

## **COURSE NAME : 30.31 Quick Study Model Fabrication**

### **COURSE DESCRIPTION :**

#### **Contents of the Quick Study Models Course**

Plaster study models illustrating the maximum intercuspation of the teeth of a patient have been an essential diagnostic tool for orthodontists for decades. In this time of transition from trimmed hand-held plaster models to intraoral scans of the teeth and digital models, it is essential that dental practitioners know how to fabricate quick plaster models to evaluate the occlusion when the patient is not present. These properly trimmed models should show the habitual occlusion of the patient. They should also be trimmed relative to the stable midpalatal raphe as a reference line to evaluate dental symmetry in each arch.

This course was put together quickly when it was evident that dental students did not know how to pour and trim quick study models so that they would be diagnostic for occlusion. This course should be redone, but until then, it is the only course available online.

**Goal:** to train the student to fabricate quick plaster study models from alginate impressions that are diagnostic of occlusal relationships and dental symmetry.

**Objectives:** At the completion of this course, the student will be able to:

1. Pour alginate impressions using orthodontic plaster.
2. Lay the set arch dentition models on poured preformed bases
3. Trim the poured plaster models so that they will occlude together when placed on their backs on a flat surface reflecting the true occlusion of the patient and trimmed to diagnose dental symmetry.

#### **Sections of the Quick Study Models Course**

This course teaches a method of producing acceptable quick study models. Such models are poured in plaster and trimmed so that they will reflect the true occlusion of the patient when the backs of the models are placed on a flat surface. This course has the following sections:

##### **1. The Final Plaster Models**

Video 00: Objectives of final models



Video 00: Base top and bottom parallel with occlusal plane



##### **2. Mix Plaster and Pour Arch Models Carefully**

Video 02: Mix plaster so it is not runny



Video 03: Pour plaster into the mandibular impression



Video 04: Fill the rest of the impression



Video 05: Pour plaster into the maxillary impression



Video 06: Let the pour ups set for 2 hours



##### **3. Prepare Set Arch Models to Fit in Preformed Bases**

Video 07: Prepare the set models to lay on the poured bases



Video 11: Plan to trim the models so they fit in the bases



#### 4. Marking Midpalatal Raphe to Evaluate Tooth Symmetry

Video 13: Draw a line along the midpalatal raphe



Video 14: Trim the models so you can occlude the teeth together



Video 17: Draw a trim line at the back of the maxillary model



Video 19: Trim the maxillary model so it fits in the base former



Video 20: Trim the model so the center is at the front and back of the base former



#### 5. Trimming Backs Together

Video 21: Trim the backs of the models together



Video 22: Check the fit of the mandibular model in the base



Video 24: Measure the height of the models for pushing into the base plaster



#### 6. Pour Base Formers and Lay Arch Models on Them

Video 26: Mix the plaster for the bases



Video 29: Adjusting the mandibular model's placement in the base



#### 7. Trimming and Finishing Poured Quick Study Models

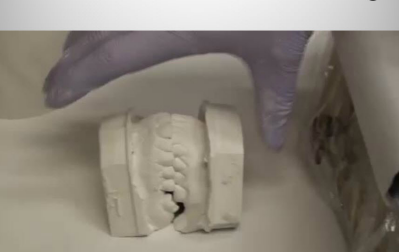
Video 30: Poured models



Video 35: Trimming the backs of the models flush with each other



Video 37: Final models and finishing



#### Learning Activities of the Course

There are about 10 teaching quiz questions embedded in the presentation that help the learner focus on the important points to learn. There are also about 10 Knowledge Quiz questions that are designed to measure learning the objectives of the course. There are several Steps Checklists and Quality Results Checklists to help the student learn the steps of this procedure and evaluate the quality of the final quick study models that will be used to evaluate occlusal relationships and diagnose dental symmetry.

## **SCORM Tracking of Each Student's Learning Activities and Recording on the Student Dashboard Report**

Each student's learning activities such as correctly answering presentation embedded quiz questions, presentation viewing time, Knowledge Quiz completion time, Knowledge Quiz Score, and other learning data, are tracked so that a "learning analysis" can be done for each student and for the quality of each course. This data documents student performance and reports it on the Student Dashboard as well as on the Gradebook. This holds the student accountable for learning. In the future, clinical performance assessment data may be used to identify students who have not learned from the online courses, so that intervention can be made to help the student become proficient. No data is share with any entity. If data is ever used for learning research, all data will be de-identified following research protocol.

### **Who should take this course?**

Every dental practitioner who provides orthodontic treatment to patients should know how to recognize if digital or hand-held study models are accurate to diagnose dental symmetry and occlusal relationships. The practice team should be able to produce quick study models if needed. This is especially important if the dental practitioner is editing digital software that is used to fabricate aligners. If the occlusion is not properly set up in the digital aligner software, the final desired result will not be achieved.

All dentists, orthodontists, residents, and dental students should know how to fabricate quick study models in plaster as described in this course.

This course should be taught to all orthodontic residents, dental students, dental hygienists, dental assistants, and orthodontic assistants when they are in training.