

Thomas P Hinman Dental Meeting
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Staging Complex Restorative Cases

Putting things into the proper order

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1. Comprehensive examination, records, diagnostic work-up, and comprehensive treatment plan
 2. Establish a repeatable joint position
 3. Restore, reshape and/or realign the anterior segment within the envelope of function (parafunction) and esthetic requirements
 4. Create an ideal lower occlusal plane
 5. Restore upper posterior teeth to established lower occlusal plane

COMPREHENSIVE PATIENT EVALUATION

PATIENT INTERVIEW

1. What can we do for you today? _____

- 2. Are you having any discomfort now? _____
- 3. Is there anything about the appearance of your teeth that you would like to change? _____
- 4. What types of dental procedures have you had done in the past 5 years? _____

RADIOGRAPHIC EXAMINATION

- 1. General appearance on radiograph: _____
- 2. Missing teeth _____
- 3. Prevalence of fillings: FEW MODERATE MANY
- 4. Any overhanging margins? _____
- 5. Any periapical infections? _____
- 6. Any cavities obvious on x-ray? _____
- 7. Any bone loss? _____
- 8. Any widened periodontal ligament? _____
- 9. Any unerupted teeth? _____

CLINICAL EXAMINATION

- 1. Jaw relationship? _____
- 2. History of joint noise? _____
- 3. History of joint pain? _____
- 4. Headaches or neck pain? _____
- 5. Appearance of soft tissue/ oral cancer exam _____
- 6. Any premature interference or mobile teeth? _____
- 7. Any gum pocket formation? _____
- 8. Adequate attached gingiva? _____
- 9. Any malpositioned teeth? _____
- 10. Any sign of tooth wear? _____
- 11. Any teeth likely to fracture? _____
- 12. Any generalized recession? _____
- 13. Any erosion? _____
- 14. Any unmanageable bacterial traps? _____
- 15. Tooth by tooth analysis: _____

HISTORY

TREATMENT PLAN

REPEATABLE JOINT POSITION

- 1. Determine joint health, rule-out active pathology, and judge the ability to withstand long-term muscular forces.

2. Utilize Bimanual Guidance, Leaf Gauge, or Anterior Bite Plane to load test.
3. Achieve accurate diagnostic casts and pinpoint occlusal records.
4. If a repeatable joint position or accurate recording cannot be established initially, utilize other therapies to achieve an accurate starting position prior to treatment.

TMJ-RESTORATIVE PROTOCOL

Splint Therapy Considerations

Muscle Symptoms	Joint Symptoms	Load Test	Splint Therapy
Yes	Yes	Positive	Yes
Yes	Yes	Negative	Yes
Yes	Restorative Protocol		Yes
Yes			Maybe
Muscle Symptoms	Joint Symptoms	Load Test	Restorative
Yes	Yes	Positive	No
Yes	Yes	Negative	Yes
Yes	No	Positive	No
Yes	No	Negative	Yes
No	No	Positive	No
No	No	Negative	Yes

Restorative Position

Posterior Stop After Prep	Anterior guidance in IP	TMJ Symptoms	Restore in IP
Yes	Yes	No	Yes
Yes	Yes	Yes	Maybe
Yes	No	No	Maybe
Yes	No	Yes	No
No	No	No	No
No	No	Yes	No

DEVELOP THE ANTERIOR SEGMENT
Phonetic Evaluation

Sound	View	Clinical Relevance

“E”	Frontal	Observe the distance from upper to lower lip. If incisors fall below 50%, they generally can be lengthened. If 70%, can generally not be lengthened.
“F”	Profile	Observe interaction between incisal edges and lower lip. Evaluate length and position.
“S”	Profile	Observe interaction between upper and lower incisal edges. Evaluate length and position.
“Th”	Profile	Observe clarity and crispness of sound. Evaluates lingual contour.

