

Off-Season Long Toss Program

by Alan Jaeger

For many years I've been asked a number of questions about "when" and "how" pitchers should train in the off-season to best prepare for their upcoming season. Because there are so many variables in each case, it's not usually a short answer. That's because each pitcher has their own unique history. However, what variables do seem to apply to nearly all pitchers is, 1) the amount of rest a pitcher needs to take after a long season, 2) their approach toward their off season throwing program and, 3) the integration of their off season throwing program into their season.

Knowing when to shut down after a demanding period of time and how to best prepare the arm in the off-season is the key to maximizing a pitchers health, strength, endurance and recovery period in season. Without well timed rest and a clear intention of how to best prepare the arm in the off-season, pitchers may wonder why they are lacking endurance or velocity in season, or even worse, why they may be breaking down.

When pitchers truly understands the importance of "resting" and "rebuilding" their arms over a substantial period of time (4-6 weeks) in the off-season without stepping on a mound, they will best position themselves to not only peak at the right time (beginning of the season), but maintain or even enhance their base throughout the season. This is the focus of this article.

Step 1: Establishing A Rest and Rebuild Period

In order to establish the best time to rest and rebuild a pitchers arm, you must establish, 1) what the pitchers' workload has been like from the previous season/seasons (their past season may have been only the summer, or it may have been the preceding spring, fall and winter season as well), 2) find out how much "pitching" they've been doing as opposed to "training" or conditioning (unfortunately, many pitchers "pitch" year round, and leave little or no time for training or conditioning), and 3), devise a plan that gives pitchers a chance to shut down and rest (minimum of 2-3 Weeks), and rebuild their arm for an additional 4-6 week period before getting back on a mound. It is very important to keep the pitchers off the mound because the arm is best developed by conditioning without any unnecessary demands on it during the rebuilding phase.

In the case of a typical pitcher who just finished his summer season, he should typically take a minimum of 2-3 weeks off to rest (physical and mental) after he's thrown his last pitch of the summer, and spend the subsequent 4-6 weeks to do nothing but "train" and recondition his arm. There is nothing more important than establishing this 4-6 week training window after proper rest.

As you will see throughout this article, establishing rest at the right time, followed by the rebuilding or conditioning phase are the single most important factors in getting a pitcher into what we call a "positive cycle" that can last until the end of the season (Note: pitchers who begin their cycle in September/October may find it helpful to take another rest/rebuild period at the end of December. In that case, the rest period may only be a week and the conditioning period may only need to be 2 weeks because the base from the Fall/Winter is still relatively strong).

Establishing The Right Time

Our philosophy is pretty simple -- it's of minimal importance as to "when" a pitcher is expected to throw his first bull-pen in the fall/winter, considering that the pitcher has the balance of the year to work off of the mound. What matters most is what the pitcher does in this 4-6 week window leading up to the first bull-pen, and understanding how to maintain or strengthen this base throughout the remainder of the Fall, Winter and Spring. Without the proper base in place by rushing your pitchers back to the mound is like worrying about putting a roof on a house that doesn't have a structure in place yet.

The desired rest period of the pitcher, along with the 4-6 week window of conditioning is the single most important factor in determining the pitchers health, strength, endurance and recovery period for the entire year (season) -- or until that point in which he feels he needs another significant break (rest), and begin a new conditioning cycle. What we've found with the guys who have gone through our training program, and have been allowed to maintain their long toss (maintenance) program throughout the year, is that they have less of a need to have a significant rest or conditioning period throughout the year. But I would strongly recommend that every pitcher consider having a rest/conditioning period twice a year, even if it's only for 2-3 weeks.

Building Your Base By Listening To Your Arm

The primary goal of our throwing program is to build an extremely strong base or foundation, progressively. Taking into consideration that a pitcher is coming off of an extended rest of 2-3 weeks, like anything else you would "build" in life, start off slowly and surely -- walk before you jog and jog before you run. By not being in a hurry to "get in shape", the muscles have a chance to stretch out more progressively, develop more efficiently, and recover more quickly. That's why the first two weeks of our throwing program place such a huge emphasis on Surgical Tubing and the Stretching Out phase of Long Toss.

