Fundamentals of Recording & Mounting

Workshop Instructions
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NAME OF EXERCISE: Leaf gauge screen

OBJECTIVES: Use of a Leaf Gauge to determine 1st tooth contact in a seated position

CLINICAL APPLICATIONS:
- screening for anterior open bite (AOB) prior to orthotic/splint therapy (i.e. Informed Consent)
- screening for potential loss of restorative space prior to preparing terminal teeth
- identification of the 1st tooth contact to confirm the accuracy of mounted models

MATERIALS:
- Leaf gauge (Great Lakes Orthodontics)
- Articulating Film (Ardent Exacta-Film, 19 microns; red/red & black/black; WhipMix)
- camera/retractors/photographic mirror (PhotoMed)
NAME OF EXERCISE: Leaf gauge screen

OBJECTIVES:
Use of a Leaf Gauge to determine 1st tooth contact in a seated position

CLINICAL APPLICATIONS:
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- Camera/retractors/photographic mirror (PhotoMed)

LEAF GAUGE SCREEN AND 1ST CONTACT
During this process, we will use a leaf gauge, ‘bump up’ and red & black occlusal marking film.

LEAF GAUGE SCREEN AND 1ST CONTACT
Beginning with 7 leafs, have the patient try to close on their back teeth. If they feel a tooth hit, add a leaf....repeat. Once they cannot feel a contact, verify with RED film. If they are still hitting, continue to add a leaf at a time and repeat the process.
LEAF GAUGE SCREEN AND 1ST CONTACT

At some point, you will have added enough leaves that you will lose all posterior contacts. At this point, ADD one leaf to verify loss... then begin to remove a leaf at a time checking with a small piece of BLACK film each time to see if you have regained a posterior contact.

LEAF GAUGE SCREEN AND 1ST CONTACT

With the black mark overlaying the previous red marks, you have now recorded the first tooth that contacts when the condyle is in a seated position.

LEAF GAUGE SCREEN AND 1ST CONTACT

Please stop here and count the number of leaves that were used to determine that first contact.

√ – Count the number of leaves at 1st contact
√ – Note the 1st contact tooth number
√ – Record these on the lab pan slip with the PATIENT’S name
NAME OF EXERCISE:
Facebow Recording and Mounting of Maxillary Model

OBJECTIVE:
To record the relationship of the maxillary arch to the TMJ hinge axis so that it can be transferred to the articulator

CLINICAL APPLICATION:
-1 of 3 occlusal records needed to provide conditions on the articulator that reproduce the actual clinical presentation of vertical and excursive movements

MATERIALS:
-Denar Slidematic Facebow, bitefork, transfer jig assembly, ruler & red marker (WhipMix)
-cotton rolls
-Accuflow registration material (Great Lakes Orthodontics)
-Denar articulator, articulator index and mounting plate
-maxillary model, groomed; with retention divots
-Snap Stone & Mounting Stone (WhipMix)
-water, spatula, mixing bowl/cup
Facebow Recording & Mounting of Maxillary Cast

Know your instrumentation & how to use it before you start. Your patient will sense your confidence...or your uncertainty.
This is the top of the bite fork. The arm of the fork is oriented on the patient's right side.

The superior screw locks and unlocks the ear bow.

The anterior screw secures the transfer jig assembly.

The pointer is used to align the face bow arms vertically BEFORE tightening the #1 & #2 screws on the transfer assembly.
BEFORE moving to the patient, the transfer assembly is attached to the face bow. Make sure that the assembly is fully seated into the face bow.

The transfer jig must be secured by tightening the anterior screw on the face bow.

The Denar Ruler & red felt pen are used to mark 43mm from the incisal edge of the lateral. This helps ensure that the model will be mounted in the center of the articulator.
Accuflow is placed in a tripod fashion onto the top of the bite fork.

It is ESSENTIAL that the Accuflow engage through the holes in the bite fork.

The bitefork is seated onto the maxillary occlusal surface with the midline of the fork oriented to the patients FACIAL midline, not their dental midline.

**Note that the arm is oriented to the patient right.**
Once the Accuflow has set, the patient can rest on a cotton roll on each side to support the bite fork. This frees up the doctor and assistants hands.

