

# Why Exercise Increases Strength

**Arthur Jones**

Exercise increases strength by creating...”a need for growth”...by making demands which cannot be easily met by the existing level of strength.

If the existing level of strength is adequate for the workloads encountered, then there is no need for growth, and the body will not provide something that isn't required. Not in the way of muscular size and strength, at least.

Within rather broad limits, you can do almost anything you want to with a program of proper exercise. As stated in an earlier chapter, the limits of muscular growth are determined by individual potential; but within those limits, you can produce striking degrees of physical improvement in almost literally ANYBODY.

And producing such improvements doesn't take years of steady training...and it doesn't require devoting your entire life to a gym...and it doesn't mean that you have to give up all other physical activity...and it doesn't require working yourself into a state of nervous exhaustion. Quite the contrary, on every point. Best results from exercise can come quickly...from very brief and infrequent workouts...while continuing any other type of physical activity...and while improving both strength and your stamina, giving you more energy for your other activities, instead of less energy.

The very purpose of exercise is, OR SHOULD BE, to improve your physical ability, to make you stronger, give you more muscular endurance, produce improved cardiovascular ability, raise your stores of energy. And it will, if your program of exercise is logically planned and properly executed.

But far too often, exercise becomes “an end in itself”. When, instead, it should be an aid to other physical activity.

Exercise should constantly improve your ability, both your strength in the actual exercises themselves, and your overall ability in other physical activities. But in practice, what frequently happens is a far cry from what could have happened, what should have happened. Instead of producing an ever-increasing feeling of strength and wellbeing, an improper program of exercise will leave you feeling constantly tired, with little energy for anything else.

Which result should be a clear warning that something is wrong.

But it is a warning that is frequently ignored. Usually from a misunderstanding of the cause and effect factors involved in exercise.

Some degree of physical discomfort from muscular soreness is only to be expected when a previously-untrained individual starts training...but such soreness should be entirely gone within a matter of a very few days, and it should not return as long as regular training is continued.

And it is also perfectly normal for a previously-untrained individual to feel tired as a result of his first few workouts...but this feeling of tiredness should not continue. And if it does, then you are overtraining, your workouts are exceeding the recovery ability of your system.

Even after years of steady and proper training, you should be tired at the end of a workout...but you shouldn't remain tired. Twenty minutes later, you should feel perfectly capable of going through the entire workout again, immediately.

And you should be able to, if you tried...but don't try. It takes very little exercise to stimulate growth, but too much exercise will prevent growth, or even produce losses in strength and muscular mass.

While the exact difference is not entirely understood, it is obvious that high-intensity exercise is somehow "different" from exercise of a lower intensity...it makes demands upon the system that are not quickly met.

When a muscle is working close to its limit of momentary ability, a complex change in body-chemistry occurs...a sort of "chemical supercharging" takes place. And while it is not necessary to understand just how this happens, it is important to be aware that it does happen. Because it makes demands upon the system that are never encountered during low-intensity exercise; and if this factor is ignored, then a situation is created in which growth becomes impossible.

A muscle itself is apparently capable of an almost infinite amount of work, if the intensity of work is low enough...but high-intensity work makes demands upon the support system of the body that cannot be quickly met. And if more high-intensity work is performed before complete recovery has occurred, then losses in strength and muscular mass will be produced instead of gains.

Failing to understand this point, many people deny themselves the potential benefits of exercise by overtraining...or, in an attempt to avoid overtraining, they reduce the intensity of their exercises to a point that growth is no longer being stimulated.

In either case, growth will not occur. Growth cannot occur if the body is over-trained, and will not occur if the intensity of work is too low.

While exercise is obviously capable of producing enormous increases in muscular mass and strength, it apparently does not produce a proportionate increase in the ability of the support system of the body.

Which means, in practice, that a stronger man literally cannot stand as much high-intensity work as a weaker man can. When regular training is first started, and after the initial "break in" period of muscular soreness, a beginner will grow rapidly from high-intensity training even if he trains three or four times as much as is actually required.

Apparently, a weak individual is unable to exceed the recovery ability of his system...he seemingly isn't strong enough to impose a demand upon his recovery ability that can't be met.

Obviously there is a limit, beyond which recovery would be impossible, but a beginner is seldom if ever able to reach that limit in practice.

However, as he becomes stronger as a result of regular training, he starts making demands upon his recovery ability that cannot be so easily met...his ability to make such demands increases more rapidly than his ability to meet the demands.

And eventually, when a level of far greater than average strength has been produced, he becomes capable of making demands that cannot be met. At which point, the amount of training must be reduced.

Such demands upon the overall recovery ability are obviously related to the intensity of exercise...and have little or no relation to the amount of exercise.

If the implications of the above, brief sentence are fully understood...it then becomes possible to produce good results from exercise. But without such an understanding, good results are impossible.

But how do we define “good results?”

Unfortunately “good results from exercise” is a relative term, and far too many factors are involved to permit a simple definition. Good results for one man might be very poor results for another man.

But we can, at least, recognize “constant results”...and we should be aware that NO RESULTS does not equate GOOD RESULTS. Thus a lack of progress is, or should be, a clear warning that something is wrong.

Yet thousand of people train for years with little or nothing in the way of results to show for their efforts.

Which is a satisfactory state of affairs if training is being conducted for the purpose of maintaining an existing level of strength.

However, in fact, that is seldom the case. Instead, the majority of such trainees are almost desperately trying to increase their strength...AND FAILING.

Or failing for all practical purposes, because any resulting increase in strength is produced so slowly that it doesn't justify the efforts.

For the production of good results...exercise must STIMULATE GROWTH, and PERMIT GROWTH.

Stimulating growth is related to the intensity of exercise.

Permitting growth is related to the amount of exercise.

In the next two chapters, we will examine the above two factors in detail.