Using the Lucia Jig to take an accurate & reliable centric relation bite registration

The Lucia Jig helps obtain centric relation by de-programming muscles and allowing the condyles to seat in the most superior position.

Trimming Instructions

Trimming the silicone bite records is an important step to ensure an accurate fit on the model. Trimming eliminates all the interferences so there is no movement once the models are seated into the bite record.

Step 1: With a lab knife or diamond disc, trim any material that extends distal to the second molar.

Step 2: With a 1.5 inch fine sandpaper arbor, shorten the flanges of the records to approximately 1.5 mm cusp depth.

Step 3: With the round end of an acrylic bur, remove the marginal ridge detail and the depths of the fossa. There should only be the cusp tips left, no anatomy or marginal ridges.

When the silicone is properly trimmed, the bite will seat perfectly and there will be no rocking or movement of the model.

Products featured in this guide

- Lucia Jig Kit
  - 18 standard and 6 Class II
  - 255-025
- Whale Tails 3/pkg.
  - 255-027
- Black/Red Double-Sided Articulating Paper
  - 056-003
- Disposable Articulating Forceps 100/pkg.
  - 056-028
- ACU-Flow™ Bite Registration Material
  - 100-005
- ACU-Flow™ Dispensing Gun
  - 100-010
- Carbide Cross-Cut Bur
  - 085-034
- 1½ in. Fine Sandpaper Arbor with Mandrel (10 Arbors/pkg.)
  - 060-020
- Lucia Jig Bte Registration Kit
  - 255-031
- Centric Relation Bite Record
  - DVD – Dr. Frank Spear (not shown)
  - 270-022

Contact Great Lakes Products Customer Service for more information on any of these products, to request a catalog, or to place an order.

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Trimming Instructions

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The method described in this instructional guide features the Lucia Jig. Used by many dental clinicians, the Lucia Jig is simple, reliable, reproducible, and comfortable for patients. Frank Spear, DDS, MSD, uses this technique in his clinical practice and teaches it in his courses. The technique is also described in Dr. Spear’s Centric Relation Bite Record DVD. An accurate bite registration is critical for the Laboratory.

Step 1: Paint the curved surface of the jig with a small amount of acrylic tray adhesive. For this procedure, ACU-flow™ is used. It is a syringable poly vinyl siloxane material with a 15 second working time, 45 second intra-oral setting time, and a maximum total cure time of 1 minute. Once set, it is extremely hard without being brittle, trims like acrylic, and remains dimensionally stable making it ideal to send to the Lab.

Step 2: Dispense Acu-flow material into the curved portion of the jig.

Step 3: Place the jig on the upper centrals and place the Whale Tail directly beneath the jig. Ask the patient to bite down and hold. The Whale Tail is flat and orients the jig to the occlusal plane. It parallels the jig with the occlusal plane anteriorly and posteriorly and in a right and left direction as well. Allow to set – approximately 45 seconds.

Step 4: Once hard, remove the jig and the Whale Tail and trim off the excess material with a lab knife. Place the jig back on the patient’s upper centrals. Ask the patient to bite down, slide forward, slide back, and squeeze. Repeat. Ask the patient if he or she feels any tenderness or tension. If the answer is no, the plagriong is relaxed and the joint can support load comfortably. If the answer is yes, the patient may require an additional period of time (possibly up to 20 minutes) to allow the plagriogony to relax and the condyloids to seat. If after that period of time, the discomfort persists, a joint problem may be indicated.

Step 5: Using red articulating paper, confirm that the lower incisors are on the most posterior marks on the jig, you know the patient has closed into the correct position. The most retruded point of contact of the lower incisors has been marked in black on the jig. When the bite record is taken, if the patient’s lower incisors are touching those marks, you can be confident that the patient is in centric relation.

Step 6: To determine the patient’s most retruded position, place the jig back on the patient’s centrals. Ask the patient to bite down, slide forward, back, and squeeze. Repeat and hold. Ask the patient to open slightly, place black articulating paper between the jig and the lower centrals and ask the patient to hold three times. The most retruded point of contact of the lower incisors has now been marked in black on the jig. When the bite record is taken, if the patient’s lower incisors are touching those marks, you can be confident that the patient is in centric relation.

