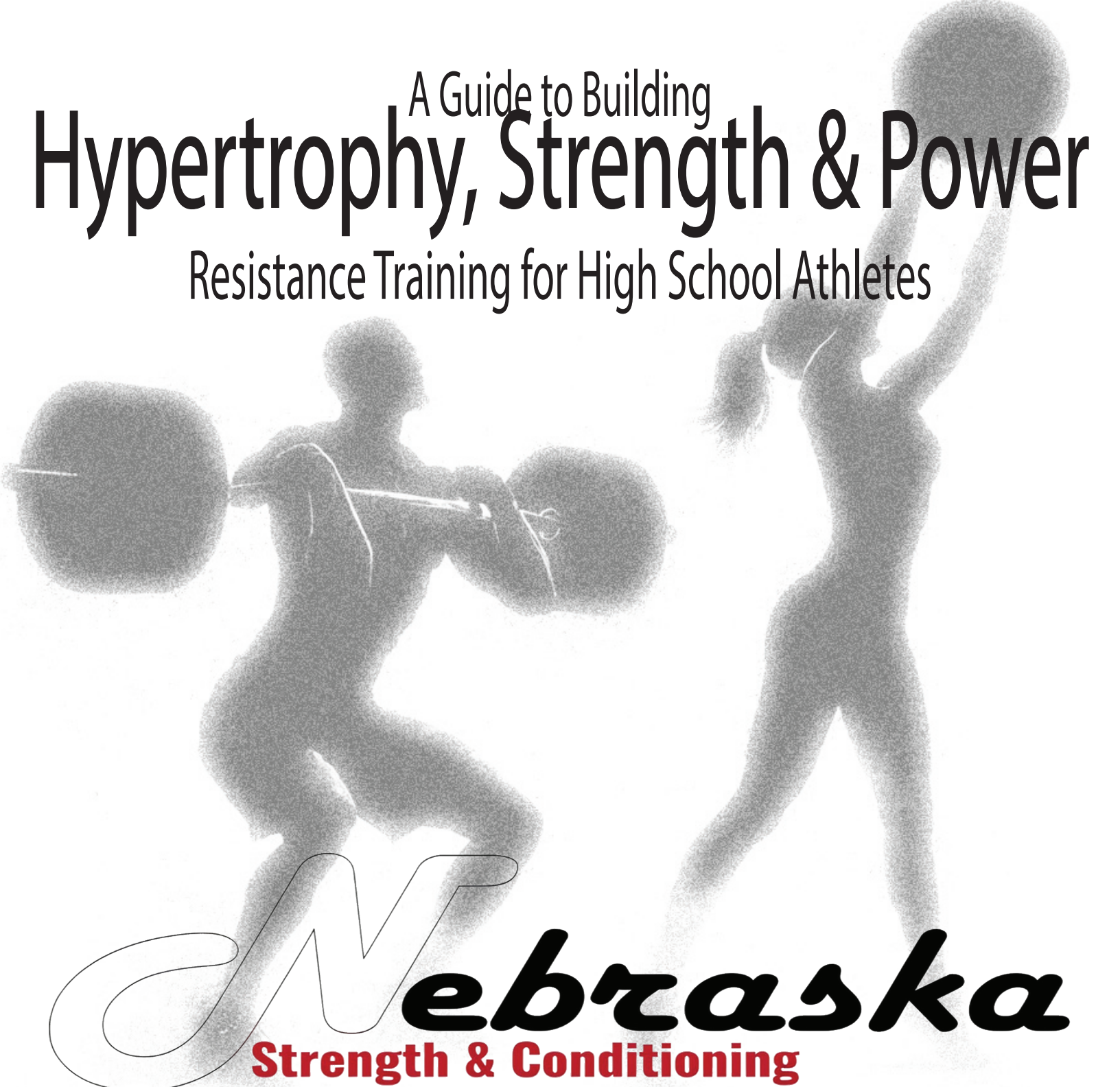


A Guide to Building
Hypertrophy, Strength & Power
Resistance Training for High School Athletes



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The Foundation of Athleticism

Resistance training is the most effective way for an athlete to improve their physical potential. A structured, periodized program can increase muscle size, maximize strength, and, most importantly, convert that strength into explosive, game-winning power. This guide provides a framework for understanding and implementing the three primary goals of athletic resistance training:

- **Hypertrophy (Building Muscle):** Increasing the size of muscle fibers. This creates a larger "engine" with greater potential for force production and improved injury resilience.
- **Maximal Strength (Getting Stronger):** The ability of the neuromuscular system to produce the greatest possible force in a single effort. Strength is the foundation upon which all other athletic qualities, especially power, are built.
- **Power (Being Explosive):** The ability to generate high levels of force at high speeds ($\text{Power} = \text{Force} \times \text{Velocity}$). This is critical for almost every sport, translating to higher jumps and faster sprints.

Key Training Qualities & Loading Parameters

Hypertrophy: The "Base" Phase

The goal is to build muscle mass and prepare tissues (muscles, tendons, ligaments) for intense training. This phase focuses on volume and metabolic stress.

