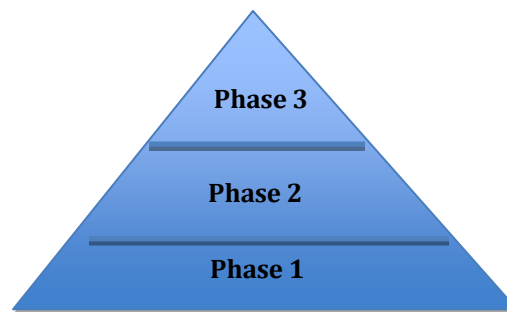


Pyramid Training for Track & Field Athletes

Al Biancani Ed.D, CSCS*D

My job as a strength and conditioning coach is to make better athletes. My role is to help them become stronger, jump higher, run faster and the ability to change direction quicker. Everything I will do has been scientifically proven and will be related to their sport. Specific drills will break down body parts (basic movements). For example, being able to move in multiple directions equally, push leg on defense, quick feet and balance to list a few. In order to change someone's technique and ingrain a new technique into the nervous system (through neural pathways), it will take hundreds of repetitions.

My philosophy to obtain these goals is based on a pyramid design. This pyramid is broken down into three parts (or phases). The first phase would be at the bottom and the third and last phase being at the top (as shown in the diagram). Another way of looking at it, in scientific terms, the entire triangle is a Macro-cycle. Each phase in the Macro-cycle is called Meso-cycles. Within these Meso-cycles, there are Micro-cycles, which are the changes that occur in the cycle, i.e. periodization in weight training. Following the diagram, I will break down each phase in detail.



- A. The Base Phase (Phase 1). This is the most important phase because it sets the tone on how you will be able to handle the intensity of the other two phases. This phase works on aerobic conditioning (type I muscle fiber) which is very important for doing long bouts of work and recovering quickly from that bout of work. Without the ability to drop your heart rate quickly, it will definitely reduce the efficiency of the next two phases. This phase should be worked on for about 2-4 weeks depending on their conditioning when arriving.
 - a. The strength program will be hypertrophy (strength gaining).
- B. Specifics
 - a. Phase one (Base phase) (Type I Muscle Fiber)
 - i. Testing to see the athletes status, strength and conditioning
 - ii. Teaching and re-teaching running mechanics.
 - iii. Teaching the 5 step drill for quicker acceleration
 - iv. Teaching proper jumping mechanics
 - v. All of the above will be incorporated into their athlete development & conditioning program
 - vi. Teaching proper weight lifting technique
 - vii. Do interval training for aerobic conditioning
 - 1. Run on the track
 - 2. Use cardio vascular machines
 - 3. Run on the floor
 - 4. Rest interval should be 1 to .5 - 1
- C. The second phase, is a transition phase with the volume of work less and the intensity of the workload getting faster and the rest interval longer. This phase will be divided into 2a & 2b. The type of muscle fiber

- D. targeted is Type IIa. This type of fiber is for prolonged anaerobic activities with relatively high force, the intensity should be 85 -95% depending on the length of time the drill goes.
 - a. The strength program will go to Strength- Speed component. This phase will still build strength with speed being introduced. We will do some Complex Training
 - b. More sports specific activities will be added to the athlete development.

- E. Specifics
 - a. Phase Two (Transition Phase) (Type IIa Muscle Fiber)
 - i. Quantity of work will reduce a little but Quality (speed) will go up
 - ii. The work to rest ratio should go to 1 to 2 - 3
 - iii. More Sports specific activities will be added, the bouts of work will last 45 sec – 1 minute
 - 1. Plyometrics (upper and lower body)
 - 2. Acceleration hurdles
 - 3. Bozu ball will be added to create unstable surface for balance.
 - 4. Single leg work for balance will be added
 - 5. Use of circuit training will begin.
 - 6. The use of tubing both body and ankle will be increased for power.
 - 7. Toward the end we will do interval training but at shorter distance and quicker
 - 8. Strength training will be Strength - Speed oriented
 - 9. Some complex training

- F. The third phase, which last at least 3 – 5 weeks, is the peak phase. The muscle fiber type to be trained is Type IIb. This type of fiber is for flat out speed, the quality of work will be of the utmost importance. The athletes should be required to work at 90 – 100% of their ability in all activities they do. The rest interval between bouts of work needs to be longer because of the intensity.
 - a. The strength program will be Speed-Strength oriented. This phase coincides with speed development without losing any strength. We will go from 4 -5 days of strength training to 3 days of strength training.
 - b. This is the time for the athletes to sharpen up and get rest both physically and mentally.

