



Football

Preseason Resistance Training for Football

John Taylor, MS, CSCS,*D

Resistance training for any sport, including football, must be done in conjunction with other training components and integrated in such a fashion that ensures comprehensive preparation. Training components that need to be considered during all phases of training for football would include power, speed, agility, conditioning, and flexibility. Depending on the training cycle (post-season, pre-season, competitive-season), emphasis on each component will vary and the amount of time spent on each will vary accordingly. For instance, during post-season training the emphasis is often placed on resistance training and less on the other training components, especially conditioning.

Although resistance training is always a priority due to the physical contact nature of the sport; speed, agility, and conditioning training increase in priority during pre-season training in preparation for the competitive season. It is important that the concept of comprehensive integrated training is kept in mind when specifically discussing the resistance training protocol (Table 1).

In preparation for the competitive season, the preseason training cycle begins 10 to 12 weeks prior to the first day of practice. An in-season protocol is used once practice begins. The pre-season training cycle is divided into four segments with different objectives: general preparation, basic strength, and power/strength. The fourth segment is an unload week. The unload week occurs at the mid point of the cycle for the purpose of reducing overtraining syndrome and promoting super compensation (1).

One commonly used resistance training approach for football is a four day split program. Training takes place on Monday, Tuesday, Thursday, and Friday. Saturday, Sunday, and Wednesday are recovery opportunities; no training is done on these days. Monday and Tuesday are heavy training sessions while

Thursday and Friday are relatively lighter, emphasizing rate of force development. On Monday and Thursday the emphasis is on lower body power and strength with additional back and bicep training. Speed and agility, which includes plyometrics, are also trained Monday and Thursday. This training is done on the field prior to resistance training at low volume with full recovery (1:10 to 1:20 work to rest ratio). The protocol for speed and agility minimizes lower body fatigue and is paired with lower body resistance training increasing the opportunity for quality training. On Tuesday and Friday the emphasis is on upper body power and strength training. Anaerobic conditioning utilizing Tactical Metabolic Conditioning (1, 2) is carried out on the field prior to resistance training on these two days. Due to the considerable lower body fatigue created during anaerobic conditioning, it is matched with upper body power and strength training.

Pre-season training is developed with the understanding that post-season training during the late winter and early spring months was completed successfully and that athletes are just coming off an active rest period of two to three weeks. The first and second week of the pre-sea-

Table 1. Resistance Training Protocol

Heavy Training Days		Relative Light Training Days	
Monday	Tuesday	Thursday	Friday
Speed/Agility	Anaerobic Conditioning	Speed/Agility	Anaerobic Conditioning
Lower Body/PS	Upper Body/PS	Lower Body/RFD	Upper Body/PS

RFD = Rate of Force Development PS= Power and Strength

son cycle are dedicated to general preparation. General preparation consists of three to four sets of eight repetitions (Table 2). Weeks three, four, and five are dedicated to increasing basic strength and consist of three to four sets of five to eight repetitions. The repetitions for some assistance lifts remain in the general preparation range to facilitate further increases in muscle size (hypertrophy) and local muscular endurance (Table 3). Week six is an unload week with a reduction in load but not volume and looks just like week five. Weeks seven through twelve are dedicated to increasing power and strength and consist of three to four sets of three to four repetitions. Again a few of the assist lifts remain at eight repetitions for the reasons stated previously (Table 4). Weeks 11 and 12 significantly decrease in volume to facilitate additional recovery in preparation for the beginning of practices. Throughout the progression, from one segment of training to another, volume decreases due to a reduction in repetitions and the number of assist exercises. As the volume decreases the load increases.

Loads are assigned throughout the cycle utilizing a consistent method (Table 5). Primary exercise loads are assigned utilizing progressive increasing percentages of an athletes' one repetition maximum (1RM). Assistance exercise loads are assigned utilizing a relative repetition maximum. A relative repetition maximum is the heaviest weight that can be utilized completing the prescribed repetitions. Monday and Tuesday training sessions are heavy training days and Thursday and Friday training sessions are relatively lighter with loads assigned at nine percent less than heavy days. Lighter training sessions focusing

on rate of force development. During the unload week Monday and Tuesday training loads are assigned utilizing the relative lighter day training loads and Thursday and Friday loads are set at nine percent less than Mondays and Tuesday.

All training sessions include at least one multi-jointed power exercises as well as trunk exercises. Repetitions for power exercises are always assigned in the strength and power range (three to six repetitions) even during the general preparation phase of training. Because a dynamic warm-up is required prior to speed, agility, and conditioning, and these components are trained prior to resistance training; athletes are sufficiently prepared to begin resistances training. Warm-up sets for individual exercises are not formally prescribed, athletes are allowed to select warm-up sets on their own, but are required to stay at or below 10 repetitions utilizing no more than 60% of the 1RM. Flexibility training is done at the end of each training session.

