

THE DIGIT EXERCISER

ANNOUNCING! A NEW TOP PRIORITY AUXILIARY EXERCISE

Editor's Note: During the past five years, Dr. Blauer Bangerter has conducted research on his new innovation: The Digit Exerciser. The following is a summary of that research completed at Brigham Young University.

I feel the Digit Exerciser which strengthens the fingers and toes in a progressive resistance system can produce significant gains heretofore not possible. More research information will be presented in our next issue.

Six master's theses have been completed using the digit exerciser and one Ph.D. dissertation has been completed. Four of the studies provided as treatment Progressive Resistance Exercises (PRE) for toe flexor muscles, causing articulation at the metatarsal phalangeal joints. Protocol required 3 to 5 sets of 4 to 6 repetitions maximum (RM). The frequency was 2-3 times per week. Lengths of the studies were from 8-12 weeks. Pre and post testing were used in all studies. Strength gains were measured by a cybex machine and by work load gains. Men and women, athletes and non-athletes were used as subjects. All treatment groups recorded very significant strength gains (28-66%). Groups working 8 weeks showed gain trends in vertical jumping, but the 12-week groups had statistically significant vertical jump gains. One of the 12-week groups used a 40-yard dash. Electronic times were recorded at 1 yard, 5 yards, 20 yards, and 40 yards. Accelerations were computed for the 1-5 yard and 5-20 yard intervals. Maximum velocity was recorded for the 20-40 yard interval. The toe exercise group had statistically significant improvement in acceleration for 5-20 yards and in velocity for the last 20 yards of the 40-yard dash.

Two of the studies exercised fingers, isolated at the metacarpal phalangeal joints. Both used 3 sets of 4-6 RM 3 times per week for 12 weeks.

One group used the 16-lb. shot and the 6-lb. shot in the putting action. The statistically-significant increase for the 16-lb. shot was 4% and, for the 6-lb. shot, it was 14%.

The other study used a 5-oz. ball and a radar gun to measure velocity increases. They were about 1.5%, which was not statistically significant, likely due to the fact that unstrengthened fingers could cope with a weight of 5 oz.

The remaining items from these studies exercised wrist and finger flexors as a unit. One study on a total body strength program used the 5 oz. baseball throw and increased velocity 4.5%, while a similar group exercised all body parts, except wrists and fingers, and increased 3.6%. These gains were statistically significant. The difference between the two groups was not statistically significant; however, only 24 exercise periods occurred in the 12 weeks.

In the other study, a pilot study with men cut from the



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BYU Junior Varsity Basketball team, the overhead basketball pass velocity was measured by means of a radar gun. This group in 3 exercise times per week for 9 weeks gained 10.7% in velocity. Three point range shooting accuracy increased 4%. These gains were statistically significant.

Other studies are still in process.

The Ph.D. study by Juoko Kokkonen has been accepted by Research Quarterly for Exercise and Sport. Two of the other studies are in process for submission to Research Quarterly.

Thirty machines have been built and marketed. Brigham Young University has bought 9; 4 went to P.E.-Sports, 4 went to Athletics, and 1 went to Dance. Five of them have gone to rehabilitation programs. One of these is at Utah Valley Regional Medical Center. Three are in California, one for use in therapy school research at College of the Pacific. Four are in high schools in Utah. Several have gone to private individuals, such as Doug Padilla, world-class 2000-meter runner, Cheryl Harper, U.S. Marathon Cup Team member, currently (April 1987) in Korea running with the U.S. Women's Team.

In summary, research and experience of many individuals suggest that prolonged use can help in throwing, shot putting activities (from wrist and finger strength gains) and in all running and jumping activities from toe strength gains.

Since no other device exists to systematically exercise these body members, it is becoming useful and popular in rehabilitation as well as in sports and athletics.

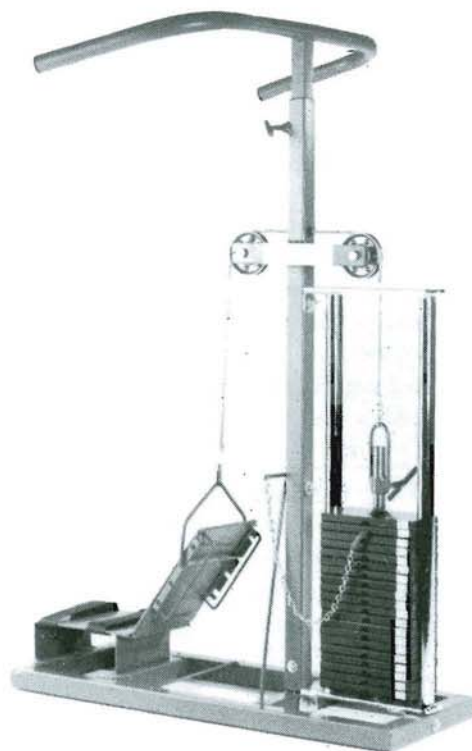
After studying the motor cortex area, one sees a large proportion is devoted to the function of the digital areas of the body. This may be a possible explanation as to why these exercises are so helpful.

SEE AD ON THE NEXT PAGE

INTRODUCING

**STRENGTHEN:
FINGERS
TOES
WRISTS**

**IMPROVE:
JUMPING
SPEED
POWER**



THE DIGIT EXERCISER



To exercise fingers, place hand "palm-down" on the platform. Align knuckles at the base of the fingers directly over the hinge for maximum efficiency. Secure velcro strap snugly over the hand. Without raising the palm, press the fingers forward in a rapid, even motion — held for 5 seconds — and release quickly. Repeat immediately.*

For wrists, place one arm on the platform with the wrist joint directly over the hinge. Secure the velcro strap snugly over the top of the arm. With the hand "palm-down" and the fingers together on the pedal, press forward in a rapid, even motion — held for 5 seconds — and release quickly. Repeat immediately.

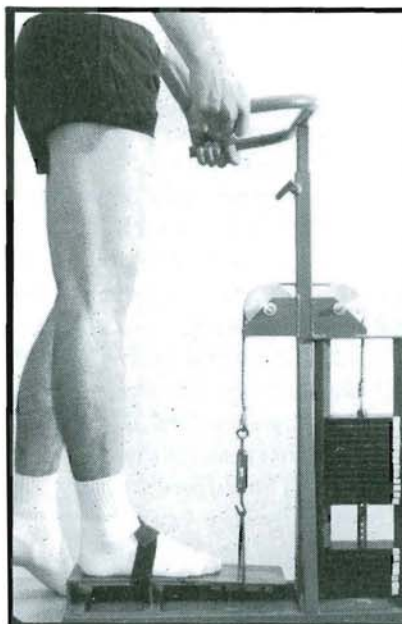
Use 5 repetitions maximum. Rest at least 1 to 24 minutes between bouts on the same member.

For toes, remove shoes and place one foot on the platform. Align joints of the big and little toes directly over the hinge. Secure velcro strap snugly over the foot. Standing erect (using the other leg

and the handlebars only for support), press the toes forward without bending the knee or raising the heel. Press the pedal forward in a rapid, even motion — held for 5 seconds — and release quickly. Repeat immediately.*

Use 5 repetitions maximum. Rest at least 1 to 2 minutes between bouts on the same member.

For details for your Digit Exerciser call or write:



**TO ORDER:
CALL TOLL-FREE
1-800-628-9737**

**or
WRITE
BFS**

**805 West 2400 South
Salt Lake City, Utah 84119**