

17. Extension - Metacarpophalangeal Joint:

Wrap rubber band below middle phalangeal joint. Begin with the entire straight finger flexed only at the knuckle and stabilize the opposite end of the band. Extend the straight finger upward to full extension and return to flexion.



17A

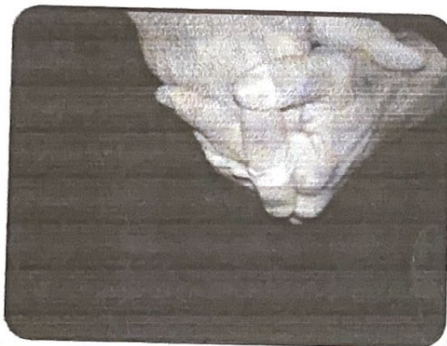


17B

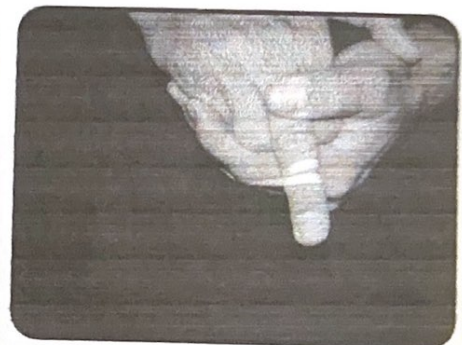
Exercise for extensor digitorum muscles. Perform 3-5 sets of 10. Progress to 3-5 sets of 20. Increase speed as capable.

18. Extension - Middle Phalangeal Joint:

Exercise to develop the finger extensor muscles. Wrap the rubber band above the middle phalangeal joint. Stabilize the area below the middle phalangeal joint with the opposite hand. Bend the middle phalangeal joint and anchor the end of the rubber band.



18A

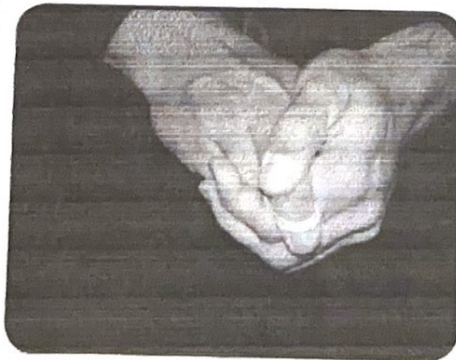


18B

Extend the middle joint against the resistance. Perform 3-5 sets of 10 repetitions gradually increase to 3-5 sets of 20 repetitions.

19. Distal Phalangeal Joint:

Wrap the rubber band around the distal phalangeal joint. Anchor the other end of the band. Place the free hand (thumb-index finger) around the rest of finger below the distal phalangeal joint. Extend the end of the finger only emphasizing the extensor digitorum



19A

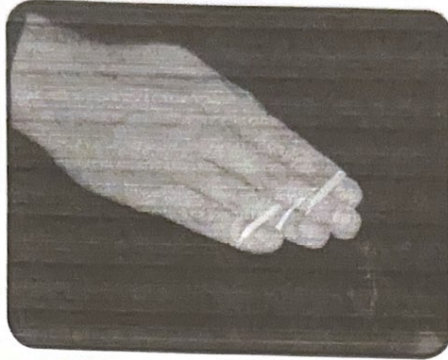


19B

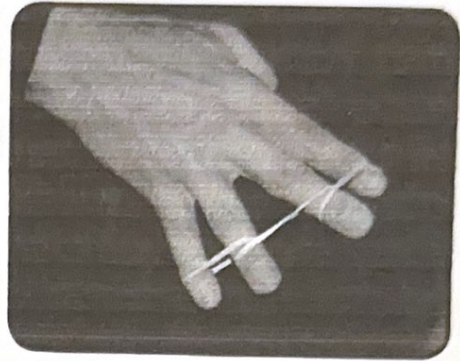
longus. For developing stamina, strength, skill and dexterity of the fingers. Perform 3-5 sets of 10 gradually increasing to 3-5 sets of 20 repetitions.

