

Dental Anatomy and Occlusion: Bicuspid Wax-Up (Tooth #21)

Armamentarium

PK Thomas #1
PK Thomas #2
PK Thomas #4 or carver
Tooth colored wax
Typodont
Striker
Alcohol lamp
Alcohol
No. 2 pencil

Step 1: Mark the Margins

Begin by marking the margins with a pencil so that you can clearly identify them all the way around.

Step 2: Seal the Margins

Place a coat of wax around the margins in order to seal them. In this demonstration blue wax is used in order to distinguish this step.

Step 3: Remove Excess Wax Around the Margins

Use the carver to scrape the excess wax off by utilizing the root form of the tooth.

Step 4: Place Wax Around Tooth

Place an even coat of wax around the tooth.

Remember that the posterior teeth are waxed differently from the anterior teeth. While the anterior teeth are waxed first for esthetic value with functional considerations second, the posterior teeth are done just the opposite; they are waxed first for functional value and second for esthetic value.

Step 5: Place the Functional Cusp

Place the functional cusp, first, which on mandibular teeth, is the buccal cusp.

Placing small amounts of wax at a time. Build up a cone of wax until it touches the marginal ridge in between teeth number 11 and number 12.

After placing the cusp tip, build the mesial marginal ridge of the buccal cusp.

Step 6: Wax up the Lingual Aspect

Keep in mind that the lingual cusp of number 21 does not have any functional consideration except to keep the tongue away from the occlusal, or biting, surface. It is not a supporting or functional cusp.

Step 7: Evaluate the Lingual Aspect

Review the finished lingual contour of number 21. Remember it is not a functional area of the tooth. Notice that the occlusal table should be left completely open so that the triangular ridges and cuspal formations can be created without intruding on the overall occlusal area. Remember the functional cusp is the buccal cusp and the only functional area of that cusp is the cusp tip itself. The mesial marginal ridge and the distal incisal marginal ridge are not occluding. The only part that is occluding is the very cusp tip of the tooth and the receiving area, which is the distal marginal ridge.

Step 8: Place the Lingual Triangular Ridges

For the purposes of this demonstration, red wax is used to show the formation of the triangular ridges. Simply touch the ball of wax to the occlusal table and pull upward, forming a tip.

Step 9: Add the Distal Triangular Ridge and Mesial Marginal Ridge

Once the lingual triangular ridge of the buccal cusp is in place, add the distal triangular ridge. Here blue wax is used to distinguish this step.

Once the functional ridges are in place, place a small mesial marginal ridge.

Step 10: Evaluate the Wax-up and Occlusal Contacts

Looking at the facial aspect, we can see a small belly with distal and mesial marginal ridges. The orange dot represents the only area of the tooth that is in contact with the opposing teeth. There are no contacts anywhere else.

The lingual view shows an orange triangular ridge on the lingual incline of the buccal cusp of tooth number 21. Represented in blue is the distal triangular ridge with the distal marginal ridge and the elongated mesial marginal ridge which ends with the developmental growth coming toward the mesial lingual aspect of the tooth.

Again the only part of the tooth that comes into occlusal contact is the buccal cusp tip, and possibly, the distal marginal ridge, which receives the opposing lingual cusp tip of tooth number 12.