

Ironman Articles

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The Best Kind of Exercise

Exercise is capable of producing a wide variety of results – increases in strength, improvements in flexibility, greater cardiovascular ability (or “condition”) and a number of other physical improvements. All of which factors are important for even a normal degree of health, and particularly important for athletes.

In this article, however, attention will be directed towards only two of the possible results of exercise – the development of maximum strength, and the simultaneous production of maximum flexibility. These two factors are unavoidably linked by the simple fact that the best program of exercises designed to produce strength will also promote flexibility – since stretching movements are an absolute requirement for building maximum strength, increases in flexibility is a very valuable by product of a properly designed strength program.

But it should be noted that it is easily possible to increase flexibility while doing little or nothing in the way of building strength.

And it should also be understood that many types of exercises will produce at least some degree of increased strength while doing nothing in the way of improving flexibility.

For the purpose of producing maximum strength, a muscle must be worked against resistance throughout its full range of possible movement. Resistance must be available in the position of full contraction – and resistance is also required in the position of full extension. Unfortunately, most types of exercise provide no resistance at either end of the movement – the unavoidable results being that strength is increased only during the mid-range of possible movement, and that flexibility is not improved at all.

A recently developed and highly advertised method of training called “isokinetics” by one company, and “isonetics” by another company, is an example of a type of exercise that involves only the mid-range of movement and does absolutely nothing in the way of improving flexibility. Such exercises are based upon a “speed limiting” device of one type or another – thus resistance is provided only when movement is occurring. When movement stops, the resistance ceases – instantly.

A moment’s consideration makes it obvious that full-range exercise is impossible with isokinetics. Upon reaching a position of full contraction at the end of the exercise, additional movement is impossible – and the resistance instantly ceases. Since the availability of such resistance is unavoidably linked to movement, a lack of movement equates a total lack of resistance – and without resistance there is no exercise.

And – at the start of the exercise, in the extended position, there is no available resistance to provide the essential “pre-stretching” which is so valuable for both strength building and flexibility.

“Pre-stretching” of an extended muscle at the start of an exercise movement is provided by negative resistance – and the speed-limiting types of exercise devices have no negative resistance.

Barbells and most other types of exercise devices are based upon negative resistance – when lifting a barbell you are performing positive work against negative resistance, you are pulling “up” and the barbell is providing resistance against your movement by pulling “down.”

But a barbell also provides negative work. At the top of a movement, after the weight has been raised as high as possible, the barbell must be lowered back to the starting position – and you are performing negative work while lowering the barbell.

For the purpose of building strength, such LOWERING of weights is far more important than lifting weight.

If you remove negative resistance from an exercise – as the isokinetic people have done – you unavoidably remove a very large part of the strength building characteristics of the exercise at the same time, and you utterly destroy the flexibility promoting factors. Such exercise – in spite of the claims by its promoters – will do very little in the way of building strength, and absolutely nothing in the way of improving flexibility.

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The makers of such devices also point out the isokinetic exercises produce little or nothing in the way of muscular soreness. And in this instance, at least, their claim is correct; for the simple reason that isokinetic exercises do not provide the stretching that produces muscular soreness in a previously untrained individual.

When a muscle is first exposed to an actually full range movement against resistance, the attachments will be forced into a position beyond the range of average movement – and if part of the muscular structure is disproportionately weak, then the weak area will become sore as a result.

But it will also become stronger as a result – and it will never become stronger until and unless it is exposed to such resistance.

With regular training, muscular soreness does not continue – and it does not return. Soreness occurs only at first, as a result of the first one or two training periods – then it quickly disappears, and it will not return so long as regular training continues.

Positive work (or “concentric” work), as provided by isokinetic devices, involves only part of a muscular structure – and does absolutely nothing for the most important areas of movement, the fully contracted position and the fully extended position.

Negative work (or “eccentric” work), as provided by a barbell or a Nautilus Machine, exercises a far larger part of the total muscular structure – and does improve flexibility; and such exercises will produce muscular soreness at first – soreness being the unavoidable price of worthwhile results.

But an extreme degree of muscular soreness is not a requirement – and if a “break-in” program of fairly light movements is followed for a period of a week at the start of training, then an uncomfortable degree of soreness will be avoided.

And after such a break-in program, muscular soreness will vanish and will not return – regardless of the intensity of training.

However, even a well trained individual may experience some degree of muscular soreness if he changes his exercises. Adding a new exercise to his program may involve stretching in an area of movement that is new even to an experienced trainee – and if so, then some degree of soreness can be expected as a result of the first one or two training periods.

