

**SECTION VI:**  
**PHYSICAL PREPARATION**

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## **EARLY TREATMENT**

To be a prolific pitcher, you must first be a prolific thrower. Having injuries that prevent you from throwing on a daily basis will also prevent you from reaching your potential as a pitcher. With that in mind early treatment is an avenue all pitchers must take at WSU.

This program is designed to facilitate blood flow for warm-up and flush programs for the shoulder. In addition these exercises are used to assist in added rotator cuff strengthening and stretching of the shoulder capsule. These exercises are to be performed before daily practice/games and also used for post-game flush.

- A. PNF Series: All exercises are set of 12
  - a. D1, On Back
    - i. Hand palm down on opposite hip.
    - ii. Resist overhead motion.
    - iii. Finish palm up, and return to start.
  - b. D2, on back:
    - i. Hand palm down on opposite shoulder.
    - ii. Resist extension of elbow, and finish palm up.
    - iii. Return to start.
  - c. Scapular Punches Vertical
    - i. On back.
    - ii. Make fist, elbow extended.
    - iii. Resist punching to sky.
  - d. Scapular Punches Horizontal
    - i. On back.
    - ii. Make fist, elbow flexed.
    - iii. Resist horizontal punching across and back.
  - e. Scapular Punches Diagonal
    - i. On back.
    - ii. Same as above but punching is at a diagonal motion across face.
  - f. Overhead Wing
    - i. On back.
    - ii. Arm on stomach with elbow flexed.
    - iii. Resist moving arm overhead and back to stomach.
  - g. Rhythmic Stabilization
    - i. On back.
    - ii. Arm locked out and straight up in air.
    - iii. Have athlete hold arm in place while you move it around.
    - iv. Three sets of 30 seconds.
  - h. Internal/External Rotation
    - i. Lying on non-dominant side.
    - ii. Elbow flexed and resting on side.
    - iii. Resist internal and external rotation motions.

- i. Shrugs/Depressions
    - i. Lying on non-dominant side.
    - ii. Elbow flexed and resting on side.
    - iii. Resist shoulder shrug and depression of shoulder.
  - j. Superman Pulls
    - i. On stomach.
    - ii. Arms straight out in front.
    - iii. Resist athlete pulling arms towards body.
    - iv. Repeat.
- B. Dumbbell Series: All Exercises are three sets of 10. No more than five lbs.
- a. Dumbbell Lateral Raise
    - i. On stomach.
    - ii. Squeeze shoulder blades together.
    - iii. Raise arm laterally.
  - b. Dumbbell Full Can Raise
    - i. On stomach.
    - ii. Squeeze shoulder blades together.
    - iii. Thumb up raise arm at 45 degree angle.
  - c. 90/90
    - i. On stomach.
    - ii. Squeeze shoulder blades together.
    - iii. Raise arm to 90 degrees then externally rotate 90 degrees.
    - iv. May need to lower weight on this one if too difficult.
- C. Tubing Series: All Exercises are three sets of 10
- a. Standing internal/external rotation
    - i. Elbow flexed and arm at side.
    - ii. Internally rotate to stomach.
    - iii. Place arm against stomach and flex elbow
    - iv. Externally rotate to 90 degrees.
  - b. Standing Overhead Internal/External Rotation
    - i. Arm raised and elbow flexed.
    - ii. Internally rotate.
    - iii. Reverse and externally rotate.
- D. Body Blade: three sets of 30 seconds
- a. Kneel on one knee.
  - b. Go through throwing motion with the body blade.
  - c. Three times with 30 second rotations.
- E. Stretch: All stretches done daily (three times 30 Seconds each)
- a. Internal Rotation – 90/45 degrees.
  - b. Horizontal Adduction.

- c. Inferior Capsule.
- d. Sleeper Stretch – 90/45 degrees

### **SOFT TISSUE THERAPY (SELF MASSAGE)**

Muscle tissue can be bound up through training, overuse, and even dysfunction. This can give the feeling of muscles being tight and restricted from range of motion. A muscle is generally elastic and pliable, but when these “knots” occur it can present a problem to the individual. Massage therapy as a prior and post exercise is a great way to loosen up the “tight” muscles and get range of motion back to the joints. Coupled with active isolated stretching after exercise activity, it can help speed up the process to recovery. Your strength and conditioning coach will take you thru self-massage using foam rolls and tennis balls.