<u>Parameters</u>	<u>Goal</u>
Intensity (% 1RM)	60-75%
Repetitions	8-15 per set
Sets	3-5 per exercise
Rest Period	60-90 seconds

Maximal Strength: The “Development” Phase

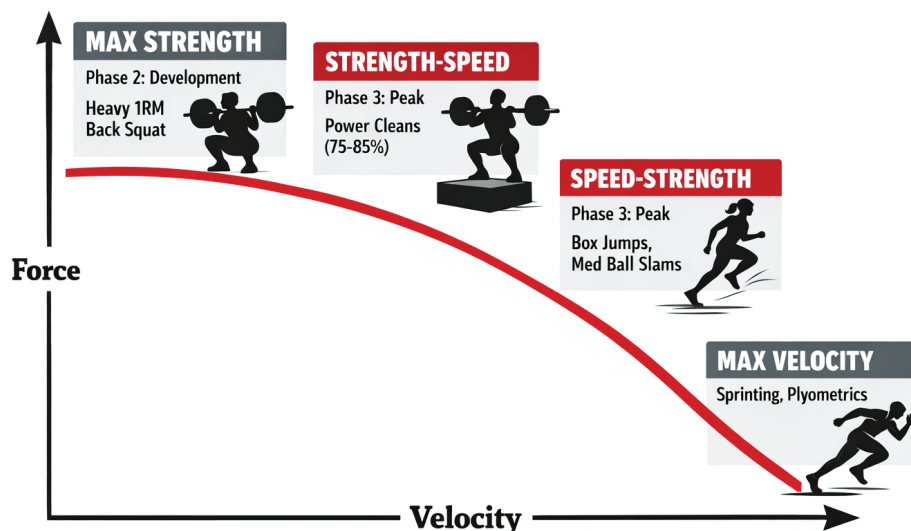
Focus shifts from volume to intensity. The goal is to train the nervous system to recruit more muscle fibers and produce maximum force.

<u>Parameters</u>	<u>Goal</u>
Intensity (% 1RM)	85-100%
Repetitions	1-6 per set
Sets	3-6 per exercise
Rest Period	2-5m (Full recovery is key)

Power: The “Peak” Phase

Converting strength into speed and explosiveness. The focus is moving weight as fast as possible.

<u>Parameters</u>	<u>Goal</u>
Intensity (% 1RM)	30-90% (strength-speed or speed-strength)
Repetitions	1-5 per set
Sets	3-5 per exercise
Rest Period	2-5m (Max velo every rep)



Linear Periodization Model

	<u>Phase 1: Base</u>	<u>Phase 2: Development</u>	<u>Phase 3: Peak</u>
Duration	4-6 Weeks	4-6 Weeks	3-4 Weeks
Primary Goal	Build muscle mass/work capacity	Increase maximal strength	Max Rate of Force Development
Volume	High	Moderate	Low
Intensity	Low-Moderate	Low-Moderate	High (Velo is key)

Sample 12-Week Training Program

Phase 1: Base (Weeks 1-4) | Hypertrophy Focus

Day 1: Lower Push / Upper Pull

Exercise	Sets/Reps	Intensity	Focus
Goblet Squat	3 x 10	65-75%	Controlled Tempo
Bent Over Row	3 x 10	65-75%	Muscle Tension
DB Incline Press	3 x 12	65-75%	Hypertrophy

Day 2: Lower Pull / Upper Push

Exercise	Sets/Reps	Intensity	Focus
Barbell RDL	3 x 10	65-75%	Posterior Chain
Overhead Press	3 x 12	65-75%	Structural Integrity
Lat Pulldown	3 x 12	65-75%	Volume

Day 3: Total Body Variation

Exercise	Sets/Reps	Intensity	Focus
Lunges	3 x 10e	60-70%	Stability
Seated Cable Row	3 x 12	65-75%	Volume
DB Bench Press	3 x 12	65-75%	Hypertrophy

Sample 12-Week Training Program (cont.)

Phase 2: Development (Weeks 5-8) | Strength Focus

Day 1: Max Force Production

Exercise	Sets/Reps	Intensity	Focus
BB Back Squat BB	5 x 5	80-90%	Maximal Strength
Bench Press	5 x 5	80-90%	Maximal Strength
Weighted Pull-Ups	4 x 6	BW+	Vertical Pull

Day 2: Posterior & Core Strength

Exercise	Sets/Reps	Intensity	Focus
Barbell Deadlift	5 x 3	85-95%	Maximal Strength
BB Overhead Press	4 x 6	80-90%	Core Stability
Pendlay Row	4 x 6	80-90%	Explosive Strength

Day 3: Supplemental Strength

Exercise	Sets/Reps	Intensity	Focus
Front Squat	4 x 5	75-85%	Quad Dominant
Neutral Grip DB Press	4 x 8	75-85%	Shoulder Health
Single Leg RDL	3 x 10e	Moderate	Unilateral Balance

Quality Over Quantity

While the Base Phase thrives on high volume, the Strength and Power phases require lower volume and longer rest periods (2-5 minutes). This ensures the nervous system is fully recovered to produce maximum force and velocity on every rep.

Sample 12-Week Training Program (cont.)

Phase 3: Peak (Weeks 9-12) | Power Focus

Day 1: Strength-Speed (Heavy/Fast)

Exercise	Sets/Reps	Intensity	Focus
Power Clean	5 x 3	75-85%	Explosive Pull
BB Back Squat	3 x 3	85-95%	Heavy Load
Push Press	4 x 4	75-85%	Triple Extension

Day 2: Speed-Strength (Light/Explosive)

Exercise	Sets/Reps	Intensity	Focus
Box Jumps	5 x 3	Bodyweight	Maximal Height
Med Ball Slams	4 x 5	Max Velocity	Explosive Power
MB Rotational Toss	4 x 5e	Max Velocity	Rotary Power

Day 3: Integrated Athleticism

Exercise	Sets/Reps	Intensity	Focus
Trap Bar Jump	5 x 3	30-40%	Peak Power
Speed Bench Press	6 x 2	45-55%	Compensatory Acc
SA DB Row	4 x 5e	Explosive Pull	Stability

The Power Conversion

Strength becomes athleticism in the Peak Phase. To maximize the Rate of Force Development (RFD), the focus must shift from simply moving weight to moving weight as fast as humanly possible.