Mental approach is important to the success of any training program. Athletes must approach the heavy training sessions with the attitude that every ounce of energy will be used in the training session. During heavy training sessions the last sets are to be done to failure on every exercise. If more repetitions are completed at the assigned load then prescribed, they are to record the number of repetitions. With this information a new 1RM will be assigned for the next week's training sessions by adding five pounds per additional repetition. The next week's training loads will then be figured on the new 1RM. Relative lighter training sessions are approached with the intent

that every repetition is done at as fast a rate as possible. Athletes are required to do only the recommended sets and repetitions during these training sessions, no more, no less. If training sessions are approached in this manner athletes will mentally and physically require full recovery on Saturday, Sunday and Wednesday.

Due to the integrated comprehensive approach of this pre-season training model, and the fact that the emphasis of training is on speed, agility, and conditioning, a large number of resistance training exercises per training session are not utilized. The pre-season resistance

Table 2. General Preparation Phase Sample Program (Monday and Tuesday only)

Monday	Repetitions
Over-Head Squats	6
Power Clean	6
Squats	8
Power Shrug	6
Stiff Leg Dead Lifts	8
Wide Grip Pull Ups	8
Bicep Curl	8
Trunk: Supine Leg Extensions	10
Trunk: Opposite Leg and Hand	10

Tuesday	Repetitions
Push Press	6
Bench Press	8
DB Incline	8
Triceps Extension	8
4-way Neck	8
Rear Raise	8
Trunk: Torsos Rotations Med Ball Sit-ups and Sit Catch (Circuit)	6

training protocol consists of relative low volume, few exercises, and varying load assignments (Heavy/Relatively Light). This helps to reduce residual fatigue, allowing for greater effort during speed, agility, and conditioning sessions. Furthermore, this approach is intended to reduce the possibility of overtraining syndrome due to the integrated comprehensive nature of pre-season training (1). The demands of football require short bursts of maximal effort with significant opportunity for recovery between plays and series of plays (1). It is a game of power, strength, speed, agility, and conditioning. Thus, training should be planned utilizing an integrated comprehensive approach in accordance with the demands of the game, particularly the preseason training.

References

1. Baechle TR, Earle RW. (2000). *Essentials of Strength Training and Conditioning* (2nd ed.). Champaign, IL: Human Kinetics.
2. Taylor J. (2004). A tactical metabolic training model for collegiate basketball. *Strength and Conditioning Journal*, 26(5): 22 – 29.

About the Author

John Taylor became the Head Performance Training Coach at New Mexico State University in 1992. Prior to that he spent 3 years as an assistant football coach and Special Teams coordinator for the Aggies. John came to New Mexico State after serving as an Assistant Football Coach and Physical Education Instructor at the University of Nebraska Kearney. He was voted by his peers the Big West Conference Strength and Conditioning Professional of the year in 1997 and National College Strength and Conditioning Professional of the year 2001. John holds a BS in Physical Education and an MS in Athletic Administration and Sports Management from the University of Wyoming.

Table 3. Basic Strength Phase Sample Program (Monday & Tuesday Only)

Monday	Repetitions
Over-Head Squats	5
Power Clean	5
Squats	5
Power Shrug	5
Stiff Leg Dead Lifts	8
Wide Grip Pull Ups	8
Bicep Curl	8
Trunk: Supine Leg Extensions	15
Trunk: Opposite Leg and Hand	15

Tuesday	Repetitions
Push Press	5
Bench Press	5
DB Incline Press	8
Tricep Extension	8
4-way Neck	8
Rear Raise	8
Trunk: Torsos Rotations Med Ball Sit-ups and Sit Catch (Circuit)	6

Table 4. Power and Strength Phase Sample Program (Monday and Tuesday Only)

Monday	Repetitions
Over-Head Squats	4
Power Clean	4
Squats	4
Power Shrug	4
Wide Grip Pull Ups	8
Trunk: Supine Leg Extensions	15
Trunk: Opposite Leg and Hand	15

Tuesday	Repetitions
Push Press	4
Bench Press	4
Incline DB Bench Press	8
4-way Neck	8
Trunk: Torsos Rotations Med Ball Sit-ups and Sit Catch (Circuit)	6

Table 5. Training Load Assignment

Reps	Heavy Training Days				Relative Light Training Days			
	Sets				Sets			
	1	2	3	4	1	2	3	4
1	82%	88%	94%	100%	73%	79%	85%	91%
2	79%	85%	91%	97%	70%	76%	82%	88%
3	76%	82%	88%	94%	67%	73%	79%	85%
4	73%	79%	85%	91%	64%	70%	76%	82%
5	70%	76%	82%	88%	61%	67%	73%	79%
6	67%	73%	79%	85%	58%	64%	70%	76%
7	64%	70%	76%	82%	55%	61%	67%	73%
8	61%	67%	73%	79%	52%	58%	64%	70%
9	58%	64%	70%	76%	49%	55%	61%	67%
10	55%	61%	67%	73%	46%	52%	58%	64%