Chief among all of our principles of our throwing program is the principle of "listening to your arm". In essence, listening to your arm means to let it guide you -- to follow it. As opposed to having a throwing program with a predetermined limit on how many throws you are to make, or for how many minutes you are to throw for, our philosophy is based on learning how to trust your arm by listening to it -- allowing it to dictate the pace, amount, and distance of throws for that day. I love the metaphor of allowing your arm to take you for a walk. Since your arm is your lifeline as a baseball player, there could be nothing more important than being in tune with it. This is what happens when you learn how to listen to your arm and let it dictate the pace.

Only your arm knows from day to day what it needs, and by eliminating predetermined restrictions on your arm, your arm will probably surprise you as to how many throws it wants to make each day, and how many times a week it wants to throw.

Because endurance increases through this process as the muscles "get in shape", recovery period improves because swelling tends to be minimized. This is conditioning at its best because we are allowing the higher intelligence of the arm to guide us, and you will almost assuredly find that the more you allow your arm to throw (smartly and progressively), the more your arm wants to throw. Or, as we like to say, "the more you use it (correctly) the more it produces."

The arm will tell you what to do from day to day, and even throw to throw. On days that you don't feel great, try throwing through this feeling unless it is obviously a sign of pain. The reason I mention this is pitchers may often shut down early because of "false" signs. If the feeling doesn't get better after a couple of minutes, or the pain is obvious, then shut it down. Ironically, the more throwing you do, the more you understand the difference between unhealthy feelings and a "good" soreness that you can throw through.

The Throwing Program

Our off-season throwing program is based predominately on 4-6 weeks of Arm Care exercises (Surgical Tubing) and Long Toss. Again, it is crucial for pitchers to stay off the mound during this period. As you will see below, I have broken down our Throwing Program into 3 phases. Each phase lasts approximately 10-14 days. Naturally, if a pitcher is truly listening to his arm, these increments may fluctuate.

Phase 1: Stretching Out (10-14 Days)

Before each day of throwing, we have our guys go through a very thorough arm circle (forwards and backwards) and surgical tubing program. Just as you are getting your arm in shape progressively, similarly, you also need to build a base with your arm circles/surgical tubing exercises. Focus on stretching, flexibility, range of motion, freedom, breathing and proper technique when doing these exercises. Symbolically, your first 10-14 days of throwing should also follow this same mentality: stretching, loose arm action, range of motion, freedom, and so on. In this 10-14 day period, the goal is to build endurance and distance through the Stretching Out phase of Long Toss (Long Toss is broken down into 2 parts: Stretching Out as you move away from your throwing partner, and Pulling Down or Strengthening as you move back in toward your throwing partner).

Stretching out means just that -- maintain loose, relaxed arm action, put some arc on the ball and gradually move away from your throwing partner. Simply move away from your throwing partner each time you begin to sense that you are going to throw the ball over your partners head. Go out, each day, as far as the arm wants to take you that day -- and stay at your furthest distance that day as long as your arm feels like it. There is no need to come back into your partner with any aggressiveness for the first two weeks of throwing -- this will come in Phase 2, the Pull Down or Strengthening Phase. The goal of Phase 1 is to focus exclusively on "stretching", hence the Stretching Out phase.

Depending on the amount of time off you took at the end of your last "in-season", and how strong your arm is, you may throw as little as 5 minutes

at 60 feet or 10 minutes at 90 feet on Day 1. Again, always listen to your arm. Regardless of how far out you get on Day 1 or how much time you may throw for, if you go out virtually everyday for the 10-14 day period, and you are religious with your arm circles/surgical tubing exercises, your arm should begin to feel better with each passing day. Though Day 1 may only be 5 minutes of throwing out to 60 feet and Day 2 may be only 7 minutes of throwing out to 90 feet, by Day 8 or 9, you may be out to 250 feet or more for 20 minutes of throwing (again based on the arm strength of that pitcher). By Day 12, 13, 14, that same pitcher may be out as far as 300 feet or more for 30 minutes.