15. Finger Abduction:

Place a rubber band around the outside of all fingers. Wrap band under and around the ring finger and under and around the middle finger in order to exercise all four fingers in abduction. Exercise to strengthen the dorsal interossei. The *digiti minimi* muscle which



15A



15B

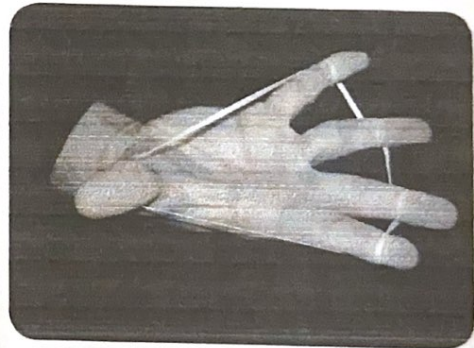
spreads (abducts) the little finger is exercised this way. Each finger may be individually exercised using a rubber band anchoring the opposite end of the band. Perform 3-5 sets of 10 repetitions, increasing gradually to 3-5 sets of 20 repetitions. Progress to greater speed of movement as capable.

16. Finger - Thumb Extension:

Place a rubber band around the outside of all the fingers and the thumb. The band may be wrapped around an individual finger if the band is slipping. An exercise that will strengthen the *extensor digitorum communis*, *extensor indices* (second finger), *extensor digiti minimi* (little finger) and *extensor pollicis longus*, *extensor pollicis brevis*, *abductor pollicis longus* and *abductor pollicis brevis*.

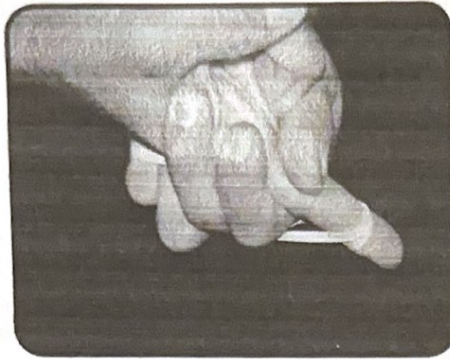


16A

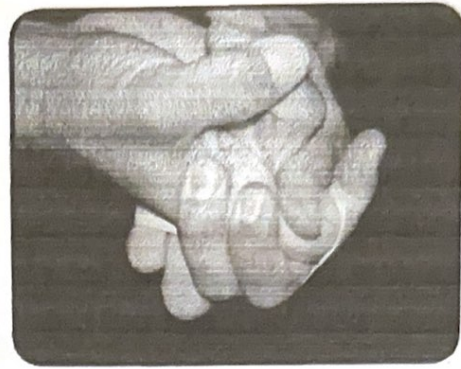


16B

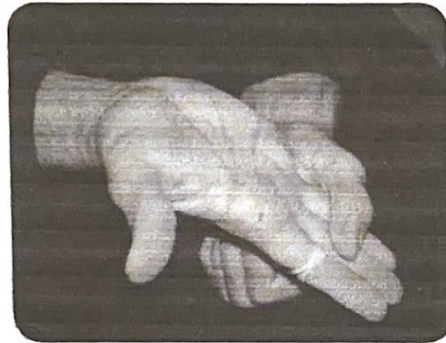
Good for carpal tunnel syndrome and sports injuries of hand, wrist, elbow regions. Perform 3-5 sets 10 eventually work up to 3-5 sets of 20 repetitions. Progress to greater speed of movement as capable.



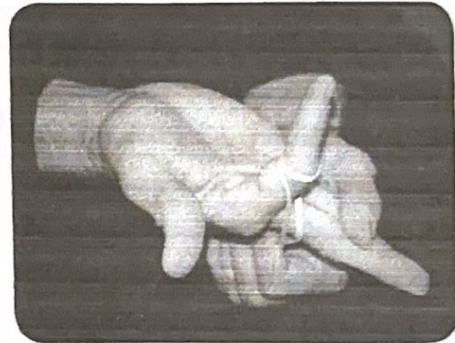
13C



13D



13E



13F

14. Finger Adduction:

In order to strengthen the palmar interossei muscle, place a ball between two fingers. Flex both fingers against the ball. Prevent cumulative assistance by preventing the remaining two fingers from extending. Each finger can be exercised individually using a rubber band. Place one end of the band around finger and attach opposite end to a stable object or hold band in free hand. Excellent exercise for hand and forearm problems. Perform 3-5 sets of 10 repetitions increasing gradually to 3-5 sets of 20 repetitions. Increase speed of movement as capable.



