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## In-Season Training: The Critical Difference

Can you get stronger during your sport's season?  
Bill Starr says yes and tells you how to do it.

By Bill Starr

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All images: Mike Warkentin/CrossFit Journal

Strength training currently plays a critical role at every level of athletics, from junior high schools to the professional ranks. Yet, some of us who have been associated with strength training for some time recall all too vividly that this was not always the case.

As recently as the late '60s, some coaches forbade their athletes from even touching a barbell or dumbbell. One high school in Pennsylvania had a football coach who vowed to kick any player off his team if he found out he was lifting weights.

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When I started working with the Baltimore Colts in 1969, one of the assistant coaches would walk into the small area that I had set up in the basement of Memorial Stadium for those who were taking advantage of having someone instruct them on what to do during the season. The coach would proceed to tell the athletes who were lifting that they were not only wasting their time, but that they were also running a higher risk of getting injured by training in season. Thankfully, no one listened to him, primarily because he was carrying about 70 lb. of extra body weight—all of it fat.

Now, many years later, and with a mile-high pile of research to back them up, athletes and coaches alike know that if a strength program is designed properly, only good things happen when sensible training is done systematically. However, the belief in the value of lifting weights does not always carry over to in-season periods. Many coaches are still reluctant to have their players go into the weight room during the competitive season for a number of reasons. First and foremost, they are fearful that the players will do too much work in the weight room and thereby tap into their energy reserves too much, which in turn will adversely affect their performances in practice and during the games.

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Secondly, some coaches firmly believe that the practice sessions in themselves afford their players enough physical activity so that any additional exertion in the weight room is not at all necessary in order for them to keep in prime condition.



***Strength work doesn't always have to involve dumbbells and barbells.***

Then there are those coaches who are honest enough to admit that they just do not know how to organize a strength program for in-season training, so they feel it's better to do nothing than to push their athletes into a program that may prove to be detrimental.

I understand all these concerns, and I've had to deal with them on many occasions at three universities and three professional football teams. The bottom line is if an athlete ceases to do any strength training during the season, he will lose all the hard-gained strength he acquired from his off-season routine. And it has been determined that he will also lose much of his flexibility and aerobic base. It has to be remembered that all facets of athleticism—coordination, timing, quickness, endurance and flexibility—are based on strength.



***A good warm-up is key to strength training, and Bill Starr recommends doing one movement for the abs and another for the lower back to get the core primed to lift.***

And, unfortunately, he will lose his strength base very quickly. I've always thought this was very unfair. I've often wished that the strength I've gained through hard work could be stored for future use, sort of like money in the bank. But alas, this is not the case. Once an athlete stops strength training, and this includes even the most highly conditioned athletes, he will lose a great deal of his strength in just two weeks. This means he will become weaker in the early stages of conditioning for his sport. For football, this usually means two-a-days. And he will continue to lose strength through the preseason, and by the time the season starts, he will be a great deal less prepared than when he first arrived on campus for preseason workouts.

This information generally stuns coaches, and they often reject it as false. But it's backed up by lots of scientific research and empirical evidence. I was promoting in-season training long before I read any studies on the subject because I knew it worked. Those who were motivated to get in the weight room, even during two-a-days, were considerably stronger throughout the season and especially in the final games, which were usually the ones that determined whether the team went to a bowl game or not. They were also much more able to perform at a high level at the end of the games when the outcome hung on their stamina.

Questions dealing with in-season programs are the most frequently asked at any of my clinics or talks. Many coaches are eager to include weight training in the early conditioning stages and through the season, but they just aren't sure what to do.

"How much is enough and how much is inviting fatigue and perhaps injury?"

Balance is the answer, as is regarding each athlete as an individual. That means giving an athlete who can carry a huge workload more work than a teammate who is only able to do about half as much in the weight room during the season.

What the program needs to do is balance the work done on the practice field that day with the amount done in the weight room. There is only so much energy to go around, and it's rather easy to overdo it, especially if the athlete is still in the beginning or low-intermediate category. That's where the astute strength coach comes in. He should know his athletes well enough to be able to determine when to push them to do a bit more work and also when to tell them to stop and call it a day.