It's hard to put a number of throws on it, or a time or distance measurement, but from my experience, based on a pitcher that throws in the 82-90 range, he will probably start pushing 240-300 feet by the end of the second week. The beauty of going out each day without the demands of bull-pens, etc., is that a pitcher can enter into a new threshold simply because he is allowing his arm to open up most effectively. This is where many pitchers, who have never truly built their arm the correct way in the off-season, may have a pleasant surprise waiting for them. For these pitchers, and even pitchers who have been on a good throwing program, they often find themselves pushing beyond distances they thought they had in them. These further distances are critical to gaining flexibility, range of motion, extension, which in my experiences have led to looser/quicker arm action, explosiveness, freedom, increased velocity and endurance.

For example, in the case of a pitcher who throws 90 mph but has never thrown beyond 120 feet or used surgical tubing, I could see where his 120 foot throw could turn into 300, 330, maybe even 350 feet over time. I've found that pitchers who can get out to 300 feet throw in the 88mph range, those who can get out to 330 feet may push the low 90's and those who can get out to 350 feet are typically in the 93-98 mph range.

The beauty of allowing the arm to stretch out without any aggressive throwing in Weeks 1 and 2 is that it best positions the arm for Week 3 and 4, which is the "pull down" or Strengthening Phase of the throwing program. This is where we bring a stretched out, well conditioned arm from Weeks 1 and 2 into the more aggressive and explosive throwing dynamic of the arm into weeks 3 and 4.

Phase 2: Stretching Out & Pulling Down (10-14 Days)

Once the base has been built through the stretching out phase, the arm is in a great position to work from and strengthen this base through the Pull Down Phase of long toss. Because the first two weeks have created such a strong foundation, Weeks 3 and 4 deepen this base because each pitcher will actually go through the conditioning phase of Arm Circles, Surgical Tubing and the Stretching Out phase of Long Toss before the pull-down or aggressive throws that are made coming back in toward your throwing partner.

Now that the arm is ready to take this stretched out feeling "downhill" with some aggressive throwing, the mentality shifts from one of uphill to downhill. Though we still want our pitchers thinking "stretch", "loose" and "freedom" on their pull-downs, we want them to do it in an aggressive manner. We want them to come back toward their throwing partner 10 feet per throw or so, with the same dynamics they made with their furthest distance throw that day (e.g. 300 feet). We just want them to start getting downhill without decelerating their arm. We also want them to understand what it means to maintain a loose and relaxed arm action (loose and relaxed mind) as they make their way back to their throwing partner. In essence, they are not necessarily trying to "throw harder" -- they are simply maintaining the effort of a 300 foot throw into shorter and shorter distances without decelerating their arm.

For the first few days of Week 3, there may only be 10-15 pull downs after the pitcher has peaked out to his furthest distance on that given day. Depending on how well he did the first two weeks, it's possible that he may want to make closer to 20-25 throws on his way back to 60 feet. Regardless, Week 3 and 4 are very personal. Each pitcher may respond differently. Some may throw a lot on the first day of their pull downs, and then only want to go out to 250 feet the next day and not pull down at all. Others may actually throw further distances the next day because the Pull Down phase actually opened their arm up even more, and they will have an even more aggressive pull down the next day.

This is where listening to your arm is imperative. Once the base is built

from Week 1 and 2, your primary goal is to still condition in Weeks 3 and 4. If the arm is not ready to pull down in Weeks 3 and 4, continue to build distance and endurance. In fact, a good rule of thumb is to not even think about the Pull Down phase until you are comfortably throwing what feels like your max distance, and you are able to stay there comfortably for 5-10 throws.

Things to look for in Weeks 3 and 4 are pacing and recovery period. Since you are not throwing off a mound, you should have relatively good recovery period. For example, the more you throw, the more your arm will probably want to throw. This doesn't mean to push it beyond its means on any given day (Rule #1: ALWAYS listen to your arm). But if you feel like only stretching your arm out one day, or just throwing 150 feet, or not throwing at all on a given day, then do so.

