

Strength Training at Krimmel

“Outside the Weight Room Strength Circuits”

By: David Gresham

CSCS-NSCA in 1997

Sam Houston State University

Klein Int./Krimmel Intermediate/Klein Oak H.S.

[Email-dgresham@kleinisd.net](mailto:dgresham@kleinisd.net)

Cell-832 724-7889

Work-832 375-7132

Principles in a Strength Program

- 1) **Progressive Overload**- Overloading the body with greater than normal demands in a sequential manner. Ex: 2 sets, 3 sets, 4 sets
- 2) **Adaptation**- How your body adapts to applied stress
- 3) **Specificity**- Specific training for sport or event
- 4) **Recovery and Rest**- Setting up workout designs with the right amount of recovery and rest times
- 5) **Periodization**- Dividing year up into phases or cycles
Offseason/Inseason
Hypertrophy/Strength/Power/Peaking/Active Rest

What key concepts should be used in determining exercises in a strength program?

- 1) **Full Range of Motion** – Using full range of motion helps with flexibility and strength gains throughout entire movement pattern.
- 2) **Movement and Muscle Specific**- Concentrate on training movements and muscles that are used in your sport or event.
- 3) **Compound / Multi-joint Exercises** - Deadlifts, Squats, Cleans, Snatches and Overhead Presses (Lower Body-Triple extension of hips, knees, and ankle. Upper Body- Double extension of shoulders and elbow.)
- 4) **Closed Chain Exercises**- Your body moves instead of the weight with hands or feet remaining stationary Ex: Push-Ups, Squats, Pull-Ups, Dips.
- 5) **Olympic Lifts / Plyometrics/ Med.Balls** – These are high velocity movements most similar to sports speed. 30-65% of 1RM. Cleans, Snatches, Jerks, Depth Jumps, Skipping, Hopping, Bounding, Underhand MB Throw, Backwards Overhead MB Throw, Squat Press MB Throw.

Periodization: How and When

In-Season/Off-Season –

- Cycles of Emphasis- General Conditioning, Hypertrophy, Strength, Power, Sport-Specific, Active Rest
- Volume- Start high early in year and finish low towards end of season
- Intensity- Start low early in year and finish high towards end of season

Periodization Basics

MESOCYCLE	<u>General Conditioning</u>	<u>Hypertrophy</u>	<u>Strength</u>	<u>Power</u>	<u>Peaking</u>	<u>Active Rest</u>
Goal	Gen. Fitness	Size	Strength	Power	Ready to compete at highest level	Rest Body Play a new sport Relax mind and body
Sets	Low	3 to 5	3 to 5	3 to 5	1 to 3	
Reps	High	8 to 20	2 to 6	2 to 5	1 to 3	Spring Break Christmas Break Summer Break
Intensity	Low	High	High	High	Very High	
Exercises	Jogging/Circuit Training	Upper Body Lower Body	Heavy Wt Exercises, Squat, Deadlift, Bench Press, Etc.	Focus on Olympic Lifts	Sports/Event Specific Needs	
						Transition of Sports
Stage of Season	Early Off-Season	Early Off-Season	Middle Off-Season	Late Off-Season	In-Season Maintain Everything	End of Season Middle of Season

Tips for Designing Circuits

- Have a purpose! (Don't just throw it together)
- Anaerobic --Strength/Power-5-10 sec. High Intensity; 2-3 min. rest
- (Rest = 10x duration of work is what I shoot for) Ex: 6 sec work = 60 sec. rest
- Lactic- 15-45 sec. Med. Intensity; 15-45 sec rest --1:1 work/rest ratio
- Aerobic- Long Steady with few short bursts (Fartlek of some kind)
- Length of Lines of kids in drills is critical for proper rest—Know the time and intensity of drill
- General Drills progress to Specific Drills
- Light Intensity Drills progress to High Intensity Drills
- Alternate Muscle Groups during rest periods—Opposite muscles aren't tired or depleted of ATP
- Incorporate Core/Abs/Posterior Chain and Plyo's during Rest periods--Doesn't accelerate HR much
- Alternate High Intensity Exercises followed by Light Intensity Exercises (Heart Rate-key factor)
- Order of Exercises are Key (Explosive, Speed at Beginning)
- Don't Try to do completely different types of training in same workout—40's at end of Long Run—Not a fan—Do them at conclusion of good warm-up with some speed drills
- Quality suffers – stop immediately
- Vomiting is not desired for a strength workout—Lactic maybe—U failed in design unless they already had Salmonella from the cafeteria chicken strips!!
- Walking is not a violation of the 10 commandments!!

