

Nautilus & Athletic Journal Articles

Full-Range Exercise

An exercise is “full range” ONLY if there is resistance in the extended (starting) position. Resistance in the extended position is important for two reasons... (1) because it is required for “pre-stretching” the involved muscles, and (2) because it increases flexibility.

But important as it is, resistance in the extended position is not enough... nor does it, by itself, provide full-range exercise.

For full-range exercise you must also have resistance in the contracted (finishing) position... the ONLY position in which it is even possible to involve ALL of the muscular structure.

Any exercise that lacks either one of those two basic requirements is NOT a full-range exercise.

Yet, most exercises provide neither one of those requirements... and no conventional exercise provides both of them.

Nautilus is the ONLY source of full-range exercise.

Conventional exercises are “mid-range” movements... strength is developed only in the mid-range of possible movement. And little or nothing is done in the way of improving flexibility.

If you can “lock out” and hold, as you can in most exercises – then there is no resistance in that position. And without resistance there is no exercise.

You can lock-out in most conventional exercises – the squat, the leg press, bench press, standing press, parallel dips, curl, pullover and many other movements; thus all of these are mid-range exercises... NONE of them are full-range exercises.

You can NOT lock-out in Nautilus exercises – Nautilus provides resistance in every position.

If you encounter areas of movement with little or no resistance, as you do in almost all conventional exercises... then you do NOT have full-range exercise.

This does not happen in Nautilus exercises... Nautilus provides proper resistance in every position.

If you have “sticking points” where the resistance feels much heavier than it does in other areas of the movement... than this is simply another clear indication that you do NOT have full-range exercise. Suck sticking-points are encountered in both squats and leg-presses, in bench-presses and standing presses, in curls and in almost all other conventional exercises.

But there are no sticking-points in Nautilus exercises – Nautilus provides exactly the right amount of resistance in every position. Never too much, never too little.

Nautilus is the ONLY full-range exercise.

But what about the new “Isokinetic” exercises? Don’t they provide full-range resistance?

NO... Isokinetic exercises are NOT full-range exercises.

Isokinetic resistance is linked to movement... you encounter resistance only when you are moving. There is no resistance in the extended (starting) position – and no resistance in the contracted (finishing) position.

Some conventional exercises do at least have resistance in either the starting OR the finishing position – although never in both; but Isokinetic exercises have no resistance in either of these important positions.

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Full-range exercise is simply IMPOSSIBLE with Isokinetic resistance; because there is no “back pressure” to pull the muscle into a pre-stretched and fully extended position at the start of the movement – and no resistance to work the muscles at the end of the exercise when additional movement becomes impossible.

Nautilus is the ONLY full-range exercise.

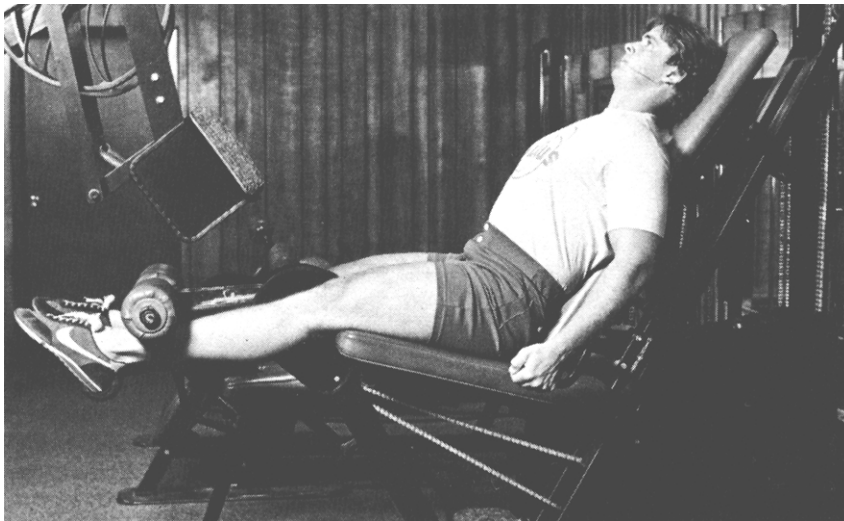
“Function dictates design.” There are certain basic requirements for full-range exercise... and if even one of these requirements is not provided, then full-range exercise is simply impossible.

These requirements are... (1) rotary-form movement, (2) omni-directional resistance, (3) direct resistance, (4) balanced resistance, (5) automatically-variable resistance, (6) negative-work potential.