BEFORE moving to the patient, loosen the ear bow slide with the superior screw.

With the #1 & 2 screws loosened, engage the bite fork arm with the #2 slide. Numbers must be upright and facing away from the patient.
The patient should help guide the ear bow into their ears. You will notice the ear bow move medially and anteriorly as it enters the ear canal. It should be snug. This can be uncomfortable and the procedure should be carried out quickly but accurately.

Once the ear bow is in place, the superior screw should be tightened.

Using the pointer & red dot as a reference, the face bow is oriented vertically. The #1 screw can then be tightened.
Tighten #1 first, then #2. Righty, tighty.

**This can impart significant torque to the patients ears. They should lightly hold onto ear of the bow's arms & you should stabilize the anterior portion for patient comfort.

The pointer should then be safely returned and secured to the face bow arm by tightening the screw.

The superior screw is then loosened... lefty loosey.
The face bow can then be disengaged from the ears and the entire assembly removed from the patient.

**The assistant should hold the cotton rolls to ensure that they do not fall back into the patient's mouth and/or throat.

The facebow, fork and transfer assembly removed.

The anterior screw is then loosened... lefty loosey... to remove the transfer assembly & bite fork from the face bow.
The intact transfer assembly & bite fork removed

Denar 320/330

Semi-Adjustable Articulator

Loosen to adjust condylar angle when programming articulator

Locks & unlocks condyles for lateral movements
For face bow mounting, pin should be set at zero.

**CRITICAL STEP**
Make sure the condylar lock is engaged!

Mounting plates should be added to both the upper and lower members of the articulator.
The white table should be removed and placed in the patients lab pan.

The white table should be replaced with the black mounting table.
Ensure that it is fully seated with the white washer next to the knurl & tighten.

The transfer assembly is then inserted into the mounting table, taking care to note that it is fully seated.

The anterior screw on the mounting table is then tightened to secure the transfer assembly.
Snap Stone is used to initially secure the model

Mounting Stone be used for the entire mounting process or to finish over the Snap Stone

The maxillary cast is placed on the bite fork with your hand supporting the fork to prevent displacing it

I prefer to mix Snap Stone a bit runny as it sets quite quickly. This allows for different handling characteristics as it moves towards a gel state.
1st & while still thin is the best time to engage the mounting plate & retention grooves.

As the stone slightly thickens, it can be stacked up taking care to not displace the model.

The goal is to have enough stone to secure the cast but not so much as to exceed the finished form.

**For course purposes, more can be better as may not be able to fully groom the casts.**

Do NOT attempt to add more stone once the articulator is closed. I will demonstrate how to do this.
NAME OF EXERCISE:
“CR” Bite Recording with Leaf Gauge–Accuflow and Mounting of Mandibular Model

OBJECTIVE:
To record the relationship of the maxillary arch to the mandibular arch while the joint is in a seated position so the mandibular cast can be mounted to the maxillary cast on the articulator

CLINICAL APPLICATION:
-1 of 3 occlusal records needed to provide conditions on the articulator that reproduce the actual clinical presentation of vertical and excursive movements
-confirmation of stability & repeatability of joint-based bite recording prior to proceeding with definitive diagnoses or restorative procedures

MATERIALS:
-leaf gauge (Great Lakes Orthodontics)
-Articulating Film (Ardent Exacta-Film, 19 microns; red/red & black/black; WhipMix)
-Accuflow (Great Lakes Orthodontics)
-Lab scalpel handle & #25 blade
-Black Sharpie marker
-Denar articulator with white table and mounting plate (WhipMix)
-previously mounted maxillary cast
-mandibular model, groomed; with retention divots
-Snap Stone & Mounting Stone (WhipMix)
-water, spatula, mixing bowl/cup
NAME OF EXERCISE: “CR” Bite Recording with Leaf Gauge

OBJECTIVE:
To record the relationship of the maxillary arch to the mandibular arch while the joint is in a seated position so the mandibular cast can be mounted to the maxillary cast on the articulator.