## **DYNAMIC AND STATIC STRETCH**

### **MOVEMENT PREP**

Preparing the body to endure the rigors of activity can help reduce the chance of injury during the activity. Properly activating muscles thru dynamic movement will provide the body to withstand the game’s demands. Start out with light activity with the following movements:

### **PRE-PRACTICE AND GAMETIME WARM-UP**

- A. Light stride/jog out 30-50 yards
- B. Back pedal back 30-50 yards
- C. Carioca down and back 10-20 yards
- D. Side Shuffle down and back 10-20 yards

### **DYNAMIC LOWER BODY MOVMENTS**

All of these stretches are done while moving straight ahead about 10 yards for each movement.

- A. Ankle Cradle w/ Instep Lunge
  - a. Grab one foot underneath ankle and gently pull upward for one second.
  - b. Release foot and lunge forward with same foot.
  - c. Place opposite hand on the ground parallel with forward foot.
  - d. Keep back leg straight and hold position for one second.
  - e. Repeat with other side.
- B. Reverse Lunge w/ Twisted Reach
  - a. Lunge backwards with one leg.
  - b. While in reversed lunge position and twist upper body over the front leg.
  - c. Repeat with other side.
- C. Side Lunge w/ Drop Step
  - a. Step out sideways toward one side lowering hips down to the floor and opposite leg straight.
  - b. Keep feet facing forward.
  - c. Bring lagging leg up and then behind the leading leg.

- d. Keep chest up thru the entire movement.
- e. Repeat with same side.
- D. Walking Hi Knee Hugs
  - a. Pull knee up towards chest and hug.
  - b. Repeat with opposite leg.
- E. Walking Quad Stretch w/ Toe Touch
  - a. Raise foot behind body and grab with same side hand.
  - b. Bend over and reach toward foot on the floor with other hand.
  - c. Repeat with opposite side.
- F. Walking RDL (aka Airplane Walks)
  - a. Keep one foot on the floor and keep opposite leg straight while raising behind.
  - b. Keep back flat, chest up, arm out to the side.
  - c. Repeat with opposite side.
- G. Hi Leg Kicks (aka Frankenstein)
  - a. Keep leg straight and kick upwards.
  - b. Repeat with opposite leg.

### **HIP MOBILITY SEGMENT**

- A. Left Side March
  - a. Drive right knee up and forward
  - b. After knee comes back to the floor drive left knee up and to the side.
  - c. Repeat same side.
- B. Left Side A Skip
  - a. Drive right knee up and forward in a skipping motion.
  - b. After knee comes back to the floor drive left knee up and to the side in a skipping motion.
  - c. Repeat same side.
- C. Right Side March
  - a. Drive left knee up and forward
  - b. After knee comes back to the floor drive right knee up and to the side.
  - c. Repeat same side.
- D. Right Side A Skip
  - a. Drive left knee up and forward in a skipping motion.
  - b. After knee comes back to the floor drive right knee up and to the side in a skipping motion.
  - c. Repeat same side.

### **STATIC LOWER BODY STRETCH**

- A. ½ Kneeling Lunge (Hip flexor)
  - a. Kneel down on one knee in a lunged position
  - b. Push hips forward and hold.
- B. ½ Kneeling Lunge (w/ Twist)
  - a. In the kneeling lunged position, twist over the front leg and hold.
- C. ½ Kneeling Lunge (Open Twist)

- a. In the same kneeling lunged position, twist body toward the leg behind and hold.
- D. Sumo Stretch
  - a. Squat down as low as possible keeping heels down on the ground.
  - b. Place elbows on the inside of the knees with hands together and hold.

### **DYNAMIC UPPER BODY STRETCH**

- A. Trunk Rotation
  - a. Stand tall raise arms straight out to the side and twist torso back and forth.
- B. Trunk Rotation at diagonal angle
  - a. Keep twisting in a back and forth motion and slightly bend at the waist keeping back flat.
- C. Windmill
  - a. Spread legs out wider than shoulder width.
  - b. Bend at the waist.
  - c. In same twisting motion, reach with hand toward opposite foot.
- D. Overhead Press
  - a. Stand tall and put arms out to the side with elbows parallel with shoulders and bent to 90 degrees.
  - b. Keeping scapula retracted, raise arms up over head straightening elbows.
  - c. Bend elbows back to 90 degrees.
  - d. Repeat action.
- E. Elbows In and Out
  - a. Stand tall and put arms out to the side with elbows parallel with shoulders and bent to 90 degrees.
  - b. Make sure scapula is retracted.
  - c. Keeping elbows up, bring them forward meeting at the midline of the body.
  - d. Bring them back to the starting position.
  - e. Repeat action.
- F. Arms Protract and Retract
  - a. Reach out with both arms fully extended. Keep palms down.
  - b. Pull arms back keeping elbows close to sides. Rotate palms up.
  - c. Repeat action.
- G. Snakes
  - a. Completely extend arms out to the sides.
  - b. Twist upper arm downward, simultaneously twisting the opposing arm in the other direction.
  - c. Repeat action with opposite sides.
- H. No Money
  - a. Place arms by side of the body with palms facing forward.
  - b. Bend elbows to 90 degrees with palms facing up.
  - c. Keeping elbows close to the body, rotate forearms away from the midline of the body.
  - d. Bring back to starting position with elbows still bent at 90 degrees.
  - e. Repeat action.