14A



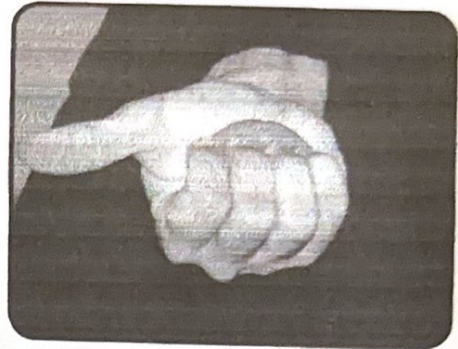
14B

11. Finger Flexors:

An excellent exercise to strengthen the flexor digitorum superficialis, flexor digitorum profundus, lumbricals, flexor carpi radialis, palmaris longus and intrinsic muscles of the hand. Excluding the thumb will isolate the flexors more completely than when the thumb is involved. Perform 3-5 sets of 10 repetitions. Faster movements as capable.



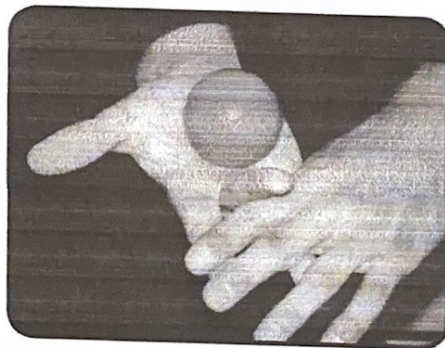
11A



11B

12. Finger Flexor- Single:

For greater finger flexor isolation bend a single finger using a ball or band. The remaining fingers should remain at full extension. This exercise will develop a greater individual strength and control potential. Perform 3-5 sets of 10 repetitions. Faster movements as capable.



12A



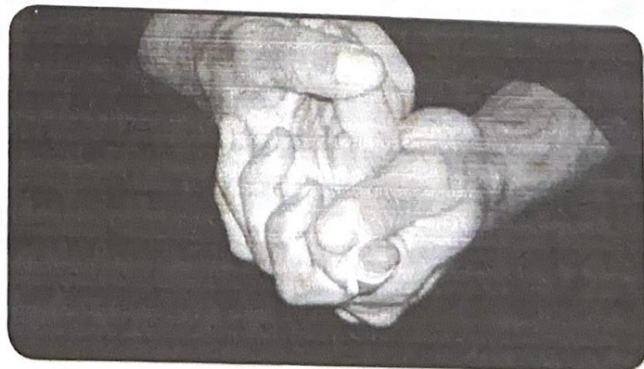
12B

13. Finger Flexor - Individual Digit:

Using a rubber band as resistance wrap the end digit to isolate the flexor digitorum profundus which is the only muscle that can flex the distal phalanges of the fingers. (13A) Attach the opposite end of the band. Use the free hand to prevent the rest of the finger from being involved. (13B) Once exercised, move the band downward to the middle phalangeal joint. (13C) Exercise, (13D) and then move down to the metacarpal-phalangeal joint and isolate. (13E) The flexor digitorum superficialis is best exercised this way. (13F) This is an excellent series to help restore or improve hand use. Perform 3-5 sets of 10 repetitions. Increase to faster movements as capable.



13A



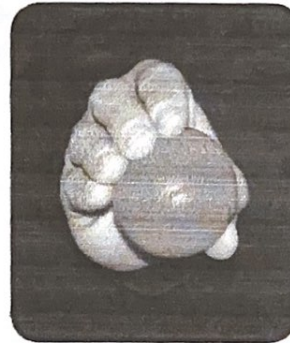
13B

Finger - Thumb Exercises

Finger muscles perform the movements of flexion, extension, abduction and adduction. The fingers work with the thumb for a precision grip such as writing, eating and other fine movements that require exact finger muscle control. For squeezing, gripping, carrying, sports activities and work activities, employing the power grip enables the task to be accomplished without dropping the item(s). Human skill is an elaboration of the central nervous system and not of a specialization of the hand and is developed to greater strength and precision through specificity of movement. These exercises are useful in rehabilitation of hand problems including stroke, Parkinson's, post fracture, post surgery, arthritis and carpal tunnel syndrome. To develop power and stamina, gradually perform these exercises with increased speed.

9. Finger - Thumb Distal Flexors:

Place a ball in the tips of the fingers and thumb. Squeeze all simultaneously. Greater emphasis is placed on the flexor digitorum profundus, flexor digitorum superficialis, lumbricals and flexor pollicis longus. The flexor pollicis brevis, flexor adductor pollicis and opponens pollicis are also exercised. Perform 3-5 sets of 10 repetitions.



