

Anthony Quinn
Actor, Sculptor, Painter



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Persuasive
Force

today's chiropractic

READ BY CHIROPRACTORS AROUND THE WORLD
THE MAGAZINE THAT REFLECTS THE LIFE PRINCIPLE IN CHIROPRACTIC

Atlas Orthogonal Percussion Adjusting Instruments

Percussion Force



by Roy W. Sweat, D.C.

About the Author: Dr. Roy W. Sweat's practice is in Atlanta, Georgia. He is a graduate of Palmer College. In 1952, he began a course of study specializing in the upper cervical occipital-atlanto-axial complex under Dr. John F. Grostic. Dr. Grostic chose him as an instructor at his seminars. Sweat completed a three-year program in chiropractic orthopedics from the National College and is an associate professor at Life College.

Dr. Sweat designed the cervical analysis instrument. In 1981 he created the program of chiropractic Atlas Orthogonality and wrote a series of five books. Dr. Sweat has designed a chiropractic adjusting instrument and also a series of x-ray machines and the orthogonal adjusting tables.

The first instrument we made had settings varying from one-sixteenth inch to one-half inch depth thrust. The second series of instruments had one-sixteenth inch to one-quarter inch depth thrust which was 50 per cent less depth than the original. The third series of instruments we made had settings varying from one-eighth inch to one millimeter depth thrust, which was 50 per cent less depth than the second. The newest series of instruments we have made is a percussion instrument with zero depth probe.

In the early phases of our instrument adjusting, the patient was adjusted with a one-quarter inch depth and found it was not satisfactory. Our first reaction was to adjust harder and we went to three-eighths inch depth. We found the post x-rays and post clinical examinations were not as good. We then went to a lighter thrust of 3/32 inch depth. We found in forward thrusting adjustments, the force had to be reduced for the best findings in post clinical examinations and post x-rays.

The following statement is from Dr. Eugene T. Patronis, Jr., Ph.D., School of Physics, Georgia Institute of Technology, after examining the percussion instrument, "I would describe the operation of your device as follows: A mechanical impulse is imparted to a metal stylus by means of a spring loaded plunger. The strength of this impulse is determined by the initial degree of compression given to the plunger spring. The impulse imparted to the stylus by the plunger excites a compressional wave in the stylus. The

velocity of this wave in the stylus material is determined by the square root of the ratio of the Young's modulus to the density of the stylus material. At the patient-stylus interface, dependent on the impedance match, a portion of the wave energy is transmitted into the patient and a portion is reflected back to the plunger."

Adjusting Vertebral Subluxations Within Their Normal Range Of Motion

A subluxation is a consistent relative misalignment within the normal range of motion of the vertebrae. A luxation is a misalignment outside the vertebrae's normal range of motion which is not our chiropractic service. We must move the vertebrae within their normal range of motion and return them to their normal or neutral position.

The normal range of motion between the atlas and the occipital condyles is only approximately five degrees without abnormalities. Converting five degrees to lineal measurement on a three-inch diameter circle is 1/18 inch or 3.18 millimeters.

One of the problems in adjusting is to complete the adjustment and move the atlas within its range of motion before the body's resistance is met and the articulations close and then move together.

There are no interosseous locks in the occipital-atlas-axial articulation. White and Panjabi state, "The spine with its ligaments intact but devoid of muscles is an extremely unstable structure." That leaves only the muscles and, in forward probing ad-

justing, the harder and deeper the thrust, the more the muscles contract and the body resists.

When the atlas does not move correctly, it is the wrong approach to try to adjust it harder. The lighter the thrust the better the atlas will move within its articular beds and post x-rays will show better reductions.

Dr. John F. Grostic, in his hand adjusting procedures, stated that the tricep action was inward, or medial, not downward.

Light Is Right

It is my understanding that some of the other table instruments' procedures have reduced their depth thrust 50 per cent, from one-fourth-inch depth to one-eighth-inch depth. Now most doctors using the hand-held instrument set it at one of its lowest possible depth thrusts.