Outside the Weight Room

Strength Circuits

1. Dynamic Warm-Up / Running Drills Circuit
2. Dynamic Hurdle / Plyometric Drills Circuit
3. Medicine Ball Circuit
4. Hill Circuit
5. Fun Friday Circuit (Lots of Variety)

***All exercises in the circuits are either in a progressive order from easy to complex, or they are in an order that allows adequate rest through a hard to easy sequence or alternating muscle groups sequence.

Dynamic Warm-Up

General Warm-Up- Get blood flow to muscles is goal; Variety of easy full body movement will get job done. Warm the muscles before the stretch.

- 50 yds jog (Actually pump the arms and get Knees up)
- 50 yds Backwards Run (Heel Up to Butt and Reach)
- 50 yds jumping jack shuffles—Left Leg Lead
- 50 yds jumping jack shuffles—Right Leg Lead
- 50 yds Easy Power Skips for Height
- 50 yds Easy Power Skips for Distance

Dynamic Flexibility

- Fire Hydrants -5 Forwards Both Legs; 5 Backwards Both Legs
- Leg Swings- 15 Forward/Backwards Both Legs; 15 Side/Side Both Legs

(1st Exercise 10 yds ; 2nd Exercise 10 yds)

- Forwards Inchworms with Push-Up ; Backwards Inchworms with Push-Up
- Forward Lunges Arm Swings or Running Arms; Backwards Lunges w/Twist
- Side Lunges Left Leg Lead ; Side Lunges Right Leg Lead
- Crossover Lunges Left Leg Lead ; Crossover Lunges Right Leg Lead
- Knee Hugs ; Ankle Pulls
- Russian Soldiers ; Toe Touch Donkey Kicks
- Deion Sanders with Running Arms 20 yds
- Backwards Running 20 yds

Dynamic Warm-Up

(1st Exercise 10 yds ; 2nd Exercise 10 yds)

Stretch / Reflex and Explosive Power Drills

- Fast Pogo Sticks ; High Pogo Sticks
- 20 Left Leg Small/Fast Single Leg Hop ;
20 Right Leg Small/Fast Single Leg Hop
- Power Skips Height - 20 yds
- Power Skips Distance – 20 yds
- Push-Up Jump Out and Up – 20 yds
- Bounding Single or Double Arm – 20 – 40 yds
- Single Leg Hops Right Leg ; Single Leg Hops Left Leg
(Get landing foot knee parallel to the ground)

Form Running Drills

- Slow, Medium, Fast 3 Speed Running Arms x 2 (5 seconds each)
- Standing Leg Cycles (25 R/L Leg each)
- Slow March 10 yds ; Fast March 10 yds

Fast Form Running Drills

- Ankling –Mini Deions $\frac{1}{4}$ way up (Fast, Fast, Fast) 20 yds
- Machine Guns –Mini High Knee Butt Kick $\frac{1}{4}$ way up (Fast, Fast, Fast) 10 yds then sprint 10 yds
- High Knee Butt Kicks 10 yds then sprint 10 yds x 2 (**Most Important Drill Listed)

Drive Phase Drills

- Wall Push 10 sec.'s x 2 (Straight Line from Head to Toe)
- Strength Band Resisted Start 20yds x 2

Plyometric Tips

- Some people feel that you should be able to squat 1.5 times before starting high intensity plyometrics
- Jump Rope with 2 feet being easiest and 2-story jumps with stick landings being the craziest
- If athletes legs are mushy on landings than they are probably on to advanced of a drill
- Be smart on when you are doing high intensity plyometrics– Think about your 7'0 High Jumper that jumped every height in 2" increments starting at 5'4!

