Fredonia State Baseball

Pitchers Workout
Pre-throwing warm up

1. 90 second light jog.
2. Arm swings – front to back (palm up/palm down)
3. Arm swings – horizontal (palm up/palm down)
4. Wax on – both arms, 10 rotations
5. Wax off – both arms, 10 rotations
6. Horizontal arm pull – hold for 30 seconds, each arm
7. Overhead tricep pull – hold for 30 seconds, each arm
8. Side to front raises (rotator cuff) 2 sets, 10 repetitions
9. Bent over raises (rotator cuff) – palm up/palm down
10. Arm circles with 3 baseballs in each hand – 30 seconds front, 30 seconds back
11. One-minute stretch on your own

Dynamic stretches (Legs)

1. High knees – 5 yards and back
2. Karaoke – 10 yards and back
3. Shuffle steps – 10 yards and back
4. Hip flexor, hurdle steps – 10 yards and back
5. Spider man walk – 10 yards and back

Seven pre-throwing band stretches

1. Forward flies
2. Reverse flies
3. Rotator cuff (isolate elbows up at 90 degrees) – both ways
4. Internal/external rotation (simulate pitching motion)
5. Elbow at side 90 degrees – forward; backward two sets of 10

Long Toss
Know your arm and what it needs that day. After you stretch it out make sure you throw from 60 feet with a partner, work in off-speed pitches. Focus on pitch rotation on change-ups and breaking balls.

If you are throwing a bullpen or live that day use your long toss as a tool to get your arm loose FOR THE BULLPEN. That is when you let it loose.

Bullpen
Have a goal going into each bullpen session and get something out of it. (See Six Cycles for Bullpens)
Food for thought:

**Do run sprints. Don't run long distance.**
Pitching a baseball places an explosive, intense demand on your central nervous system. Thus, you need to train in a similar manner. The perfect type of training stimulus for this is sprints—not long distance endurance running, which over time teaches your body to become slow.

**Do active dynamic stretches. Don't do static stretches.**
You want your muscles to have a stretch reflex, like a rubber band supplying stored energy when stimulated. Static stretching reduces the ability to be powerful by diminishing your stretch reflex response.

**Do deadlifts correctly. Don't use the Leg Press machine.**
Leg Press machines are not nearly as effective as the Deadlift, which is awesome. The Deadlift, when done correctly, works your entire body. This alone should be enough reason to do them.

Specifically, the Deadlift engages your hamstrings, glutes, erectors, rhomboids and posterior shoulder muscles—all top priority for pitchers.

In order to continually throw a baseball at high speed, pitchers need a tremendously strong lower body. This helps them develop the necessary torque in their hips needed for the pitching motion. Once their lower body develops this power, a stable core helps transfer it up and into their arm for the throw. Strong and stable posterior muscles protect a pitcher from injury.

**Do Push-Ups. Don't do Barbell Bench Presses.**
Push-Ups are a great closed-chain exercise. To complete the entire movement, your entire body must remain stable. Barbell Bench Presses lock the shoulders in a susceptible position. This is a good enough reason to leave them out of your training program. Push-Ups are a much safer option for working these joints and muscles.

**Do Horizontal Rowing Exercises. Don't do Overhead Presses.**
For a pitcher, a weak and unstable scapula is like launching a cannon out of a canoe. It won’t work. Upper-body stability problems are tyrants among pitchers, but this is exactly what you risk when you perform a technically sound Overhead Press. Instead, you should perform rowing exercises. They help to strengthen the decelerator muscles you use when throwing.
**Off season workout program**

This is a base workout program designed to strengthen your core and legs. The upper body workouts will consist of strengthening the back, arm, and shoulder muscles to help prevent arm injuries during the season.

Variety will be key in this. Each week I would ask you to switch a Monday or Friday workout and put into place a workout option from professional pitchers such as Justin Verlander, Craig Kimbrel, Tim Lincecum, Steve Cishek, Tim Collins, as well as different programs put into place by professional teams and collegiate team’s strength coaches.

I would also encourage you to work sprints into your program, swimming, or athletic activities such as basketball.

For those of you not interested in “lifting” I would ask that you show me what you’re doing to get better in the offseason. Those who don’t want to lift upper-body I would recommend doing some of the leg varieties of work in this handbook.

Any clarification needed on the exercises in the handbook come see me or email me. Video of correct way to do things will be on blog.

There should be plenty of workout ideas provided in here. No excuse to not work. If none of these suit your needs come and see me and we will work something out.