In the future, all adjusting procedures will be based on, and conform to, the architectural structure and anatomy of the joint involved. I think we are fortunate that the light adjustment -

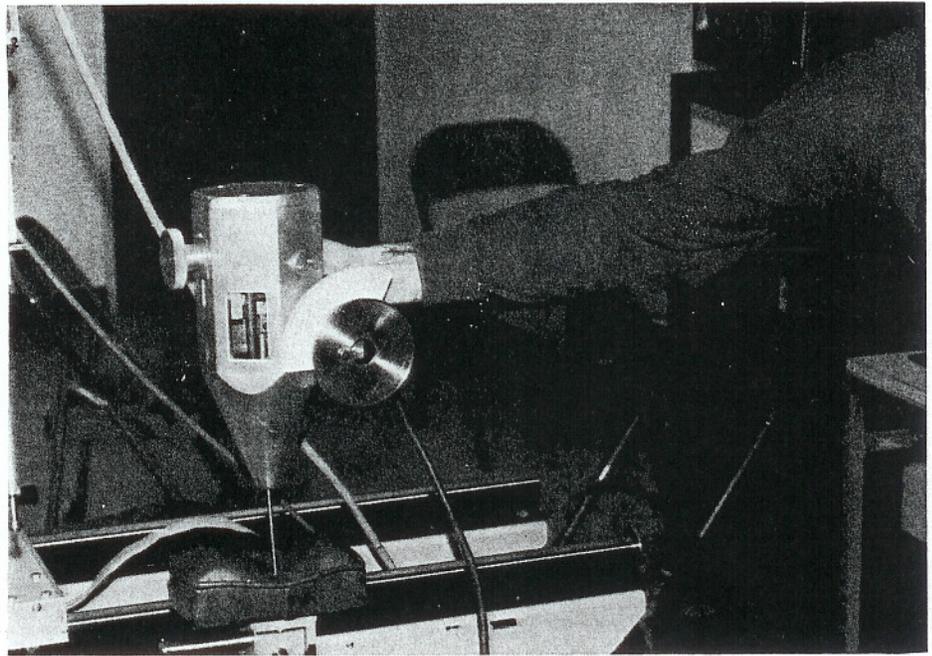
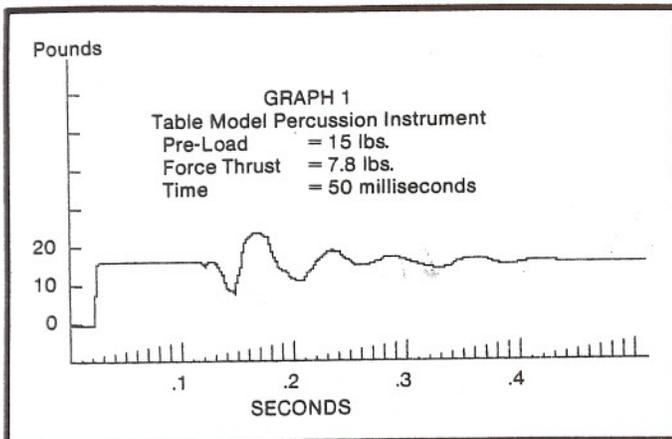


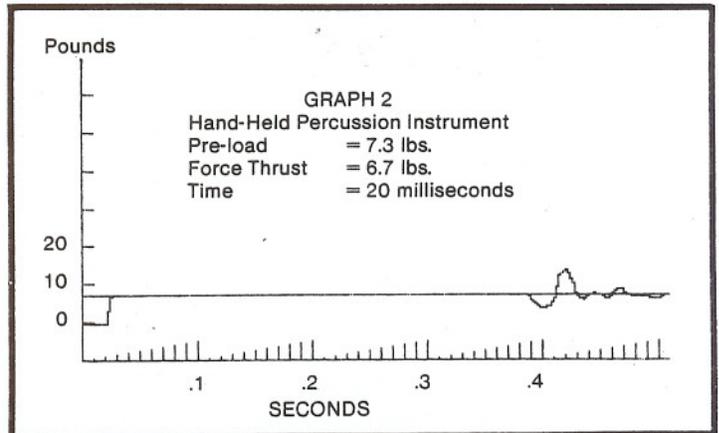
Table model percussion instrument

“See Graph 1”

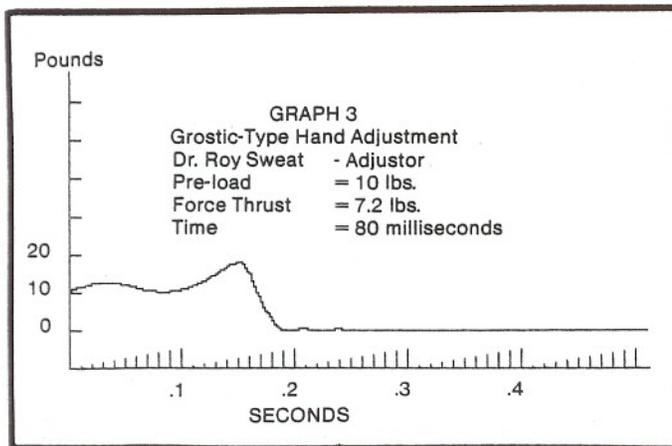
The following tests were performed on the adjusting transducer at Life Chiropractic College Research Center.