CLINICAL APPLICATION:
- 1 of 3 occlusal records needed to provide conditions on the articulator that reproduce the actual clinical presentation of vertical and excursive movements
- Confirmation of stability & repeatability of joint-based bite recording prior to proceeding with definitive diagnoses or restorative procedures

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- Articulating Film (Ardent Exacta-Film, 19 microns; red/red & black/black; WhipMix)
- Accuflow (Great Lakes Orthodontics)
- Lab scalpel handle & #25 blade
- Black Sharpie marker
- Denar articulator with white table and mounting plate (WhipMix)
- Previously mounted maxillary cast
- Mandibular model, groomed; with retention divots
- Snap Stone & Mounting Stone (WhipMix)
- Water, spatula, mixing bowl/cup

CONFIRM 1ST CONTACT & LEAF GAUGE “CR BITE”
During this process, we will use a leaf gauge, ‘bump up’ and red & black occlusal marking film.

CONFIRM 1ST CONTACT
Beginning with the number of leaves from Day One, add 3 leaves and confirm no contact. If you have contact with the additional 3 leaves, call Mike or Jeanine for assistance.
Begin taking leaves off one at a time, checking each time for contact.
CONFIRM 1ST CONTACT
Once you have regained that first contact, switch to black and mark the first contact.

With the black mark overlaying the previous red marks, you have now recorded/confirmed the first tooth that contacts when the condyle is in a seated position.

LEAF GAUGE 1ST CONTACT RECORDING
Prior to recording this condylar position, please add 20 leafs to your existing number of leafs that you determined the 1st contact with. The 'bump up' approach helps you remember which set of leafs to use. Let's discuss this.
Dry the maxillary occlusal teeth and extrude Accuflow from most distal maxillary tooth to the lateral incisor. With the leaf gauge in place, have the patient try to close on their back teeth...then brace them with bimanual manipulation. Let set for 1 minute while maintaining hand position.

Before proceeding, please verify that you have sufficient occlusal registration and capture from the most distal tooth to the lateral incisor.

As this is an 'open bite', the mandibular anterior teeth will be more lingual than you might realize. The Accuflow needs to be placed lingually canine to canine.
PLACE THE REGISTRATIONS IN A CUP MARKED WITH THE PATIENT’S NAME

STOP now, rotate partners and allow the next participant to complete the above step. Once EVERYONE has completed the above steps, you may proceed to trimming.

LEAF GAUGE 1ST CONTACT RECORDING

TAKE YOUR DOMINANT HAND REGISTRATION (RIGHT SIDE FOR RIGHT HANDERS, LEFT FOR LEFT HANDERS). TRIM ONLY THE DOMINANT MANDIBULAR SIDE BACK TO CUSP TIP INDENTATIONS, REMOVING ALL TERTIARY, SECONDARY AND PROXIMAL EMRASURE REGISTRATIONS AS WELL AS ANY HEIGHT OF CONTOUR INTERFERENCES. SEAT REGISTRATION ON MAXILLARY. HANDS OFF AND HANDS ON (MANIPULATE) VERIFY FOR REPEATABILITY. IF IT IS NOT REPEATABLE, CALL MIKE OR JEANINE AND PREPARE TO REPEAT STEP 2. MARK THE MANDIBULAR SIDE THAT YOU TRIMMED WITH AN ‘R’ AND AN ‘L’ WITH A SHARPIE.
NAME OF EXERCISE:
“CR” Bite Recording with Pankey Deprogrammer~Accuflow and Mounting of Mandibular Model

OBJECTIVE:
To record the relationship of the maxillary arch to the mandibular arch while the joint is in a seated position so the mandibular cast can be mounted to the maxillary cast on the articulator

CLINICAL APPLICATION:
-1 of 3 occlusal records needed to provide conditions on the articulator that reproduce the actual clinical presentation of vertical and excursive movements
-confirmation of stability & repeatability of joint-based bite recording prior to proceeding with definitive diagnoses or restorative procedures

