Machines vs Free-weights

Machine vs free-weight exercises have been a long debate in the fitness industry for which is most effective. Both machines and free-weights have their strength and weakness and should be integrated based on your training history/injury, goals, and personal preference. For most individuals a combination of both machines and free weights can be used in their training programs.

The main pro of machines are their ease of use and minimal risk of injury. Most machines have instructions and a fixed movement path making them easy to use for most beginners. In addition, the fixed movement path takes away the challenge of stability and decreases the risk of injury. This allows intermediate and advanced lifters to push to failure or beyond, without having the fear of a barbell falling on your face!

Machine Exercise – Lat Pulldown

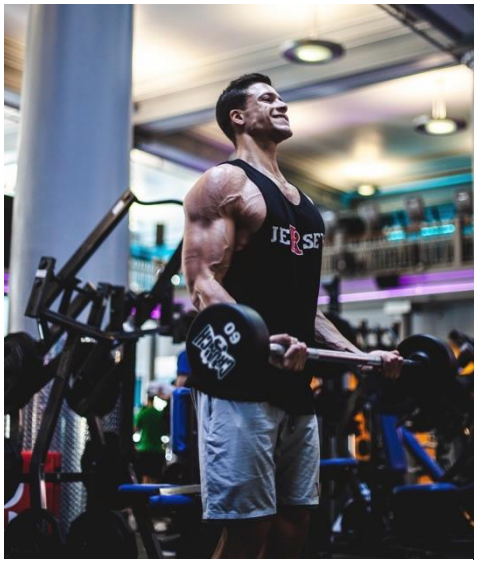
While a fixed movement path and increased stability is a pro, these are also the main con of machines. The movement path of machines is designed for most people, but not everyone has the same biomechanics. No matter how much you adjust the settings on the machine, some machines just will not work for your body. Machines also tend to isolate muscle groups better, while this might be a pro, they are also a con. Compared to compound free-weight exercises, machines are never able to integrate as many muscles and motor units for the same movement pattern.

The main pro of free-weights is that they integrate a larger group of muscles and teach basic human movement patterns. Free-weight compound exercises, like the squat, bench press, and deadlift, can be plated to hold a heavier load than machines and integrate more muscle groups, creating a greater stimulus for growth. Free-weight exercises also teach basic movement patterns, like a hinge and squat, which have greater carryover to machine exercises and other

Free Weight – Dumbbell Shoulder Press

physical activities, such as running, jumping, and moving furniture.

The major con of free-weights is the stimulus to fatigue ratio. Because free-weights can be loaded heavy and create greater stimulus for muscle growth, they also create greater overall stress for the body especially the stabilizer muscles (low back) and joints. Free-weights also have a steep learning curve compared to machine exercises; without a fixed movement pattern most beginners will struggle to have perfect form for the first few months.



Free Weight – Barbell Curl

Overall, both machines and free-weights should have a place in your training program. My general recommendation when creating a workout program would be to start off with 1-2 compound free-weight exercises, followed by 1-2 compound exercise on machines, then 2-3 isolation exercises that can be either free-weight or machine.

Sample Upper Body Workout:
Barbell Bench Press 3 x 6-8
Dumbbell Bent Over Row 3 x 8-10
Machine Shoulder Press 3 x 8-12
Lat Pulldown 3 x 10-15
Hammer Curls 3 x 10-15
Triceps Pushdown 3 x 10-15
Face Pulls 2 x 10-15