

FREEMAX FITNESS

ECCENTRIC TRAINING. REIMAGINED.



A PRACTICAL TOOL FOR ACCENTUATED ECCENTRIC LOADING

Accentuated eccentric loading (AEL) uses a greater load while lowering than lifting. Ordinary fixed-load barbell training is constrained by the load the athlete can lift. FREEMAX Weight Releasers let coaches select the lowering load independently from the bar load driven upward.

1 LOAD Add the desired releaser load.	2 LOWER Control the increased eccentric load.	3 RELEASE Releasers disengage at the preset height.	4 DRIVE Lift the remaining bar load.
---	---	---	--

AEL DOES NOT HAVE TO BE SUPRAMAXIMAL. Example: 80% down / 60% up is AEL.

WHY FREEMAX FOR A TEAM WEIGHT ROOM?

PATENTED, COMPACT DESIGN Practical for collegiate and professional weight rooms; stores right on the rack.	REPEATABLE SETUP Longer rigging and numbered webbing help reproduce release height.
MICRO-ADJUSTABLE Fine-tune the release point to the athlete, exercise and objective.	QUICK WEIGHT CHANGES Simple loading and resetting support busy training environments.
QUIET + BAR-FRIENDLY Soft webbing protects Olympic bars and avoids bulky metal impact.	BUILT IN THE USA CNC-machined aircraft-grade aluminum with hard-coat anodizing.

APPLICATIONS: Bench Press | Squat | Overhead Press | Dips | Pull-Ups | Strongman | Cluster AEL | Coach-directed eccentric and drop-set applications

Designed by an orthopedic surgeon and physical therapist. Freemax began with a need for a better way to perform serious eccentric training in a military gym at Guantanamo Bay and evolved from CAD and 3D-printed prototypes into an American-made, family-run product.

FREEMAX-FITNESS.COM | Questions about outfitting multiple racks? Contact Freemax Fitness.

Safety: Weight releasers are a training aid, not a substitute for proper safety equipment. Always use a power rack or safety spotter arms, proper technique and appropriate supervision.

WHAT WEIGHT RELEASES MAKE POSSIBLE

Muscles generally produce greater force during eccentric actions than during concentric actions, but ordinary fixed-load barbell training is limited by the load the athlete can lift. Weight releasers add load to the lowering phase while leaving the selected bar weight for the concentric phase.

Published weight-releaser protocols have demonstrated changes in eccentric rate of force development (RFD), greater braking force and impulse, and - in specific AEL plus rest-redistribution protocols - greater peak concentric velocity and power.

Coach's takeaway: Freemax turns eccentric load into an independent programming variable inside familiar barbell movements.



PROGRAM THE STIMULUS - NOT JUST THE LOAD

Load, descent speed, braking strategy, overloaded range and set structure all change the training demand.

ONE TOOL. MULTIPLE ECCENTRIC OBJECTIVES.

CONTROLLED AEL

Added load with a deliberate descent. Emphasizes control, position and exposure to greater eccentric force.

ACCELERATED ECCENTRIC

A faster intentional descent increases downward velocity and braking demand. Select overload that preserves the intended speed.

BRAKING EMPHASIS

Carry added load through deceleration. Research supports greater braking force and impulse with maximal and supramaximal AEL.

FULL-ROM OVERLOAD

Maintain added load throughout the athlete's selected eccentric range and release at the transition.

PARTIAL-ROM OVERLOAD

Release added load at an adjustable point, limiting overload to a selected portion while the exercise may continue through full ROM.

CLUSTER AEL

Use short intraset rests to reattach releasers and repeat eccentric exposure while managing concentric quality.

WEIGHT RELEASES IN PUBLISHED RESEARCH

WAGLE ET AL. - BACK SQUAT

At 105% down / 80% up, AEL altered eccentric RFD; cluster configuration produced greater later-repetition eccentric RFD.

SUCHOMEL ET AL. - BRAKING DEMAND

At 100% or 110% eccentric loading, weight releasers produced greater braking mean force and impulse than traditional loading.

CHAE ET AL. - HIGH-VOLUME CLUSTERS

At 110% down / 60% up, AEL every other repetition with rest redistribution produced greater peak concentric velocity and power than traditional 60/60 sets.

PROGRAMMING CONSIDERATIONS

LOAD + VELOCITY Higher is not automatically better. Match overload and descent speed to the intended stimulus.	FAMILIARIZATION Practice setup, release height and movement before progressing eccentric load.
ATHLETE READINESS AEL is an advanced method. Account for strength, technique and training age.	RECOVERY + SAFETY Use qualified supervision, rack safeties and appropriate recovery between exposures.

SELECTED REFERENCES

Wagle JP et al. Sports. 2018;6:59. doi:10.3390/sports6030059.
Suchomel TJ et al. J Hum Kinet. 2024;91:121-133. doi:10.5114/jhk/185726.
Chae S et al. J Strength Cond Res. 2024;38:640-647. doi:10.1519/JSC.00000000000004688.

Chae S et al. J Strength Cond Res. 2024;38:648-655. doi:10.1519/JSC.00000000000004694.
McDowell KW et al. J Strength Cond Res. 2025;39:850-856. doi:10.1519/JSC.00000000000005135.
Zhang X et al. Sports Med. 2026;56:1749-1770. doi:10.1007/s40279-026-02422-7.