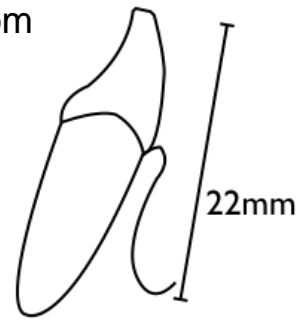
Diagnostic Waxing Laboratory Sequence

1. Remove the upper member of the articulator
2. Evaluate and establish perfect contour for the lower incisors
3. Replace the upper member and establish perfect contour for the upper incisors
4. Establish ideal anterior guidance
5. Create ideal lower posterior occlusal plane
6. Add upper posterior teeth to establish stable holding contacts (one per tooth)

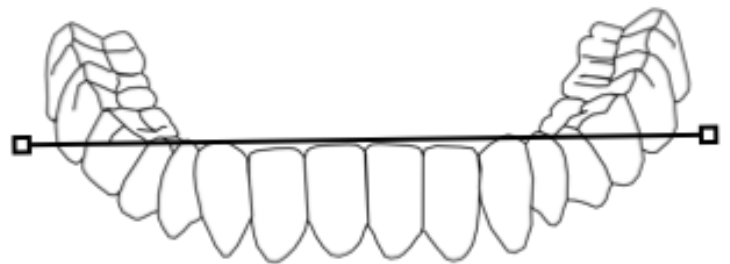
Lower Incisors

WAXING GUIDELINES

1. Lower incisal edge is generally 20-22mm from the average depth of the vestibule. Wax so that it “looks about right” with adequate restorative space.



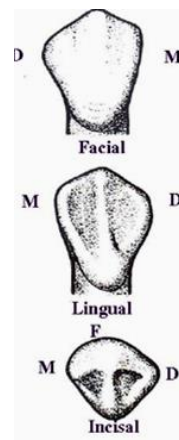
2. Incisal edges and canines should be the same height and parallel to the lower member of the articulator



3. Incisal edges should be flat and “pitched” with a leading and trailing edge bevel



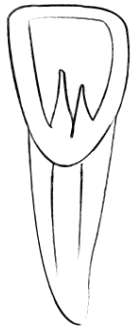
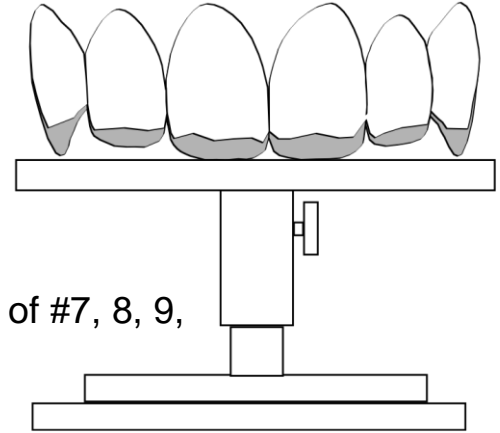
4. Canines are “two faced” with a separate mesial and distal incisal edge



Upper Incisors

WAXING GUIDELINES

1. Use esthetic guidelines and Panadent Platform to establish parallel-symmetrical incisal edges of #8 and 9.
2. Use esthetic guidelines to establish width and contour of #7, 8, 9, and 10.
3. Establish length and shape of #6 and 11.



4. Create ideal lingual contour and adequate restorative space.



5. Rearticulate with the lower arch and refine anterior centric contacts

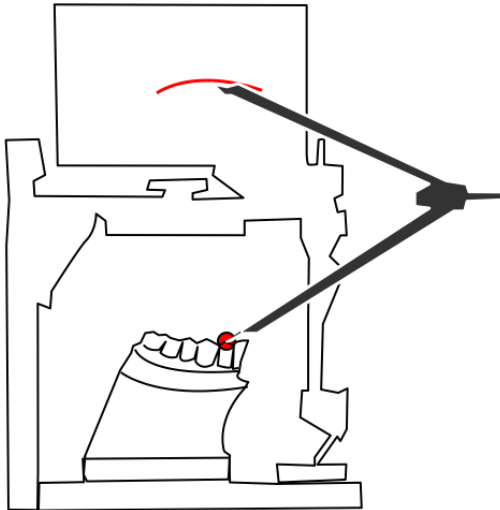


6. Refine the anterior guidance for absolutely smooth transitions in all movements. Incisal edge shape matches the pitch of the idealized lower incisor.