Again, from my experience, the more you throw after building the base right, the more the arm seems to want to throw. For some players, that may mean stretching out and pulling down nearly everyday for Weeks 3, 4, 5 and 6. For others, it may mean stretching out and pulling down only 3 days a week. For others, it may mean stretching out 6 days a week, and pulling down 2 days a week. Again, your arm will dictate its own needs to you. Your job is to put it in a position where it can best maximize its potential --- and I can tell you from a lot of experience that this usually happens when you are doing more throwing, rather than less.

Phase 3: Deepening The Base: Building Strength and Endurance (10-14 days)

If you needed more than 2 weeks to build your base, than Weeks 5 and 6 essentially become Weeks 3 and 4 for you. I'd almost prefer it this way because it's better to spend the extra 2 weeks of deepening your base than it is to get to the pull down/strengthening phase after 2 weeks of conditioning. Considering that you have the rest of the off season and in season ahead of you, it's far better to take the extra time and insure that your base is deep and strong. It's like opening up a bank account with a million dollars in it and making deposits all year long, rather than opening up a bank account with a thousand dollars and making withdrawals right away.

For those pitchers who have been pretty aggressive in weeks 3 and 4, weeks 5 and 6 are considered to be "more of the same" throwing. Because you are staying off the mound, don't be surprised how often, and how long your arm wants to throw. For example, you may begin to notice that 20-30 minutes of throwing has turned into 30-40 minutes of throwing on certain days. You may find that 250 feet has turned into 300 feet and 300 feet has turned into 330 feet or more. In any case, the things you should begin to notice is that your endurance is getting better (conditioning), your arm is feeling consistently stronger (conditioning) and your recovery period is amazingly good.

Once your foundation is built, the remainder of the year becomes one of maintaining this foundation, and even strengthening this foundation. What you do after this six week period may differ from pitching coach to pitching coach, but if you've "built" your arm correctly, and are in tune with it through this off-season throwing program, than you will probably want to maintain some form of distance throwing throughout the year. A simple rule of thumb is to get in at least 2 good days of long toss during the season, and these days tend to be most optimal on your bull pen/game day (if you are a starter). The reason for this is that the arm tends to respond better on the mound after a good long toss session -- it's been trained for it. Velocity seems to come more quickly -- endurance seems to last longer -- swelling is minimized. Also, long tossing on bull-pen/game days is effective because the rest of the days of the week can be used for rest, recovery and

rebuilding. Regardless, if you are in tune with your arm, it will tell you from day to day what it wants to do that day...what it needs to do that day.

Summary

Though most throwing programs are formatted so a pitcher has structure throughout the off-season, our throwing program places more responsibility on a pitcher listening to his arm. Though it would be convenient to tell pitchers to make "x" amount of throws for "x" amount of minutes each Monday, Wednesday and Friday for six weeks, this can be very limiting to the pitchers development (with that said, I have outlined a throwing program that does have structure for those players and coaches who quite simply, want structure -- see related story).

In a sense, our programs structure is to be structure-less. This doesn't mean reckless abandon. Quite the contrary. It means to abandon those contrived restraints that prevents the arm from being built the most effective way -- by allowing the pitchers' arm to dictate the amount of throwing rather than following someone else's pre-determined format. Only the arm knows from day to day, what it wants and what it needs. And that's we want our players to ultimately learn to do....know their arm.

Though the first principle of the previous article was to "listen to your arm" and allow it to guide you from day to day, there are still a number of players and coaches that feel more comfortable with having some form of structure or guidelines to follow -- some players simply respond better to having structure and some coaches find it more efficient to have a standardized program that everyone can follow.

Though I have always resisted allocating a "number of throws" to make, or a "number of minutes" to throw for, I have decided to outline a structured format that does just that -- it's based on a predetermined number of throws at a predetermined distance (though there is always flexibility for any player to deviate from this program if they feel like throwing more or less on any given day). Additionally, after the 2nd week of throwing, there is an "option" to throw for an additional period time as each player reaches his "furthest distance" on that given day.

