My First Half-Century in the Iron Game

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The most important, and by far the most productive, exercise for developing the muscles of the forearms is the so-called "wrist curl;" and it is also the only good exercise for the forearms that can be performed with a barbell. But this exercise must be performed in a certain way, "style of performance" is all important in this case.

fig. 1

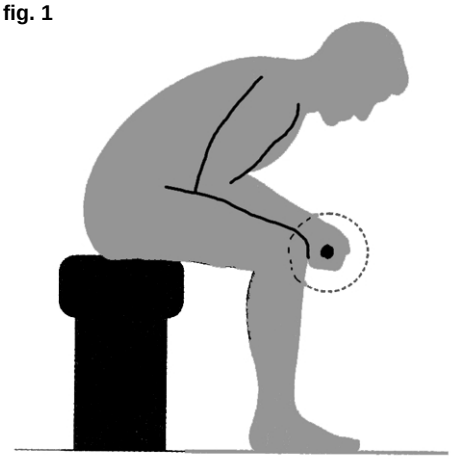
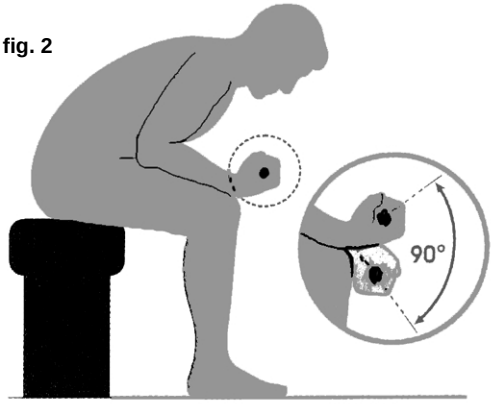


FIGURE ONE shows the correct position for this exercise. The proper position for this exercise is required in order to limit the movement to bending of the hand; the forearms must not move during the exercise, and can be prevented from moving if the correct position of the body is maintained. The subject should be seated on a chair (or a box, or a bench) so that the hips are somewhat higher above the floor than the knees are; the feet should be pointed straight ahead and separated about four inches at the ankle; the elbows should be solidly wedged into the inner portion of the upper thighs, positioned so that the wrists are protruding out just beyond the top of the knees; the head and body should be leaning forward above the elbows, in order to impose weight downwards on the elbows to anchor them in place and thus prevent movement of the forearms; the back sides of the forearms should be solidly supported by the top of the thighs.

fig. 2



With the forearms anchored in that manner, it is then possible to perform full-range wrist curls with heavy resistance and with no movement of the forearms. But if the elbows are not properly anchored in this fashion, the forearms will move during the exercise and a large part of the potential benefit will be missed.

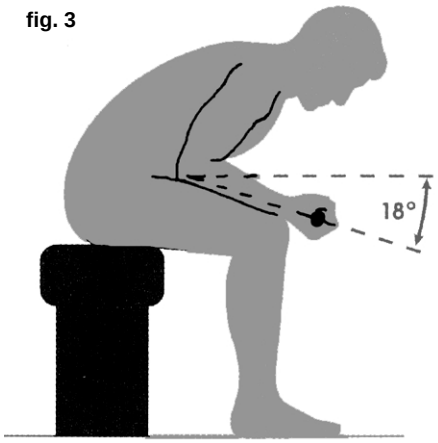
FIGURE 2 shows the proper finishing position for the exercise, with the wrists bent as far as possible.

The posture illustrated in these to pictures is important for two reasons: ONE, it provides isolated, full-range exercise for the largest muscles in the forearms; TWO, the resistance provided by a barbell in this exercise, assuming that proper posture is used, varies in close proportion to the changes in strength that occur as the hands move from the starting extended position to the finishing flexed position.

YES, barbells do provide variable resistance in most exercises, and do so in spite of the fact that the weight remains constant throughout the movement range; but the direction of the movement does not remain constant, changes during a barbell curl for the biceps muscles from a horizontal direction of movement at the start to a vertical direction after 90 degrees of movement, so the resistance is ZERO at the start and equal to the weight of the barbell after 90 degrees of movement. Assuming only that the movement is performed properly; that is, smoothly and fairly slowly and without jerking.

