

## FEATURED PROJECT: VIRTECHS - VIRTUAL TECHNIQUES IN DENTISTRY

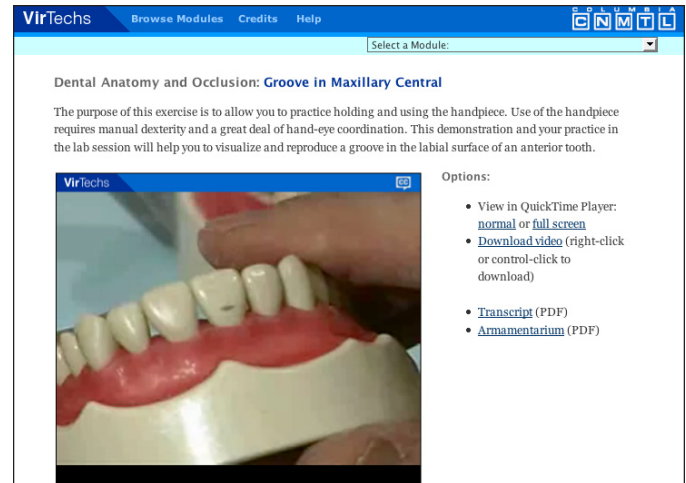
CCNMTL and the College of Dental Medicine have collaborated to create Virtual Techniques in Dentistry (VirTechs). This interactive Web-based dental laboratory manual provides students with access to detailed instruction on procedures and treatments. The VirTechs collection includes video demonstrations, instructions, and supplementary materials to support learning of dental procedures. These demonstrations support the pre-clinical and clinical curricula, but residents also find the videos to be a useful review resource. Currently, there are videos in the following subjects: Dental Anatomy and Occlusion, Pediatrics, Endodontics, and Operative Dentistry.

There is a clear need for novice dental students to build a framework of basic skills before carrying out surgical procedures on patients. But the difficulties posed in actual demonstration of clinical procedures in class have always been formidable, especially in large class settings where one instructor demonstrates to the entire class. The small size of mouth and dental models makes it challenging to capture clear visuals, so the production team used special photography and videography techniques in order to capture clear close-ups of each procedure.

This multimedia video repository allows for self-paced study and can potentially increase overall student achievement. Demonstrations that can be difficult to follow in a laboratory setting are now available on the Web for ready and repeated access.

VirTechs not only enables students to learn and practice dental procedures at their own pace, it also makes efficient use of faculty time while serving as a useful pedagogical complement to basic skills training. Instructors are able to dedicate more classroom time to discussion and individualized support.

VirTechs introduces new approaches in video technologies to offer a personalized learning experience. Students can view videos online, download the video files to their personal computers, or access the VirTechs video podcast. Text captions and video chapters allow for greater control and self-pacing during study. To supplement the videos, each procedure features an audio transcript, descriptions of the armamentarium – with color pictures of the instruments – and other study guides.



Video demonstrations of procedures are supplemented with transcripts and additional links to support the preclinical and clinical curricula at the College of Dental Medicine.



The videos are made available on the Web site or as video podcasts that can be downloaded to students' iPods.

To assess the effectiveness of VirTechs, CCNMTL employs both formative and summative evaluation techniques, including usability testing, focus groups, and student and faculty questionnaires. Student evaluation of VirTechs confirmed that the online videos enabled them to pace their learning, thereby promoting greater flexibility and independence.