- I. 90/90 INT/EXT
  - a. Stand tall and put arms out to the side with elbows parallel with shoulders and bent to 90 degrees.
  - b. Make sure scapula is retracted.
  - c. Internally rotate arms downward and raise back up in a ballistic motion.

### **STATIC UPPER BODY STRETCH**

- A. Arm Across body
  - a. Bring straight arm across chest.
  - b. Place opposite hand along the triceps and gently pull and hold.
  - c. Repeat with other arm.
- B. Arm behind head
  - a. Bring arm up over head and bend elbow in order to place hand behind head.
  - b. Use opposite to grab the elbow overhead, and slightly pull and hold towards the other side.
  - c. This should give a nice subtle stretch to the tricep and latissimus.
  - d. Repeat with other arm.
- C. Handcuff Stretch
  - a. Reach with both arms behind low back.
  - b. Clasp hands together and pull the shoulders back retracting scapula.
  - c. Push hands downward to the floor and hold.

### **CENTRAL NERVOUS SYSTEM (CNS)**

- A. Base Pogo Swivel (AKA Quick Hips)
  - a. Get in a good “athletic position”.
    - i. Slightly bend knees with hips slightly back.
    - ii. Keep chest up and back flat.
  - b. On cue, slight hop and rotate both feet to one direction and back to starting position as fast as possible.
  - c. Repeat actions.

## **SHOULDER EXERCISES**

These shoulder exercises are part of the daily routine. These exercises are tremendously important and will be done consistently throughout the season. Completing the exercises in order and to their entirety is a key factor in this program benefitting the pitcher. Occasional use and poor effort will not be tolerated during these exercises. These exercises not only stretch but also strengthen the shoulder and rotator cuff area.

- A. Jaeger Band Exercises – Each pitcher will be issued a Jaeger Band and will be expected to have this band with them at all practices and games.
  - a. J-Band Workout Reminders
    - i. Quality vs. quantity.
    - ii. Allow the arm to do the work.
    - iii. Maintain proper technique.

- iv. Keep pace under control.
  - v. Keep arm, body and mind relaxed.
  - vi. Keep long, fluid breathing patterns.
  - vii. Walk closer to the fence to reduce tension.
  - viii. Walk away from the fence for more resistance.
  - ix. Work to the point of fatigue rather than failure.
- b. Dual Arm Exercises
- i. Over the head forearm extensions
    1. Clip at mid-back height.
    2. Front knee over front heel at right angle.
    3. Elbows stay stationary
    4. Palms extended forward.
  - ii. Side extensions
    1. Clip at mid-back height.
    2. Front knee over front heel at right angle.
    3. Lengthen (not round) the side.
    4. Extend from back hip through finger tips.
  - iii. Diagonal extensions
    1. Clip at mid-back height.
    2. Front knee over front heel at right angle.
    3. Lengthen (not round) the side.
    4. Extend from back hip through finger tips.
  - iv. Forward flies
    1. Clip at chest height.
    2. Slightly bent elbows at shoulder height.
    3. Palms toward each other.
  - v. Reverse flies
    1. Clip at mid-back height.
    2. Same as forward flies in reverse direction.
    3. Palms move away from each other.
    4. Bend knees; keep chin over toes and head still.
- c. Throwing Arm Specific Exercises
- i. Internal rotation
    1. Clip at hip height.
    2. Elbow on hip.
    3. Arm at right angle.
    4. Place off hand under armpit.
  - ii. External rotation
    1. Clip at hip height.
    2. Same as internal rotation in opposite direction.
    3. Opposite hand on outside of elbow to stabilize.
  - iii. Elevated internal rotation

1. Clip at shoulder height.
2. Arm at right angle.
3. Throwing elbow stabilized directly in front of shoulder at shoulder height.
- iv. Elevated external rotation
  1. Clip at shoulder height.
  2. Same as internal rotation in opposite direction.
- v. Reverse throwing
  1. Clip at waist height.
  2. Take arm in reverse direction maintaining the same arm action and arm slot.
  3. Front shoulder facing clip.
- vi. Forward throwing motion
  1. Clip at chest height.
  2. Use two fingers through wrist cuff.
  3. Keep proper throwing mechanics.
  4. Keep tubing in line with arm slot.