**The work you put in will be determined by how good an athlete you want to be and how much you want to contribute to the overall success of this team.**

**Fun fact:** Justin Verlander went into his freshman year of college as a skinny guy throwing 93 mph (not bad). With a strength and conditioning program he added 30 pounds to his frame and as says it was almost entirely in his legs. He managed to go from 93 mph to 97 mph that year alone.
**Monday**

*Dynamic STRETCH*

Resistance band squats – 3x12 (warm your legs up)

Squat – 1x10, 4x6, 1x10

Hip thrusts – 3x6-10

Single leg squats – 2x10 (each leg)

Weighted calf raises – 3x10

Physio ball jackknifes – 3x20

*Dynamic STRETCH*


**Wednesday**

*STRETCH*

Seated rows 3x10-12

DB Bench Press – 3x8-10

Shoulder Series (5 lbs/ less dumbbells) – Perform as a circuit completing all exercises as one set. Go through twice.

- Front raises
- Bent over flies
- Lateral raises
- Bent over rotations – clockwise for 30 seconds and counter-clockwise

DB bicep concentration curls – 3x8-10

Tricep Rope extension – 3x8-10

DB hammer curl – 2x10

Skull crushers – 2x10

Side Planks – 2x30 second each side

*STRETCH*
Friday

*Dynamic STRETCH*

Deadlift – 1x10, 4x6, 1x10

Single leg box jump – 4x3 (per side)

Lateral lunges – 4x8-10

Landmine Row – 3x8-10

Split squats – 4x3 (per side)

Hanging knee raises – 2xfailure

*Dynamic STRETCH*

"Growth comes from quality reaches ... just beyond your capability."
Alternate workout 1: Justin Verlander single day workout.
(Videos available on the team blog)

http://www.stack.com/video/1631207718/Justin-Verlander-Strength-Training/

According to Verlander, strength training is key to building his endurance on the mound. Coach Gillett walks STACK through Verlander's weight room training regimen highlighting important exercises useful for all pitchers.

He performs the Balance Split Squat (http://www.stack.com/video/1614766507/Balance-Split-Squat-With-Justin-Verlander), a dynamic flexibility and strengthening exercise requiring him to reach down and across his body with weight, in a split squat to work his obliques and legs. Coach Gillett uses this exercise to strengthen Verlander's body to help it decelerate through movement.

He then moves to the Scap Six-Pack Routine (http://www.stack.com/video/1614766509/The-Scap-SixPack-Routine-With-Justin-Verlander), a core strengthening exercise with shoulder emphasis, great for any pitcher.

From there, he begins a Pitcher Squat Progression (http://www.stack.com/video/1155582261001/Pitcher-Squat-Progression-With-Justin-Verlander), which strengthens his lower body and core. Pitchers need a strong foundation to generate power as they push off the rubber to deliver the pitch. Performing the squat progression with good technique will improve any baseball player's stamina and power.

He moves from the power-generating squat progression to weighted Walking Lunges (http://www.stack.com/video/161690496/Walking-Lunge-HowTo-With-Justin-Verlander), which are great for reducing the likelihood of injury by strengthening the glutes to take the pressure off the hamstrings.

Another great injury maintenance exercise for pitchers is the Physioball Leg Curl (http://www.stack.com/video/1616708971/The-Physioball-Leg-Curl-With-Justin-Verlander), which strengthens the glutes, hamstrings and lower back.

Lastly, Verlander finishes his workout by performing a Flamingos/Single-Leg RDL Combo (http://www.stack.com/video/1616703487/FlamingosSingleLeg-RDL-Combo-With-Justin-Verlander/). This balance and stability exercise works the core and legs as well as reaction speed. Maximizing effort on the last exercise is important for mental and physical gratification after a long workout.

Here are some additional Med Ball Workouts (http://www.stack.com/video/1630381635/Overhead-Med-Ball-Throws-With-Justin-Verlander/). See Med Ball workouts on the next page.

NOTES: Work on legs, core, hip flexibility, ankle flexibility.
Alternate workout 2: Med balls
Pitching a baseball is one of the most complex and difficult-to-train sports skills. If you want to throw harder, you need to rethink how you work out.

Traditional pitching workouts typically involve dumbbell and/or resistance band exercises focused on specific parts of the throwing motion—e.g., Dumbbell Rows or Resistance Band Scarecrows targeting the back and shoulder. This type of training is very effective at increasing strength and reducing the risk of an overuse injury. The problem is that it does little to increase pitching velocity, because it trains the muscles, not the movement. (Find out how to prevent shoulder injuries.)