Conventional exercises provide only one of these basic requirements (negative-work potential) – Isokinetic exercises provide NONE of them.

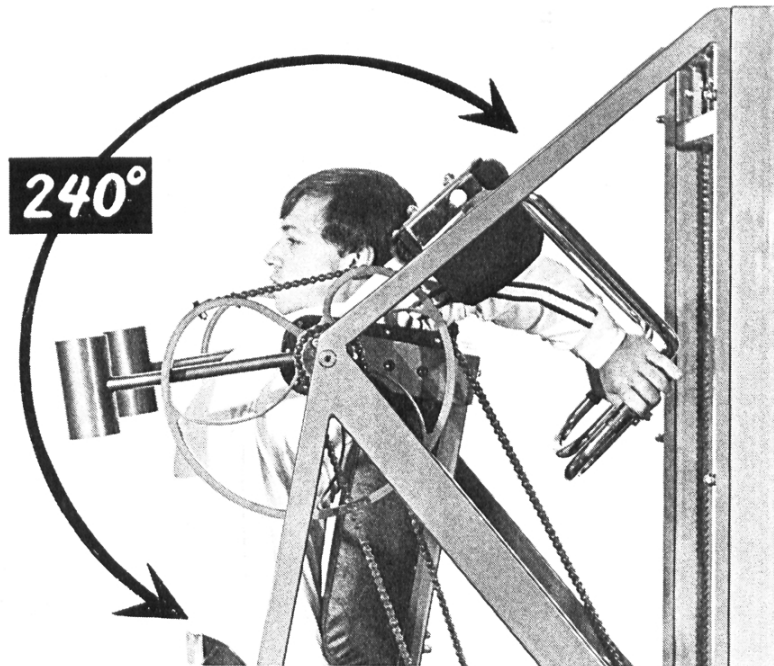
Nautilus provides ALL of these requirements.

Nautilus is the ONLY full-range exercise.