- G. Specifics
 - a. Phase Three (Peak Phase) (Type IIb Muscle fiber)
 - i. We will do short hard sprints to train the speed fiber
 - ii. The Quality should be extremely high and the quantity low. The work to rest ratio should be 1 to 5 - 6
 - iii. Plyometrics will be minimal or eliminated
 - iv. Medicine ball will be used but more for sports specific activities
 - v. Strength training will be Speed – Endurance

- H. Sample Track program by phase (400 Meter Runners)
 - a. Phase I
 - i. Monday
 - 1. Warm-up (Core Work IE Planks)
 - 2. Dynamic Warm up
 - 3. 3-6 x 600 (start with 100M jog reduce to 50m jog)

4. Strength Training (upper and lower body)
5. Cool Down & Stretch (Static Stretching)
- ii. Tuesday
 1. Warm-up (Core work Med Abs)
 2. Plyometrics (Upper and Lower Body)
 3. 6-8 x 300 (start with 100M jog reduce to 50m jog)
 4. Strength Endurance
 - a. 100m C3
 - b. 80m A3
 - c. 120m A3
 - d. 80m B2
 - e. 40m B2
 5. Strength Training (upper body only)
 6. Cool Down and Stretch
- iii. Wednesday
 1. Warm up (Core Crunches)
 2. Run (Start with 100m jog reduce to 50m jog)
 - a. 200&200
 - b. 200&200&100
 - c. 200&200&200
 - d. 200&200&200
 - e. 200&200&100
 - f. 200&200
 3. Strength Training (Upper and Lower Body)
 4. Cool Down and Stretch
- iv. Thursday
 1. Same as Tuesday except do Power Speed instead of Strength Endurance
 - a. Power Speed
 - i. 4 x 20m
 1. A2
 2. B2
 3. C1
 4. A3
 5. B3
- v. Friday
 1. Warm up (Core Friday Abs)
 2. Strength Training Same as Monday)
 3. 2 x 500 controlled
 4. 2 x 300 controlled
 5. Strength Endurance as Tuesday
 6. Cool Down and Stretch

b. Phase II

i. Monday

1. Warm Up (Core Bridges)
2. 4-5 x 600 Pick up tempo (100M jog)
3. Strength Training (upper and Lower body)
4. Cool Down and Stretch

ii. Tuesday

1. Warm up (Core Med ball abs)
2. Med ball throws
3. 8 x 300 (50m jog)
4. Power Speed drills as in Phase I
5. Plyometrics
6. Cool Down and Stretch

iii. Wednesday

1. Warm up (Core Crunches)
2. 5 – 6 x 4x50
3. Strength Endurance
 - a. 100 C3
 - b. 150 A3
 - c. 200 A3
 - d. 80 B3
 - e. 40 B3
4. Strength Training
5. Cool Down and Stretch

iv. Thursday

1. Warm up (Abs Med Ball)
2. Plyometrics
3. Med Ball
4. Run (50m jog between sets)
 - a. 300&300
 - b. 400&200
 - c. 300&200
 - d. 200&200
 - e. 200&100
5. Cool Down & Stretch

v. Friday

1. Warm up (Core Friday Abs)
2. Strength Training
3. Tempo 2-3 x 600
4. Strength Endurance like Wednesday
5. Cool Down & Stretch

c. Phase IIB or Phase III

i. Monday

1. Warm up (Core Bridges)
2. Strength Training
3. Tempo 4-6x40m from curve
4. 4-6x 1 lap Tempo on straight slow with good tech on curve
5. Cool Down & Stretch

ii. Tuesday

1. Warm up (Core Med Ball)
2. Plyometrics (Modified)
3. Med Ball
4. 2x500 under watch
5. Power Speed 2-4x 20M
 - a. A2
 - b. B2
 - c. C3
 - d. A3
 - e. A3 with Acceleration
 - f. B3
 - g. B3 with Acceleration
 - h. Acceleration
6. Cool Down & Stretch

