

# Centric Relation: Didactic or Practical?

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Is centric relation only a didactic tool for the dental student and novice dentist, and if not so, why is it such an enigma or obscure belief?

Centric relation is defined as the most posterior relationship of the mandible to the maxillae where the anatomy of healthy muscles and joints can comfortably guide the mandible into a closed position prior to any tooth contact. It is a reproducible relationship with a hinge-type of opening and closing. It is often used to mount diagnostic casts on an articulator for the purpose of discovering the location of the premature contacts which minutely deflect the jaw forward and/or laterally. Most people have premature contacts on centric relation closures without experiencing any problems. Proprioceptive nerves surrounding the roots of all natural teeth send signals to the temporomandibular joints which enable the mandible to avoid closing onto the deflective tooth contacts, thus avoiding problems which might develop from bruxing on them (sensitivity, fremitus, TMD, facets, etc.). With the totally edentulous patient centric relation is used to help determine the desirable vertical and horizontal relationship for the complete denture maximum intercuspal position (MIP).

Dr. Woelfel has studied, observed and used centric relation for sixty-six years and he firmly believes that no one (dentulous or edentulous) experiences problems when provided with centric relation occlusion (CR = MIP). In fact, both retention and stability usually improve with complete dentures when the two positions coincide.

How to best obtain and record centric relation on dentulous patients: the mandible should first be deprogrammed or tripodized (each temporomandibular joint plus an incisor stop or anterior guide). With the patient's head tipped backwards, explain and rehearse the entire procedure of closing the retruded jaw firmly onto a leaf gauge or sliding forward and then backward into centric relation several times on the sliding guide. Be sure that the patient maintains the final closed centric relation position on the leaf gauge or sliding guide while you prepare and make the registration.

How to best record centric relation on edentulous patients: Using a large mirror, have the patient watch closely as they move their jaw forward and backward several times with your thumb gently on their chin. Tell them when their jaw is in the correct backward position. You should feel the mandible pop back into centric after the patient has protruded and then retrudes. Explain that this is the "back" position that you want to record. Have the patient practice opening and closing a few more times in the "back" position before recording it. The centric relation registration should be made with the mandible

opened about 2 millimeters from the established vertical dimension, using a fluid material like quick-set plaster or polyvinylsiloxane. You should never use the word “bite” when recording centric relation because people are so used to protruding their jaw when they incise or bite something off. Avoid the commonly used method “put your tongue back in your throat and close up” method. It is quite easy to protrude your jaw with your tongue back in the throat and this procedure usually displaces the mandibular trial base or occlusion rim.

Good luck recording centric jaw relation now that you can appreciate how valuable and important a position it is. Centric relation is relatively easy to locate and record on the majority of patients. Utilizing it should add to the success of your practice.

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