***Even if an athlete has been practicing for an hour, he should warm up his lower back before lifting.***

One important note on in-season training: because the athletes have been physically active for maybe an hour and a half, when they come in the weight room they assume they have already warmed up sufficiently to start right into lifting. Not so. The exercises that they're about to do require different ranges of motion than what they have been doing on the practice fields. In addition, they are usually tired, and tired muscles get dinged easier than well-rested muscles.

Take five or six minutes to make sure that those groups involved in whatever is planned for that workout are thoroughly warmed up and ready for the work ahead. I also suggest that every athlete do one exercise for his lower back and one for his midsection before moving to the weights. A set of back hypers or reverse back hypers will take care of the lower back, and sit-ups, crunches or leg raises will suffice for the abs. Then do one high-rep warm-up set, using only the Olympic bar, of the exercise that is to be done for that day. Let's say the athlete is about to do power cleans. Do a dozen or more with an empty Olympic bar to ensure that all the groups that come into play on that exercise are ready to deal with more taxing poundages, then go to work in earnest.

It's the ounce-of-prevention idea. But in strength training, like everything else in life, it's the little things that make the difference.

### **Program 1: More Days, Less Movements**

There are two in-season programs that I have used with success over the years, and which one an athlete chooses to do is entirely up to him because they yield the same results. The determining factor usually comes down to how much time the athlete wants to spend in the weight room during the season. Some athletes—usually those who are more advanced—want to lift often, while those who are not as experienced prefer a couple of sessions per week. Both get the job done, so it doesn't matter to me which type of routine they select.

For the majority of the collegiate athletes I've coached, time is also a deciding factor in which program they decide to do. For those who enjoy lifting weights, I lay out a five- or six-day routine for them. While this may seem excessive, just stay with me. I have them come into the weight room and do one primary exercise each day. Because I'm an advocate of the Big Three—bench press, back squat and power clean—I alternate these exercises through the week. So in the course of six days, the athlete will hit all the major muscle groups in his body twice.

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Should he want to only train five days a week, he will still stay in that rotation. For those who play lacrosse, basketball, baseball, volleyball, tennis and soccer, I substitute the incline bench for the flat bench, but the other two lifts remain the same.

For the purpose of outlining this type of in-season program, I am starting an athlete on a six-days-a-week routine and he begins on the first day of two-a-days. Sound radical? It really isn't. There are a great many strength programs across the country that are using this concept.



That first day is usually more mentally draining than it is physically, yet I still want the athlete to limit what he does in the weight room: 3 sets of 5, then leave, even if he feels he can do a great deal more. I start with back squats, then do power cleans the second day (again for just 3 sets of 5) and finish off with benches on the third day (same numbers on the sets and reps). Then squats, power cleans and benches, still adhering to 3 times 5 for that entire week.

For the second week, the only thing that changes is the athletes will add 1 set to their routines. By the third week, they will increase their total number of sets per session to 5, and that's where they will stay for the entire in-season period. And in the event that the practice session was extremely demanding, fewer sets can be done if the athletes are obviously weary. This is where the observant strength coach earns his money: recognizing when an athlete is doing himself more harm than good. When in doubt, less is better because the lower workload can be made up later on in the week when that fatigued athlete has more energy to put into the weight work.

As a general rule, it takes the body about three weeks to adapt to this extra work. Then things get decidedly easier. It also needs to be emphasized to the athlete going through two-a-days and trying to maintain a certain level of strength fitness that it is important he obtain his needed rest and eat an abundance of food to keep his energy levels high. Plus, he needs a great deal of protein to help restore those amino acids lost through strenuous activities.

But with proper rest and nutrition, that day will come when the weights feel much lighter and the athlete is able to recover from all the physical work he has done on that day. That's when he will be able to increase his total workload in the weight room. The top-end numbers on the three primary lifts should start to move upward, and at that point, the athlete can start adding in auxiliary movements to his daily program. But just one ancillary exercise per day and no more than 2 sets for higher reps. Twenties are best. This will allow the athlete to strengthen a smaller group that's lagging behind. Calves one day, adductors the next, then lats, biceps, triceps, and so on and so forth.