Lower Posterior Teeth

WAXING GUIDELINES

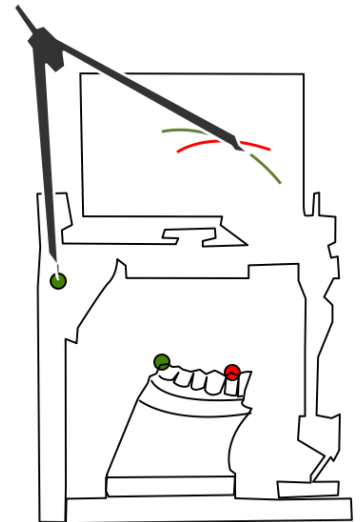
1. Remove upper cast and set pin to "0"
2. Set compass to 4in radius
3. Establish anterior survey point (cusp tip of idealized lower canine)



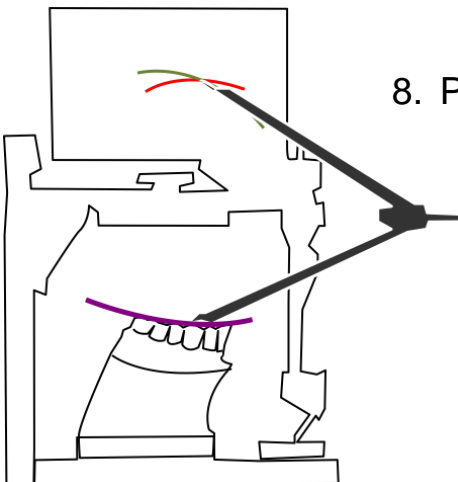
4. Scribe an arc onto the flag

**Broadrick
Occlusal
Plane
Analyzer**

5. Establish the posterior survey point (ideal second molar cusp or condylar axis point)
6. Scribe a line onto the flag



7. Add wax arbitrarily to lower posteriors



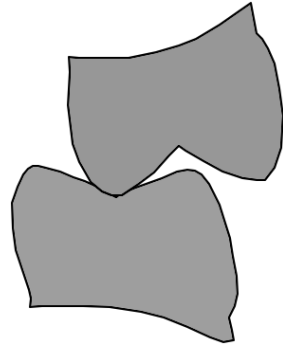
8. Place the compass at the intersection of lines and scribe a line onto the wax
9. Wax anatomic posterior teeth using scribed wax guidelines for Curves of Spee and Wilson

Upper Posterior Teeth

WAXING GUIDELINES

1. Replace upper cast and adjust upper occlusal surfaces to allow for anterior contact
2. Set pin at this point

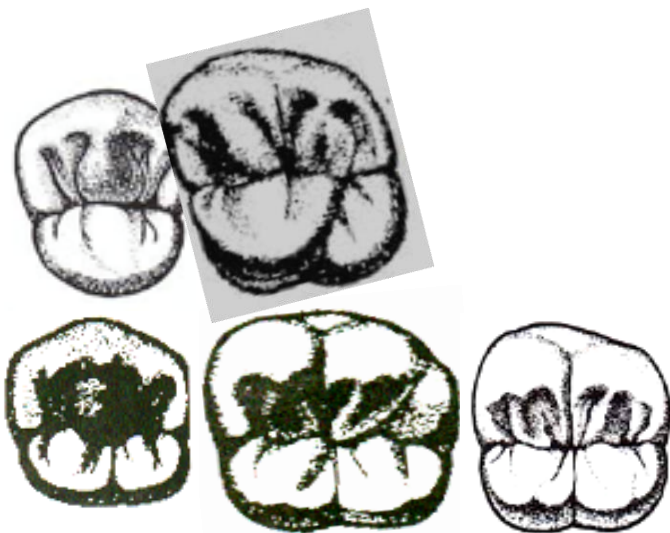
3. Wax upper lingual cusps to occlude into each central fossa of the lower posterior teeth