iii. Wednesday

1. Warm up (Core Crunches)
2. Strength Training
3. Special Endurance (timed)
 - a. Week I 4 x 300 10' rest
 - b. Week II 3 x 300 15' rest
 - c. Week III 2 x 300 20' rest
4. Strength Endurance (1-2 sets)
 - a. 100C3—200 tempo run—120A3
 - b. 80B2 Or 80B3
5. Cool Down and Stretch

iv. Thursday

1. Warm up (Core Med Ball)
2. Med ball
3. 20' Jog
4. 4-6x4x50
5. Plyometrics
6. Cool Down & Stretch

v. Friday

1. Warm up (Core Friday Abs)
2. Strength Training
3. Special Endurance
 - a. 1-2x500 under watch 30' rest
4. Strength Endurance like Wednesday or Power Speed
5. Cool Down & Stretch

d. Phase IV (Competition)

i. Monday

1. Warm up (Core Planks)
2. Strength Training Or Power Speed
3. 1-2x300 timed (must have full recovery)
4. Cool Down & Stretch

ii. Tuesday

1. Warm Up (Core Med Ball)
2. Med Ball
3. Run (Early in Phase)
 - a. Tempo 2x220 from blocks
 - b. 1x500 Timed
 - c. 1-3x200 or not
 - d. Strength Endurance
 - i. 50mC3—150 tempo—120A3
 - ii. 80m B3
4. Late season
 - a. 1-2x150 (From Starting Blocks)
 - b. 2-4x120 (20m Curve to Straight)
 - c. Strength Endurance the Same)
5. Cool Down & Stretch

iii. Wednesday

1. Warm up (Core)
2. Strength Training
3. Rest

iv. Thursday

1. Warm up (Core Med Ball)
2. Run
 - a. 1-2x150 (From Starting Blocks)
 - b. 2-4x120 (20m Turn to Straight)
 - c. Late Season drop to 1 Rep Each
 - d. Power Speed (10-20M)

v. Friday

1. Warm up (Core Friday Abs)
 - a. Rest

I. Sample Weight Programs

- a. Weight Schedule should be changed every 3 weeks to keep the body fooled.
- b. I pair the athletes and give them a schedule. This speeds up weight training time.

Wednesday, December 28, 2011

Page 1 of 1

Zheng Bo, Wang 10's LiaoB**Set 1****Set 2****Set 3****Set 4****Set 5****Set 6**

Week Number: 1

Tuesday

1. Bench Press	65 x 10	65 x 10	65 x 10		1
2. Lat Raise	15 x 10	15 x 10	15 x 10		
4. Tricep Press	22 x 10	22 x 10	22 x 10		
5. Lat Pull	58 x 10	58 x 10	58 x 10		1 - 11
7. Rear Delt	65 x 10	65 x 10	65 x 10		5 - 12
8. Curls	15 x 10	15 x 10	15 x 10		2 - 14
11. (S)Leg Curl	35 x 10	35 x 10	35 x 10		7 - 16
12. (S) Leg Squat	40 x 10	40 x 10	40 x 10		4 - 8
14. Squat	80 x 10	80 x 10	80 x 10		
16. Calf Raises	60 x 15	60 x 15	60 x 15		

Thursday

1. Bench Press	65 x 10	65 x 10	65 x 10		
2. Lat Raise	15 x 10	15 x 10	15 x 10		
4. Tricep Press	22 x 10	22 x 10	22 x 10		
5. Lat Pull	58 x 10	58 x 10	58 x 10		1 - 11
7. Rear Delt	65 x 10	65 x 10	65 x 10		5 - 12
8. Curls	15 x 10	15 x 10	15 x 10		2 - 17
11. (S)Leg Curl	35 x 10	35 x 10	35 x 10		7 - 16
12. (S) Leg Squat	40 x 10	40 x 10	40 x 10		4 - 8
16. Calf Raises	60 x 15	60 x 15	60 x 15		
17. Step Ups	60 x 10	60 x 10	60 x 10		
18. Ball leg Curls	0 x 10	0 x 10	0 x 10		