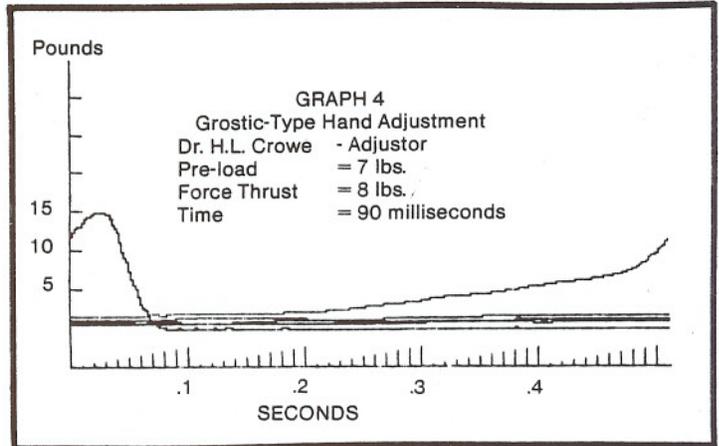
Graph 1



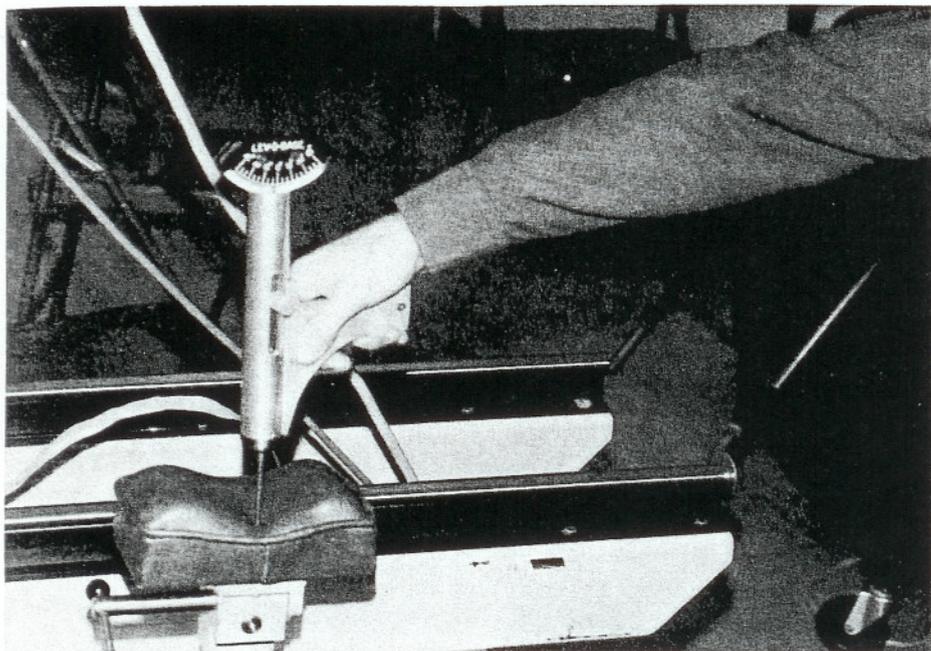
Graph 2



Graph 3



Graph 4



Hand-held percussion instrument

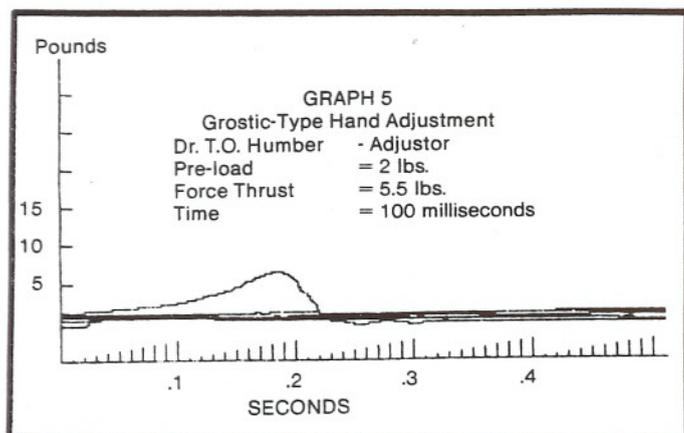
"See Graph 2"

which many times the patients say they do not feel – is favorable to our adjusting procedure in the long run. Chiropractors themselves often think they have not given enough thrust. I think it would be unfavorable for chiropractic if it DID require hard forceful adjustments to move the atlas. The lighter or shorter the adjustment thrust can be performed, the better the results will be in the structural changes in the atlas and cervical area. ■

