Sport Specific Training: Baseball

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Our Experience

- **Jeff Andrews**
  - Head Athletic Trainer: Cortland High School
  - Head Athletic Trainer: 2009 Elmira Pioneers (New York Collegiate Baseball League)

- **Joe Peterson**
  - Former 4-year NCAA Division II baseball player
  - Former Baseball Head Coach (Little League-College level)
  - Private Baseball Hitting Instructor
  - NSCA: Certified Strength and Conditioning Specialist (CSCS)
  - Certified Personal Trainer
Introduction

• Rational behind specific training
• Types of training
• Focus bulk of talk on strength and flexibility
Baseball Injuries

- Hamstring/Quad
- Ankle
- Shoulder
- Knee

- Shoulder
- Ankle
- Hamstring/Quad
- Lower Back

Dick, R. Descriptive Epidemiology of Collegiate Men’s Baseball Injuries... J Athl Train 2007
Benefits of Training

• OPTIMIZE PERFORMANCE
• Prevention of Injuries
• Increased Strength
• Increased Flexibility
Kinetic Chain

• How your entire body produces the mechanism of throwing.
• Recognizing that the legs and trunk produce most of the force to throw.
• Strength force production of big league pitcher
  – Hips/legs → 500 lbs
  – Trunk → 300 lbs
  – Arm/shoulder → 200 lbs
  – Total force production = 1,000 lbs
When to start training: Periodization

• Post-season (Immediately after season)
  • Generally rest and recover
  • No hard training, light and easy

• Off-season (Winter season)
  • Heavy lifting
  • Focus on form, technique, and flexibility

• Pre-season (Approx. 2-3 months before 1st game)

• In-season (During season)
In-season

- Designed to maintain the improvements
- 2x a week / \leq 30 minutes of weight training
- Full Range of Motion (ROM)
- Compound movements (no isolations)
- Avoid overhead presses
Type of Training

- Flexibility
- Cardiovascular
- Strength
- Agility
- Proprioception
Flexibility/Stretching

- Dynamic warm up
  - Monster walks, donkey kicks, lunges, shuffle, carioca
- Static Stretches
  - One legged windshield wiper, sleeper stretch, tricep stretch, wrist extension/flexion, pectoralis stretch, quads, and hamstrings
Cardiovascular Training

• Aerobic vs. Anaerobic
• Baseball is Anaerobic (90% vs 10%)
• Long Slow Distance (DSL) only helps stiffness in arm
  – acts as thermotherapy, 30-45 min day after throwing
• Short duration and MAXIMUM INTENSITY
• Best way to perform conditioning for baseball?
  – Sprint training, interval training (poles & 150 yds)
  – Stimulate actual heart rate level in games (75-90%)
Sports Specific Exercises

Lower Body

- Squats
- Deadlift
- Step ups
- Lunges
- Plyometrics
  - Box Jumps
Sports Specific Exercises

Core

• Demonstrations:
  – Medicine Ball Slams
  – Triple Touch & Throw
  – Roll Under & Throw
Proprioception

• Aware of how your body moves in space
• Pitchers!!!
• Working on proper throwing mechanics
• Combine proprioception with other exercises
  – With proper training (weighted baseballs)
• Example
  – Single leg balance on foam pad (holding in early wind up)
Agility Drills

• Ladder Drills
• Shuttle Run, Pro Agility, T-Drill
• Scoop & Toss (run side to side to field ball)
• Zig Zag with flyballs
Take Home Points

- Training needs to be sport specific
- Huge value in preparing the shoulders but don’t forget the entire body
- More important to do things properly
- Keep training during in-season
“Failure to adequately prepare the players can inhibit optimal performance and increase the risk of injury.”
Questions?

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