Step 7: Dry the teeth well with dental gauze, this prevents the bite registration material from sliding down the patient’s throat. With the Lucia Jig in place, ask the patient to open and inject an ample amount of the registration material starting on the second molars and work up to at least the cuspids on each side.

Step 8: Once the registration material is hard, ask the patient to open and remove the Lucia Jig and bite registration material. The bite records should have very good palatal cusp and buccal cusp recordings of the maxillary teeth and buccal cusp recordings of the mandibular teeth. The bite records are ready for trimming.
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The Lucia Jig helps obtain centric relation by standardizing the bite registration process, using a consistent bite registration material, and ensuring reproducibility. It is a syringeable poly vinyl siloxane material with a 15 second working time, 45 second intra-oral setting time, and a maximum total cure time of 1 minute. Once set, it is extremely hard without being brittle, trims like acrylic, and remains dimensionally stable making it ideal to send to the Lab.

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1. Place the jig on the upper centrals and place the Whale Tail directly beneath the jig. Ask the patient to bite down and hold. The Whale Tail levels and orients the jig to the occlusal plane. It parallels the jig with the occlusal plane anteriorly and posteriorly and in a right and left direction as well. Allow to set – approximately 45 seconds.

2. Selecting the right Lucia Jig is based on the vertical opening of the posterior teeth. Use the standard (Class I) jig to determine the vertical opening. If there are several millimeters (more than 2.5 mm) between the posterior teeth, use the Class II jig to reduce the vertical opening.

3. For patients with very irregular mandibular incisors, use the Lucia Jig on the lower incisors. It will function in the same way against the maxillary incisors.

4. Ask the patient to bite down and hold. The Whale Tail levels and orients the jig to the occlusal plane. It parallels the jig with the occlusal plane anteriorly and posteriorly and in a right and left direction as well. Allow to set – approximately 45 seconds.

5. The most retruded point of contact of the lower incisors has now been marked in black on the jig, the tooth record and on the appliance. If the patient’s lower incisors are on the most posterior marks on the jig, you know the patient has closed into the correct position.

6. To determine the patient’s most retruded position, place the jig back on the patient’s centric. Ask the patient to bite down, slide forward, back, and squeeze. Repeat and hold. Ask the patient to open slightly, place black articulating paper between the jig and the lower centrals and ask the patient to hold for three times.

7. The most retruded point of contact of the lower incisors has now been marked in black on the jig. Then the bite record is taken. If the patient’s lower centrals are on the most posterior marks, you can be confident that the patient is in centric relation.

8. Once the registration material is hard, ask the patient to open and remove the Lucia Jig and bite registration material. The bite records should have very good palatal cusp and buccal cusp recordings of the maxillary teeth and buccal cusp recordings of the mandibular teeth. The bite records are ready for trimming.

9. If the answer is no, the plaster is relaxed and the patient can support load comfortably.

10. To determine the patient’s most retruded position, place the jig back on the patient’s centric. Ask the patient to bite down, slide forward, back, and squeeze. Repeat and hold. Ask the patient to open slightly, place black articulating paper between the jig and the lower centrals and ask the patient to hold for three times. The most retruded point of contact of the lower incisors has now been marked in black on the jig. Then the bite record is taken. If the patient’s lower incisors are on the most posterior marks on the jig, you know the patient has closed into the correct position.

11. To determine the patient’s most retruded position, place the jig back on the patient’s centric. Ask the patient to bite down, slide forward, back, and squeeze. Repeat and hold. Ask the patient to open slightly, place black articulating paper between the jig and the lower centrals and ask the patient to hold for three times.

