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The Significance of Muscular Soreness

When a muscle that has not been accustomed to heavy workloads is worked intensely – or for a prolonged period of time at a normal level of intensity – then some degree of muscular soreness will usually result; in some cases, this can be literally crippling in its effects – for as long as a week.

There are a number of rather involved theories regarding the actual physiological causes of muscular soreness; but a detailed understanding of the physical and chemical factors involved is not necessary if we are aware of the cause/effect relationship concerned.

Extreme degrees of muscular soreness almost never result from the execution of a single movement – probably because the muscles involved in the movement are not warmed-up enough to make a maximum effort, and thus are momentarily unable to work hard enough to cause much in the way of soreness, even though the movement may be carried to the point of muscular failure.

But some soreness will result from such a movement – and if properly understood, such soreness can be a valuable clue to training progress. Most bodybuilders sincerely believe that the bench press is a direct exercise for the pectoral muscles – and if an untrained individual performs several sets of bench presses, his pectorals will certainly become sore; but if, instead, the same individual performs only about three heavy sets of one repetition each, little or no soreness in the pectorals will result. Instead, the anterior portion of the deltoids will become sore – with the possibility of a very slight amount of soreness, simply an "awareness", in both the pectorals and triceps. And while the bench press is not a direct exercise for any of the muscles of the body – in no sense of the word direct – it will thus be clearly demonstrated that the deltoids are receiving the most nearly direct work from this exercise.

Similar tests can be conducted in order to determine the effects of most types of exercises – with little or no possibility of error; for example –recently, in an attempt to demonstrate the effectiveness of a new type of exercise for the latissimus, we made use of several previously untrained individuals. Some of these subjects performed only regular chinning movements – others performed only behind-neck chinning movements – a few executed "pulldowns" on a conventional latissimus machine – and so on; the entire spectrum of possible exercises for the latissimus muscles was covered, and a few individuals performed one heavy set of each of the various exercises.

Forty-eight hours later, none of these subjects reported much in the way of muscular soreness in the latissimus muscles – and quite a number of them did not even experience an awareness of their latissimus muscles; however, without exception, all of the subjects were sore in other areas –especially in the arms. In many cases, this degree of soreness was so great that the subjects were almost unable to use their arms for several days.

Another group of subjects performed several sets on a new type of latissimus machine – and without exception, these subjects were sore in the latissimus muscles; other areas of soreness occurred in gradually reducing degrees in the pectorals, the trapezoids and the abdominals – which is exactly the result we anticipated. Several subjects reported soreness in the triceps muscles of the upper arms, but they were in understandable error in this belief; the apparent triceps soreness that they reported was actually soreness of the latissimus attachments at the points where these muscles join the upper arms – directly below the mass of the triceps muscles.

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In this last group of subjects, no actual arm muscle soreness of any kind was reported – in strong contrast to the results produced in the other groups.

Thus, should you have any question about the effectiveness of a particular exercise, it is quite easy to make use of muscular soreness as a means of testing the exercise; simply avoid any sort of exercise for that particular muscular area of the body for a period of at least ten days, then perform only three heavy sets of one repetition of the exercise in question. Within forty-eight hours, you will have a clear answer to the question.

If a muscle is being exercised regularly, it will quickly become so accustomed to heavy workloads that it will be almost impossible to induce even a slight degree of muscular soreness; thus, if muscular soreness is produced in an area of the body that has been trained for as long as a week, this is a clear indication that you have not been training hard enough – or that you have been performing the movements improperly.