Instead, try performing med ball exercises that closely mimic the throwing motion. They will increase power in the muscles used when you throw—critical for adding velocity to your pitches. Also, these exercises work similar to plyometrics by improving your muscles’ ability to store energy after the wind-up and then rapidly release it into the throw. Perform med ball pitching workout two or three times per week. Form and technique are paramount, so use a lightweight med ball and gradually work your way up. The drills instruct you to throw the med ball against a wall, but feel free to use a partner or trampoline if desired.

Single-Arm Med Ball L-Throwdowns - Sets/Reps: 2×10 each arm

Focus: shoulder rotation speed

- Assume athletic stance facing wall
- Hold med ball in hand with arm in “L” position (arm to side at shoulder height and elbow bent 90 degrees)
- Rotate shoulder and throw med ball on ground; do not change position of upper arm
- Catch and repeat

Sideways Rotating Single-Arm Chest Pass - Sets/Reps: 2×10 each arm

Focus: trunk rotation and arm speed

- Assume athletic stance with left shoulder facing wall
- Hold med ball at chest height
- Rotate torso to right then toward wall while extending right arm to throw med ball against wall
- Catch and repeat

Overhead Crossover Throwdown - Sets/Reps: 2×10 each side

Focus: trunk rotation and shoulder speed

- Assume athletic stance facing wall
- Hold med ball with both hands over right shoulder
- Rotate trunk and bring arms down and across body to forcefully throw med ball
- Catch and repeat

Med Ball Baseball Pitch - Sets/Reps: 2×10 each side

Focus: trunk rotation, arm and shoulder speed; decreased time taken between wind-up and pitch (amortization phase)

- Assume normal pitching stance holding med ball with two hands
- Perform pitching motion and throw med ball with both hands
- Catch and repeat
Alternate workout 3: T.A.P (The Athletic Pitcher)

Two to three times per week – Intent to throw hard
See routine in the back of Pitcher’s Handbook.
Three components:
   1. Bands
   2. Med Ball
   3. Weighted Ball (2, 4, or 6 lbs.)

Sprint workout:

Side-to-Side Jumps
   • Stand on one leg and push off, jumping as high and far as you can directly to the side
   • Land on the opposite leg and explode back the other way as quickly as possible
   • 3x5 on each leg, 1 minute rest between sets

L-Drill
   • Set up cones in the shape of an L
   • Shuffle along one line, then sprint the other line
   • Concentrate on pushing with each shuffle and having a solid plant to change direction into the sprint
   • 5x5 yards each direction, 15-20-second break between reps

Down and Backs
   • Sprint 5 yards, plant, and explode back in the direction you came from
   • Explode off the line when changing directions
   • 5x5 yards, 12-20-second rest between sprints

10-Yard Sprints
   • Start in base running stance
   • With a quick crossover step, sprint 10 yards like you are stealing a base
   • Complete 10 sprints with 15-20 seconds rest between sprints

These exercises focus on change of direction, explosiveness, and lateral movement. This workout should not make you feel incredibly tired. Make sure to take the recommended rest breaks. You should feel fast and explosive after these drills.
Alternate workout 4: 10 Powerful Push-up variations

http://www.stack.com/2013/03/25/powerful-push-up-variations/#articleTitle

1. Spiderman
2. T
3. Clap
4. Shoulder
5. DB push-up row
6. Alternating single arm med ball
7. Physio ball
8. Single arm/single leg
9. Staggered
10. Med ball
Alternate workout 5:

**Plyometrics**
**Single-Leg Box Jump**
Sets/Reps: 3x8, each leg

**Med Ball Throws**
Sets/Reps: 4x8 (each side)

**Sprint Repeats**
Sets/Distance: 3x30 yards

**Deadlift**
Sets/Reps: 4x8

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**Improve Flexibility With Four Foam Rolling Exercises**

Foam rolling before and after training is a performance-enhancing technique similar to massage. Both reduce the tightness in fibrous tissue and muscles by applying pressure to them [read our previous post on the benefits of foam rolling].

Once tight areas are loosened up through foam rolling, muscles are able to lengthen to their full extent, allowing joints to move through their full range of motion and improving flexibility. In addition, foam rolling increases blood flow to muscles, helping to remove toxins—such as lactic acid—and reducing muscle soreness.

Below are four foam rolling exercises that focus on the quads, IT bands, glutes/piriformis and upper back muscles. If left unattended, any of these areas could cause pain, suffer injury or adversely affect your sports performance. To receive maximum benefits from foam rolling, regularly perform these exercises for at least 30 seconds before and/or after workouts, or on off-days.