#### B. Cross Symmetry Exercises

- a. Perform all exercise with both arms moving together
- b. Row
  - i. 10 reps.
  - ii. High intensity cord.
  - iii. Cords at eye level.
  - iv. Start with hands in front of body and bring back to chest.
- c. Reverse Fly
  - i. 10 reps.
  - ii. Low intensity cord.
  - iii. Cords at eye level.
  - iv. Start with hands in front of body and pull out to "T" position.
- d. Punch Plus
  - i. 10 reps.
  - ii. High intensity cord.
  - iii. Cords at eye level.
  - iv. Start with hands next to chest, back to the wall.
  - v. Extend arms out front of body.
- e. 90/90
  - i. 10 reps.
  - ii. Low intensity cord.
  - iii. Cords at knee level.
  - iv. Start with hands at waist.
  - v. Pull hands up to Y position with elbows at shoulder height.
- f. Scaption
  - i. 10 reps.

- ii. Low intensity cord.
  - iii. Cords at knee level.
  - iv. Start with back to wall, hands behind back.
  - v. Extend arms up so hands are out front of body at shoulder height.
- g. Incline Plus
  - i. 10 reps.
  - ii. High intensity cord.
  - iii. Cords at knee level.
  - iv. Start with back to wall, hands in front of shoulder.
  - v. Reach hands up to 135 degrees in front of body.
- h. Victory
  - i. 10 reps.
  - ii. Low intensity cord.
  - iii. Cords at knee level.
  - iv. Start with hands down together below the waist.
  - v. Bring hands up above the head in H position.

## **STRENGTH TRAINING**

The pitcher's weight training program must produce strength resistance along with maintaining flexibility. The Cougar's strength program is designed to allow our pitchers to stay healthy and improve performance. Consistent weight training throughout the season will help maintain health and performance. Emphasis on the core and legs is essential for balance and overall strength for a pitcher. Also make sure you do not lose an inning on the field due to your irresponsibility in the weight room!

Strength is a key component to performing at the best of your abilities. Baseball requires strength, power, speed, quickness, agility, flexibility, endurance, and stamina. Each of these can be enhanced through a proper weight-training program. Although there are many exercises used to strengthen a baseball athlete, the following exercises are just a few key components of our strength training program:

- A. Squats
  - a. Starting Position
    - i. Stand upright with feet shoulder width apart and barbell resting behind the neck on your traps with hands placed slightly wider than shoulder-width apart using an overhand grip.
    - ii. Keep your back straight and your head tilted up.
  - b. Lift
    - i. With your back remaining straight and your head tilted up, slowly lower the weight by bending your knees until the upper part of your legs is parallel with the floor.
    - ii. Explode upward back to the starting position.
    - iii. Be sure that the back remains in an upright position as you ascend to the starting position.

- B. Box Step Ups (can be used with either barbell or dumbbells)
- a. Starting Position
    - i. Stand upright with feet shoulder width apart and barbell resting behind the neck on your traps with hands placed slightly wider than shoulder-width apart using an overhand grip or holding dumbbells at your side.
    - ii. Keep your back straight and your head tilted up.
    - iii. Stand with a box, bench, or some sort of stable elevated apparatus in front of you.
  - b. Lift
    - i. Step forward up on the elevated surface with one foot.
    - ii. Bring your other knee up so that its' thigh is parallel to the floor.
    - iii. Lower your left leg all the way back down to the floor and bring your right leg back down to meet it.
    - iv. Repeat with other leg.
- C. Lunges
- a. Starting Position
    - i. Stand upright with feet shoulder width apart and barbell resting behind the neck on your traps with hands placed slightly wider than shoulder-width apart using an overhand grip or holding dumbbells at your sides.
    - ii. Keep your back straight and your head tilted up.
  - b. Lift
    - i. With everything remaining still, slowly take a large step forward with one leg, bending both knees.
    - ii. The weight on your back foot should come up on your toes, and the knee on your back leg should come very close, but not touch the floor.
    - iii. Using your forward leg, thrust yourself back to the starting position the same way you came down.
    - iv. The entire lift should be in one smooth, fluid motion.
- D. Lat Pulldowns
- a. Starting Position
    - i. Sit at a lat pulldown machine.
    - ii. Keep your back straight and lean backward a few inches with your feet resting on the floor.
    - iii. Grab the bar with both hands, using an overhand grip.
  - b. Lift
    - i. Keeping your body stationary, pull the bar down in front of your neck by squeezing your shoulder blades together and bending your arms at the elbows.
    - ii. Pull the bar down until the bar grazes your chest.
    - iii. Let the bar come down to a complete brief stop before slowly and controllably guiding it back up to its original starting position.

