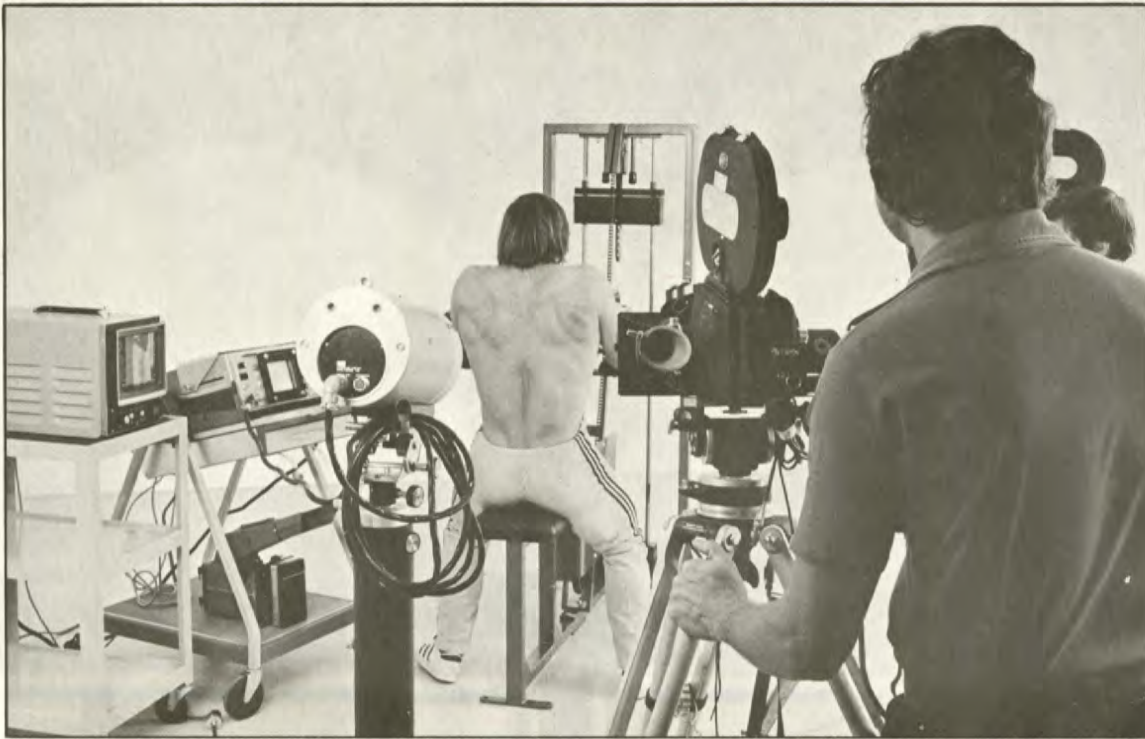


a new approach...

to the problem of neck injuries in sports

by arthur jones



Neck Injuries: Research and Training

Injuries to the neck are the most common cause of death in football . . . but, until recently, no practical method of development existed for this important segment of the body. To the extent that the muscles and connective tissues of the neck and shoulders can protect the neck against injury, this problem has now been solved . . . in a simple, practical and realistic manner.

The muscles of the neck and shoulders are perhaps the easiest muscles in the body to develop . . . when they are provided with direct exercise; the problem has been that there was no practical method of providing such direct exercise. The exercises that have been available were clumsy, difficult to perform, uncomfortable, and sometimes even dangerous . . . in short, previously existing exercises for the neck were not practical; and, as a result, this important section of the body has been largely ignored.

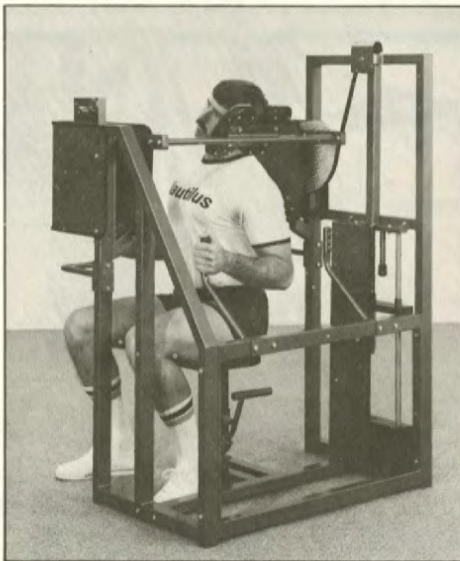
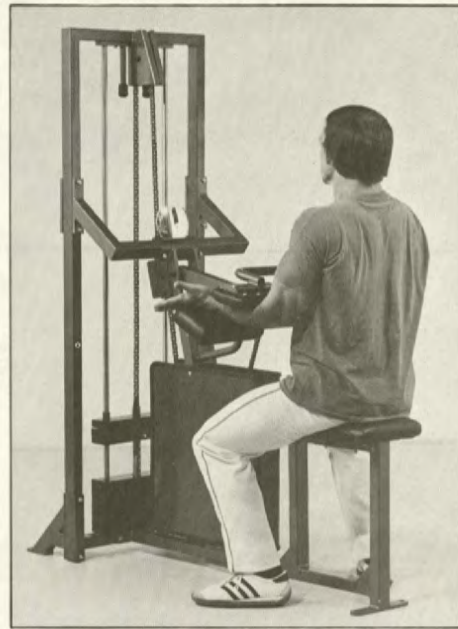
The muscles of the neck are capable of producing movement in seven different directions . . . (1) elevation of the shoulders (shrugging) . . . (2) flexion of the neck (moving the head down towards the chest) . . . (3) extension of the neck (moving the head to the rear) . . . (4) lateral contraction of the neck to the right (moving the head down towards the right shoulder) . . . (5) lateral contraction of the neck to the left . . . (6) rotation

