WHITE PAPER 06 / ACADEMY OF STRENGTH

Why Compound Movements Are All You Need

Foundational Lifts for General Strength—and the Exceptions That Earn Their Place

> *"A movement earns its place by what it builds, not by how many exercises fit on the page."*

Executive Thesis

Most training programs become complicated for the wrong reason. Exercises accumulate because variety looks sophisticated, muscles are divided into ever-smaller targets, and fatigue is mistaken for completeness. The result is often more time, more soreness, and less measurable progress.

Compound movements reverse that equation. A squat, press, pull, bench, or deadlift asks multiple joints and muscle groups to produce and control force together. One well-chosen lift can train more tissue, more coordination, and more usable force than a circuit of disconnected movements. For general strength, that efficiency makes compound lifts the default.

> **TITLE BOUNDARY**
> "All you need" is an Academy programming standard for general strength and broad muscular development. It is not an anatomical claim that every compound exercise maximizes every muscle, nor a claim that single-joint exercise has no biological effect. An absolute version of either statement would be false.

Why Compound-First Programming Works

Compound lifts offer a large return on training time. They can expose several major muscle groups to meaningful force in the same set, accept progressive external loading, and produce objective performance records. They also allow the trainee to practice bracing, balance, and force transfer across joints under a stable, repeatable task.

Their value is not that a heavier bar automatically creates more growth. A larger external load is distributed across several joints and muscles. Their value is coverage: a small menu can improve broad force capacity without requiring a separate exercise for every anatomical structure. The 2026 ACSM position stand found that many resistance-training modes improve strength and muscle function and that exercise complexity itself did not consistently determine outcomes.[1] Consistency, effort, progression, and matching the exercise to the goal remain more important than the label attached to the equipment.

What Addition Studies Actually Show

In one 10-week trial of untrained young men, a program built from lat pulldowns and bench presses increased elbow-flexor muscle thickness and peak torque. Adding curls and elbow extensions produced no statistically significant additional improvement in those measured outcomes.[2] In resistance-trained men, eight weeks of multi-joint training likewise produced changes in upper-arm size and single-joint strength similar to the same program with added arm isolation work.[3]

Those trials support a time-efficiency argument, not a universal law. The samples were small, the interventions were short, and the measurements did not capture every muscle or every region. “No significant additional benefit in this study” does not mean “no possible benefit for any person or goal.” It means that more exercises should not receive the benefit of the doubt.

The Newer Evidence Shows Both the Strength and the Limit

A 2026 within-person trial directly compared leg press training in one leg with knee-extension training in the other. Both produced comparable growth in the three vasti muscles and in the quadriceps as a whole. The leg press also increased gluteus maximus and adductor magnus volume, demonstrating the broad coverage that makes a multi-joint exercise efficient.[4]

But the same trial found that knee extension produced far greater rectus femoris growth than leg press. A separate eight-week study found greater elbow-flexor hypertrophy from a biceps curl than from a dumbbell row, although it involved only 10 untrained men.[5] These findings are not an argument for filling every program with isolation work. They are evidence that exercise selection is specific and that indirect involvement may not maximize every muscle.

Squat research makes the same point. Ten weeks of full- or half-squat training increased knee-extensor, gluteus maximus, and adductor muscle volume, with deeper squatting producing greater gluteal and adductor growth. Hamstring and rectus femoris volume did not significantly increase in either condition.[6] A compound lift can be extraordinarily productive without being anatomically complete.

General Strength Is Not Maximum Regional Hypertrophy

The apparent conflict disappears when the goal is stated honestly. Academy of Strength is not a bodybuilding system designed to maximize the size of every muscle region. It is a general strength system designed to make people more capable through a small number of scalable, measurable lifts.

For that mission, failing to maximize rectus femoris or biceps hypertrophy in isolation does not invalidate the squat or pull. The question is whether the person is becoming stronger across the major movement families and whether that strength supports the demands of life, work, or sport. If the answer is yes, adding exercises merely to make the program look complete is wasted complexity.

The Five Books as a Coverage System

Squat trains the coordinated production of force through the hips, knees, trunk, and feet. Press trains vertical force through the shoulder girdle, arms, and trunk. Pull trains vertical or horizontal pulling through the back, arms, grip, and trunk. Bench trains horizontal pressing with stable, measurable loading. Deadlift trains force production from the floor through the posterior chain, trunk, and grip.

These are movement families, not sacred equipment choices. Anatomy, injury history, tolerance, access, and the intended test determine the variation. A person may use a barbell, dumbbells, a machine, or body weight when that version is safe, repeatable, and progressively loadable. The family preserves the purpose while the variation serves the person.

When an Additional Exercise Earns Its Place

An additional movement earns a place when a specific need has been identified: rehabilitation after injury, restoring tolerance in a tissue that cannot yet participate fully, or correcting a documented gap that limits the primary lifts. In those cases, the exercise is not filler. It has a defined target, a measurable outcome, and an exit or progression criterion.

If someone's goal is maximum development of a particular muscle, the evidence does not support claiming that compound lifts always maximize that outcome. That is a different goal and should be programmed honestly. The Academy does not need to adopt bodybuilding priorities in order to acknowledge the biology.

Strength improvements are also specific to the practiced task. Repeated practice of a one-repetition maximum can raise that test even without the greater muscle growth produced by higher-volume training. [7] Compound lifts should therefore be selected because they are the capacities the program wants to build and measure—not because every barbell exercise automatically transfers everywhere.

The Academy Filter

Before adding an exercise, ask four questions. What exact problem does it solve? What outcome will show that it worked? Does a primary lift already provide enough stimulus? Is the benefit worth the time and recovery cost? If those questions cannot be answered, the exercise has not earned its place.

This filter protects the program from both extremes. It rejects random accessory clutter, and it also prevents doctrine from overruling evidence when rehabilitation or a clearly defined limitation requires a more specific tool.

Conclusion

Compound movements are all most people need to build broad, measurable general strength. They cover large amounts of muscle, train force across coordinated movement, and make progression difficult to fake. That is a powerful programming advantage.

They are not all that human anatomy can respond to, and they do not maximize every possible adaptation. The honest Academy position is stronger than the absolute slogan: begin with the foundational lifts, progress them for long enough to judge the result, and add nothing until a real need earns the space.

> *"Master the movements that build the system. Add only what the system proves it needs."*

References

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