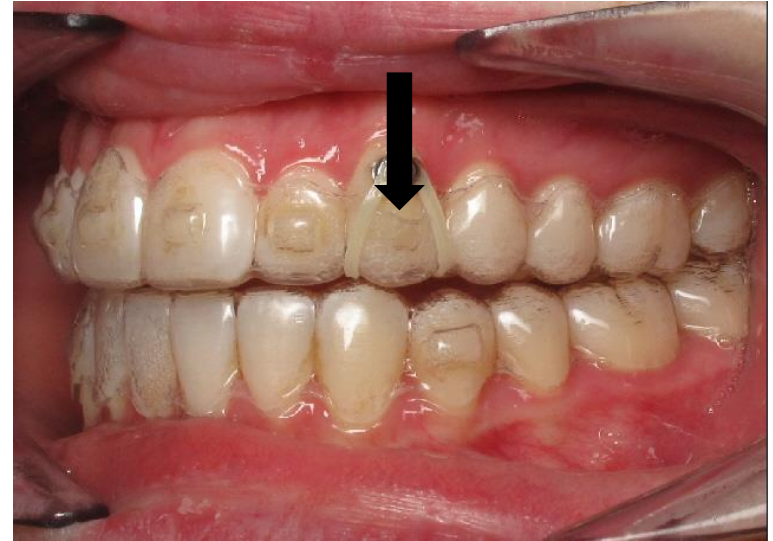
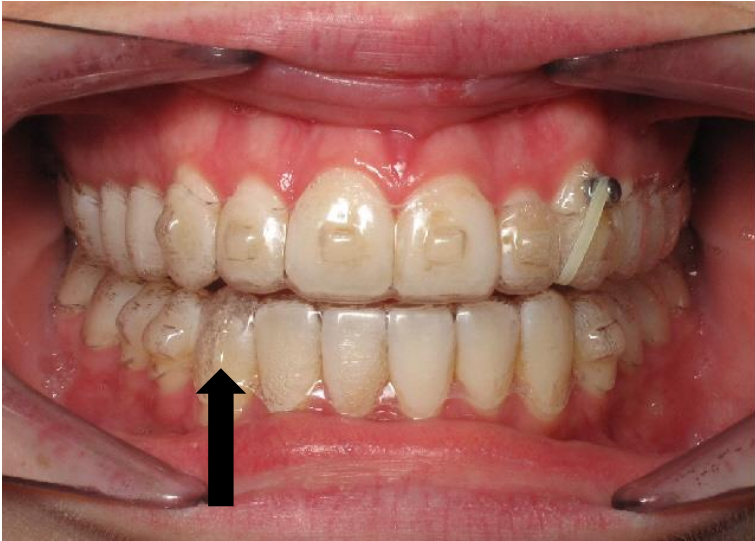
4- Finishing Elastics



4- Finishing Elastics



4- Finishing Elastics



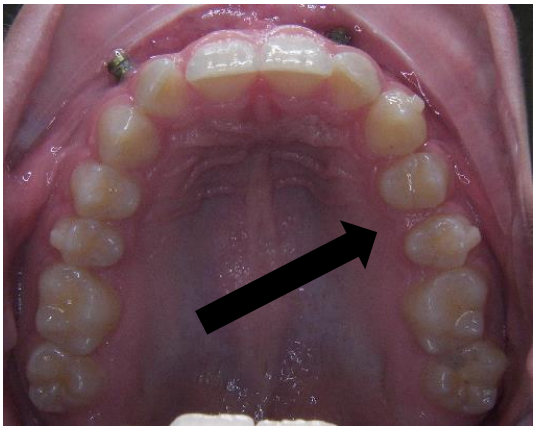
4 weeks

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1. Treatment Goals
2. ClinCheck Treatment Plan
3. Overcorrection
4. Finishing Elastics & Other Auxiliaries/Adjuncts
 - Mini-screws/TAD's
 - Acceledent®

Mini-screws/TAD's





Progress





INTRUSION









AcceleDent[®]
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AcceleDent®



A



B

Courtesy OrthoAccel Technologies, Inc., Houston, TX.

Fig. 8-17. **A**, The AcceleDent vibration device consists of a mouthpiece that is energized by a battery-powered device into which it is inserted. **B**, The patient bites down onto the mouthpiece, which vibrates at 30 Hz for 20 minutes daily.