As you will see, this program is based on 3 days of throwing for week 1 and then evolves into 4 days of throwing for the next 5 weeks. We actually encourage that players throw for 4-5 days in week 1, considering that week

1 stipulates the lightest workload. If a player feels a need to throw for more than 4 days a week in any given week, simply do it. Again, the arm will tend to want to increase its workload from week to week as it progressively gets into shape. This is the essence of getting your arm into a positive "cycle". It's as if the better shape your arm gets into, the more it wants to throw -- the more it "needs" to throw. Again, this is where listening to your arm still takes precedence over any set amount of throws, or any format for that matter.

Finally, the following distances are based on a college freshman with average arm strength. Therefore, depending on your arm strength and the history of your arm, you may find that these distances are too restricting, or not challenging enough for you.

Week 1 -- (Monday, Tuesday, Thursday, Friday)

40-60 ft -- 15 throws

75 ft -- 10 throws

90 ft + (optional 5 additional minutes of throwing and/or increase distance if the arm "asks" for it)

75 ft -- 10 throws

60 ft -- 10 throws (and any additional throws if needed)

Week 2 -- (Monday, Tuesday, Thursday, Friday)

40-60 ft -- 15 throws

75 ft -- 10 throws

90 ft -- 5 throws

105 ft -- 5 throws

120 ft -- 5 throws

120 ft + (optional 5 additional minutes of throwing at same distance or increase distance if the arm "asks" for it)

105 ft -- 3 throws

90 ft -- 3 throws

75 ft -- 3 throws

60 ft -- 5 throws (and any additional throws if needed)

Week 3 -- (Monday, Tuesday, Thursday, Friday)

40-60 ft -- 15 throws

75 ft -- 10 throws

90 ft -- 5 throws

105 ft -- 5 throws

120 ft -- 5 throws

135 ft -- 2 throws

150 ft -- 2 throws

150 ft + (optional 5 additional minutes of throwing at same distance or increase distance if the arm "asks" for it)

140 ft -- 1 throws

130 ft -- 1 throws

120 ft -- 1 throw

110 ft -- 1 throw

100 ft -- 1 throw

90 ft -- 1 throw

80 ft -- 1 throw

70 ft -- 1 throw

60 ft -- 5 throws (or any additional throws if needed)

*** Flat Ground Work Begins on Tuesday/Friday (10-15 Change Up's)

Week 4 -- (Monday, Tuesday, Thursday, Friday)

40-60 ft -- 15 throws

75 ft -- 10 throws

90 ft -- 5 throws

105 ft -- 5 throws

120 ft -- 3 throws

135 ft -- 3 throws

150 ft -- 3 throws

165 ft -- 3 throws

180 ft -- 3 throws

195 ft -- 3 throws

195 ft + (optional -- 5-10 minutes of additional throwing at same distance or increase distance if the arm "asks" for it)

180 ft -- 1 throws

170 ft -- 1 throws

160 ft -- 1 throw

150 ft -- 1 throw

140 ft -- 1 throw

130 ft -- 1 throw

120 ft -- 1 throw

110 ft -- 1 throw

100 ft -- 1 throw

90 ft -- 1 throw

80 ft -- 1 throw

70 ft -- 1 throw

60 ft -- 5 throws (or more if needed)

*** Flat Ground Work Begins on Tuesday/Friday (10-15 Change Up's)

Week 5 -- (Monday, Tuesday, Thursday, Friday)

40-60 ft -- 15 throws

75 ft -- 10 throws

90 ft -- 5 throws

105 ft -- 3 throws

120 ft -- 3 throws

135 ft -- 3 throws

150 ft -- 3 throws

165 ft -- 3 throws

180 ft -- 3 throws

195 ft -- 3 throws

210 ft -- 3 throws

225 ft -- 3 throws

225 ft + -- (optional -- 5-10 minutes of additional throwing at same distance or increase distance if the arm "asks" for it)