MATERIALS:
- Pankey Deprogrammer (The Pankey Institute Bookstore)
- PVS Adhesive
- Articulating Film (Ardent Exacta-Film, 19 microns; red/red & black/black; WhipMix)
- Accuflow (Great Lakes Orthodontics)
- Lab scalpel handle & #25 blade
- Black Sharpie marker
- Denar articulator with white table and mounting plate (WhipMix)
- previously mounted maxillary cast
- mandibular model, groomed; with retention divots
- Snap Stone & Mounting Stone (WhipMix)
- water, spatula, mixing bowl/cup
AFTER ALL HAVE VERIFIED THEIR REGISTRATIONS, PLEASE TRIM MAX AND MAND REGISTRATIONS ON BOTH SIDES BACK TO CUSP TIP INDENTATIONS AND VERIFY SEATING ON CASTS–MODELS. MARK THE MANDIBULAR SIDES THAT YOU TRIMMED WITH AN ‘R’ AND AN ‘L’ WITH A SHARPIE. SEAT REGISTRATIONS ON MODELS AND HAVE MIKE OR JEANINE VERIFY PASSIVE SEATING OF THE REGISTRATIONS. THEN TAKE THE MODELS TO THE BACK OF THE LAB TO GLUE GUN LUTE AND MOUNT THE MANDIBULAR MODEL.

NAME OF EXERCISE: "CR" Bite Recording with Pankey Deprogrammer–Accuflow and Mounting of Mandibular Model

OBJECTIVE:
To record the relationship of the maxillary arch to the mandibular arch while the joint is in a seated position so the mandibular cast can be mounted to the maxillary cast on the articulator

CLINICAL APPLICATION:
- 1 of 3 occlusal records needed to provide conditions on the articulator that reproduce the actual clinical presentation of vertical and excursive movements
- confirmation of stability & repeatability of joint-based bite recording prior to proceeding with definitive diagnoses or restorative procedures

MATERIALS:
- Pankey Deprogrammer (The Pankey Institute Bookstore)
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- Articulating Film (Ardent Exacta-Film, 19 microns; red/red & black/black; WhipMix)
- Accuflow (Great Lakes Orthodontics)
- Lab scalpel handle & #25 blade
- Black Sharpie marker
- Denar articulator with white table and mounting plate (WhipMix)
- previously mounted maxillary cast
- mandibular model, groomed; with retention divots
- Snap Stone & Mounting Stone (WhipMix)
- water, spatula, mixing bowl/cup
The Pankey Deprogrammer is coated internally with adhesive, air dried and then filled with Accuflow.

The Pankey Deprogrammer is seated on the upper centrals and the patient is instructed to 'tap tap' on it. This will seat and level the deprogrammer. Allow the material to set.

It is critical that the patient cannot occlude on the Accuflow in any position or excursions as this can interfere with the use of the deprogrammer.
Accuflow is applied to the occlusal surfaces and the bite registration is accomplished.

The Pankey Deprogrammer can be used for a variety of “CR” registration methods.
- Bimanual Guidance
- Passive Closure
- Powerslide Technique

PLEASE refer to the DVD as a resource for all of the various techniques.

POWERSLIDE TECHNIQUE
Have the patient rest on the Pankey Deprogrammer.
POWERSLIDE TECHNIQUE
Have the patient slide forward into protrusive.

POWERSLIDE TECHNIQUE
Have the patient slide back into their most retruded position & clench hold in that position.

POWERSLIDE TECHNIQUE
With the tip angled slightly towards the maxillary occlusal surfaces, inject Accuflow on both the right and left side of the arch.
NAME OF EXERCISE:
“CR” Bite Recording with Master’s & Delar Wax and Mounting of Mandibular Model

OBJECTIVE:
To record the relationship of the maxillary arch to the mandibular arch while the joint is in a seated position so the mandibular cast can be mounted to the maxillary cast on the articulator

CLINICAL APPLICATION:
- 1 of 3 occlusal records needed to provide conditions on the articulator that reproduce the actual clinical presentation of vertical and excursive movements
- confirmation of stability & repeatability of joint-based bite recording prior to proceeding with definitive diagnoses or restorative procedures
- an essential recording methodology when the leaf gauge or Pankey Deprogrammer/Lucia Jig cannot be utilized (e.g. missing anterior teeth, fully edentulous, Class III relationships which are past edge to edge)

MATERIALS:
- Master’s Wax (Great Lakes Orthodontics)
- Delar Wax Pencils (Great Lakes Orthodontics)
- butane torch
- periodontal probe
- Lab scalpel handle & #25 blade
- Denar articulator with white table and mounting plate (WhipMix)
- previously mounted maxillary cast
- mandibular model, groomed; with retention divots
- ruler, pencil
- Snap Stone & Mounting Stone (WhipMix)
- water, spatula, mixing bowl/cup
POWERSLIDE TECHNIQUE
Keep the patient braced in that position for one minute using bimanual bracing.

