

Thrive on Throwing: Arm Strength and Conditioning Program

Alan Jaeger

Alan Jaeger is the founder of the Jaeger Baseball Academy in Woodland Hills, CA and has worked with several High School and College players, as well as over 70 professional players, including Major Leaguers Barry Zito, Randy Wolf, John Snyder, Mike Lieberthal, and Glendon Rusch and 2011 first round draft pick Gerrit Cole. Jaeger holds a degree in psychological training from California State University at Northridge and his post-graduate studies include a certificate from the University of Edinburgh in Scotland.

Throwing is a lost art. Throwing isn't something that we should do "just" to get our arms loose. Throwing should be done to maximize that skill; to develop it like any other skill to be a strength rather than a potential career threatening weakness.

There isn't any reason why a player should have a chronically sore, weak, or injury-prone arm. If the arm would get the same kind of attention that our hitting, defense or pitching gets than it too would have a chance to thrive on a daily basis. Unfortunately, most baseball players neglect their arms or take them for granted.

The reality of it is that a baseball player needs to have a strong, well-conditioned and healthy arm to play baseball. Period. There is no substitution. Baseball players can simply not afford to allow their arm to be a liability - it must be an asset. In case you forgot, you can't play baseball if you can't throw a baseball. For example, how many players do you know that are drafted as Designated Hitters? How many pitchers do you know that are drafted out of a rehab facility?

Well I have news for you: your arm is your life line if you are a baseball player, no matter what position you play. If you question this at all, then why do you think that scouts have an entire section on their player information cards devoted to arm strength, accuracy, mechanics, etc. It's because it is an integral part of your package as a player. It can be the deciding factor as to whether your arm allows you to move on to the next level (by maintaining its skill level relative to your other skills).

On the other hand, wouldn't it be nice to show up to the field every day and appreciate your arm? I mean really love to throw, love taking pre-game infield/outfield everyday, love putting your arm on display, love throwing the ball with authority through (not to) the cutoff man's target, from deep in the hole, when turning the double play, from behind the plate? Wouldn't it be nice if the arm thrived on throwing everyday?

The arm is a skill and like any other skill it just needs committed attention. However, as long as we neglect this area of the game we are going to be limited as players. What could easily become an asset in this wonderful game can ultimately become a liability and limit your baseball career.

Though we haven't grown accustomed to putting this much emphasis on throwing, you now have been given an opportunity to make a difference. Your arm can either complete you as a player or be something that you try to hide.

The following arm strength and conditioning program is designed to build a strong base or foundation in the off-season (fall/winter), and to establish a maintenance program during the season (spring) through arm circles, surgical tubing, mechanics and a committed long toss throwing program.

Note: The amount, timing and pace will vary from player to player.

When: In vs Out of Season

The most important time to establish a throwing program is "out" of season. There are several reasons why, so let's examine these first:

1. When a player is "out of season" there is an extended period of time that can be devoted to throwing only for the purpose of conditioning (i.e. building arm health, strength and endurance). Through the conditioning phase, pitchers can establish a much needed base that can be "drawn on" throughout the season. Likewise, throwing can be easily regulated and monitored when there aren't the demands of game situations or consistent throwing on sore, tired or depleted arms (especially for pitchers in bullpen and game situations). This freedom allows players to throw on a daily basis according to the needs of their arm. Finally, it is an optimal time to work on a player's mechanics because the freedom from game situations provides an extended period of time to change potentially unhealthy and limiting mechanics.
2. When a pitcher is "in" season, bullpen and game situations put a tremendous amount of wear and tear on the arm, which creates a great deal of swelling, slows down recovery period time, and virtually eliminates optimal time to throw distance and sustain strength and endurance. This is even more magnified for pitchers who don't have a base from the off-season.

Comment: Because few players actually know how or when to long toss in the off-season, few players have the ability to sustain their velocity and endurance throughout the season. Then the domino theory goes into effect: the arm has to throw a bullpen session on a sore or tired arm sooner than it wants to; it goes into the next game situation without the needed recovery period. And soreness creates soreness. Tiredness creates tiredness. Aches creates aches. Irritation creates irritation. All of a sudden a player finds himself extremely vulnerable to an arm injury. And the last thing on his mind is to throw distance (throw at all) between bullpen or game situations. This is a common cycle that can go on all season for arms that are not properly conditioned in the off season (that lack a base from which to work from). The arm is in a degenerating cycle that makes it much more prone to a serious injury.

Building a Base

It is just this simple, if you want to have a strong and healthy arm that sustains itself throughout the season, then you have to establish a strong foundation in the off-season. When a player spends a minimum of four to six weeks developing his base, this base will begin to deepen and fortify through the winter months and sustain itself through the demands of the season.