As you move any part of your body from one position to another position in relation to other parts of the body you change your strength, either become stronger or weaker; there is no movement of any part of the body wherein your strength remains constant throughout a full range of movement. In some cases this change in strength that results from movement is enormous: twisting, or "rotation" of the torso produces changes in strength that vary from a low of several hundred percent to a high of many thousand percent. In your strongest position in this movement your strength may be 300 foot-pounds of torque, while in your weakest position your strength may be only 3 foot-pounds of torque;

fig. 3

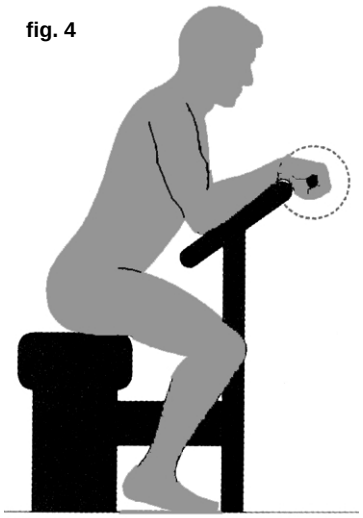


which means that you are literally 100 times as strong in one position of the movement as you are in another position of the same movement, a difference of 10,000 percent.

The strength changes that occur during movement while rotating the torso are the most extreme example that I am aware of, but your strength changes to a very significant degree during all movements of any part of the body. Thus the need for variable resistance during exercise; if the resistance remains constant during the exercise, then you will be limited by your strength in the weakest position and the resistance will not be heavy enough for your stronger positions.

So your strength varies with movement, and the resistance provided by a barbell varies during most exercises, but the problem is that the variation in resistance provided by a barbell has little or nothing in common with the variation in resistance required by the muscles for proper exercise; sometimes the barbell resistance becomes heavier as you move into a weaker position of the muscles, or vice versa. Thus we have so-called "sticking points" with barbell exercises, places in the movement where the weight seems to be heavier than it is in other positions. During a bench press with a barbell the weight moves almost (not quite but almost) straight up and thus the resistance remains almost constant throughout the movement; but it does not feel the same in every position, feels different because your strength during a bench press first goes down and then later goes back up, so that you will encounter a sticking point after the weight has moved a few inches above the chest; but if you can get past this sticking point then the weight will feel much lighter during the last part of the upward movements.

fig. 4



But in the case of the wrist curl exercise with a barbell, as described above, if the posture is correct then the variation in resistance is very close to the variation in strength that occurs with this movement, so proper full-range exercise is provided for the muscles. But it must be clearly understood that this proper variation in resistance during wrist curls is provided only if the wrists are lower in relation to the floor than the elbows are; that is, the midline of the forearms must be maintained in a declining position. The following illustration shows the proper angle of the midline of the forearms in relation to the floor.

fig. 5

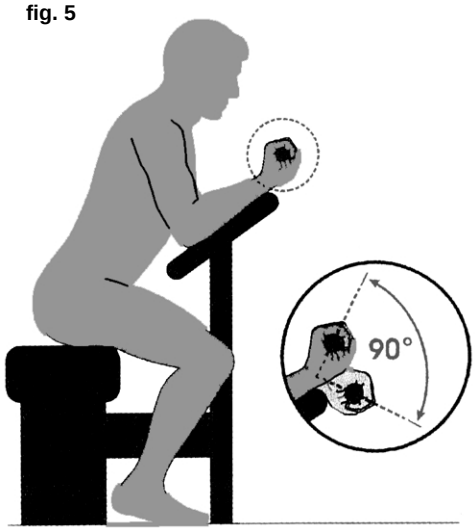


FIGURE THREE shows the correct angle of the midline of the forearms during the exercise.