## **CORE TRAINING**

Core training is a very important factor in pitching performance and overall athletic ability. Without a strong durable core an athlete could not be able to properly transfer power generated from the lower body to the upper body. Training from the middle section to our outer body parts is how we want to accomplish this. This doesn't mean go out and do sit ups and crunches every day, be practical and smart. We train the core for function (meaning stability, mobility, and rotational force), not the beach.

- A. Medicine Ball Lateral Throws
  - a. Starting Position
    - i. Stand in an athletic based position.
    - ii. Keep feet pointing straight ahead as your body is perpendicular to a wall (or throwing partner).
    - iii. Make sure your knees are slightly bent.
    - iv. Keep chest up, and hold medicine ball to the outside hip furthest from the object you will throw the ball at.
  - b. Movement
    - i. Rotate upper body away from the ball.
    - ii. In a quick and violent motion, rotate upper body initiated by the hips toward the object you're throwing at and release the ball in that direction.
- B. Planks
  - a. Starting Position
    - i. Lay down on your front side, with your toes tucked under your feet and lower arms firmly on the ground.
  - b. Movement
    - i. Keeping your shoulders directly over your elbow, raise your body off the ground so that only your toes and lower arms are touching the ground.
    - ii. Make sure that your abdominals are tightly braced and flexed.
    - iii. Make your entire body as straight and rigid as possible.
    - iv. Hold this position for prescribed time.
- C. Russian Twists
  - a. Starting Position
    - i. Sit on floor with your chest out and back flat and leaned back at a 45 degree angle.
    - ii. Raise feet off the ground keeping your thighs together.
  - b. Movement
    - i. Rotate shoulders back and forth to either side keeping your chest out, back flat, and feet off the floor.
    - ii. Do this for the prescribed time or repetitions.

## **CONDITIONING**

## **RUNNING**

Our running program for starters and relievers involve similar types, however, there is a yardage difference for starters and relievers. These runs focus on both anaerobic and aerobic development, with an emphasis on anaerobic. The pitcher's stride down the mound is similar in nature to a runner who is sprinting, thus we will simulate that action as much as possible to incorporate the mechanic similarity. More studies have shown the benefits of sprinting as a pitcher instead of the old long slow jog we used to do. With that in mind, below is a list of run types within each category, as well as a weekly plan for the season for both starters and relievers, with the yardage total included.

Conditioning is a critical component to the overall health and mentality of a pitcher. Due to the number times a pitcher has to make a throw at near max velocity during a given outing, it is important that the pitcher has a solid level of fitness in order to last throughout the game. Although pitching is not an aerobic activity, it is an anaerobic activity which involves being able to recover quickly between pitches and outings. The more fit an athlete is, the quicker they will be able to bounce back from one outing to the next.

- A. Anaerobic Running
  - a. Long – A long anaerobic run can be any sprint lasting longer than 20 seconds but cannot be maintained for more than two minutes.
    - i. “Hard” Poles - Full pole (200 yards).
      - 1. Ran in 30 seconds or less.
    - ii.  $\frac{3}{4}$  poles (150 yards)
      - 1. Ran in 20 seconds or less.
    - iii. Gassers (200 yards)
      - 1. Shuttles 50 yards down and back twice.
      - 2. Ran in 25-35 seconds or less.
  - b. Short – A short anaerobic run can be any sprint lasting between 10 and 20 seconds.
    - i.  $\frac{1}{2}$  poles sprints (100 yards)
    - ii.  $\frac{1}{2}$  Gassers (100 yards)
- B. Creatine Phosphate Running (CrPH) – This is true sprint work that can only last 10 seconds or less.
  - a. Sprint Ladder
  - b. 10, 20, 30, 40 yard shuttle sprints.
  - c. 20 or 30 yard sprints
- C. Aerobic Conditioning – Utilized sparingly to help with a pitcher's flush. It is physical activity in a “steady state” form and used to provide some general fitness effects. Generally done the day after he throws.
  - a. Continuous Poles – Run at 65-75% of max sprint back and forth without stopping for prescribed amount (i.e. 10 to 15 times).