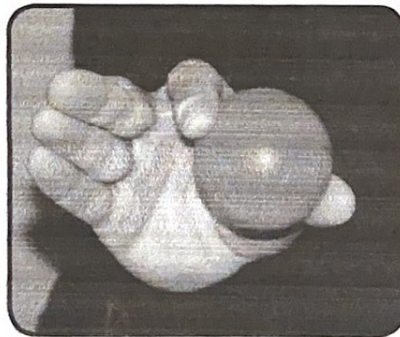
9A



9B

10. Finger-Thumb Flexors - Single:

Isolating a single finger and thumb. Perform with all four fingers one at a time 3-5 sets. Exercising the flexor digitorum profundus and flexor digitorum superficialis, lumbricals, flexor pollicis longus, flexor pollicis brevis, adductor pollicis and opponens pollicis muscles. Perform 3-5 sets of 10 repetitions.



10A



10B

8. Thenar Eminence:

The proximal palmar thumb muscles are often affected by neurological problems affecting the nerves serving the region, fractures, neck and elbow problems affecting the nerve innervation of the hand. The muscles affected are the opponens pollicis, flexor pollicis brevis and abductor pollicis brevis. Place the ball at the base of the thumb, maintaining both thumb joints in an extended position. Move the fully extended thumb toward the little finger without flexing the thumb joints. The thumb is then moved toward the middle finger, thumb extended. This is followed by moving the thumb towards the index



8A



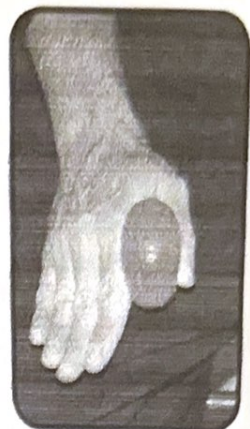
8B

finger with the thumb extended. On each strength movement, the thumb does not touch the ball. Eventually perform with speed. These movements will quickly develop the thenar eminence. A rubber band may be substituted for the ball. Perform 3-5 sets, 10 repetitions, advancing to 3-5 sets of 20 repetitions.

(5C) Place the ball between the thumb and index finger. (5D) Move the thumb toward the index finger and release slowly. Perform 3 sets of 10 repetitions, gradually increasing to 20 repetitions. Add rapid speed when capable.



5C



5D

6. Thumb Hyperadduction:

The thumb is capable of 15 degrees hyperadduction. The adductor pollicis and the extensor pollicis brevis are the muscles strengthened. Use a soft ball and roll the thumb through the center of the ball across the index finger. Many small muscles near the wrist are also exercised. A rubber band may also be used with the same movement. Perform 3 sets 10 repetitions. Gradually increase to 3-5 sets of 20 repetitions. Add rapid movements as capable.



6A



6B

7. Thumb Opposition:

These exercises are specific for the thenar eminence region that moves the thumb across toward the little finger. The muscles include opponens pollicis, flexor pollicis brevis and abductor pollicis brevis. The hypothenar eminence includes the little finger, specifically the flexor digiti minimi and many of the 11 small intrinsic muscles of the hand.

Place a ball in the hand and flex the thumb toward the little finger and little finger toward the thumb. Release the flexion slowly. The exercise may be escalated by using one rubber band around the little finger and anchoring the band. The second rubber band is positioned around the thumb and anchored. Both thumb and index finger move toward the center of hand simultaneously. Perform 3-5 sets, 10 repetitions. Gradually work up to 3-5 sets of 20 repetitions. Speed movements when capable.



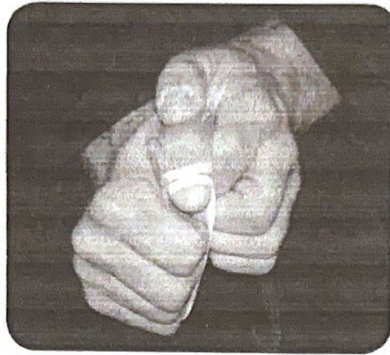
7A



7B

3. Thumb Extension - Distal:

For special isolation of the extensor pollicis longus, including the extensor pollicis brevis and abductor pollicis longus muscles. Place rubber band above distal phalangeal joint and anchor opposite end of band. Place opposite hand thumb just below the distal phalangeal joint. Four fingers will stabilize the rest of the thumb for as little movement below the distal joint as possible. Extend distal joint upward and return to full flexed position. Perform 3-5 sets 10 repetitions. Increase to 3-5 sets of 20 repetitions. Increase to rapid movement as strength improves.