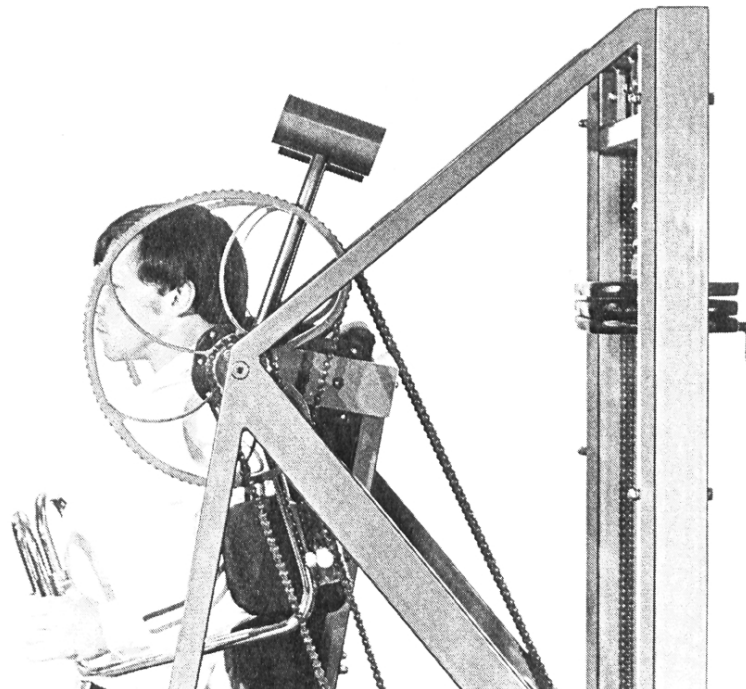


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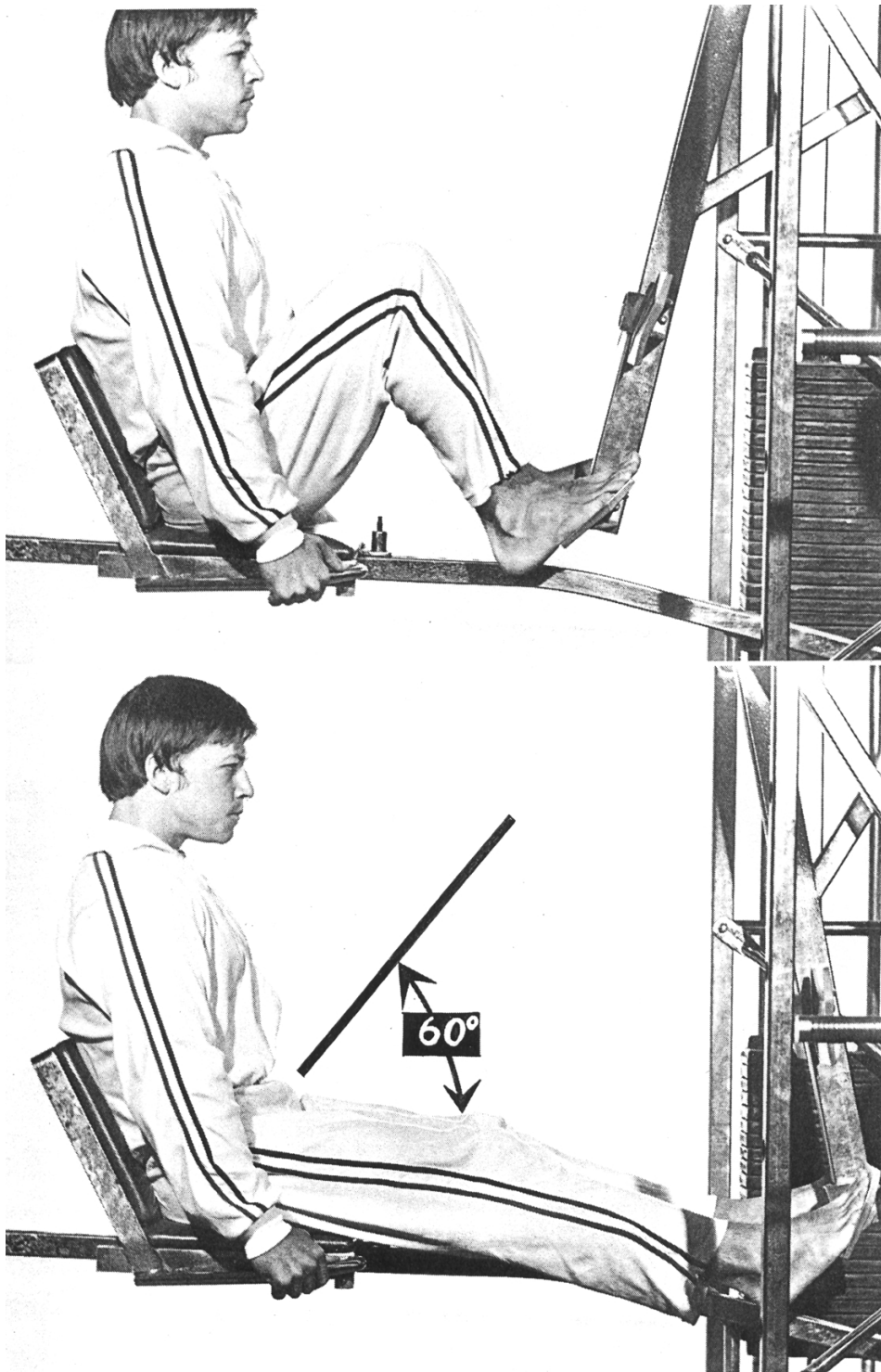
A careful comparison of these two pictures of a Nautilus Pullover Torso Machine gives a clear indication of just what is meant by a truly "full range" exercise. The range of movement is more than 240 degrees – against constant and automatically-variable resistance. The top picture shows the extended or "starting" position – providing the essential pre-stretching that is so important for maximum stimulation of muscular fibers – and equally important for promoting flexibility in the shoulders.



This lower picture shows the fully contracted or "finishing" position – providing heavy resistance in the only position in which it is possible to involve all of the muscular mass. There is no "lock out" in Nautilus exercises – the contracted position must be held by muscular action.