NAME OF EXERCISE: "CR" Bite Recording with Master's & Delar Wax and Mounting of Mandibular Model

OBJECTIVE:
To record the relationship of the maxillary arch to the mandibular arch while the joint is in a seated position so the mandibular cast can be mounted to the maxillary cast on the articulator.

CLINICAL APPLICATION:
- 1 of 3 occlusal records needed to provide conditions on the articulator that reproduce the actual clinical presentation of vertical and excursive movements.
- Confirmation of stability & repeatability of joint-based bite recording prior to proceeding with definitive diagnoses or restorative procedures.
- An essential recording methodology when the leaf gauge or Pankey Deprogrammer/Lucia Jig cannot be utilized (e.g. missing anterior teeth, fully edentulous, Class III relationships which are past edge to edge).

MATERIALS:
- Master's Wax (Great Lakes Orthodontics)
- Delar Wax Pencils (Great Lakes Orthodontics)
- Butane torch
- Periodontal probe
- Lab scalpel handle & #25 blade
- Denar articulator with white table and mounting plate (WhipMix)
- Previously mounted maxillary cast
- Mandibular model, groomed; with retention divots
- Ruler, pencil
- Snap Stone & Mounting Stone (WhipMix)
- Water, spatula, mixing bowl/cup

Wax Platform (Masters Wax & Delar) Assisted Recording of Centric Relation

Delar Wax Pencil
Masters/Schuyler Wax
The Masters Wax is heated and folded over onto itself enough to fit beyond an average arch form.

The excess is then folded over onto the double thickness portion. Press them firmly together. **Heat the wax in between these steps so that it adheres.**

Cut the lateral excess and also the back corner ‘heels.’
The Masters Wax is then heated around the periphery & then allowed to slightly cool just until the shine is gone from the wax and starts to opaque over.

The Masters Wax is then pressed firmly onto the occlusal surface of the maxillary arch.

It is not necessary or desirable for their to be full capture of the occlusal anatomy but cuspal and incisal edge indentation is necessary. Cool under water.
Cut through the buccal cusp tips of the premolars and molars.

From the cusp tip of the first premolar, make an angled cut toward the lateral edge.
From the anterior cut out a small wedge....

So your platform now looks like this.
Reheat the wax, reseat the wax and fold the wings over the canines for retention.

Have the patient lightly close & using a perio probe mark the approximate area of the lower canine cusp tip.

Carefully add a Delar Wax button to each of the scribed areas. The button should be stacked up to receive the canine cusp tip.
The assistant can use a periodontal probe or a blue spatula to hold the wax platform in place on the maxillary occlusal surface.

Using bimanual guidance, the patient closes into the delar wax button for a slight indent.

It is a common occurrence for one side to miss the canine.
After cooling the delar buttons, remove the wax platform from the mouth and add Delar to the desired area that was missed.

It can then be reseated and the missing area registered.

The Delar should be air cooled and then the platform removed from the mouth.
Delar can then be added to the 2nd molar area. The platform is then re-introduced into the mouth and the patient guided into the canine indents. The molar Delar buttons should then be chilled and the platform removed from the mouth.

The completed platform is then water chilled and ready to be used to mount the case.

While more labor intensive in the registration process, the wax platform method typically requires no trimming of the registration.
NAME OF EXERCISE: “CR” Bite Recording with Leaf Gauge – Accuflow and Mounting of Mandibular Model

OBJECTIVE:
To record the relationship of the maxillary arch to the mandibular arch while the joint is in a seated position so the mandibular cast can be mounted to the maxillary cast on the articulator

CLINICAL APPLICATION:
- 1 of 3 occlusal records needed to provide conditions on the articulator that reproduce the actual clinical presentation of vertical and excursive movements
- confirmation of stability & repeatability of joint-based bite recording prior to proceeding with definitive diagnoses or restorative procedures