Plyometric Tips

- **Proper Jumping Technique**
- The key to maximizing your vertical jump is setting up in the proper position. Your feet are shoulder-width apart. Start on the balls of your feet with your heels in the air. Knees are straight, hips forward and arms straight up in the air.
- All at once, rapidly bring your arms down and back while bending your hips and knees and bringing your heels to the ground. From this position, jump in the air as fast as you can. Be sure to straighten your knees and hips and bring your arms forward and up all at once.
- **Proper Landing Position**
- The best way to reduce the risk of injury is to always land in the proper position. When your feet come in contact with the ground, they should land shoulder-width apart, and your knees should land directly over your toes at about 90 degrees. Your hips are back to absorb the force of the ground and should go no lower than your knees.
- Your foot position will vary depending on the type of jump. For a vertical jump, feet land toe to heel. For a broad (forward) jump, feet land heel to toe. For side jumps, the outside foot lands slightly before inside foot.

Courtesy of:
Ramon Williams
NSCA-CSCS
Parisi Speed School
Fair Lawn, N.J.

Dynamic Hurdle/Plyometric Drills Circuit

Double Leg Hurdle Hops

Tips:

- 1) No Double Hops in between hurdles; be quick as possible off the ground
- 2) Proper Height of Hurdle or cone will assist in form
- 3) Drive Arms to assist jump
- 4) Preach Posture—Don't bend at waist –Eyes Straight Ahead
- 5) Foot and Ground Contact should be under center of mass

Overs / Unders Hurdle

Tips:

- 1) Keep knee bent when foot goes over the hurdle
- 2) Get knees high and snap down quickly
- 2) Keep opposite running arms as you step over hurdles
- 3) When going under hurdles, bend more in the legs than the waist

Reverse Groin Hurdle Step Overs

Tips:

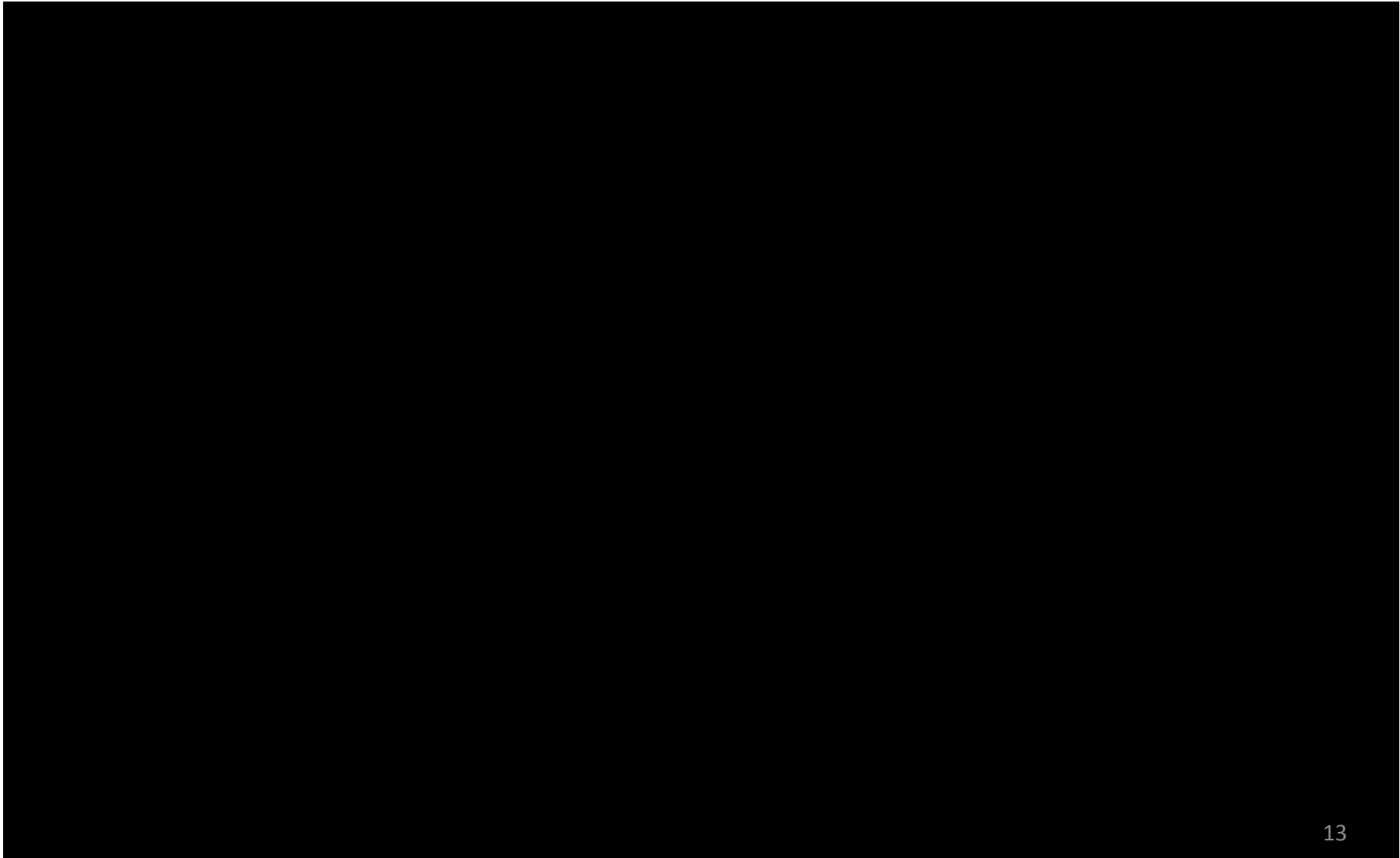
- 1) Keep shoulders parallel with hurdle
- 2) Get knees up and open hips as much as possible when stepping over hurdle
- 3) Keep opposite running arms as you step over hurdles
- 4) Preach Posture—Don't bend at waist –Eyes Straight Ahead

Single Leg Cone Hops

Tips:

- 1) No Double Hops in between hurdles; be quick as possible off the ground
- 2) Proper Height of Hurdle or cone will assist in form
- 3) Drive Arms to assist jump
- 4) Preach Posture—Don't bend at waist –Eyes Straight Ahead
- 5) Foot and Ground Contact should be under center of mass

Dynamic Hurdle/Plyometric Drills Circuit



Med. Ball Throws Facts and Tips

- MB throws create explosive power
- MB throws is a combo exercise involving both the lower and upper body
- Releasing an implement allows full acceleration through a movement that is unattainable during weight lifting
- All throws should use a large range of motion and a quad extension of ankle, knee, hip, and shoulder
- Jump on every throw!!!
- If you can't throw the ball 10 ft and 20 ft far, the ball is too heavy!!!

Med.Ball Throw Circuit

Part I- MB Throws (Max. Height and Distance)

1. Underhand MB Jump Throw- Reach between legs by ankles, deep squat, keep straight arms, explode with jump and finish with hands above head,
2. Underhand Backwards MB Jump Throw- Reach between legs by ankles, deep squat, keep straight arms, explode with jump and finish with hands above head
3. Squat Press MB Jump Throw- Ball starts at chest, deep squat, bend arms at beginning, explode with jump and press with both hands equally above head
4. Side Low to High MB Jump Throw- Start with deep squat with ball behind back foot ankle, torque the hips, and feel the weight transfer from back to front foot, finish with explosive jump and hands high, should land on back foot facing the target
5. Shot Put MB Throw- Shot put technique; Use this style least; Can pick up bad habits if done wrong and bigger size of MB can be an issue; Use more during Track season once form has been reemphasized
6. Overhead MB Relay- I mainly throw this in for fun, but it is actually good at preventing over-striding and keep foot contact directly under center of mass; Running while Jumping Rope works well also.