AcceleDent[®]
aura



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Distalization and UR3 Extrusion

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1. Treatment Goals
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4. Finishing Elastics & Other Auxiliaries/Adjuncts
5. Trim the Posterior Segments of the Aligners



5- Trim Aligners Posteriorly

- Allows passive “settling” of posterior occlusion
- Trim aligners either distal to 3’s or 4’s, U &/or L
- 1-2 aligners before last
- 3-8 weeks



5- Trim Aligners Posteriorly

- Allows passive “settling” of posterior occlusion
- Trim aligners either distal to 3’s or 4’s, U &/or L
- 1-2 aligners before last
- 3-8 weeks



Finishing Elastics

- Interocclusal space visible clinically
- No need to trim aligners
- Before-last aligner
- 2-4 weeks

Trimming Aligners Posteriorly

- Interocclusal space not visible but pts *“feel back teeth not touching”*
- Never in case of premolar exo
- Before-last aligner
- 3-8 weeks

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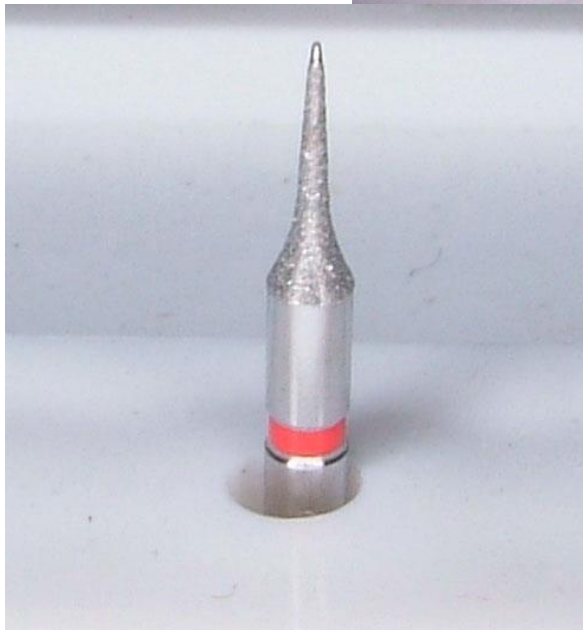
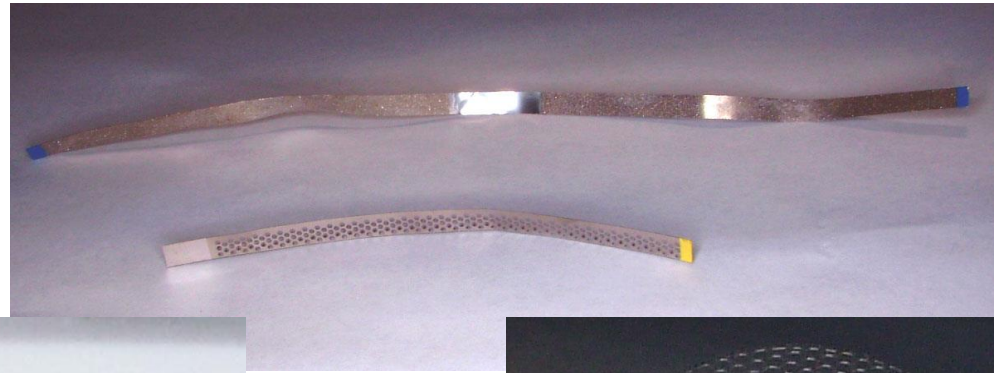
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5. Trim the Posterior Segments of the Aligners
6. Accurate IPR

6- Accurate Amount of IPR

- Perform IPR to exact prescribed amount (use Gauge)
- Excessive IPR will lead to open interproximal contacts
- Insufficient amount can lead to crowding &/or intrusion