So even a well conditioned trainee should break-in gradually when adding a new exercise to his program.

But if a trainee has been using a particular exercise for two or three weeks, or longer – then it is almost impossible to make him sore as a result of the exercise, and he certainly will not become sore from his regular workouts, regardless of the intensity of the workouts.

Isokinetics devices provide “positive only” resistance – barbells and Nautilus Machines provide both positive and negative resistance. With an isokinetic device you are performing concentric contractions – with a barbell or Nautilus Machine you perform both concentric and eccentric contractions.

Careful research clearly proves that eccentric contractions (negative exercises) are of a far greater value for the purpose of building strength – when large groups of previously untrained individuals were trained with negative only exercises the results were far better than those produced by a similar group trained with positive only exercises.

The cause and effect factors involved in exercise are actually quite simple – strength increases are produced in proportion to the “intensity” of an exercise. “intensity” is best defined as ... “percentage of momentary ability.” If you are capable of bench pressing 300 pounds, and you press only 100 pounds – then the intensity is low.

But if you are capable of 300 pounds, and you use 300 pounds – then the intensity is high.

No amount of low intensity training will produce much in the way of increases in strength. But if the intensity is high, then a very small amount of training will quickly produce maximum strength.

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The isokinetics people also claim that such training provides the highest possible intensity – a claim, which is simply not true. But it is true that isokinetic exercises produce maximum FORCE – which is neither necessary nor desirable.

Intensity produces RESULTS – force causes INJURIES.

A muscle is stimulated to grow only when it is exposed to an amount of resistance that is very closed to its maximum level of momentary ability.

Injuries are caused when an amount of force is produced which exceeds the momentary “breaking strength” of some part of the muscular structure.

So the intensity of exercise must be as high as possible – but the force must be as low as possible.

And it is easily possible to provide both maximum intensity and very little force at the same time.

EMG measurements of the electrical activity that occurs during muscular work clearly prove that the intensity of exercise is much higher during an eccentric contraction, while performing negative work, when lowering a weight.

And it is also obvious that the force is lower during negative work.

Thus negative exercises provided both higher intensity and lower force.

Negative exercises do more in the way of stimulating strength increases – and do so while involving very little force – so negative exercises are both more productive and far safer.

If a 100 pound barbell is resting on a scale, the scale will indicate the full weight – proving that the barbell is producing 100 pounds of “downwards” force.

And if you grip the barbell and produce 50 pounds of “upward” force, the scale will then indicate only 50 pounds of forced. But the barbell will not move.

And if you then produce 100 pounds of “upward” force, the scale will read zero. But the barbell still won’t move.

In order to move the barbell “upwards,” you must produce force in excess of 100 pounds – and if such movement is occurring, then this is clear proof that you are producing more than 100 pounds of force.

But if, instead of lifting the barbell, somebody handed you the weight in the “top” position, and if you simply lowered it instead of raising it, then it is also obvious that you would not be producing 100 pounds of force.

If you made no attempt to stop the “downwards” movement, and no attempt to reverse the movement, then you would be producing less than 100 pounds of force.

However, if you did stop the movement, then you would be producing exactly 100 pounds of force – and if you reversed the movement, then you would be producing more than 100 pounds of force.

Obviously, then, the movement should never be stopped and should never be reversed – a continuous but slow “downwards” movement should be permitted. Your muscles will thus be delaying the movement but will never stop it.

A clear understanding of the above simple points should make it obvious that this style of exercise will produce very little force, and will thus be far safer than any other style of exercise – but what about the all important factor of intensity?

If the weight is properly selected, then the intensity will be far higher in such exercises.

During the first two or three repetitions, it should be possible for the trainee to easily reverse the movement and move the weight in a “positive” (upward) direction – but no attempt to do so should be made. Then, during the next two or three repetitions, it should be possible to stop the movement – but no attempt to do so should be made.

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Only after several repetitions have been performed with no attempt to stop or reverse the movement – only after it becomes momentarily impossible to stop or reverse the movement – only then should the trainee even attempt to stop the movement.

In effect; if you can reverse the movement, don't try – and if you can even stop the movement, don't try.

But after it becomes impossible to reverse or stop the movement – then try as hard as you can.

Such a style of training will result in an intensity that is utterly impossible to duplicate while training with positive movements – and will do so while involving very little in the way of force.

