

The Power of Cable Machines: Constant Tension, Continuous Growth

Why cables excel at keeping the muscle under load—especially on the negative

Cable machines occupy a unique place in serious strength and physique training. Unlike free weights, which are governed by gravity and often unload the muscle at certain points in the range of motion, a properly set cable keeps continuous resistance on the target tissue from the start of the concentric through the full eccentric. That uninterrupted tension is the feature many advanced trainees and bodybuilders value most.

Constant Tension and the Eccentric Advantage

Mechanical tension is widely regarded as the primary driver of hypertrophy. Cables deliver that tension more evenly across the entire range of motion. On the negative (eccentric) phase—where muscle damage and remodeling signals are particularly strong—the load does not diminish the way a free weight can when the lever arm shortens or the line of pull becomes more favorable. The result is greater average tension per set and often a higher quality stimulus with moderate loads.

- Continuous loading through both the lifting and lowering phases increases time under tension without requiring extreme loads.
- Harder, more controlled negatives become natural; there is less opportunity to “dump” the weight or rest at the bottom or top of the movement.
- The resistance profile can better match a muscle’s strength curve on many isolation and multi-joint patterns, keeping the target muscle working productively throughout.

Additional Training Advantages

Beyond pure tension, cables offer practical benefits that support long-term progress:

- **Versatility** — Height-adjustable pulleys and a wide range of attachments allow virtually unlimited angles for chest, back, shoulders, arms, and core work.
- **Stabilizer and core demand** — Free-moving handles require more control than fixed-path machines; EMG work has shown elevated activity in accessory and core muscles during cable versions of presses and curls compared with selectorized machines.
- **Joint-friendly loading** — Smooth, guided resistance reduces the abrupt peak forces sometimes felt with free weights, making cables a smart choice for high-volume work or training around minor irritations.
- **Easy intensity techniques** — Drop sets, partials, and continuous-tension styles flow naturally because the weight stack is always ready and the line of pull stays consistent.

What the Research Shows

While free weights and machines both produce hypertrophy when volume and effort are matched, cable-specific findings highlight useful differences in muscle activation and loading characteristics:

- Signorile and colleagues (Journal of Strength and Conditioning Research) compared cable and selectorized machines on biceps curl, chest press, and overhead press. Cable versions produced higher activation in several accessory and core muscles and allowed greater ranges of motion in key joints.
- Research on variable versus constant resistance notes that maintaining tension through the eccentric phase can increase total work and neuromuscular demand relative to purely gravity-dependent loading.
- Broader free-weight versus machine meta-analyses find comparable muscle growth between modalities. Cables sit in a productive middle ground—offering free-moving paths with continuous external resistance—making them an evidence-supported tool rather than a compromise.

What Top Bodybuilders Have Said

Elite physiques have long incorporated cables for precisely the reasons outlined above.

“The cables allow you that constant tension... with the cables, it keeps me a little more strict.”

— Jay Cutler, 4× Mr. Olympia, discussing cable curls for complete arm development

“I only use exercises that build mass. That should tell you that I include cables in my biceps workouts because they are mass builders... With cables... I have the additional advantages of a more controlled peak contraction, constant resistance throughout the set, harder negatives...”

— Ronnie Coleman, 8× Mr. Olympia

Dorian Yates famously stressed the importance of the eccentric: the single biggest mistake many trainees make is focusing almost exclusively on the positive while neglecting the negative. Cables make deliberate, loaded negatives straightforward and productive.

Putting Cables to Work

Cables are not a replacement for heavy free-weight compounds; they are a high-value complement. Use them to finish muscle groups with continuous tension, to train at productive angles free weights cannot easily match, and to accumulate quality volume while managing joint stress. When the goal is to keep the target muscle under meaningful load from the first inch of the concentric to the final inch of the eccentric, few tools do it better.

Keep the tension. Own the negative. Let the cables work.

This article is educational and summarizes current understanding of cable-based resistance training alongside published research and the practical experience of high-level bodybuilders. Individual programming should account for goals, recovery, and injury history.