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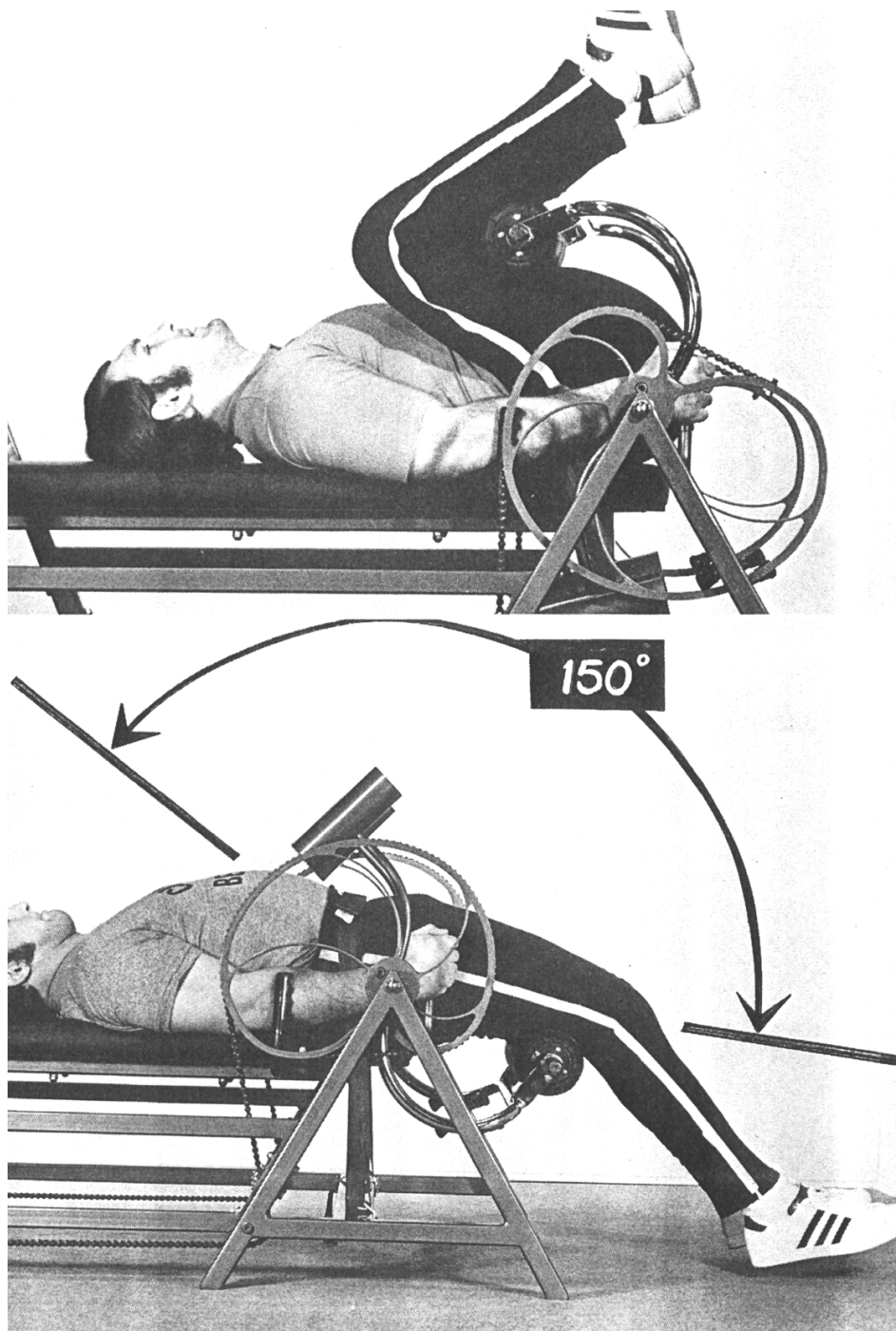
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The limited range of movement in a conventional leg-press is obvious when these two pictures are compared. The leg-press has only 60 degrees of movement – but LESS THAN 60 degrees of EXERCISE; because the “locked out” position at the end of the movement reduces the effective resistance to ZERO. Also note that another full 60 degrees of movement against resistance would be required to reach a position of full contraction... movement and resistance that are NOT provided. The leg-press is a “mid-range” exercise with major shortcomings.

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By comparing the top picture of the starting position in a Nautilus Hip and Back Machine to the bottom picture of the same exercise... it is easy to understand the enormous range of movement provided ONLY by Nautilus. Also compare the Nautilus exercise to the two pictures of a conventional leg-press... and note that Nautilus provides more than two and one-half times as much range of movement. Through a full 150 degrees of movement... the exclusive Nautilus cam provides resistance in proportion to available strength. Less resistance in your weaker positions, more resistance in your stronger positions – correct resistance in every position. The fully-contracted finishing position must be held by muscular action... unlike conventional exercises, you cannot “lock out” and hold the finishing position without resistance. Nautilus provides resistance in the finishing position – and in every other position.

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