Med.Ball Throw Circuit

Part II- Explosive Drills

1. Short Partner Resistance Band Sprint/Agility- These bands are short relatively tight (10ft. or less)
Put brakes on!! Stop and starts!! Control the band don't let the band control you!! Touch ground at all transitions of combo drills!!
 - 3 pt. stance resistance starts and over-speed backpedals
 - Backpedal resistance starts and over speed sprints
 - Shuffle right leg lead / Shuffle left leg lead
 - Resistance Rocket jumps and backwards bunny hops back
2. Heavy Jump Ropes and or Box Jumps
 - Heavy ropes- are great for core activation and shoulder stabilization/mobility
 - Box Jumps and Depth Jumps- may be king of all plyometric exercises, Drive up arms and jump off of box with a shock landing – gymnast style not mushy!!
2. Speed Ladder/Agility Hurdles/Dot Drill/Short Boxes(Running Arms)
 - Speed Ladders- Machine Guns and Icky Shuffle are my favorite
 - Agility Hurdles-Quick Feet with High Knee Action
 - Dot Drill- Multi-directional Jumping
 - Short Boxes- 6" Box step-ups emphasizing quick feet and arms

Hill Circuit

Top of Hill Exercises (After each Hill Climb)

Upper Body:

- 5 Clap Push-Ups
- 5 MB-Push-Ups

Full Body:

- 5 MB Push-Ups with Squat Jump MB Slam
- 6 MB or Plate Split-Jerk Press
- 5 Burpees or Up/Downs
- 10 Star-Jumps

Abs:

- 5 MB Sit-Ups Press
- 5 V-Sits w/MB or plate
- 10 MB or Plate Russian Twist

Legs:

- 5 Over-Head MB or Plate Squats,
- 5 Over-Head MB or Plate Squat Jumps
- 10 Scissor Jumps
- 10 Over Head Scissor Jumps with MB or Plate O-Head Press

Hill Circuit

Going up the Hill Exercises

1. Overhead Forwards Lunge- Dynamic Flexibility
 2. Backwards Lunge With Trunk Twist- Dynamic Flexibility
 3. Side Lunge -Dynamic Flexibility
 4. Jog- Form and Warm-Up
 5. Backpedal- Emphasize Heel up and reach, pump arms, teaches good heel to butt mechanics
 6. Shuffle -Quick feet with wide stance, Bend legs not back, press w/arms
 7. Power Skips -Max. Height with opposite arms and drive up knee
 8. Rocket Jumps- Touch ground and explode up with full extension of hips and arms, be continuous
 9. Tony Hawks – 180deg. Jump turns, same as rocket jumps but with the turn
 10. Ice Skaters Bounding- Lateral push emphasize double arms and height and distance
 11. Single Leg Hops- Alternate Arms, and emphasize height and distance of hop, get landing foot to knee height
 12. 3 pt. stance sprints- You are teaching the drive phase; angle of body direct line head to toe, no bending waist
 13. Forwards Bear crawl- Core Strength and Shoulder Stabilization
 14. Backwards Bear crawl w/Donkey Kick- Core Strength, Shoulder Stabilization, Hip Mobility
 15. Backwards Crab Walk w/Front Kick- Core Strength and Shoulder Stabilization, Hip Mobility
 16. Forwards Crab Walk- Core Strength and Shoulder Stabilization, Activates Hamstrings
- ** Fun Finisher—Partner Piggy Back Races 30m—Equal size athletes partner

Tips Advanced Athletes

- 1) Use Med. Balls on Lunges and Shuffles
- 2) Use Weighted Back Packs or Weight Vests on drills
- 3) Use Bungees to increase Difficulty on drills

Hill Circuit

Going down the Hill Exercise (After each Hill Climb)

Small Backwards Bunny Hops / Backwards Pogo Sticks —

Ultimate Dorsiflexion Exercise

(Can't do it wrong)

Walking down is more dangerous than Bunny Hopping down backwards slowly

Warning:

The worst injury I have seen in person was when an athlete hopped down the hill twisting!!! Ankle Dislocation to the worst degree. I do not have video of this, so don't ask.