***Bill Starr only adds auxiliary work like biceps curls into the program when an athlete can handle the volume. The auxiliary exercises specifically target lagging muscle groups and are done for high reps.***

Another important consideration for an in-season program is to move through the routine expeditiously. No long rest periods between attempts and no lingering around in the weight room after the workout is over. Usually, it is the total amount of time spent in the weight room that brings on overtraining and not the actual volume of weight lifted. So get in, work with purpose, and leave.

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Our athlete has adhered to the guidelines of the program exactly, and now it's mid-season and he feels as if he can carry more of a workload in the weight room. Not everyone can, but there are always a half-dozen or so who are able to do this. At that stage, I have them do not one but two primary exercises per session, using that same rotation of squats, power cleans and either flat or incline benches. If they try this and discover that it's too much, simply pull back for a week or so and then try it again. The second time around the extra work isn't nearly as hard.

The process of getting stronger in-season is the same as it is during the off-season, except the gains come more slowly. But the overall purpose is to steadily get stronger, even if the gains come in baby steps.

### **Program 2: Less Days, More Movements**

The other method of in-season training works extremely well for a large number of student-athletes because it does not require nearly as much time in the weight room. Yet it produces positive results if followed to the letter.

It consists of working out twice a week: one heavy day and one light. On the heavy day, the athlete will do all three primary exercises and work them as hard as he can, depending on how he feels. As with the other program, he

should start out only doing 3 sets of 5 reps on whichever three primary movements he decides he is going to do. This heavy day can either be done on Sunday or Monday. It's simply a matter of choice. In the second week, he will move to 5 sets of 5.

A Sunday workout after a game on Saturday may seem like too much too soon, and it is for some—but not everyone. I've had a number of football players who said they would much rather get that heavy day out of the way early in the week and added that they always trained in the evening on Sunday. That gave them over 24 hours to recover from the game. With sufficient rest and plenty of nutritional foods to aid in the recuperation, they said they had no difficulty handling the weights. In fact, they told me that those workouts really helped them feel considerably stronger for the next week's practice sessions.

Also keep in mind that I was dealing with young, very healthy individuals. Their ability to recover from strenuous physical activities is so much greater than it is for older athletes. The main thing they have to do if they want to train on a Sunday is limit their partying on Saturday night. This simply requires discipline, and if they sincerely want to get stronger in-season so that they can help their team, they can do it. I know this because many have done just that.



***Bill Starr uses the bench press as the primary upper-body exercise in his in-season strength program.***



***Athletes typically experience at least five percent gains in all their lifts after following Starr's program for a season.***

Once the heavy day is taken care of, either on Sunday or Monday, the athlete has a lot of flexibility in choosing when to do the lighter session. Should he train heavy on Sunday, he might do his light workout on Wednesday or Thursday. If he does his heavy day on Monday because the practices are usually less demanding on that day, he also has the option of training light on either Wednesday or Thursday. Friday should definitely be an off day for any form of weight training if the game is on Saturday.

On the light day, the athlete should only do the basics—three primary exercises—and I've found that it's beneficial to do these lifts in a circuit. It helps this workout to go faster if two or even three athletes do it together. There will be three stations, and as one athlete moves through the circuit quickly, doing 5 reps at each station, the other two will be reloading the weights for his next set. The top-end weights used on the light day should be right at what was done on the third set on the heavy day. It doesn't have to be exactly that number, but it should be close.

Even with warm-ups, the athletes should be able to get in and out of the weight room in 20, and that short session will bring tremendous benefits.

As the season progresses and the athletes get accustomed to the weekly practice session and games, they will be able to steadily increase their workloads on their heavy days. The volume on the light day will not go up very much, but that's fine. It's the amount of work done on that heavy day that's important.

### **Strong Teams Win Titles**

At the beginning of training camp for all sports, coaches usually have athletes do a strength test. Ideally, this will include the three primary exercises that they do in the off-season program. In my case, they are the back squat, power clean and flat bench unless that sports team has been substituting the incline for the flat bench.