Reverse wrist curls for the muscles that extend the hand around the axis of the wrist provide exercise for the muscles on the top of the forearms, and these movements can also be performed with a barbell; but in this case the results are not as good, and it is much more difficult to perform the exercise properly. Rather than being lower than the elbows the wrists should be higher than the elbows during reverse wrist curls; the midline of the forearms should slope upwards from the elbows to the wrists at an angle of about 45 degrees in relation to the floor.

FIGURE FOUR shows the proper starting position of the forearms during reverse wrist curls.

FIGURE FIVE shows the correct finishing position of the movement during reverse wrist curls.

Supporting the forearms in order to prevent movement of the forearms during reverse wrist curls is not so easy, usually requires the use of a sloping bench of some sort, as illustrated in FIGURE SIX.

fig. 6

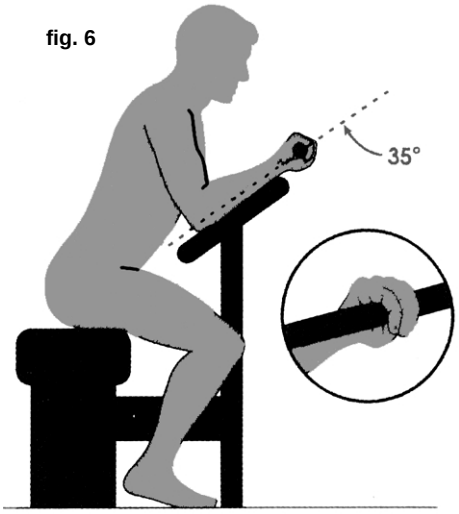


FIGURE SIX shows the proper use of a sloping bench in order to anchor the forearms during reverse wrist curls.

During reverse wrist curls the weight of the barbell is supported entirely by the thumbs; gripping the barbell with the fingers is neither required nor suggested, simply keep the fingers in a relaxed position. But the strength of these muscles is far less than the strength of the muscles that bend the hands in the opposite direction, so you will have no trouble supporting the weight only with your thumbs. If you can perform about 12 or 15 repetitions of the wrist curl properly with 100 pounds, then you will usually find that only 20 pounds will be required for 12 repetitions of reverse wrist curls.

Which takes care of two of the functions of forearm muscles, but still leaves us with five other requirements: supination of the hand, pronation of the hand (twisting clockwise and counterclockwise), bending the hand towards the thumb and away from the thumb, and gripping. None of which exercises can be performed meaningfully with a barbell.

fig. 7

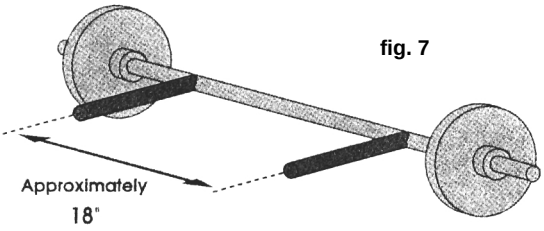


FIGURE SEVEN shows a modified barbell designed to develop the muscles of the forearms that bend the hand in the direction of the thumb. In this case a very light barbell must be modified by the addition of two handles that are perpendicular to the midline of the barbell, in order to position the hands properly for exercise.

FIGURE EIGHT shows the starting position of the exercise.

FIGURE NINE shows the finishing position of an exercise for the muscles that bend the hand away from the thumb.

FIGURE TEN shows the starting position of the exercise.

FIGURE ELEVEN shows the finishing position of the exercise.