Fun Friday Circuit

- Friday Running Club has transcended into Strength and Conditioning Club
- We alternate Weight Room and Outside Strength and Conditioning Circuits every Friday morning
- My favorite outside circuit is done at this time and it consists of a wide array of explosive strength exercises

Fun Friday Circuit

1. Tire Flips- Posterior Chain Strength / Full Body Exercise
2. Sled Pulls- Drive Phase 20-30m
3. Monkey Bar Pullups with Knee Raises- Upper Body and Core Strength / Hip Flexors
4. Parallel Bar Dips with Knee Raises- Upper Body and Core Strength / Hip Flexors
5. Pyometric Box Explosive Step-Ups- Explosive Single-Leg Strength
6. Plyometric Box Jumps/Depth Jumps- Explosive Leg Strength
7. Plyometric Box Explosive Push-Ups- Explosive Upper Body Strength
8. Hip Flexor Bands- Hip Flexor Strength and Running Form
9. Resistance Band Squat Jumps- Explosive Leg Strength
10. Resistance Band Lunge Jumps- Explosive Single-Leg Strength
11. Scooter Board Push-Ups- Upper Body Strength and Core Strength / Hip Flexors

** All exercises are done at 12 reps

- Hip Flexor Bands at 50 reps
- Tire Flips down and back for 15m
- Sled Pulls x 4 at 20-30m.
- Quality Max Effort on all exercises
- Rest as Needed –Don't Rush Through to finish 1st!!!!

Strength Phase

(Nov.5-Nov.9)—[6-9wks]

Wk 1

Mon.-Strength WR 6 Basic Exercises 3 x 8 Reps @75%
1RM

Tues.-Hurdle Circuit/MB Throws Circuit

Alternate Fun Friday Workout during Wk 2

Wed.-Olympic Lifts Hang Clean / Hang Snatch
Progressions /Split-Jerk/Plank Series for Core

Thurs.-Hill Circuit

Alternate Form Running Drills and Accelerations Wk 2

Fri.- Combo-Lift Circuit WR 12 Exercises 2 Sets of 12 Reps

Suggested Readings and Links

Readings:

- Essentials of Strength and Conditioning
- Designing Resistance Training Programs
- The Physiological Basis for Exercise and Sport
- Training Lactate Pulse-Rate
- Periodization Breakthrough
- Pure Speed
- Explosive Strength and Power

Links:

- ExRx.net
- Brianmac.co.uk
- Bodybuilding.com

References

- Baechle, Thomas R., and Roger W. Earle. *Essentials of Strength Training and Conditioning*. Champaign, IL: Human Kinetics, 2000. Print.
- Fleck, Steven J., and William J. Kraemer. *Designing Resistance Training Programs*. Champaign, IL: Human Kinetics, 1987. Print.
- Fox, Edward L., Richard W. Bowers, Merle L. Foss, and Edward L. Fox. *The Physiological Basis for Exercise and Sport*. Madison, WI: Brown & Benchmark, 1993. Print.
- Janssen, Peter. *Training Lactate Pulse Rate*. Oulu, Finland: Polar Electro Oy, 1994. Print.
- Fleck, Steven J., and William J. Kraemer. *Periodization Breakthrough!: The Ultimate Training System*. Ronkonkoma, NY: Advanced Research, 1996. Print.
- Dos, Remedios Robert. *Men's Health Power Training: Build Bigger, Stronger Muscles through Performance Based Conditioning*. Emmaus, PA: Rodale, 2007. Print