## **SIX INNINGS OF HECK**

This conditioning program is modeled to identify and focus on the areas of the body the pitcher utilizes the most during the delivery. It focuses on the shoulders, core and legs and is a circuit type conditioning unit. It is typically done two days after a live appearance and can be done two-three times a week. Modifying this program can be done by eliminating the medicine ball part of the circuit. The reps indicated is a baseline amount used during the season. Reps can be increased as the pitcher increases his workload, especially during off-season conditioning.

- A. 1<sup>st</sup> Inning
  - a. Reverse Throw (Med Ball) - 6
  - b. 10/10/10 (Gasser) - 5
  - c. Rolling Push Up – Hindus (Push Ups) - 4
  - d. Reverse Plank w/Three Second Pause (Core – Back) - 3
  - e. Medicine Ball Seated Twist w/Punches – 10+10=one Rep (Core – Abs) - 2
  
- B. 2<sup>nd</sup> Inning
  - a. Granny Throw (Med Ball) – 6
  - b. 10/15/10 (Gasser) – 4
  - c. Wide + Close Grip (Push-Ups) – 2
  - d. Plank w/Alternating Glute Lifts (Core – Back) – 10
  - e. Medicine Ball Twist w/Punch (Core – Abs) - 6
  
- C. 3<sup>rd</sup> Inning
  - a. Forward Squat Throws (Med Ball) – 6
  - b. 10/20/10 (Gasser) – 3
  - c. Glute Presses w/ Leg Raises (Push-Ups) – 5
  - d. Hamstring Reverse Plank (Core – Back) – 4
  - e. Alternating Reverse Crunch (Core – Abs) – 20
  
- D. 4<sup>th</sup> Inning
  - a. Reverse Squat Throws (Med Ball) – 6
  - b. 10/30/10 (Gasser) – 2
  - c. Staggered Arm Push Ups (Push Up) – 3
  - d. Reverse Push Ups (Core – Back) – 3
  - e. Tom House Abs (Core – Abs) - 2
  
- E. 5<sup>th</sup> Inning
  - a. Side Throws (Med Ball) – 8
  - b. 10/40/10 (Gasser) – 2
  - c. Push Up w/Hip Twist (Push Up) – 4
  - d. Medicine Ball Full ROM Single Leg RDL (Core – Back) – 4
  - e. Medicine Ball V Ups (Transfer Med Ball Each Time) (Core – Abs) - 6
  
- F. 6<sup>th</sup> Inning
  - a. Reverse Side Throws (Med Ball) – 8

- b. 10/60/10 (Gasser) – 2
- c. Medicine Ball Plyometric Push Ups (Push Up) – 4
- d. Reverse Plank with three Second Pause (Core – Back) – 4
- e. Pretzels or Iron Crosses (Core – Abs) - 8

**IN SEASON - STARTERS**

- A. Week 1-4
  - a. Anaerobic – Long 600yds
  - b. Anaerobic – Short 400yds
  - c. Cr-Ph Sprints 300yds
  - d. Six Innings Four Innings
  - e. Aerobic (Poles) 2000yds
  
- B. Week 5-8
  - a. Anaerobic – Long 800yds
  - b. Anaerobic – Short 600yds
  - c. Cr-Ph Sprints 300yds
  - d. Six Innings Four Innings
  - e. Aerobic (Poles) 2000yds
  
- C. Week 9-10
  - a. Anaerobic – Long 1000yds
  - b. Anaerobic – Short 600yds
  - c. Cr-Ph Sprints 200yds
  - d. Six Innings Four Innings
  - e. Aerobic (Poles) 2400yds
  
- D. Week 11-12
  - a. Anaerobic – Long 1000yds
  - b. Anaerobic – Short 600yds
  - c. Cr-Ph Sprints 200yds
  - d. Six Innings Four Innings
  - e. Aerobic (Poles) 2800yds
  
- E. Week 13
  - a. Anaerobic – Long 800yds
  - b. Anaerobic – Short 600yds
  - c. Cr-Ph Sprints 400yds
  - d. Six Innings Four Innings
  - e. Aerobic (Poles) 2000yds
  
- F. Week 14-15
  - a. Anaerobic – Long 1000yds
  - b. Anaerobic – Short 600yds

- c. Cr-Ph Sprints            300yds
- d. Six Innings                Four Innings
- e. Aerobic (Poles)          2400yds
  
- G. Week 16-17 (Regional Week)
  - a. Anaerobic – Long       1000yds
  - b. Anaerobic – Short       600yds
  - c. Cr-Ph Sprints            300yds
  - d. Six Innings                Four Innings
  - e. Aerobic (Poles)          2000yds
  
