



Getting It Straight

by Dr. Kirk Christensen,
Woodstock's Orthodontic Specialist

Q: *How do wires and braces move teeth around?*

A: It's a great question and fun to answer, because the technology behind orthodontic brackets and wires is amazing.

!Attached braces, are called fixed appliances, as opposed to removable ones, like retainers. Patient's prior to the late 1970's will recall bands around all of their teeth. Today, bands are usually only on molar teeth, and tiny "brackets" have replaced them on the more visible teeth. Brackets are made of stainless steel, or cosmetic clear ceramic. The brackets have a slot where the arch wire fits. Each tooth has it's own special bracket with a slot designed to move that particular tooth a certain way. The position of the bracket on the tooth is also necessary to achieve ideal tooth alignment. The brackets are "glued" to the teeth on the cheek and lip side (and in some cases, the tongue side) surfaces. The bonding agent is similar to the tooth colored material used to repair decayed and broken teeth. It is strong, but quick shearing forces will release it.

!Great strides in wire technology were made in the 1980's. For years, stainless steel wire was THE choice in orthodontics, and although it is still used today for its ability to be bent into shapes, Nickel-Titanium (a.k.a. Niti, pron: nye-tye) has taken a front seat, especially in early stage wires. Niti's fame lies in it's ability to be distorted into radical shapes and magically return to its original form (for our purposes, the somewhat oval shape of a dental arch). This wire's "memory" is wonderful when teeth are very crowded, rotated or not level with each other. Niti wire can be tied (ligated) into the brackets repeatedly over a few months to deliver an even, gentle force that makes the teeth line up. This wire has made braces much less painful! After initial alignment, we are able to advance to thicker, stiffer wires, using both Ni-Ti and stainless types. Elastic rubber bands are used at this stage to move individual teeth or tooth groups in various directions to gain an ideal bite. This simplified explanation should give you a basic idea of the mechanics of fixed orthodontic appliances.

!Dr. Christensen's column appears weekly in the Northwest Herald. Questions to be answered and treatment inquiries may be directed to: **Woodstock Orthodontics, c/o Kirk H. Christensen, DDS, 226 West Judd Street, Woodstock, IL 60098, Phone: 815-337-5522**