3A



3B

4. Thumb Circumduction:

A complete circular movement involving abduction, extension and adduction that will strengthen the tissues from the base of the radius to the base of the thumb over to the base of the index finger. This is a counter clockwise movement with a rubber band fastened around the base of the distal interphalangeal joint of the thumb and anchored on the other end. This is followed by a clockwise movement of the thumb. Excellent for thumb rehabilitation and post wrist fracture. Preventive exercise for therapists and athletes. Perform 3-5 sets, 10 repetitions. Increase to 3-5 sets of 20 repetitions. Increase speed as capable.



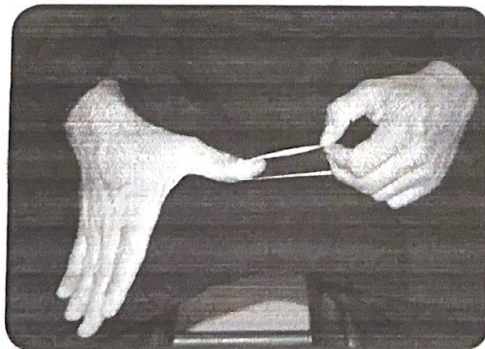
4A



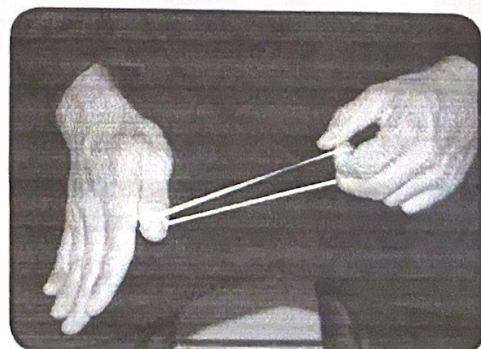
4B

5. Thumb Adduction:

Inflexibility of the thumb's web and weakness of the adductor pollicis are instrumental in many thumb problems. The hand is placed in a shake hand position with the thumbnail pointed vertically. The adductor pollicis may also be strengthened with a rubber band. Place the rubber band around the thumb and anchor the opposite end of the band. In the "shake hand" position, (5A) begin with the thumb abducted (spread) and move the thumb toward the index finger. (5B) Move the thumb back to abduction very slowly.



5A



5B

Thumb Exercises

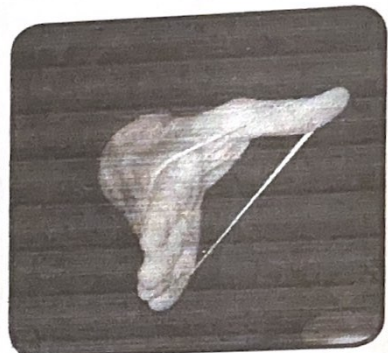
The Thumb's usefulness is mainly due to its position of opposition to the fingers and its fine ability to grasp and hold objects between them. Man excels over all other animals with combined manipulation of the fingers and thumb. The following exercises will help train greater specificity for increased skill, coordination or rehabilitation from lost movements. Intended for post injury, arthritis or effect of muscle diseases. Stamina will gradually increase with time and numbers of repetitions. Power will develop with rapid speed of movement.

1. Thumb Abduction:

To strengthen the abductor pollicis longus and abductor pollicis brevis. Place your hand in the shake hand position. Place a rubber band around the outside of the thumb and anchor the opposite end of the band. Having the thumb nail pointed vertical, move the thumb directly horizontal away from the index finger as far as possible and return slowly. Gradually work to rapid speed for greater strength, stamina and power. Perform 3-5 sets of 10, gradually working up to 3-5 sets of 20 repetitions.



1A



1B

2. Thumb Extension - Proximal:

For greatest isolation of the extensor pollicis brevis, extensor pollicis longus and abductor pollicis longus. Place a rubber band above the metacarpal-phalangeal joint and anchor opposite end of band. This saddle joint has received a lot of stress in many professions and is subject to trauma and arthritic change. From the shake hand position, rest the thumb on the index finger. Place free hand with thumb below metacarpal-phalangeal joint and fingers around opposite side tissues. Extend the thumb upward without moving the wrist into radial flexion. Involve the distal phalangeal joint of the thumb minimally. Lower the thumb slowly and repeat the movement. Perform 3-5 sets of 10 repetitions gradually increase to 3-5 sets of 20 repetitions. As capable, increase speed of movement to help develop power, stamina and greater skill.



2A



2B