MATERIALS:
- leaf gauge (Great Lakes Orthodontics)
- Articulating Film (Ardent Exacta-Film, 19 microns; red/red & black/black; WhipMix)
- Accuflow (Great Lakes Orthodontics)
- Lab scalpel handle & #25 blade
- Black Sharpie marker
- Denar articulator with white table and mounting plate (WhipMix)
- previously mounted maxillary cast
- mandibular model, groomed; with retention divots
- Snap Stone & Mounting Stone (WhipMix)
- water, spatula, mixing bowl/cup

NAME OF EXERCISE: “CR” Bite Recording with Pankey Deprogrammer – Accuflow and Mounting of Mandibular Model

OBJECTIVE:
To record the relationship of the maxillary arch to the mandibular arch while the joint is in a seated position so the mandibular cast can be mounted to the maxillary cast on the articulator

CLINICAL APPLICATION:
- 1 of 3 occlusal records needed to provide conditions on the articulator that reproduce the actual clinical presentation of vertical and excursive movements
- confirmation of stability & repeatability of joint-based bite recording prior to proceeding with definitive diagnoses or restorative procedures

MATERIALS:
- Pankey Deprogrammer (The Pankey Institute Bookstore)
- PVS Adhesive
- Articulating Film (Ardent Exacta-Film, 19 microns; red/red & black/black; WhipMix)
- Accuflow (Great Lakes Orthodontics)
- Lab scalpel handle & #25 blade
- Black Sharpie marker
- Denar articulator with white table and mounting plate (WhipMix)
- previously mounted maxillary cast
- mandibular model, groomed; with retention divots
- Snap Stone & Mounting Stone (WhipMix)
- water, spatula, mixing bowl/cup

NAME OF EXERCISE: “CR” Bite Recording with Master’s & Delar Wax and Mounting of Mandibular Model

OBJECTIVE:
To record the relationship of the maxillary arch to the mandibular arch while the joint is in a seated position so the mandibular cast can be mounted to the maxillary cast on the articulator

CLINICAL APPLICATION:
- 1 of 3 occlusal records needed to provide conditions on the articulator that reproduce the actual clinical presentation of vertical and excursive movements
- confirmation of stability & repeatability of joint-based bite recording prior to proceeding with definitive diagnoses or restorative procedures
- an essential recording methodology when the leaf gauge or Pankey Deprogrammer/Lucia Jig cannot be utilized (e.g. missing anterior teeth, fully edentulous, Class III relationships which are past edge to edge)

MATERIALS:
- Master’s Wax (Great Lakes Orthodontics)
- Delar Wax Pencils (Great Lakes Orthodontics)
- butane torch
- periodontal probe
- Lab scalpel handle & #25 blade
- Denar articulator with white table and mounting plate (WhipMix)
- previously mounted maxillary cast
- mandibular model, groomed; with retention divots
- ruler, pencil
- Snap Stone & Mounting Stone (WhipMix)
- water, spatula, mixing bowl/cup
Replace the white table. Ensure that it is fully seated with the white washer next to the knurl & tighten.

**CRITICAL STEP**
Make sure the condylar lock is engaged!
Place the trimmed & approved on the maxillary model then set the mandibular model into the registration.

It is CRITICAL that there is no gap between the registration and the model.
Before mounting, ensure that there is no spring by pressing the model into the registration. **Note though that because of the angle of the model tipping due to back weight may mimic spring.**

**ALTERNATE METHOD**

For the wax platform & Pankey deprogrammer bite method, the vertical dimension of the bite varies and must be measured to adjust the pin prior to mounting.

**Alternate method**

With the models in MIP, place a dot on the upper & lower model on the midline.
**Alternate method**
Measure the distance between the dots.

**Alternate method**
With the wax platform in place, measure the distance between the dots.

**Alternate method**
Raise the pin the difference between the two measurements.
I prefer to mix Snap Stone a bit runny as it sets quite quickly. This allows for different handling characteristics as it moves towards a gel state.

Due to the amount of stone needed for this step and the procedure being new for you, we would recommend using Mounting Stone rather than Snap Stone for this step.

1st & while still thin is the best time to engage the mounting plate & retention grooves.

As the stone slightly thickens, it can be stacked up taking care to not displace the model.
While holding the model in place, close the articulator until the pin touches the white table. **Keep holding the model until the stone is set!!!