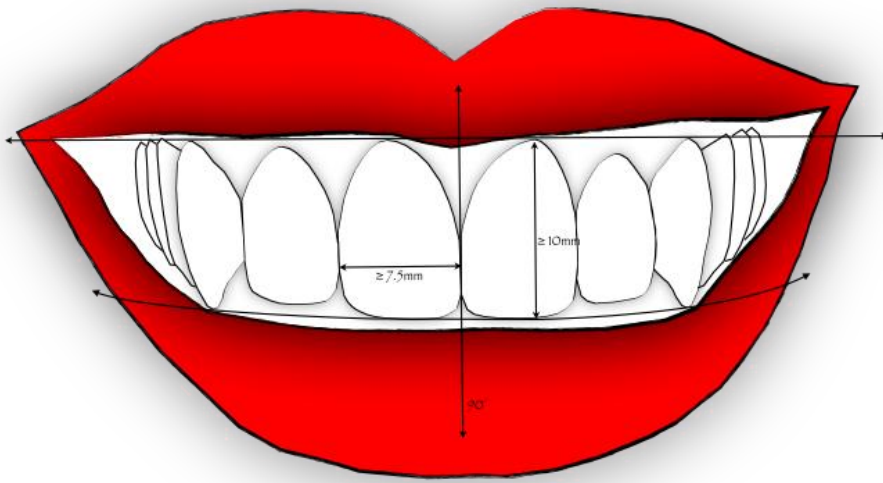


4. Wax upper buccal cusps for esthetics
5. "Clear" the lingual inclines of the buccal cusps to allow for immediate posterior disclusion



6. Refine anatomic contours





Esthetic Guidelines

1. Central incisor length $\geq 10\text{mm}$
2. Central incisor width $\geq 7.5\text{mm}$
3. Incisal plane = Horizon
4. Gingival line = Horizon, touching centrals and canines
5. Central incisor: Central incisor width $\leq 3\text{mm}$
6. Central incisor: Central incisor length $\leq 1.5\text{mm}$
7. Midline embrasure: Absolutely must be vertical
8. Midline teeth: Midline face = N/A
9. Tooth: Tooth width \approx Golden Proportion
10. Upper lip during smile: Gingival margins $\leq 4\text{mm}$

Instruments and Materials

Digital X-Ray	Dexis	Dexis Digital X-ray www.dexray.com
Facial Measurement	Trubyte Tooth Indicator	Densply-Trubyte York, PA 800-877-0020 www.trubyte.densply.com
Occlusal Measurement	Range of Motion Scale	Great Lakes Prosthodontics Tonawanda, N.Y. 800-828-7626 800-324-4434(NY) www.greatlakesortho.com
Digital Occlusal Evaluation	T-Scan	Tekscan, Inc. 307 West First Street. South Boston, MA TekScan.com
Impression Material	Jeltrate-Plus	Dentsply-Caulk Milford, DE 800-534-2855 www.caulk.densply.com
Alginate Mixer	Alginator II	Great Lakes Prosthodontics
Facebow	Kois Dento-facial Analyzer	Panadent Corporation Grand Terrace, California 909-783-1841 www.panadent.com
Facebow Registration	Bite-Tab	Panadent Corporation
Occlusal Registration	Delar Wax (D-Style)	Delar Corp.
Cast Stone	Silky-Rock White	Whip Mix Corporation Louisville, Ky. www.whipmix.com
Mounting Stone	Kerr Sno-White #2	Kerr Manufacturing Co. www.kerrlab.com
Articulator	Panadent PCH	Panadent Corporation
Diagnostic Wax	Presentation Wax	Great Lakes Prosthodontics
Occlusal Plane Analyzer	Broaderick Analyzer	Panadent Corporation
Electric Waxer	Vector	Great Lakes Prosthodontics
Waxing Instruments	PKT 1,2,4 Cd 3/6,#7 wax spatula, Bard- Parker lab knife Fillastre Carver for Analyzer (Panadent)	Hu-Friedy Mfg. Co., Inc. Chicago, IL 800-HU-FRIEDY www.hufriedy.com
Articulating Paper-Lab	Surgident Full Arch	Heraeus Kulzer South Bend, IN www.kulzer.com
Articulating Paper-Oral	Bausch 40µ	Bausch Articulating Papers www.bauschdental.com
Articulating Paper-Oral	Madame Butterfly	Almore International, LLC www.almore.com