Because his arm has been stretched out and his stamina built up over a period of time, he can go into the season with a base that will greatly reduce recovery period time (swelling/tightness) and allow him to actually thrive on throwing distance (conditioning) between bullpen/game situations. Aches, pains, swelling and irritation are virtually eliminated and so are the vulnerability to arm injuries. In fact, the majority of position players and pitchers that I work with feel as strong at the end of the season as they do at the beginning of the season.

Getting Started: Arm Preparation

There are two exercises that must always supercede picking up baseball: 1) Arm Circles and 2) Surgical Tubing exercises

Arm Circles

A set of arm circles is the first exercise that is done to warm up the smaller muscles in the shoulder so that the subsequent surgical tubing exercises (i.e. Jobe exercises) can be maximized. Arm Circles will also build up flexibility, balance, strength and stamina in the rotator cuff muscle group (supraspinatus, infraspinatus, teres minor, subscapularis) independent of the surgical tubing exercises.

Notes:

- Warms and oxygenates the shoulder (like any other muscle)
- Provides good flexibility and range of motion and strengthens the smaller, weaker rotator cuff muscles by isolating them (the most vulnerable part of the shoulder)
- Provides muscle balance
- Creates endurance
- Promotes better recovery period
- Prepares arm for surgical tubing exercises

Surgical Tubing

Surgical tubing exercises are an important part of setting the tone for long tossing. The surgical tubing exercises are designed to isolate specific muscles in the rotator cuff so that they can be stretched and strengthened. Because certain muscles in the back of your shoulder (decelerators) are more vulnerable to breaking down, these exercises are designed to balance the rotator cuff muscle group. As a compliment to the arm circles, the surgical tubing exercises will provide you with a deeper, more efficient stretch that may not be attainable by physical methods.

These same exercises that are used to rehabilitate arms can be used to "develop" and prepare the arm before you throw. These exercises were made popular by the renowned orthopedist **Dr. Frank Jobe**.

Notes:

- Surgical tubing exercises provide an even deeper, more isolated workout for the rotator cuff muscles (which are most vulnerable to breaking down)
- Strengthens the shoulder from "inside out"
- Maximizes elasticity, flexibility and range of motion
- Provides rotator cuff muscle balance, strength and endurance and promotes recovery period in the short term (game to game) and long term (season)

- As a compliment to the arm circles, the surgical tubing exercises will provide you with a deeper, more efficient stretch that may not be attainable by physical methods
- Surgical tubing exercises are an important part of setting the tone for long tossing

Mechanics: Hip Drill

Now that we've put the arm in an ideal space to throw, we need to make sure that our mechanics are going to further support, rather than inhibit, the arm for our throwing program.

Though some players may be resistant to changing mechanics, all players must learn that some mechanical adjustments may be essential to avoiding injuries and providing long term health. Without sound and consistent throwing mechanics, a player can significantly limit the amount of strength, endurance and accuracy that can otherwise be greatly improved. (Note: throwing mechanics may be slightly different for position players rather than pitchers when long tossing.)

Notes:

- Maximizes arm health, efficiency (injury prevention)
- Provides support for the shoulder/elbow
- Creates consistency (accuracy)
- Arm should be loose and relaxed

Long Toss

Getting to Know Your Arm, The Stretching Out Phase

The first key to conditioning your arm is learning how to build your base at the right pace. Because it will take you four to six weeks to establish a solid base (possibly twice that long if you've never been on a long toss program) you must learn how to "listen" to your arm. One of the most important things you can do as a player is know your arm. Long tossing will give you this opportunity because you have to follow the pace of your arm, rather than throw just for the sake of throwing.

For example, I will often give players three major check points:

1.

Let the arm stretch itself out with loose arm action

2.

Allow your arm to throw as far as it wants to throw provided that it "feels good", like a massage

3.

Be aware of keeping sound mechanics (for consistency and arm support)

For someone who is new to long toss it might take a couple of weeks at a relatively short distance (100-150 feet) to stretch and lengthen the arm to where it feels good before moving on to the more pivotal extension and strengthening phase.

As you learn how to throw through a stretch without extra effort you will notice that the arm has a chance to "open up" or "air out" without unnecessary strain or pressure. It is at this point that the arm can breathe, and the muscles lengthen. The arm will thrive on throwing often at this pace. Because the arm is just stretching out there is little or no swelling from day to day. In effect, recovery period is virtually eliminated and the arm yearns for daily throwing.

This is critical because the arm wants to "stretch out" daily (can you imagine how good your hamstrings would feel if you stretched them out daily?). The problem has been that most players don't know what the sensation of throwing daily (correctly/healthfully) is like because their arms are typically not in good condition, and are sore, irritable and tight from years of improper throwing.

Note: though the goal (out of season) is to throw on a daily basis, it is typical that the arm will need to be rested periodically until a base is firmly established.