Saturday

1. Bench Press	65 x 10	65 x 10	65 x 10		
2. Lat Raise	15 x 10	15 x 10	15 x 10		
4. Tricep Press	22 x 10	22 x 10	22 x 10		
5. Lat Pull	58 x 10	58 x 10	58 x 10		
7. Rear Delt	65 x 10	65 x 10	65 x 10		
8. Curls	15 x 10	15 x 10	15 x 10		
11. (S)Leg Curl	35 x 10	35 x 10	35 x 10		
12. (S) Leg Squat	40 x 10	40 x 10	40 x 10		
14. Squat	80 x 10	80 x 10	80 x 10		
16. Calf Raises	60 x 15	60 x 15	60 x 15		

Wednesday, October 10, 2012

Page 1 of 1

Zheng Bo, Wang 10,8,6,4 LiaoB	Set 1	Set 2	Set 3	Set 4	Set 5	Set 6
<i>Week Number: 1b</i>						
Tuesday						
1. Bench Press	85 x 10	90 x 8	93 x 6	96 x 4		1
2. Lat Raise	20 x 8	20 x 8	20 x 8			
4. Tricep Press	48 x 10	52 x 8	59 x 6	63.5 x 4		
5. Lat Pull	59 x 10	63.5 x 8	65.5 x 6	67.5 x 4		1 - 11
9. High Pulls	45 x 6	45 x 6	45 x 6			5 - 12
8. Curls	48 x 10	52 x 8	59 x 6	63.5 x 4		2 - 14
11. (S)Leg Curl	49.5 x 10	54.5 x 8	56.5 x 6	63 x 4		9 - 16
12. (S) Leg Squat	40 x 10	40 x 10	40 x 10			4 - 8
14. Squat	115 x 10	120 x 8	125 x 6	130 x 4		
16. Calf Raises	85.5 x 15	85.5 x 15	85.5 x 15			
Thursday						
1. Bench Press	85 x 10	90 x 8	93 x 6	96 x 4		
2. Lat Raise	20 x 8	20 x 8	20 x 8			
4. Tricep Press	48 x 10	52 x 8	59 x 6	63.5 x 4		
5. Lat Pull	59 x 10	63.5 x 8	65.5 x 6	67.5 x 4		1 - 11
9. High Pulls	45 x 6	45 x 6	45 x 6			5 - 12
8. Curls	48 x 10	52 x 8	59 x 6	63.5 x 4		2 – 17&19
11. (S)Leg Curl	49.5 x 10	54.5 x 8	56.5 x 6	63 x 4		9 - 16
12. (S) Leg Squat	40 x 10	40 x 10	40 x 10			4 - 8
16. Calf Raises	85.5 x 15	85.5 x 15	85.5 x 15			
17. Step Ups	40 x 20	40 x 20	40 x 20			
19. Squat Jumps	40 x 10	40 x 10	40 x 10			
Saturday						
1. Bench Press	85 x 10	90 x 8	93 x 6	96 x 4		
2. Lat Raise	20 x 8	20 x 8	20 x 8			
4. Tricep Press	48 x 10	52 x 8	59 x 6	63.5 x 4		
5. Lat Pull	59 x 10	63.5 x 8	65.5 x 6	67.5 x 4		
9. High Pulls	45 x 6	45 x 6	45 x 6			
8. Curls	48 x 10	52 x 8	59 x 6	63.5 x 4		
11. (S)Leg Curl	49.5 x 10	54.5 x 8	56.5 x 6	63 x 4		
12. (S) Leg Squat	40 x 10	40 x 10	40 x 10			
14. Squat	115 x 10	120 x 8	125 x 6	130 x 4		
16. Calf Raises	85.5 x 15	85.5 x 15	85.5 x 15			

