# Dental Measurement Tools for Accurate Crown Taper and Finishing Line Preparation

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## Technology description

### Measures the Tapering Degree of the Side Wall of a Tooth and Finishing Line Depth

This set of simple dental instruments can be used to accurately determine the quality of a patient’ s crown taper by measuring the angle of inclination and finishing line depth. Crown tapering is a common procedure in which a dental practitioner removes unhealthy tooth material in order to prepare it for the attachment of a dental prosthetic. These dental prosthetics require very specific tapering angles of the tooth walls and finish line depths to ensure proper restoration for the patient. A taper angle either lesser or greater than the recommended range will compromise the integrity and longevity of the crown. However, no available tools quantitatively measure either taper angle or finishing line depth and dentists must estimate the angle, which can lead to inaccuracies during the procedure. Additionally, more than 40,000 dental school graduates each year must pass a board exam testing this technique to be licensed. Without quantitative measurement tools that determine taper angle and finishing line depth, students face subjective evaluation for these important professional tests.
Researchers at the University of Florida have developed measurement tools that allow dentists to accurately measure the tapering angle of the tooth wall and finishing line depth. This tool improves the preparation of teeth for crowning and other dental prosthetic procedures.

## Technology

These measurement tools aid dentists by increasing accuracy when preparing teeth for a crown. The tools consist of a series of probes with fixed angles or depth measurements that allow the dentist to easily determine the actual taper angle and depth of the finishing line.

## Application area

Simple and inexpensive set of dental tools that measure the angle of the taper and the finishing line depth on a tooth ready for a crown

## Advantages

Improves accuracy of prosthodontic procedures
Provides examiners with objective grading criteria for Manikin-based dental examinations, increasing the reliability when administering marks
Offers practicing and prospective dentists a color-coded system corresponding to specific angle measurements and finishing line depths, making crown preparation more consistent

## Institution

University of Florida

## Inventors

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Courtesy Professor