- H. Week 18-19 (Super Regional Week)
  - a. Anaerobic – Long       800yds
  - b. Anaerobic – Short       600yds
  - c. Cr-Ph Sprints            300yds
  - d. Six Innings                Four Innings
  - e. Aerobic (Poles)          2200yds
  
- I. Week 20-21 (Omaha)
  - a. Anaerobic – Long       800yds
  - b. Anaerobic – Short       600yds
  - c. Cr-Ph Sprints            300yds
  - d. Six Innings                Four Innings
  - e. Aerobic (Poles)          2200yds

**IN SEASON - RELIEVERS**

- A. Week 1-4
  - a. Anaerobic – Long       600yds
  - b. Anaerobic – Short       500yds
  - c. Cr-Ph Sprints            400yds
  - d. Six Innings                Four Innings
  - e. Aerobic (Poles)          2000yds
  
- B. Week 5-8
  - a. Anaerobic – Long       600yds
  - b. Anaerobic – Short       500yds
  - c. Cr-Ph Sprints            400yds
  - d. Six Innings                Four Innings
  - e. Aerobic (Poles)          1600yds
  
- C. Week 9-10
  - a. Anaerobic – Long       800yds
  - b. Anaerobic – Short       500yds
  - c. Cr-Ph Sprints            200yds

- d. Six Innings Four Innings
- e. Aerobic (Poles) 1600yds
  
- D. Week 11-12
  - a. Anaerobic – Long 1000yds
  - b. Anaerobic – Short 500yds
  - c. Cr-Ph Sprints 300yds
  - d. Six Innings Four Innings
  - e. Aerobic (Poles) 1800yds
  
- E. Week 13
  - a. Anaerobic – Long 1000yds
  - b. Anaerobic – Short 500yds
  - c. Cr-Ph Sprints 300yds
  - d. Six Innings Four Innings
  - e. Aerobic (Poles) 1200yds
  
- F. Week 14-15
  - a. Anaerobic – Long 1000yds
  - b. Anaerobic – Short 500yds
  - c. Cr-Ph Sprints 200yds
  - d. Six Innings Four Innings
  - e. Aerobic (Poles) 1600yds
  
- G. Week 16-17 (Regional Week)
  - a. Anaerobic – Long 1000yds
  - b. Anaerobic – Short 500yds
  - c. Cr-Ph Sprints 200yds
  - d. Six Innings Four Innings
  - e. Aerobic (Poles) 1600yds
  
- H. Week 18-19 (Super Regional Week)
  - a. Anaerobic – Long 1000yds
  - b. Anaerobic – Short 500yds
  - c. Cr-Ph Sprints 200yds
  - d. Six Innings Four Innings
  - e. Aerobic (Poles) 1600yds
  
- I. Week 20-21 (Omaha)
  - a. Anaerobic – Long 1000yds
  - b. Anaerobic – Short 500yds
  - c. Cr-Ph Sprints 200yds
  - d. Six Innings Four Innings
  - e. Aerobic (Poles) 1600yds

## **NUTRITION**

Research has clearly documented the positive attributes proper nutrition has on athletic performance, such as the enhancement of strength, power, speed, endurance, immunity, and reaction time, reducing soreness and inflammation, and decreasing risk of injury. Proper nutrition or fueling is the foundation for training, performing, and dominating your competition! Keeping a food first approach to enhancing athletic performance is the best approach. Remember, dietary supplements cannot make-up for poor nutrition, but may enhance if added to a well-balanced diet.

### **CARBOHYDRATES**

Carbohydrates are the primary fuel source for your muscles during training and competition. They are also the most efficient fuel source for your brain as they enhance the ability to concentrate and focus. Carbohydrates help maximize the body's usage of protein and fat for growth, repair and energy. The majority of a pitcher's diet needs to be made up of carbohydrates. They contain vital vitamin, minerals, and fiber to keep an athlete's body healthy.

### **PROTEIN**

The primary building block of your body's cells, protein promotes tissue growth and repair. Protein from animal and soy sources contain essential amino acids that may help improve endurance and increase and preserve muscle mass. 15-25% of your diet needs to be made up of protein. It should only provide a small amount of energy during exercise and is used primarily for building and repairing muscle/tissue.

### **FAT**

Fat acts as a continuous fuel supply for your body. It is the primary fuel source during low intensity exercise. Certain fats can decrease inflammation in the body and improve heart health. Fats from nuts, seeds, fish, and plant oils can help supply important fat soluble vitamins and boost immunity.