*(continued next page)*
Quads

- Lie face down
- Place foam roller under quads, balance on elbows and maintain a tight core
- Roll slowly from knee to hip; concentrate on sensitive areas

**Benefits:** Improves flexibility of these often over-developed muscles; expands hip and knee mobility for improved jumping height and running technique

**Variation:** For greater intensity, foam roll one leg at a time

IT Band

- Place foam roller under left hip and assume Side Plank position
- Balance on left elbow and right leg; use leg to adjust intensity
- Roll slowly from hip to knee; concentrate on sensitive areas
- Perform on opposite leg

**Benefit:** Prevents tightness and knee pain that results from overuse of the IT Band

**Variation:** For maximum intensity, place feet together and off the ground

Glutes/Piriformis

- Sit with side of left glute on foam roller with opposite leg crossed over thigh
- Balance on right hand and leg
- Slowly roll back and forth over glute; concentrate on sensitive areas
- Perform on opposite side

**Benefits:** Reduces pressure on the sciatic nerve to improve nervous system control of lower body muscles and eliminate low back pain

**Variation:** Roll side to side over sensitive areas to release fascia from multiple directions

Upper Back

- Lie on foam roller positioned at mid back
- Bridge hips toward ceiling and maintain a tight core
- Roll slowly to upper back; concentrate on sensitive areas

**Benefits:** Relieves upper back tension and pain; improves back flexibility and shoulder mobility

**Variation:** Roll sides of back for additional benefit
## Elite Pitchers’ Standards

**Med Ball Wall Series: How many in 15 seconds?**

<table>
<thead>
<tr>
<th>Exercise</th>
<th>White 80 mph</th>
<th>Red 85 mph</th>
<th>Blue 90 mph</th>
<th>Black 93+ mph</th>
</tr>
</thead>
<tbody>
<tr>
<td>Side to Side</td>
<td>43 Reps</td>
<td>46</td>
<td>50</td>
<td>54</td>
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<tr>
<td>Diagonal DS</td>
<td>32</td>
<td>35</td>
<td>38</td>
<td>42</td>
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<tr>
<td>Woodchoppers</td>
<td>28</td>
<td>32</td>
<td>35</td>
<td>38</td>
</tr>
<tr>
<td>Back Breakers</td>
<td>32</td>
<td>34</td>
<td>36</td>
<td>40</td>
</tr>
<tr>
<td>1 Legged WC</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
</tbody>
</table>

**Med Ball Throws & Arm Care: Best of 3 throws w/ 2lb ball**

<table>
<thead>
<tr>
<th>Exercise</th>
<th>White 80 mph</th>
<th>Red 85 mph</th>
<th>Blue 90 mph</th>
<th>Black 93+ mph</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catapults</td>
<td>32 mph</td>
<td>35</td>
<td>38</td>
<td>41</td>
</tr>
<tr>
<td>Torques</td>
<td>31</td>
<td>33</td>
<td>35</td>
<td>37</td>
</tr>
<tr>
<td>1 Knee</td>
<td>31.5</td>
<td>34</td>
<td>36</td>
<td>38</td>
</tr>
<tr>
<td>Backward</td>
<td>30</td>
<td>32.5</td>
<td>34.5</td>
<td>36.5</td>
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<td>Running</td>
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<td>44</td>
<td>46.5</td>
<td>48.5</td>
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<tr>
<td>1 Legged</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
</tbody>
</table>
Terms commonly used in workout programs:

**Abduction**: Movement of any extremity away from the midline of the body. (Example: Raising arms while performing a lateral raise.)

**Adduction**: Movement of any extremity toward the midline of the body. (Example: Lowering arms after performing a lateral raise.)

**Anterior**: In the front of; the frontside of the body.

**Closed Chain**: A movement which involves an extremity pushing against a fixed or immovable object. This forces the body to use multiple muscles and joints to execute an exercise. The distal segment is not free (like pushing against the ground) creating a more functional movement. (Examples: Performing a push-up; a squat.)

**Depression**: To move the scapula inferiorly (downward) along the rib cage. With this movement the shoulder goes in the direction of your feet…depressing one’s shoulder.

**Elevation**: To move the scapula superiorly (upward) along the rib cage. With this movement the shoulder gets closer to the ear. (An example would be a “shrug”.)

