

## Process Analysis

Many think that when they participate in work outs or exercises, that only one or two muscles are effected. What they don't understand is that when one does a work out as simple as a bicep curl or crunches or calf raises, many muscles are being worked out. The muscles in each body part whether it be the arm, torso, or leg are all being contracted and it's not just a few contractions, there are many. Bicep curls work out about five different muscles in the arm. Regular crunches on the ground can work up to five different muscles as well. And for the leg, when doing calf raises, one could potentially be working out fourteen different leg muscles.

Performing a simple exercise, such as bicep curls, many muscles are being worked out, rather than just the bicep; hence, the name. There are many muscles that are being exercised in this work out, the biceps brachii, triceps brachii, the flexors in the forearm, the brachialis, and the deltoid. To execute a bicep curl, one can have a dumbbell or a bar or just making fists out of their hands. For this particular explanation, a bar will be used. First, one should start off with their arms extended which means that there is an increase in the angle between the two major bones that make up the arm and have their hands holding the bar palms up. While their arms are extended down in front of them, the back of their hands should be touching their thighs. As they grip the bar, they should try to keep their elbows to their sides to get the full effect of the exercise. When they are ready to curl the bar they should look straight ahead and full exhale and inhale on each curl. The next step is to flex the arm, which means to decrease the angle between two bones. As they bring the bar up towards their chest, they should then extend, which means to increase the angle between two bones, and go back down to where the back of their hands are touching their thighs. After that happens, then they have successfully completed a bicep curl.

For another part of the body, like the torso area, there are many muscles that can be worked out with a simple sit up. When one does a sit up they could potentially be working out at least five different muscles. The five muscles that are known to be exercised are the rectus abdominis, the internal and external abdominal oblique muscles, the transversus abdominis, and the latissimus dorsi. To do a sit up one must start by sitting on the ground with their legs out in front of them and bended at the knees at a 90 degree angle or so. Then lay down and when ready, while using the muscles listed above, and with their arms crossed over chest, one will sit up and flex their stomach and legs to where their chin and their knees are about a fist's length apart. After they've held the sit up for enough time to feel a good pain of strengthening, then they lie back down and get ready to sit back up again. Once they've sat up and lay back down, they have effectively finished a sit up.

For the muscles of the lower extremity of the body, there are many exercises that can be done to work out the leg muscles. For simple calf raises, there are many more muscles that are being worked out than one may think. For calf raises there could possibly be at least thirteen leg muscles that are being used. The thirteen muscles that are being exercised while performing calf raises are the gastrocnemius, soleus, rectus femoris, vastus lateralis, vastus medialis, adductor longus, tibialis longus, peroneus, sartorius, tensor fasciae latae, biceps femoris, semimembranosus, and semitendinosus. To accomplish a calf raise successfully, one can either start by being on a raised surface or on flat ground and can possibly be holding something that is in front of them. If they are on a raised surface, they'll start with their heels lower than their toes that are on the raised surface. When ready, they'll use the muscles that were listed above to calmly extend their foot to where they are on the tip of their toes. When one gets on the tips of their toes and they start to feel a pull in their leg muscles, they then need to slowly get off of the

tips of their toes and let their heels go back to being lower than the raised surface they're on. After they have raised themselves on the tips of their toes and back down, they have accomplished a complete calf raise. For people who don't want to do the exercise on a raised surface, they can do the same exercise on a flat surface. All the steps are the same, except for the beginning; instead of having their heel lower than the raised surface, they'll be just flat footed on the ground and begin the exercise from there.

Many think that when performing the smallest and easiest exercises that only some muscles are being worked out; however, for mostly all exercises, at least three muscles are being worked out. As one goes through the steps and motions of doing certain exercises, they often don't think of the many muscles that are being exercised, because they are mainly focused on the one muscle they think they're working out. When exercising, there are many exercises that one will be working out, even with the easiest exercises, there will always be more than one muscle being worked out.