The goal is to have enough stone to secure the cast but not so much as to exceed the finished form.

**For course purposes, more can be better as may not be able to fully groom the casts.

Do NOT attempt to add more stone once the articulator is closed. I will demonstrate how to do this.

After the stone has FULLY set, the bite records are removed and the pin can be fully raised from the table. With Accufilm in place at your patient’s first contact, lightly close the articulator. If you do not see a mark, double the film and check again.

**Do NOT BANG BANG BANG the models together. There is no purpose to this and it will only lead to broken models. Do not destroy all of the hard work that you have done up to this point!
NAME OF EXERCISE:
Protrusive Record and Programming Articulator

OBJECTIVE:
To record the relationship of the maxilla to the mandible while the mandible is in a protruded position and utilize this record to program the condylar inclination on the articulator

CLINICAL APPLICATION:
-1 of 3 occlusal records needed to provide conditions on the articulator that reproduce the actual clinical presentation of vertical and excursive movements
-allows programming of the condylar inclination on the articulator which is essential for accurate replication of the clinical excursive movements for use in diagnostic and restorative procedures

MATERIALS:
-Baseplate wax, extra hard
-butane torch
-lab scalpel & #25 blade
-Denar articulator (320 or 330) with “CR” mounted models
NAME OF EXERCISE: Protrusive Record and Programming Articulator

OBJECTIVE: To record the relationship of the maxilla to the mandible while the mandible is in a protruded position and utilize this record to program the condylar inclination on the articulator.

CLINICAL APPLICATION:
- One of 3 occlusal records needed to provide conditions on the articulator that reproduce the actual clinical presentation of vertical and excursive movements.
- Allows programming of the condylar inclination on the articulator which is essential for accurate replication of the clinical excursive movements for use in diagnostic and restorative procedures.

MATERIALS:
- Baseplate wax, extra hard
- Butane torch
- Lab scalpel & #25 blade
- Denar articulator (320 or 330) with “CR” mounted models

The protrusive bite record is intended as a “point A to point B” record to transfer the angle of the path that the condyle travels down the slope of the eminence to the articulator.
The baseplate wax is heated and folded over onto itself enough to fit beyond an average arch form.

The excess is then folded over onto the double thickness portion. Press them firmly together.

**Heat the was in between these steps so that it adheres.**
The baseplate wax is trimmed in similar fashion as the Masters Wax to extend slightly beyond the arch form.

The protrusive record should be taken at the maximum protrusive but not to exceed 13mm, which is the maximum range that the Denar can accept. The average protrusive range is said to be ~7mm.

**This record is frequently incorrectly referred to as an “edge to edge bite” which would be useless with an edge to edge patient and impossible for a past edge to edge class 3 patient.**
The wax is then heated around the periphery & then allowed to slightly cool just until the shine is gone from the wax and starts to opaque over.

The wax is then pressed firmly onto the occlusal surface of the maxillary arch.

The wax platform can then be removed from the mouth and the mandibular side softened. The platform is then re-inserted into the mouth and indexed onto the maxillary arch.

The patient is then instructed to move into a protruded position and bite into the wax. **It is critical that they close enough for posterior indentations to occur.**

Air cool the platform thoroughly before removing from the mouth.
Carefully remove the protrusive record from the mouth and inspect for sufficient registration. Cusp tips and incisal edges only are required. If you need to re-register, you do not need new wax. It can simply be reheated.

Unlock the condylar lock by flipping it forward to a vertical position.

Fully remove the upper member of the articulator, loosen the screw and set the condylar angle to zero on both the left and right side. Re-tighten the screw.
Place the protrusive record onto the mandibular model.

The maxillary cast, still attached to the upper member of the articulator is indexed into the registration.

*Note—the incisal pin has been fully raised off of the table.

The condylar ball, viewed from the side, should not be touching any aspect of the articulator unless the patient has a zero angle eminence.
Loosen the screw & rotate the eminence until it contacts the condylar ball. Do the right side, then the left then the right again. Re-tighten the screw.

You have now mounted and programmed your patient's records

**Congratulations!**

Let's pair up into our groups and see how the excursions look on the models vs the mouth.