I. *Stretching Out:* The goal here is to stretch or "massage" the arm as you move further away from your throwing partner. It is not based on the amount of throws you make or "timed throwing." It is simply based on listening to your arm and stretching it out at its own pace like any other muscle.

II. Be sure to stretch the arm out in a manner that promotes loose arm action and mechanical consistency.

A Word on Distance

As the arm begins to develop endurance it will not only want to throw more often but it will want to throw for more distance. The stretching phase of throwing will commonly go from, per se, 150 feet to 250 feet in a few weeks time. Again, everyone is different and some players may take several weeks to stretch out to 250 feet or more. Either way, the length and distance will come in time as long as smart and consistent throwing is maintained. Also, it should be noted that when a player goes beyond 150 feet, he should use his legs to "crow hop." This will help take pressure off the arm.

The stretching out phase of the long toss is critical for a number of reasons:

1.

Stretching helps to heat and open up the arm properly

2.

With distance comes extension and length of the muscles

3.

Arm speed can be better generated as a result of a looser arm

4.

The extra distance that has been created allows the arm to optimize the pull-down and strengthening phase

Pull Down Phase

Where stretching out the arm creates warmth, length and extension. The pull down phase helps to generate arm speed, arm strength, lower release point and acceleration or "finish" through the release point.

Because the muscles have been lengthened, the arm loosened, there is more space and freedom for the arm to generate a quicker response. As the arm opens up there is more "freedom" in the arm to maximize a natural whip. In effect, pulling down is not a grinding action because the arm has length in it. The pulling down phase becomes an acceleration through a stretch.

Arm strength becomes a by-product of pulling down because the additional distance provides the arm with an opportunity to generate more arm speed on longer, looser and well conditioned muscles.

The amount of throws during the pull down phase will vary but a rule of thumb is to come in 10 feet at a time with each throw. That equates to about 19 throws from 250 feet. Once you get to about 60 or 70 feet, you are free to pull down as long as the arm "welcomes" the sensation. For some players this may last for several minutes after the base has been established. Naturally, you can take a few minutes to warm down once you are satisfied with the amount of pull downs.

After peaking out through your stretch, you will come back toward your throwing partner in a very methodical manner. This is to maximize the length that you have created in your arm (that will eventually lead to arm speed). As you come in you will notice that it will take a great deal of concentration to pull through your stretch without decelerating your arm. If you decelerate or ease up on your throw you will have missed an opportunity to increase your arm speed and enhance arm strength.

In order to pull down correctly you must learn to accelerate through your release point by taking your maximum effort throw (i.e. 300 feet) into each throw on the way back in toward your throwing partner. For example, each throw on the way in is still a "300 foot throw," the difference is that the length of your throw is happening at a shorter and shorter distance.

Though you will be throwing the ball a lot harder, if done correctly, you will be throwing through a stretch without any additional effort. For this to happen correctly you must stay relaxed over your balance point, have great downward extension through your release point, and stay mechanically sound or you will launch the ball over your partners head.

Key Points:

1.

Your body language should be loose and relaxed

2.

Be aware of your direction and your mechanics

3.

Keep your back hip over your back heel (balance) as long as possible (avoid gaining ground)

4.

After your last peak throw come in approximately 10-15 feet per throw

5.

Each pull down should have the same distance as your peak throw; a 120 foot throw should have the same "distance" as a 300 foot throw.

6.

Always finish through your release point and miss "lower" than "higher" when pulling down

7.

Your focal point should get lower or closer as you get closer to your throwing partner

8.

Work on finishing through your partners opposite knee without "flying open"

9.

Remember that each throw can "gravitate" or "deviate" your mechanics, release point and muscle memory. At 60-80 feet take as many throws as you need to complete your workout. Chances are that your arm will want to throw a great deal even at 60-80 feet because your arm will have a great deal of stamina once it gets accustomed to throwing through a stretch (even though you are pulling down through your throw). Warm down at your own pace and/or work on mechanics

A Final Word on Long Toss

Long toss is a systematic throwing routine that is designed to provide the arm with maximum health, strength, endurance, accuracy, and recovery period.

The key to a good throwing program is learning how to listen or "follow" your arm.

Because your arm will eventually want to throw with more regularity you must learn how to build a base from which to work from.

Post Throwing Conditioning

Conditioning is based predominately on arm care. If your throwing program completes your throwing for the day you should plan on running immediately after your last throw.

If you plan on throwing a bullpen session or taking a pre-game than naturally it is not necessary to do your running until you are finished for the day. A light set of post-throwing arm circles and surgical tubing exercises (especially external rotation) may also be done. Running, arm circles and tubing exercises minimize swelling, promote better circulation and significantly improve recovery period.