The above points are not a matter of “opinion” – and they are not unproved “theory” – instead, they are simple, undeniable, physical laws. The reader is, of course, perfectly free to form any opinion that he chooses – but I will remind you that you can NOT change the laws of physics to suit yourself.

Which is exactly what the makers of isokinetic machines are trying to do. Having REMOVED the most important part of exercise – the NEGATIVE RESISTANCE – they are now pointing with calm pride to the fact that their devices provide “positive only” exercise, involve “eccentric only” contractions.

Failing to understand the actual factors involved, many people will be misled into believing the claims about isokinetic exercises – which is unfortunate, to say the least, because the result will be that many people will thus be led in exactly the wrong direction.

No other result is even possible – since the truth of the matter is that isokinetic exercises are THE WORST TYPE OF EXERCISE. The least productive type of exercise – and the most dangerous type of exercise.

IF NO OTHER TYPE OF EXERCISE WAS AVAILABLE – then, AND ONLY THEN, isokinetic exercises might be worth considering. But it happens that we do have a choice in the matter – and it is utterly ridiculous to use the WORST type of exercise when it is possible to use the BEST type of exercise.

For the last several months, we have had all of our trainees on a program of exercises strictly limited to NEGATIVE ONLY resistance – and the results have been by far the best that we have ever produced.

And in the meantime, we have been telling everybody that we talk to about the enormous advantages of “negative only” resistance. And as a result of this spreading knowledge, literally thousands of people are now training in this fashion – and from every single report that we have received so far, all of these people are producing faster gains than they ever did before from any other style of training.

The simple logic, the physical law, the theory, the research results, and the practical experience all indicate exactly the same thing ... THE BEST TYPE OF EXERCISE is NEGATIVE ONLY.

If you have questions about exactly “how” to make use of this extremely productive form of training, call us – any one of several people on the Nautilus staff can and will answer your questions.

A bit later in time, we will distribute a free book on the subject – a book that will clearly detail a number of workouts that can be followed, workouts using conventional training equipment or Nautilus equipment.

Hundreds of people have called to ask me ... “how does this knowledge effect the value of Nautilus equipment?”

And the simple truth is that it IMPROVES the value of Nautilus equipment – it provides a better way of using the most productive equipment ever built. It changes nothing but the results – giving even better results than we were producing earlier. Workout times are reduced even more – and results are produced even faster. Many of our “hard gaining” trainees are now growing at a rapid pace for the first time in their lives.

Casey Viator is now bigger than he has ever been before at the same bodyweight – his muscular measurements and strength are at a level equal to the best in his life, but at a 15 pound lower bodyweight. When we get him back to his highest previous bodyweight, I almost shudder to think what his measurements will then be – but it is already obvious that they will be far larger than ever before.

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During a phone conversation with Boyer Coe last night, he told me that he has gained 5 pounds of muscular bodyweight from two weeks of negative only training, using a very brief program that I suggested to him. He also said that his training partner has gained 12 pounds of muscular weight from the same negative only workouts – in two weeks.

Our office manager, Tim Cook, has gained more than two inches on his arms from less than two months of negative only workouts – workouts so brief that they are almost ridiculous. Workouts involving only ONE SET of each of ten exercises – workouts that can be, and should be, finished in about ten minutes.

Some people – probably quite a few people will make the same old mistake of assuming that MORE is BETTER. Which certainly is NOT true. Brief workouts are a requirement – so if you make the mistake of training more – then you will gain less. And if you train too much, then you won't gain at all.

And do not make the gross mistake of ADDING such negative only training to your regular workouts – instead, use this training in place of your regular workout. To the maximum degree possible, totally ELIMINATE positive work from your training.

Positive exercise should be used only about once each third week – and then only for the purpose of judging your progress and maintaining your form.

I would suggest that you follow a program of eight negative only workouts and than one positive-negative (normal) workout.

During the first week, train three times – negative only. During the second week, also train three times – negative only.

But during the third week, use two negative only workouts – and then one regular workout.

Then back to another three week cycle of eight negative only workouts followed by one regular workout.

Some people will adopt a “wait and see” attitude in regard to this information – but by so doing they will be denying themselves the great value of already established, clearly proven, undeniable FACT.

The wise reader should clearly understand that I don't care how you train – it makes no slightest difference to me whether you train right or wrong. So I pass this information along only in a sincere attempt to make the simple truth as widely known as possible – in the end, the truth will be known, regardless of what I say and regardless of what others may say or believe. But if you are wise enough to conduct a few simple tests for yourself – then you can take advantage of the truth now, while some other people are still wondering what to do. Suit yourself.