### **PRE-COMPETITION NUTRITION**

This is an opportunity to top-off your body's stores of carbohydrates before competition. Proper pre-competition nutrition will help maintain blood glucose levels, which will improve mental focus and concentration. It also helps prevent hunger, fatigue, and light headedness during competition. Fluids will help hydrate your body and control body temperature during competition. Don't forget to drink fluids during competition.

- A. Timing is the Key
  - a. 3-5 Hours Prior to Competition – Moderate size meal and liquids.
  - b. 2-3 Hours – Small meal and liquids.
  - c. 1-2 Hours – Small snack and liquids.
  - d. 30 Minutes – Mostly liquids.

**RECOVERY NUTRITION**

Consuming a carb/protein snack with ample amounts of fluid within 30 minutes of completing a weight room workout, practice, or game will help repair damaged muscle fibers, promote muscle growth, and replenish energy stores more efficiently than if you wait longer or do not consume anything at all. Your recovery snack needs to always consist of three things: fluids, carbohydrates and protein.

**BREAKFAST**

Eat a balanced breakfast. Breakfast sets the body's metabolic balance for the rest of each day. If you don't eat breakfast, no matter how healthy you eat the remainder of your day your metabolic thermostat is messed up. You must eat a balance breakfast within one hour of waking up each day.

**EATING HABITS**

It is better for your body to eat around five smaller meals throughout the day. Dinner should be the smallest meal of the day. Lunch should be the biggest. The caloric intake should match your energy needs. Small portions of healthy foods are more beneficial and more satisfying than big portions of junk food.

- A. Eat a wide variety of foods. Food sensitivities and allergies can result from the consistent eating of specific foods on a regular basis.
- B. The amount of protein you eat is a function of lean body mass and your level of physical activity. A good rule of thumb is to eat one gram of protein every pound of lean body mass.
- C. Eat five or more servings of fruit and vegetables daily. Fruits and vegetables should be your primary source of carbohydrates. Balance is the key and your goal should be to have 40% of your meals and snacks to be complex carbohydrates.
- D. Eat more smart fats. Fish oils and nuts are examples of smart fat. Anything with omega three is a source of a smart fat. Beware of saturated fats that facilitate inflammatory responses.
- E. Eat foods with high fiber content. Fiber helps shield the carbohydrates in food from immediate digestion. The sugar in fiber-enriched food tends to be absorbed into the bloodstream more slowly.

**HYDRATION**

Over 60% of your body is made up of water. Proper fluid balance is a necessity in maintaining proper body temperature. Body fluids are essential for the physiologic processes of digestion, absorption, and excretion. The slightest decrease in water weight can have a detrimental impact on athletic performance. You need to replace electrolytes you lose through your sweat during training and competition.

**DEHYDRATION**

Two percent dehydration of one's body weight can equate to the loss in performance by 15-20%. In most cases dehydration has already occurred when the athlete feels thirsty. Proper hydration should supply both fluids and electrolytes to the body. Water does not provide all the body's needs. Especially if exercise or competition last longer than one hour. Drinking only plain water over a 3-4 hour competition can lead to "water intoxication". This results in the dilution of sodium in the blood due to increased blood volume and excess sodium losses from sweating. All this adds up to headache, nausea, muscle cramping, and lethargy.

So how do you know if your sports drink is a good rehydration beverage? For a sports drink to be effective, must contain at least 75mg of sodium for every 8oz. of fluid. In addition to electrolytes, research has show that carbohydrates should be in the sports drinks. Research has shown that carbohydrate and sodium work together to increase water absorption. Drinks that provide these qualities would include Powerade and Gatorade.

**A. Proper Hydration Tips**

- a. Urinate every 1-2 hours.
- b. Urine color is a pale yellow or colorless. If you don't produce much urine or the color is very dark chances are you are dehydrated.
- c. Do not rely on thirst as an indicator to hydrate; you are already dehydrated at this point.
- d. Drink throughout the entire day, starting in the morning with three big glasses of water, juice or milk.
- e. Drink eight to ten big gulps of fluid every 15-20 minutes of activity.
- f. Use a carb/electrolyte containing drink primarily during training/competition lasting longer than 60 minutes or when the environment is hot and/or humid.
- g. If you are prone to cramping, you need to be proactive with consuming an electrolyte containing drink prior to activity.
- h. Know your sweat losses. For every one pound loss during activity replace with 20oz of fluid. Make sure to minimize sweat losses to less than 2% of your total body weight.

**SLEEP HABITS**

Your REM cycle affects how much energy you have each day. You should wake up at the end of a REM cycle: 4 ½ hours, 6 hours, 7 ½ hours, or 9 hours of rest. It is important that you wake up at the end of a sleep cycle so that your body literally wakes up as well.