210 ft -- 1 throw

200 ft -- 1 throw

190 ft -- 1 throw

180 ft -- 1 throw

170 ft -- 1 throw

160 ft -- 1 throw

150 ft -- 1 throw

140 ft -- 1 throw

130 ft -- 1 throw

120 ft -- 1 throw

110 ft -- 1 throw

100 ft -- 1 throw

90 ft -- 1 throw

80 ft -- 1 throw

70 ft -- 1 throw

60 ft -- 5 throws (or more if needed)

*** Flat Ground Work Tuesday/Friday -- (15 Change-Ups, 10 Light Breaking Balls)

Week 6 -- (Monday, Tuesday, Thursday, Friday)

40-60 ft -- 15 throws

75 ft -- 10 throws

90 ft -- 5 throws

105 ft -- 3 throws

120 ft -- 3 throws

135 ft -- 3 throws

150 ft -- 3 throws

165 ft -- 3 throws

180 ft -- 3 throws

195 ft -- 3 throws

210 ft -- 3 throws

225 ft -- 3 throws

240 ft -- 3 throws

240 + (optional -- 5-10 minutes of additional throwing at same distance or increase distance if the arm "asks" for it)

230 ft -- 1 throws

220 ft -- 1 throws

210 ft -- 1 throw

200 ft -- 1 throw

190 ft -- 1 throw

180 ft -- 1 throw

170 ft -- 1 throw

160 ft -- 1 throw

150 ft -- 1 throw

140 ft -- 1 throw

130 ft -- 1 throw

120 ft -- 1 throw

110 ft -- 1 throw

100 ft -- 1 throw

90 ft -- 1 throw

80 ft -- 1 throw

70 ft -- 1 throw

60 ft -- 5 throws (or more if needed)

*** Flat Ground Work Tuesday/Friday -- (15 Change-Ups, 10 Light Breaking

Balls)

Note: If you choose the option of throwing beyond the predetermined "peak" throw that day (e.g. 225 feet in Week 5), then once you do peak out that day (e.g. 300 feet), remember to come back toward your throwing partner (pull down phase) 10 feet per throw until you get back into 60 feet. Once at 60 feet, feel free to throw as many as your arm feels it needs at that point. Also, be aware that at 60 feet, especially if you have a strong arm, it may be dangerous to pull down at this distance. You can finish your pull downs at 65 feet, or whatever distance deems it safe, without sacrificing your effort.

Final Notes

You may find this program works well for you just as it is, or you may need to tweak it here and there. The premise is the same -- work on building your base by walking before you jog, and jogging before you run. Increase from 4 to 5 days a week (5 to 6?) of throwing if it feels appropriate. You don't have to feel obligated to throw on the exact days suggested above, but this format is geared toward trying to optimize your recovery time and maximize your development.

Remember, on any given day, especially as you get into week 5 or 6, if your arm feels like it wants to go beyond 240 feet, follow that instinct. Utilize that 5-10 minute window to allow your arm to continue to open up beyond 240 feet. You may be surprised how far out your arm will take you because of the base you've developed from the first month. For pitchers, you will also notice that by week 4, we recommend throwing change-ups at the end of your throwing session. Change ups are relatively easy on the arm, and throwing this pitch after the arm's been stretched out so well is very effective. It also happens to be a crucial pitch to command for any pitcher.

Finally, remember that the bottom line is to listen to your arm. How many throws you make at each increment is dependent on how your arm feels. How far you go out, or how fast you come in may vary from day to day. Your job is to put your arm in a position to throw as often as possible, with awareness and sensitivity to your arm, in order to progressively build a strong base. This mentality is what optimizes your ability to insure health, strength, endurance and improved recovery period.

Ultimately, we hope you find this program gives you a balance between structure (assigning the amount of throws with incremental distances) and freedom (listening to your arm!).

Alan Jaeger has worked with over 250 professional baseball players (including Major Leaguer All-Stars Barry Zito, Dan Haren, and Andrew Bailey), consulted with several Collegiate Programs (including 2004 National Champions, Cal State Fullerton) and four Major League Organizations including the Texas Rangers.. Alan founded Jaeger Sports in

response to the growing need to address the two most neglected areas of baseball: The Arm and The Mind.