Wednesday, December 28, 2011

Page 1 of 1

Zheng Bo, Wang 20's LiaoB

Set 1

Set 2

Set 3

Set 4

Set 5

Set 6

Week Number: 1b

Monday

1. Bench Press	58 x 20	58 x 20	58 x 20			1
2. Lat Raise	12.5 x 20	12.5 x 20	12.5 x 20			
3. Pec Deck	34 x 20	34 x 20	34 x 20			
4. Tricep Press	45 x 20	45 x 20	45 x 20			
5. Lat Pull	45 x 20	45 x 20	45 x 20			
6. Upright Row	34 x 20	34 x 20	34 x 20			1 - 11
7. Rear Delt	15 x 20	15 x 20	15 x 20			5 - 12
8. Curls	47 x 20	47 x 20	47 x 20			2 - 14
11. (S)Leg Curl	42.5 x 20	42.5 x 20	42.5 x 20			7 - 16
12. (S) Leg Squat	25 x 20	25 x 20	25 x 20			4 - 8
14. Squat	90 x 20	90 x 20	90 x 20			3 - 6
16. Calf Raises	76.5 x 20	76.5 x 20	76.5 x 20			

Thursday

1. Bench Press	58 x 20	58 x 20	58 x 20			
2. Lat Raise	12.5 x 20	12.5 x 20	12.5 x 20			
3. Pec Deck	34 x 20	34 x 20	34 x 20			
4. Tricep Press	45 x 20	45 x 20	45 x 20			
5. Lat Pull	45 x 20	45 x 20	45 x 20			
6. Upright Row	34 x 20	34 x 20	34 x 20			1 - 11
7. Rear Delt	15 x 20	15 x 20	15 x 20			5 - 12
8. Curls	47 x 20	47 x 20	47 x 20			2 - 17&19
11. (S)Leg Curl	42.5 x 20	42.5 x 20	42.5 x 20			7 - 16
12. (S) Leg Squat	25 x 20	25 x 20	25 x 20			4 - 6
16. Calf Raises	76.5 x 20	76.5 x 20	76.5 x 20			3 - 6
17. Step Ups	40 x 20	40 x 20	40 x 20			
19. Squat Jumps	40 x 10	40 x 10	40 x 10			

Saturday

1. Bench Press	58 x 20	58 x 20	58 x 20			
2. Lat Raise	12.5 x 20	12.5 x 20	12.5 x 20			
3. Pec Deck	34 x 20	34 x 20	34 x 20			
4. Tricep Press	45 x 20	45 x 20	45 x 20			
5. Lat Pull	45 x 20	45 x 20	45 x 20			
6. Upright Row	34 x 20	34 x 20	34 x 20			
7. Rear Delt	15 x 20	15 x 20	15 x 20			
8. Curls	47 x 20	47 x 20	47 x 20			
11. (S)Leg Curl	42.5 x 20	42.5 x 20	42.5 x 20			
12. (S) Leg Squat	25 x 20	25 x 20	25 x 20			
14. Squat	90 x 20	90 x 20	90 x 20			
16. Calf Raises	76.5 x 20	76.5 x 20	76.5 x 20			

Wednesday, November 14, 2012

Page 1 of 1

Zheng Bo, Wang 4's LiaoB

Week Number: 1

Tuesday

	Set 1	Set 2	Set 3	Set 4	Set 5	Set 6
1. Bench Press	50 x 10	87 x 4	87 x 4	87 x 4	90 x 2	1
2. Lat Raise	21 x 4	21 x 4	21 x 4			
4. Tricep Press	42.75 x 10	51.75 x 4	51.75 x 4	51.75 x 4		
5. Lat Pull	55 x 10	67.5 x 4	67.5x 4	67.5 x 4	69.5 x 2	1 - 11
7. Rear Delt	34 x 4	34 x 4	34 x 4			5 - 12
8. Curls	24.75 x 10	47.75 x 4	47.75 x 4	47.75 x 4		2 - 14
11. (S)Leg Curl	60 x 4	60 x 4	60 x 4			7 - 16
12. (S) Leg Squat	50 x 4	50 x 4	50 x 4			4 - 8
14. Squat	100 x 10	130 x 4	130 x 4	130 x 4		
16. Calf Raises	160 x 4	160 x 4	160 x 4			

