

To track the condyles to a stable position during splint therapy:

It is necessary to have a base line records. At least one set of mounted casts (mounted with ear bow and a open bite centric relation record.) A wax “mush bite” in Centric Occlusion (CO) should also be taken before splint therapy and saved for future stabilization of casts in CO or Maximal Intercuspal Position (MIP) when determining a slide or a fulcrum.

Apply graph papers to both vertical and horizontal graph supports. Place original mounted casts on the CPI system with the original centric relation (CR) record between the casts. Using mylar marking ribbon, mark all three graphs. The points marked should be on or near the cross lines of the graph papers (depending on the placement of graph papers and accuracy of the mounted casts). This is the Number One (or base line) position. With a boley guage, record the vertical dimension from the CE junction of the right or left maxillary central incisor to the CE junction of the mandibular central incisor when the CR record is between the casts.

After a couple of days to a week of anteriorly guided CR splint therapy, take a new centric relation record of the patient’s jaw position. Use a boley guage to obtain approximately the same vertical deminsion (as in the original CR record) in the anterior compound jig of the new CR record. Place the new CR record between the original mounted casts and mark all three graphs with mylar marking ribbon. The points marked will usually be going either to the superior-anterior (upward and forward) quadrant or sometimes in the superior-posterior (upward and backward) quadrant of the vertical graph papers. This would indicate a superior positioning of the condyles. This is the Number Two position.

Take a new CR record, with the anterior compound jig at the original vertical deminsion, each week the patient is in for CR adjustments of the splint. Place the new CR record between the original mounted casts and mark each graph with mylar marking ribbon. Track the positions of the condyles with original mounted casts on the CPI each week of splint therapy. Do this until the points on the vertical graph papers remain in the same position for two or three consecutive weeks. This would indicate a stabilization of condylar position in centric relation. These are the Number Three and Number Four positions.

The horizontal graph is for measuring lateral horizontal shifts of the mandible during CR splint therapy.

API / CPI Information (Part II)

To determine CO/CR discrepancies (slide vs. fulcrum):

After stabilizing the joints with anterior guided CR splint, it is necessary to mount a set of casts with a new CR record to the new stable condylar position. Place the mounted casts on the CPI with new stable CR record between the casts. Using mylar marking ribbon, mark all three graphs. The points marked should be on or near the cross lines of the graph papers (depending on the placement of graph papers and accuracy of the mounted casts). This is the true stable CR position of the condyles, and mandible.

Now place the original CO wax “mush bite”, taken prior to splint therapy, between the casts and mark all three graphs with mylar marking ribbon. The points marked should be going either to the inferior-posterior (downward and backward) quadrant or the inferior-anterior (downward and forward) quadrant of the vertical graph papers. This would indicate either a slide or fulcrum positioning of the condyles. This is the CO position of the condyles, and mandible.

Any marks in the inferior-posterior (downward and backward) quadrant of the vertical graph papers would indicate a fulcrum displacement of the condyles in CO. Marks in the inferior-anterior (downward and forward) quadrant would indicate either a pure slide or part slide/part fulcrum position of the condyles in CO.

To prove whether the CO position is pure slide or part slide/part fulcrum, you can overlay the patient’s protrusive pathway tracing from the Axi-Path Recorder in the inferior-anterior quadrant of the vertical graphs on the CPI. You can also use the clear Axi-Path Protractor and rotating to the patient’s protrusive angulation. If the mark is on the patient’s pathway, that would indicate a true slide. If the mark is below the patient’s pathway, the distance forward from the vertical cross line would be slide and the distance down from the patient’s pathway would be fulcrum.

The horizontal graph is for measuring lateral horizontal shifts of the mandible from CR to CO.