12. The most retruded point of contact of the lower incisors has now been marked in black on the jig. Then the bite record is taken. If the patient’s lower incisors are on the most posterior marks, you can be confident that the patient is in centric relation.
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For this procedure, ACU-fl ow™ is used. It is a syringeable polyvinylsiloxane material with a 15 second working time, 45 second intra-oral setting time, and a maximum total cure time of 1 minute. Once set, it is extremely hard without being brittle, trims like acrylic, and remains dimensionally stable making it ideal to send to the Lab.

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For patients with irregular mandibular incisors, use the Lucia Jig on the lower incisors. It will function in the same way against the maxillary incisors.

Step 1: Paint the curved surface of the jig with a small amount of acrylic tray adhesive.

Step 2: Dispense Acu-flow material into the curved portion of the jig.

Step 3: Place the jig on the upper centrals and place the Whale Tail directly beneath the jig. Ask the patient to bite down and hold. The Whale Tail levels and orients the jig to the occlusal planes. It parallels the jig with the occlusal plane anteriorly and posteriorly and in a right and left direction as well. Allow to set – approximately 45 seconds.

Step 4: Once hard, remove the jig and the Whale Tail and trim off the excess material with a lab knife. Remove any material extending over the edges of the jig.

Step 5: Place it back on the patient's upper centrals. Ask the patient to bite down onto the jig, slide forward, slide backward, and squeeze. Repeat. Ask the patient if she feels any tenderness or tension. If the answer is no, the pterygoid is relaxed and the joint can support load comfortably.

Step 6: To determine the patient’s most retruded position, place the jig back on the patient’s centrals. Ask the patient to bite down, slide forward, back, and squeeze. Repeat and hold. Ask the patient to open slightly, place black articulating paper between the jig and the lower centrals and ask the patient to hold three times. The most retruded point of contact of the lower incisors has now been marked in black on the jig. When the bite record is taken, if the patient’s lower centrals are touching those marks, you can be confident that the patient is in centric relation.

Step 7: Dry the teeth well with dental gazes; this prevents the bite registration material from sliding down the patient’s teeth. With the Lucia Jig in place, ask the patient to open and inject an ample amount of the registration material starting on the second molars and work up to all the cuspids on the occlusal plane.

Step 8: Once the registration material is hard, ask the patient to open and remove the Lucia jig and bite registration material. The bite records should have very good palatal cusp and buccal cusp recordings of the maxillary teeth and buccal cusp recordings of the mandibular teeth. The bite records are ready for trimming.

The Lucia Jig helps obtain centric relation by correctly fabricating an appliance requiring occlusal coverage. It will reduce initial trimming and fitting adjustments and save considerable chair-time when seating the appliance.

It separates the posterior teeth, and by doing so it allows the lateral pterygoid to release, and when the lateral pterygoid releases, the condyle seats…it’s that simple," explains Dr. Spear.
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Trimming the silicone bite records is an important step to ensure an accurate fit on the model. Trimming eliminates all the interferences so there is no movement once the models are seated into the bite record.

Step 1: With a lab knife or diamond disc, trim any material that extends distal to the second molar.

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Step 3: With the round end of an acrylic bur, remove the marginal ridge detail and the depths of the fossa. There should only be the cusp tips left, no anatomy or marginal ridges.

When the silicone is properly trimmed, the bite will seat perfectly and there will be no rolling or movement of the model.

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  - 255-025

- Whale Tails 3/pkg.
  - 255-027

- Black/Red Double-Sided Articulating Paper
  - 056-003

- Disposable Articulating Forceps 100/pkg.
  - 056-028

- ACU-flow™ Bite Registration Material
  - 100-005

- ACU-flow™ Dispensing Gun
  - (not shown)
  - 100-010

- Carbide Cross-Cut Bur
  - 085-034

- 1½ in. Fine Sandpaper Arbor with Mandrel (10 Arbors/pkg.)
  - 060-020

- Lucia Jig Bite Registration Kit
  - Kit includes: Lucia Jig, Whale Tails, Double-sided Articulating Paper, ACU-flow material, Carbide Cross-Cut Bur, & Sandpaper Arbor with Mandrel
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- Centric Relation Bite Record
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