Thursday

1. Bench Press	50 x 10	87 x 4	87 x 4	87 x 4	90 x 2	
2. Lat Raise	21 x 4	21 x 4	21 x 4			
4. Tricep Press	42.75 x 10	51.75 x 4	51.75 x 4	51.75 x 4		
5. Lat Pull	55 x 10	67.5 x 4	67.5x 4	67.5 x 4	69.5 x 2	1 - 11
7. Rear Delt	34 x 4	34 x 4	34 x 4			5 - 12
8. Curls	24.75 x 10	47.75 x 4	47.75 x 4	47.75 x 4		2 – 17&19
11. (S)Leg Curl	60 x 4	60 x 4	60 x 4			7 - 16
12. (S) Leg Squat	50 x 4	50 x 4	50 x 4			4 - 8
16. Calf Raises	160 x 4	160 x 4	160 x 4			
17. Step Ups	40 x 20	40 x 20	40 x 20			
19. Squat Jumps	40 x 10	40 x 10	40 x 10			

Saturday

1. Bench Press	50 x 10	87 x 4	87 x 4	87 x 4	90 x 2	
2. Lat Raise	21 x 4	21 x 4	21 x 4			
4. Tricep Press	42.75 x 10	51.75 x 4	51.75 x 4	51.75 x 4		
5. Lat Pull	55 x 10	67.5 x 4	67.5x 4	67.5 x 4	69.5 x 2	
7. Rear Delt	34 x 4	34 x 4	34 x 4			
8. Curls	24.75 x 10	47.75 x 4	47.75 x 4	47.75 x 4		
11. (S)Leg Curl	60 x 4	60 x 4	60 x 4			
12. (S) Leg Squat	50 x 4	50 x 4	50 x 4			
14. Squat	100 x 10	130 x 4	130 x 4	130 x 4		
16. Calf Raises	160 x 4	160 x 4	160 x 4			

Wednesday, December 28, 2011

Page 1 of 1

Zheng Bo, Wang 15's PEAK LiaoB	Set 1	Set 2	Set 3	Set 4	Set 5	Set 6
<i>Week Number: 1</i>						
Tuesday						
1. Bench Press	62 x 15	62 x 15	62 x 15			1
2. Lat Raise	15 x 15	15 x 15	15 x 15			
4. Tricep Press	45 x 15	45 x 15	45 x 15			
5. Lat Pull	45 x 15	45 x 15	45 x 15			1 - 11
9. High Pulls	52 x 6	52 x 6	52 x 6			5 - 12
8. Curls	48 x 15	48 x 15	48 x 15			2 - 14
11. (S)Leg Curl	49.5 x 15	49.5 x 15	49.5 x 15			9 - 16
12. (S) Leg Squat	40 x 15	40 x 15	40 x 15			4 - 8
14. Squat	95 x 15	95 x 15	95 x 15			
16. Calf Raises	76.5 x 15	76.5 x 15	76.5 x 15			
Thursday						
1. Bench Press	94 x 6	94 x 6	94 x 6			
2. Lat Raise	15 x 15	15 x 15	15 x 15			
4. Tricep Press	45 x 15	45 x 15	45 x 15			
5. Lat Pull	65.5 x 6	65.5 x 6	65.5 x 6			1 - 11
9. High Pulls	52 x 6	52 x 6	52 x 6			5 - 12
8. Curls	48 x 15	48 x 15	48 x 15			2 – 17&19
11. (S)Leg Curl	49.5 x 15	49.5 x 15	49.5 x 15			9 - 16
12. (S) Leg Squat	40 x 15	40 x 15	40 x 15			4 - 8
16. Calf Raises	76.5 x 15	76.5 x 15	76.5 x 15			
17. Step Ups	50 x 20	50 x 20	50 x 20			
19. Squat Jumps	50 x 20	50 x 20	50 x 20			
Saturday						
1. Bench Press	62 x 15	62 x 15	62 x 15			
2. Lat Raise	15 x 15	15 x 15	15 x 15			
4. Tricep Press	45 x 15	45 x 15	45 x 15			
5. Lat Pull	45 x 15	45 x 15	45 x 15			
9. High Pulls	52 x 6	52 x 6	52 x 6			
8. Curls	48 x 15	48 x 15	48 x 15			
11. (S)Leg Curl	49.5 x 15	49.5 x 15	49.5 x 15			
12. (S) Leg Squat	40 x 15	40 x 15	40 x 15			
14. Squat	95 x 15	95 x 15	95 x 15			
16. Calf Raises	76.5 x 15	76.5 x 15	76.5 x 15			