Improving Flexibility

Arthur Jones

Improvements in flexibility are a direct result of stretching…and heavy, full-range exercise provides a degree of stretching that is impossible to equal in any other way.

But the resistance must be heavy…heavy enough to pull the involved muscles and joints into positions at least somewhat beyond an average range of movement. If the resistance is too light, the required stretching will not occur, cannot occur.

And the exercise must be truly full-range…the range of movement of the resistance must actually exceed the possible range of movement of the athlete.

Several years ago, we designed and built an exercise machine for the major muscles of the torso…in an attempt to provide direct, full-range resistance for several large muscular structures that cannot be worked properly with any sort of conventional exercise. The first such machine had a range of movement of 160 degrees…and at first that was more than enough for the people who were using it.

But we quickly discovered that the use of this exercise increased our range of movement…and within a short period of time, a matter of a few weeks, the available range of resistance was no longer enough.

So we rebuilt the machine, increasing the range of available resistance…and again it was enough at first. But within another few weeks, it wasn't enough…so we rebuilt the machine and increased the range of resistance for a third time.

Eventually, starting with a range of movement of 160 degrees, we had increased the range to a point in excess of 240 degrees…having increased the range of movement by more than 80 degrees, and also having increased the flexibility of some of the athletes that were using this exercise by more than 50 percent.

All of the athletes using this exercise increased their flexibility, but some produced greater increases than others…and it was NOT the slender, underweight athletes who produced the greatest flexibility. Instead, it was the much heavier athletes.

A surprising result? Not at all…if the actually involved factors are carefully considered. The lighter, weaker men could not use enough weight to pull themselves into an extreme range of movement…while the larger, much stronger men could.

So we produced large, heavily muscled athletes who were far stronger and MUCH MORE FLEXIBLE than much smaller men.

During the Colorado Experiment, Casey Viator, at a bodyweight well in excess of 200 pounds at a height below 5 feet 8 inches, repeatedly demonstrated that he was far more flexible than any other athlete that we tested…and we tested a large number of athletes engaged in a number of sports that require flexibility, including most of the members of the Colorado State University wrestling team and several gymnasts.

So, directly contrary to the old myth about becoming "muscle-bound", heavy exercise can actually make an athlete more flexible…and as I have mentioned above, an exercise must be heavy if it is intended for the purpose of improving flexibility.

We hear a lot about "short" muscles…and "long" muscles…many people used to believe, and some people still do believe, that weightlifting developed short muscles, and that swimming developed long muscles.

But the fact is, of course, that the length of a muscle is determined by genetic factors that are unchanged by exercise. No form of exercise will do anything in the way of reducing or increasing the length of a muscle…all that exercise will do, all that it can do, is increase the with of a muscle.

Which is not meant to imply that the length of a muscle has no significance…on the contrary, the length of a muscle to a large degree determines its potential mass, and thus its potential strength.

Only certain shapes are possible in nature…and some shapes are impossible. And shape is determined by "aspect ratio"…aspect ratio being the relationship between length and width.

What this means to you, as a coach, is that you can go a long way in the direction of estimating an athlete's muscular mass merely looking at him…if you know where to look, and what to look for.

First, let me attempt to make this point clear by using one or two examples that are unrelated to muscles…which examples, I think, will make a full understanding easier.

If a man was only 3 feet tall, then you would not expect his shoulders to be 24 inches wide…the result of such shoulders on a man of that height would be a ridiculous shape, literally an impossible shape.

There is; of course, a certain range of possible shoulder width for a man of that height…but there is a definite limit on both ends of the scale, a maximum possible width and a minimum possible width.

A bit of thought makes it obvious that the "length" of the man (his height) determines the maximum possible width…that his height LIMITS his width.

Or, take another example…the width of a man's head in relation to its height.

Some men have apparently long, narrow heads…other men have short, wide heads. But again, there is a definite limit to the possible range of shapes. You will never see a man with a head 12 inches long and only 3 inches wide…such a shape is impossible in nature, for a human at least. Nor will you ever see a man with a head only 8 inches long but 12 inches wide…another impossible shape.

The length of a man's head limits the width…it may not be as wide as it could, but it certainly will not be any wider than it can be.

The same thing is true with a muscle…the length limits the width.

Casey Viator has very long forearm muscles…so he has the potential for the development of unusually large forearms. And his forearms are unusually large.

A friend of mine from California, Ron Peters, is eight inches taller than Casey, and his forearms are longer than Casey's…but the actual length of his forearm muscles is much less than Casey's. So his potential for muscular mass in that part of his arm is far below Casey's potential.

Both men have outstanding development of the upper arms, and both men have long muscular structures in their upper arms…a length of muscle that does not produce great muscular mass, but that makes it possible.

The muscular structure of the calves in many is typically very short…and as a result, massive muscular development in those muscles is literally impossible. Even when such short muscles are developed to their maximum possible size, they still will not be very large.

You can do nothing to change the length of your athlete's muscles…but you can be aware of it, which awareness might prevent you from expecting impossible results. Which information might make it possible for you to recognize the potential for great muscular mass when you see it.

Disproportionate development of one at a pair of antagonistic muscular structures can, however, result in a situation where greater relaxed tension is created on one side of a joint…and it might then appear that the large muscles had been shortened by exercise.

And, while no actual shortening has occurred, such a condition should be a clear warning that a dangerous situation exists. Because, if the full strength of the stronger muscle is used, it might result in injury to the weaker muscle.

So every attempt should be made to outline a program of exercises that will assure proportionate development in antagonistic muscles.