## Nautilus <br> 

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## Frequency and Extent of Exercise

The subjects of this chapter are perhaps the most controversial issues in the field of physical training today; while there is some agreement on the types of exercise that are most effective, there is nothing approaching agreement on the subject of just how much exercise is required for best results or how frequently it should be repeated. The old expression, "A thousand different experts, a thousand different theories," is almost literally true in this instance.

At least in part, this situation arises from the fact that almost any amount of the right type of exercise can produce striking results in a very high percentile of test subjects; thus, almost any individual will show marked improvements in both muscular mass and strength within a short time after being placed on a weight training program - and this result will be produced in most cases regardless of the actual amount of exercise employed, at least for a while.

But while this is clear evidence of the effectiveness of such methods of exercise, in at least one important respect it is an unfortunate situation - because it has led to a commonly practiced habit of overworking, as opposed to proper training; "if some exercise is good, more is better", seems to be a common - though badly mistaken - theory.
During the Second World War, a number of very large-scale experiments were conducted in this field, and insofar as I have been able to determine, the results of these experiments were unanimous in at least one major conclusion; "there is a definite limit to the 'amount' of exercise that will produce beneficial results - carried beyond that point, exercise will reverse its own previous results, leading to losses in weight, condition, and stamina."

Yet, since then, it has been clearly shown that it is almost literally impossible to overwork insofar as "intensity of effort" is concerned; and to many people, these seem to be paradoxical conclusions - where, in fact, no paradox exists. The problem apparently is one of nomenclature, a simple -if widespread - misunderstanding of terms; "amount of exercise" has been confused with "intensity of effort."

And confused it has been, on an enormous scale - and thus we see thousands of examples of individuals training as much as twenty or more hours weekly, sometimes for periods of several years, in attempts to better their progress; where, in fact, far better results would have been produced in the vast majority of cases if such training had been limited to a maximum of not more than five hours of weekly exercise. And in the author's opinion, best results will be produced in at least ninety percent of all cases if training is limited to less than four hours weekly.

But - because such marathon training programs will produce a marked degree of results if continued long enough - it is almost impossible to convince people who have fallen into such training habits that even better results would have been produced by a much briefer workout routine.

## The Arthur Jones Collection

A recent article described the training routine that one young man has followed for a period of seven years, four hours a day, seven days a week -twenty-eight hours of weekly training; and his results, in the end, have been fairly good - if not spectacular. But it is the author's contention that far better results would have resulted in far less time from the practice of a training routine that required only about fifteen percent (15\%) of the weekly time that this individual spent training - and if even the same degree of results could have been produced in one third of the elapsed time, then it is obvious that only five percent (5\%) of this subject's training was actually required.

The actual requirements for exercise vary on an individual basis, of course - but do they vary on such a scale, on the order of two-thousand percent $(2,000 \%)$, as was indicated in the above example? I think not. On the contrary, I think that this individual has merely developed a tolerance to this amount of exercise - and I cannot believe that it is an actual requirement.

Within the author's own personal experience, there have been literally hundreds of examples of individuals that have shown far better results than those produced by the above mentioned subject - while practicing a total of less than three percent (3\%) of the number of exercise movements that have been employed by that subject within a period of seven years.

This being true - as it is - then what is the possible excuse for such extensive training programs? "Misdirected effort," seems - to the author -to be the only possible answer. Yet such misdirected effort is being employed on a vast scale - in tens-of-thousands of cases.

But what do the results of research indicate? Twenty years ago, in the course of experiments conducted by the author upon his own person, the greatest degree of results came from a program limited to four hours of weekly training - three weekly workouts of exactly; one hour and twenty minutes each.

And while I am fully aware that the results produced by one such case are of no real significance, this experience was at least enough to convince me that the then most common practiced training programs would be improved if reduced insofar as weekly training time was concerned. This conviction was primarily based upon the fact that I had previously been training more than twice as much, and that my progress had been at a standstill for several weeks - but then, almost immediately after reducing my training by approximately sixty percent ( $60 \%$ ), I started to gain in both size and strength.

On a much reduced training program, my progress was far faster than it had ever been previously - and I very quickly reached new levels in both muscular size and strength, levels which I had previously considered impossible for me as an individual.

That experience occurred at a time when I had been training for almost ten years - during that time I had tried almost literally "everything" in my attempts to better my progress. Nothing was involved except a reduction in the amount of exercise that I was doing previously; otherwise, the training program remained unchanged - I performed exactly the same exercises in exactly the same way, reducing only the number of "sets" of each exercise and the frequency of workouts.

But while one such example proves almost nothing by itself, this personal experience was enough to trigger my thinking into a new direction; since then, almost all of my interest has been directed towards attempts to determine the exact length of training time that is required for the production of best possible results in most case. Twenty years later, the weight of evidence is simply indisputable; "in almost all cases, best results from heavy exercise will be produced by the practice of a very limited number of compound exercises that involve the major muscular masses of the body, and such training should be limited to not more than five hours of weekly training in any case and to about four hours in most cases."

In practice, best results are usually produced by three weekly workouts of less than one and one-half hours each.

