



# Aligner Bio-Mechanics!

**By: Dr Willy Dayan**

## **Willy Dayan's *Golden Rules of Invisalign Bio-mechanics*:**

**1) Think Like Plastic and Feel Like a Tooth:** Invisalign is a removable appliance and thus cannot glue to teeth in order to "pull" them; the aligner can only "push" on surfaces of the teeth or surfaces of attachments. When a force is placed upon a tooth, it will move according to biomechanical principles that exist, no matter what the computer screen shows.

**2) The Clincheck Video is not Teeth Moving:** Stop watching the ClinCheck movements as "moving teeth"! Think of the images as representing the anatomy of the "changing inner aligner surfaces", and then analyze the resulting forces the aligner will exert upon the teeth.

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## Other important ***THINKING IN INVISALIGN:***

- ✓ Comprehensive orthodontic analysis is still required to assess malocclusions.
- ✓ Teeth still move according to traditional bio-mechanical principals.
- ✓ Reduce preferences to allow software to help the ClinCheck process.
- ✓ Always ask yourself....What is the push surface for that movement?
- ✓ Stage movements of teeth to maximize useful push surfaces for required movements.
- ✓ Be familiar with what is the push surface on any attachment used.
- ✓ Move attachments on teeth to the best place for aligner contact.
- ✓ Anticipate need and use of auxiliary mechanics (buttons, elastics, braces, Tads).
- ✓ Know when to expect and plan refinements to improve clinical efficiencies
- ✓ Stress patient cooperation!!!!
- ✓ Aligners are like wires, they bend and flex, so do expect to overcorrect movements in the same dimension as with other orthodontic appliance systems.

**WORK SMARTER.....NOT HARDER!**

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