6- Accurate Amount of IPR



6- Accurate Amount of IPR



6- Accurate Amount of IPR



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7. Detail Pliers

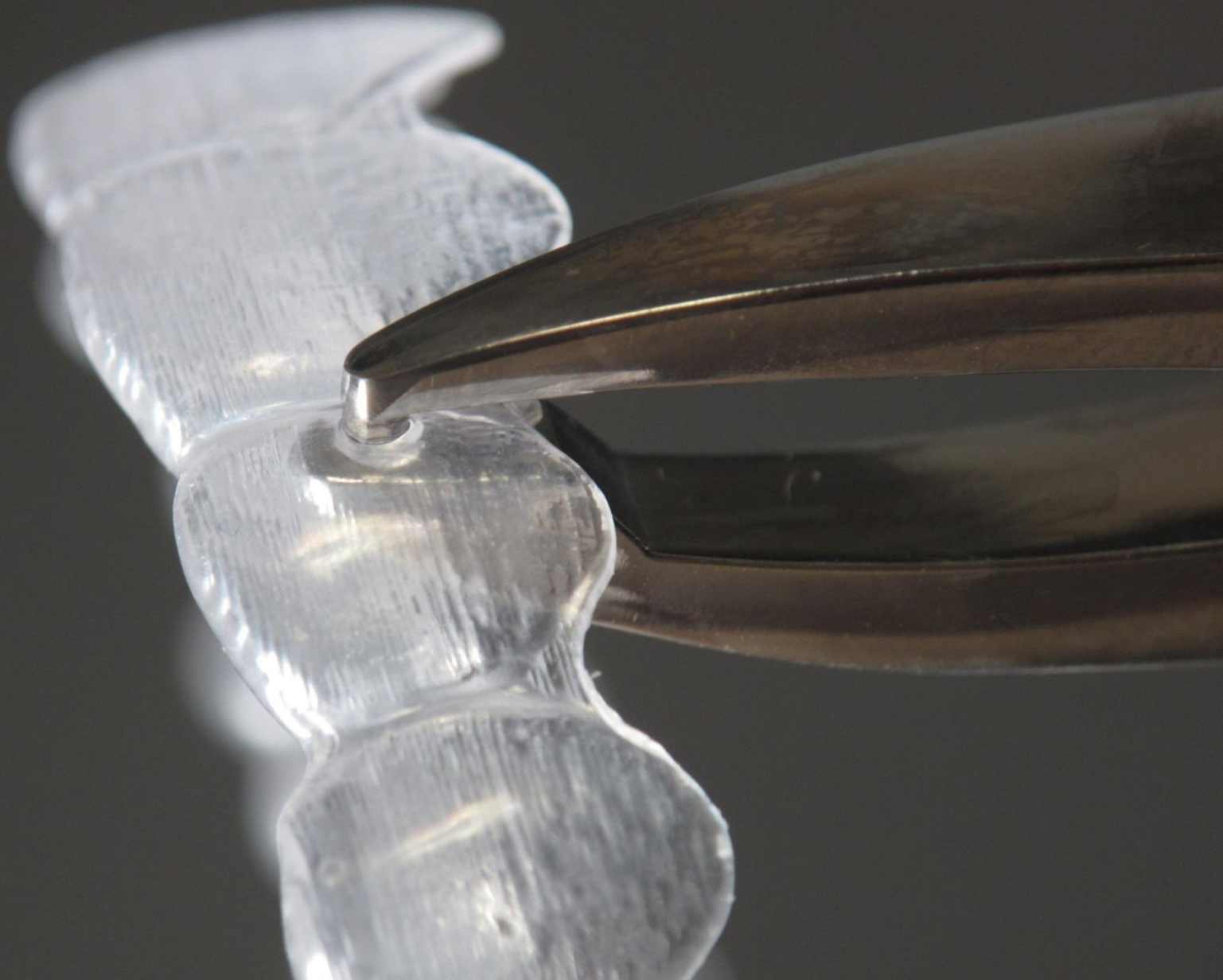
7- Detail / Finishing Pliers

- Use in the latter half of treatment for teeth NOT tracking
- Verify interproximal contacts