**External Rotation**: Lateral rotation of a joint; rotating towards the outside.

**Internal Rotation**: Medial rotation of a joint; rotating toward the midline.

**Lateral**: Applies to structures or descriptions of body parts that are located away or moving away from themidline; on the outer surface of the body.

**Manual Resistance**: Resistance against a movement is applied by a hand, either by a clinician or by one’s self.

**Open Chain**: A movement which involves an extremity pushing against a movable object or movement of a body part without resistance. The distal segment is free to move and this type of exercise tends to isolate certain movements and muscle groups. (Examples: Performing a bicep curl; a lateral raise.)

**Pronation**: The act of lying face down (prone); the act of turning the hand and forearm so the palm faces downward; the act of turning the foot downward and outward.

**Protraction**: To move the scapula anteriorly (forward) along the rib cage. (This is done for example, when reaching out for something.)

**Retraction**: To move the scapula posteriorly (backward) along the rib cage. During this movement, the scapula gets closer to the spine. (This done for example, when pinching one’s scapulas together.)

**Rotator Cuff**: These are four small muscles which are responsible for not only rotating and assisting with movement of the humerus about the glenoid, but they give stability to the joint by synergistically steadying the head of the humerus in the glenoid cavity. This prevents and / or limits migration of the
humeral head during work. The rotator cuff is made up of four small muscles: the supraspinatus, infraspinatus, teres minor and subscapularis. These muscles are considered the secondary restraints of the shoulder (maintaining the “ball in the socket”); whereas the ligaments and capsule are the primary restraints.....the first line of defense against excessive migration of the humeral head about the glenoid. Maintaining the strength and flexibility of the rotator cuff are paramount to maintaining a healthy, stable shoulder.

**Rhythmic Stabilization:** These are exercises geared to stabilizing the humerus (upper arm) in the glenoid (shoulder socket). They act to improve the stability (limit migration) of the glenohumeral joint by increasing the functional strength and endurance of the rotator cuff muscles.

**Scapula:** Also known as “shoulder blade”. It is the large flat triangular shaped bone that rests along rib cage in your upper back. Attached to this bone are the humerus (upper arm bone), clavicle and countless muscles, tendons and ligaments. Most notably, all rotator cuff muscles originate (attach) on the scapula.

**Scapular Stabilization:** Exercises geared to stabilizing the scapula (shoulder blade) about the thorax (rib cage). Because all of the rotator cuff muscles originate (attach) on the scapula, weak scapular stabilizers cause a weakness and inefficiency in rotator cuff function, which can result in a decrease in performance and predisposes one’s shoulder or even elbow to possible injury.

**Supination:** The act of lying flat upon the back; moving the forearm and hand into the palm up position; the act of turning the foot inward and upward.

**Supine:** Applies to the body lying horizontally, face up (on his or her back).
Additions to handbook after Jan. 1

**Long Toss**

- 25% effort/75% stretch
- 50% effort/50% stretch
- 75% effort/25% stretch
- 90% effort/10% stretch

10-minute long toss (for 14 minute long toss, add 1 minute to each distance; 18 minute, add 2 min. per distance)
- Three minutes at 60 feet
- Three minutes at 90 feet
- Three minutes at 120 feet
- One minute back at 60 feet

**Weighted Balls**

→ **Overload training:** use 7, 9, and 11 oz. balls

Warm up and throw with a regular ball first (long toss). Make sure you are loose.

Wrist Drill and Stride drill are detailed on pages 6-7.

**Routine 1**
1. Wrist drill
   - a. 10 reps with weighted ball
   - b. 10 reps with regular ball
2. Stride Drill
   - a. 15 reps with weighted ball
   - b. 10 reps with regular ball
   - c. 10 reps with weighted ball

**Routine 2**
1. 20 throws of 7 oz. ball at 75-90% effort – momentum throws
2. Wrist Drill and Stride Drill using 9 oz. and 11 oz. balls,

****USE PROPER MECHANICS

**Bullpens**

Never more than 20 in a set.

3-5 minute break between sets, or alternate set with partner.

Intent of each round (one of the six cycles, below): set 1 is velocity, next 15 command, next 15 movement ...

- Two days rest between radars
Six Cycles
1. Velocity
2. Command
3. Movement
4. Velocity + command
5. Rhythm/tempo/deception
6. Video analysis

Measurables
“If you want to improve something, measure it.”
Work on increasing your personal bests. Measure and record progress.
- 15-, 30- and 40-yard sprint times
- Standing broad jump
- Triple broad jump
- Velocity on med ball throws
- Strikes thrown - cumulative
  - Under string
  - Left zone, right zone
  - Off speed under string