fig. 8

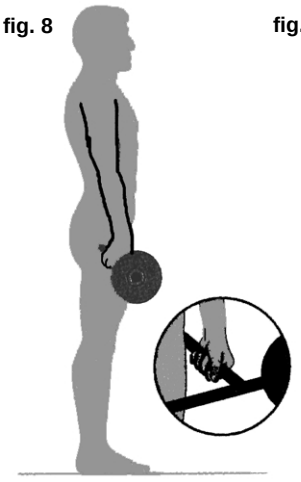


fig. 9

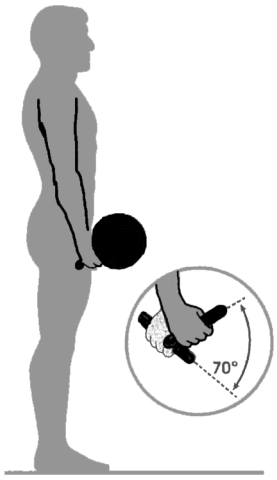


fig. 10

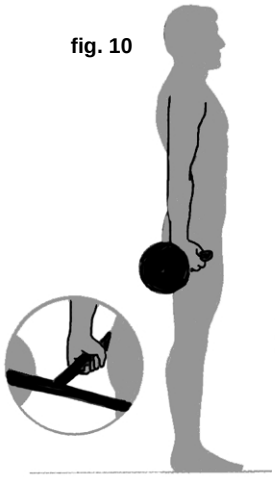
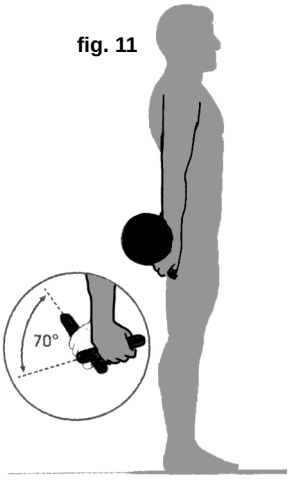


fig. 11



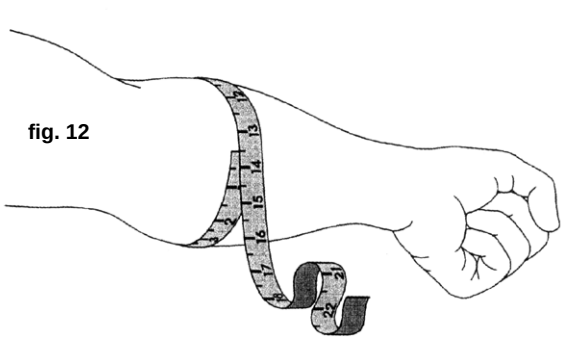


fig. 12

Given the relation weakness of the small muscles that bend the hand towards and away from the thumb, the level of resistance will be quite low, and can be determined only by trial and error; you should use resistance that will permit at least 12 but not more than 15 full-range movements.

Which still leaves us with the need for exercises for both supination and pronation of the hands, twisting the right hand in a clockwise direction (supination) and twisting it in a counterclockwise direction (pronation), and gripping. A rather crude form of such exercise can be performed by using a dumbbell that is loaded on only one end, using the unloaded end of the dumbbell as a handle during the exercise. Supination exercise performed in that fashion also provides benefits for the biceps muscles of the upper arms.

Meaningful and accurate measurement of the size of the forearm can be done in only one way: the arm should be straight at the elbow, the hand should be gripped into a fist and twisted as shown in the following picture, and the forearm should be measured "cold" (before exercise) as shown in the photo.

FIGURE TWELVE (photo mentioned above).

Based upon my own experience over many years, you should be able to add one half an inch in circumference to the forearms for each full inch added to the circumference of the upper arms. In my case, given an upper arm of 16 inches, my forearms will be 13 inches; given an upper arm of 17 inches, my forearm will be 13.5 inches, and so on. But the potential maximum size of the forearms varies a great deal from one individual to another: given long forearm muscles and short tendons, the potential size of the forearms is greater; but given short forearm muscles and long tendons then the potential is much less. Those being genetic factors that are not subject to change; as stated before … "Some can, and some cannot."

Exercise performed for the muscles of the upper arms will usually have at least some "spillover" effect upon the forearm muscles, but anything approaching the true potential size of forearm muscles can be produced only by specific, isolated exercises for these muscles as covered above; and, in turn, proper exercise for forearm muscles will also produce at least some degree of spillover effect on the muscles of the upper arms. Thus reaching maximum arm size requires exercise for both upper arms and forearms.