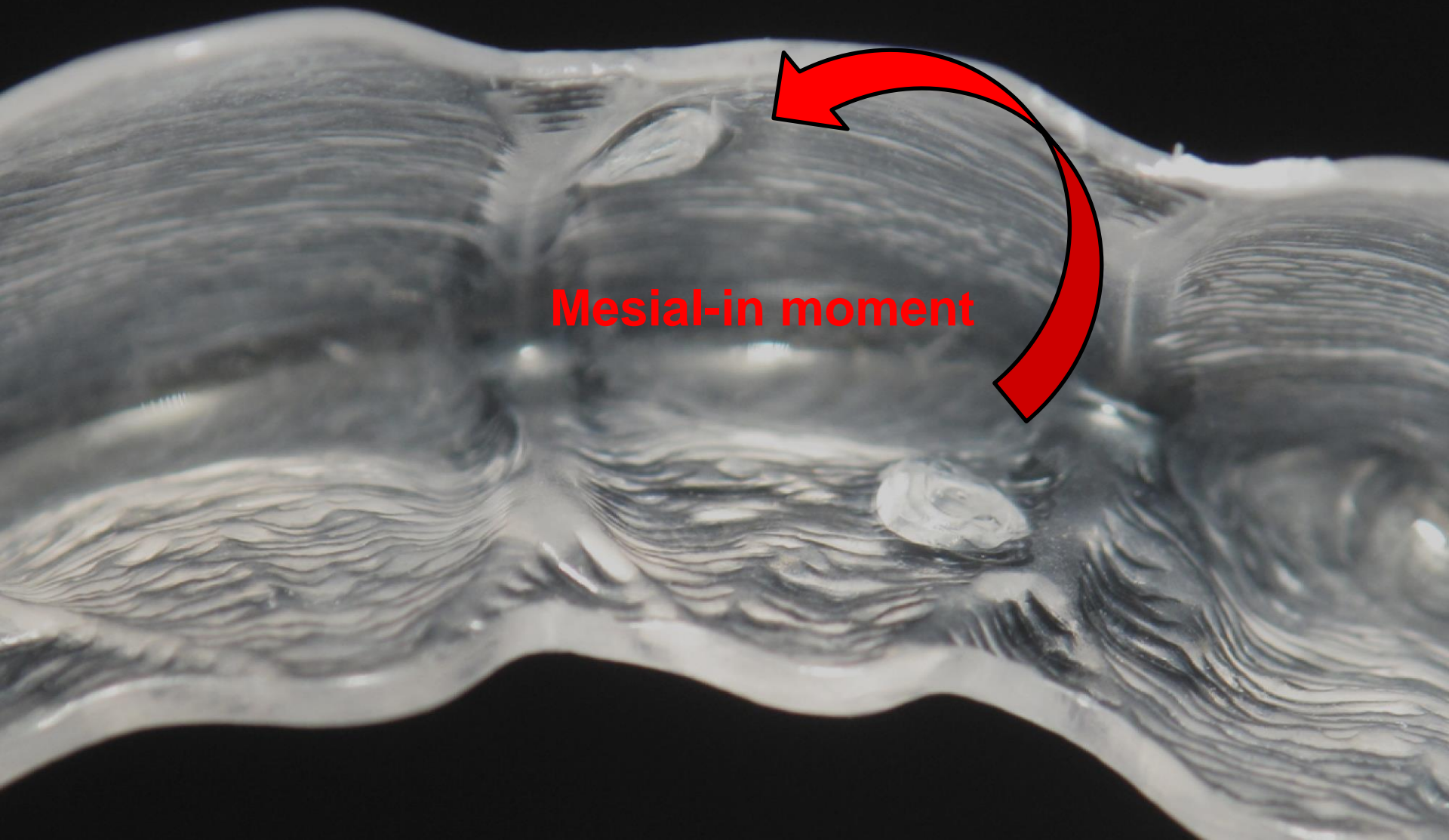


Step 1: Create a dimple mesio-buccal



Step 2: Create a dimple disto-lingual



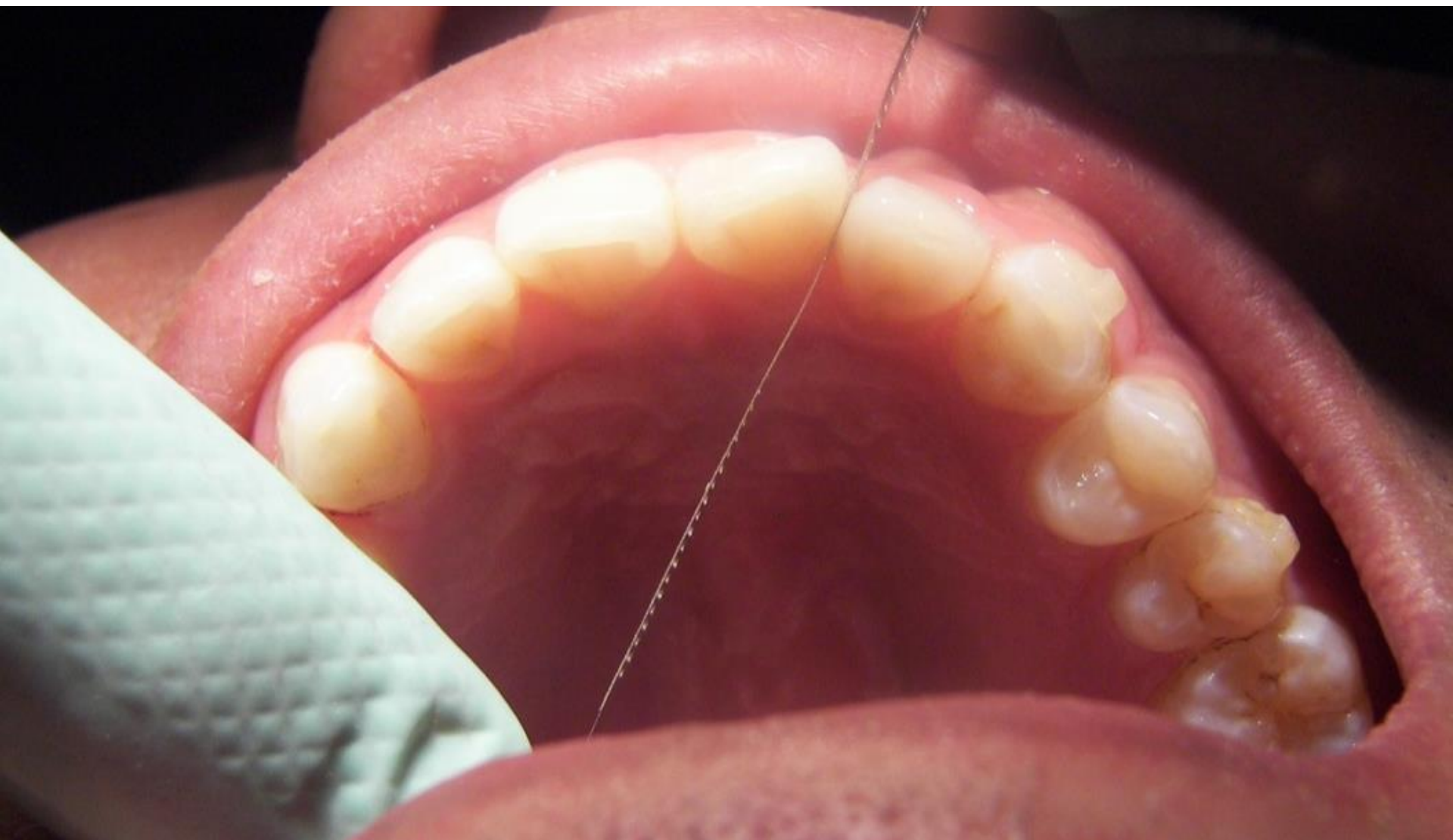


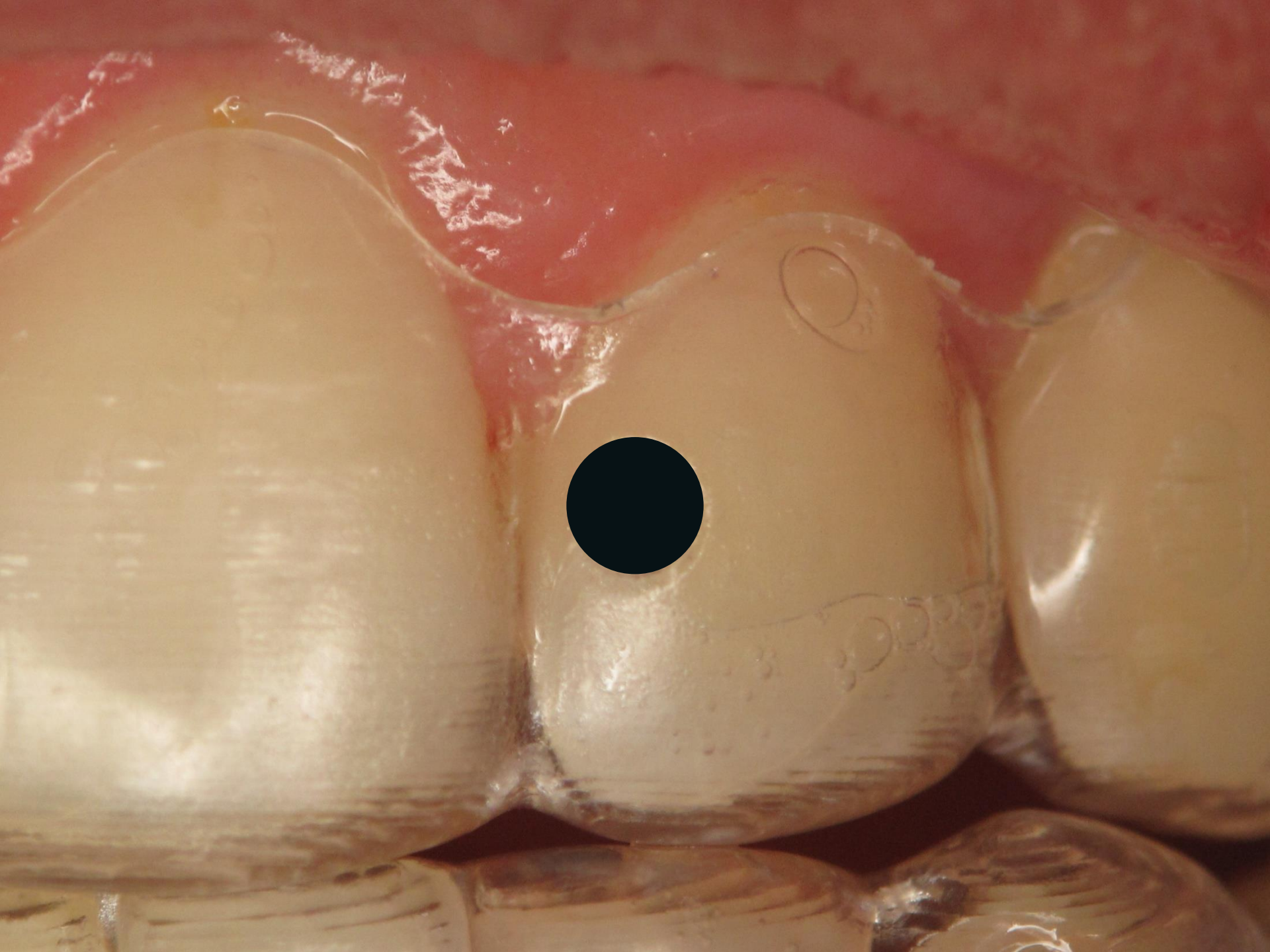
Mesial-in moment

Step 3: Eliminate friction interproximally (if present) with a lightning strip

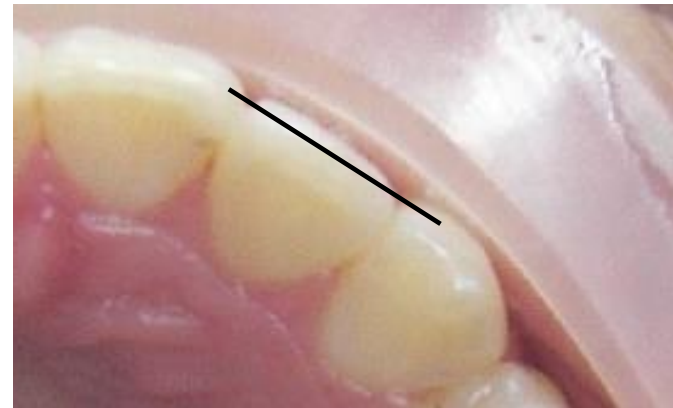


Step 3: Eliminate friction interproximally (if present) with a lightning strip





7- Detail / Finishing Pliers



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Pre-occlusal adjustment



Post-occlusal adjustment

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9. Monitor Aligner Tracking & Interproximal Contacts

9- Monitor Aligner Tracking & Contacts

1. Patient compliance
2. Space not available
3. Force delivery is compromised
4. Rate of tooth movement



9- Monitor Aligner Tracking & Contacts



9- Monitor Aligner Tracking & Contacts



9- Monitor Aligner Tracking & Contacts



9- Monitor Aligner Tracking & Contacts

One tooth vs. multiple teeth



9- Monitor Aligner Tracking & Contacts

One Tooth

- Usually due to lack of space or fast rate of movement
- Continue tx, then deal with lagging tooth at end with elastics or refinement
- Remove attachment

Multiple Teeth

- First thought: Lack of patient compliance
- Usually requires mid-course correction
- Remove attachments

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10- Case Refinement

- When results are beyond the scope of overcorrection, detail pliers or vertical elastics.
- Usually due to “less than ideal” wear time or patient cooperation
- Can also be due to lack of interproximal space or unrealistic tooth-movement on original ClinCheck
- Case Refinement is NOT a failure