What the athlete needs to strive to do is better what he did prior to the season at the very end of the season. While to some this may seem farfetched, I know for a fact that it's definitely doable because I've watched it happen countless times. Every athlete who followed my program precisely and didn't miss a single workout during the season made significant gains on all of the primary movements. Five percent gains across the board was the average, and some exceeded that. All it takes to get stronger during the sports season is dedication, determination and a will to excel.



***Assistance work is never the focus but is used to correct deficiencies.***

Being stronger at the end of a season has many advantages. The athletes are going to be able to perform at a higher level simply because their muscles and attachments allow them to move faster and pack more punch. Stronger bodies are less likely to get injured than weaker ones, and in the event that a strong body does get hurt, the injury is typically much less severe and heals faster.

I've had defensive and offensive linemen tell me that at the end of the season when they look across the line at their opponents, they get a rush of confidence knowing that—because of their weightlifting training—they're stronger than the players they're facing. And being extremely confident with the goods to back it up is a tremendous advantage in any sport.

The group that can benefit the most by doing an in-season program are those marginal players who seldom see action in a game and spend more time standing around during the practices than participating in drills. This is a golden opportunity for them to get considerably stronger during the season. They have more energy left after games and practices than the starters and second-stringers, and what better way to utilize that excess energy than to get stronger?

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But what often happens is those reserve players get discouraged and actually do less about their physical conditions than those who play almost the entire game. I urge this group of athletes to lift regularly and with purpose.

"What if the player ahead of you gets hurt? Will you be ready to step in and take over that position? And if you do, will you be good enough to keep the job when he comes back?"

What's important to the overall success of any sports team is how fit the entire squad is from top to bottom. If that lower group is getting strong as well as the higher athletes, then that team will fare much better than one with a weaker base.

This advice is also true for an athlete who is injured. Instead of standing around idly watching his teammates practice, he should be in the weight room working those parts of his body that are not injured. There is always something that can be done regardless of the type of injury the athlete has sustained. These athletes may be few in number, but that doesn't matter. What does matter is that the injured athlete is doing something to help himself and that helps him to maintain a more positive attitude about his condition. Training, even with light weights or machines, is still better than standing around and being depressed about being hurt.



It has been shown that those athletes who take part in an in-season strength program pay closer attention to their nutrition and rest than those who skip training altogether. Consistent strength training encourages appetite, and that helps the athlete maintain the body weight he needs to be proficient in his sport. Training regularly also prompts athletes to get their needed rest. When athletes are not required to train during season, they tend to party more, stay up later to watch TV and become sloppy in their sleep schedule.

An in-season strength program keeps the discipline of training intact and helps the athletes maintain the technique on the various lifts more readily than those who do nothing in the weight room during the season.

Another point that's often overlooked is that a well-conditioned, slightly stronger athlete will go into the next off-season program primed and ready, eager to take the next step up the strength ladder. In contrast, those athletes who skipped all weight work during the season will have to spend many weeks getting their bodies accustomed to the stress of lifting all over again. This means, of course, that they will get extremely sore and will have to use a great deal less weight than they handled previously. This latter group is also discouraged. They have to watch those who trained diligently during the season move right past them on the strength chart, and then they have to work like demons to try and catch up. They seldom do. That lead their teammates picked up is difficult to overcome.

### Finish Strong

Games are won in the final innings, quarters, halves and periods. The teams that are in the best physical condition always have the advantage coming down the home stretch. In the same vein of thought, the teams who are the strongest at the end of the season have the edge, and it is usually those final contests that determine the league champion.

The opportunity to get stronger during the season is available to every athlete. Those who grasp the gold ring invariably move to a higher level of excellence than those who do not. It all comes down to desire.



Jody Forster

### About the Author

*Bill Starr coached at the 1968 Olympics in Mexico City, the 1970 Olympic Weightlifting World Championship in Columbus, Ohio, and the 1975 World Powerlifting Championships in Birmingham, England. He was selected as head coach of the 1969 team that competed in the Tournament of Americas in Mayaguez, Puerto Rico, where the United States won the team title, making him the first active lifter to be head coach of an international Olympic weightlifting team. Starr is the author of the books **The Strongest Shall Survive: Strength Training for Football** and **Defying Gravity**, which can be found at [The Aasgaard Company Bookstore](#).*