of the head to the right (moving the head to look over the right shoulder) . . . and (7) rotation of the head to the left.

In order to provide the greatest possible degree of protection to the neck, all of these functions of the neck muscles must be provided with direct, full-range exercise. When such exercise is properly provided, the response of the neck muscles is immediate; probably because the muscles of the neck are exposed to so little in the way of hard work during the course of normal living, these muscles respond to exercise very rapidly. So proper development of the neck muscles is not a matter of years . . . instead, it is a matter of weeks; nor does it require long, frequent training sessions . . . in practice, less than twenty minutes of proper exercise performed over a period of a week is all that is required for full development of the muscles involved in all seven types of neck movement. In a closely supervised research program conducted in April and May 1975, 19 subjects increased the strength of their necks an average of more than 91% as a result of only 12 workouts conducted over a period of six weeks.

The workouts were performed two times weekly, and only one set of each exercise was performed during each workout.

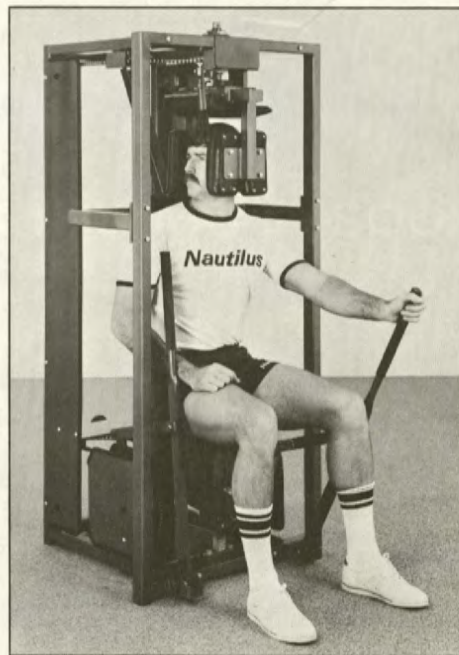
The **Nautilus Neck and Shoulder Machine** meets all of the requirements for providing an almost perfect form of exercise for several of the largest and strongest muscles of this important part of the body . . . while simultaneously removing all of the problems associated with barbell shrugs or other exercises for these same muscular structures.



The **Nautilus 4/Way Neck Machine** provides exercise for four of the seven basic movements possible for the neck . . . anterior flexion, posterior extension, and lateral flexion to both the right and left.

Proper utilization of this machine requires the performance of one set of approximately 12 repetitions of each of the four exercises, using as much resistance as possible while maintaining good form . . . moving fairly slowly during the positive (lifting) portions of the exercises, pausing briefly and holding the contracted positions, and slowly lowering the resistance during the negative portions of the movements.

The **Nautilus Rotary Neck Machine** contains no weight stack, no built-in source of resistance of any kind . . . instead, the resistance is provided by the user, through the use of hand levers that enable you to exactly control the resistance during both the positive and negative parts of the two exercises.



The Nautilus Cervical Flexor provides exercises for four of the seven basic movements possible for the neck: anterior flexion, posterior flexion, lateral flexion, and lateral rotation to both the

Neck Injury Research

performance of one set of approximately 12 repetitions to 15 minutes each of these exercises. Numerous scientific studies have shown that regular use of the Cervical Flexor can help reduce the risk of neck injury and improve the performance of one set of approximately 12 repetitions to 15 minutes each of these exercises. Numerous scientific studies have shown that regular use of the Cervical Flexor can help reduce the risk of neck injury and improve the performance of one set of approximately 12 repetitions to 15 minutes each of these exercises.

For additional information please contact:

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