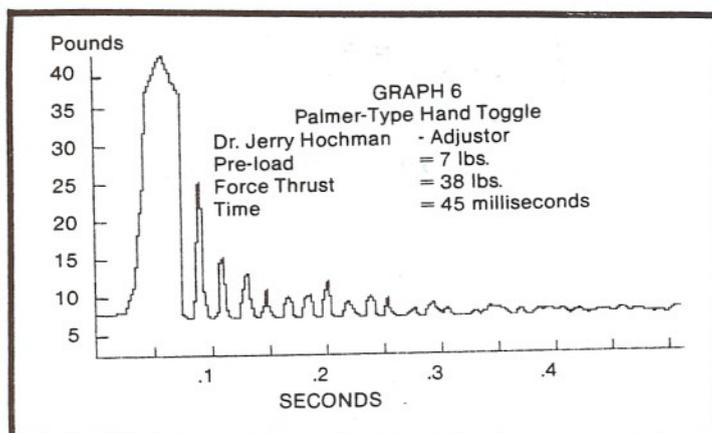
References

1. Dr. Eugene T. Patronis, Jr., Ph.D., School of Physics, Georgia Institute of Technology.
2. Clinical Bio-Mechanics of the Spine, W.W. White and M.M. Panjabi, Lippincott Company.
3. Percussion Adjusting Instrument, manufactured by Precision Industries, Inc., 240 Cranfill Road, Marietta, Georgia, 30060.
4. Dr. Roy W. Sweat, D.C. - Case History Studies, Pre and Post X-Rays.
5. Dr. John F. Grostic - Grostic Seminars
6. Transducer, Interface Manufacturing Co., Scottsdale, Arizona
7. Life Chiropractic College, Research Department, Dr. Ronald S. Hosek, and Ed Owens

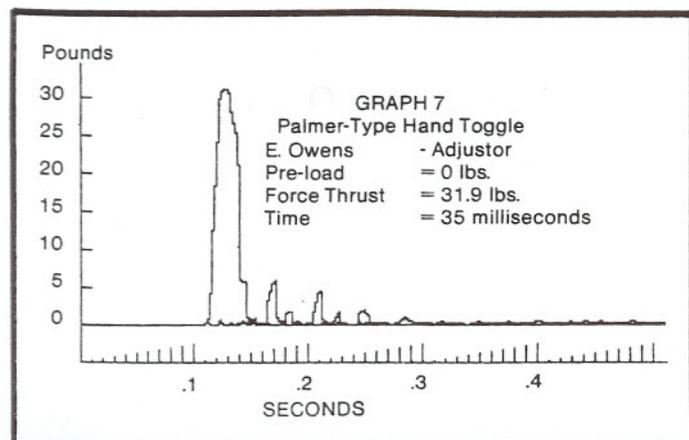
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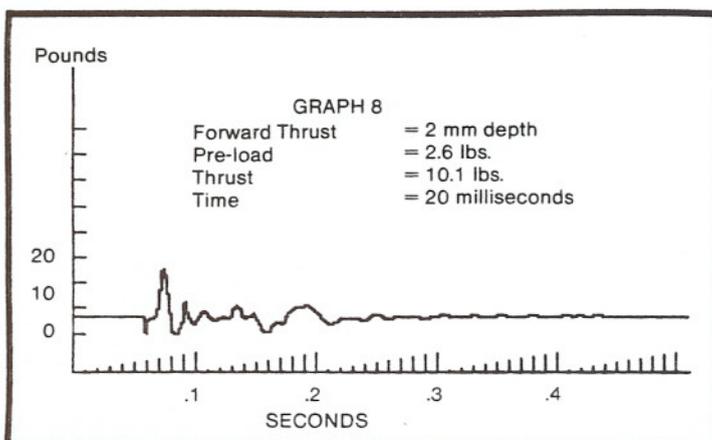
Graph 5



Graph 6



Graph 7



Graph 8