High Jumping the JAC Way

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Introduction

The high jump is one of the most exciting events to watch in track and field. Athletes run very fast in a straight line, then make a slight turn to the left or right, jump as high as they can off of one leg, and then try and contort their bodies over a bar that is only about an inch in diameter. The event at a high level is extremely fun to watch, but even more so, it is extremely fun to coach at all levels. The athlete competes against others but also against the bar, always trying to challenge themselves and their personal bests. The purpose of this article is to share with the reader the fundamentals of the event, as well as share with them how we at the Jacksonville Athletic Club train for the high jump, including training ideas throughout the year. At the end of this article I have included a brief appendix, featuring some of our success stories. This is to give a little more insight into our coaching system, and provide some examples of some of the improvements and success we have had in this event.

Objectives

Simply put, the objective of the high jump is for the athlete to get their hips as high as possible over a fiberglass bar, without knocking it off. The objective of the high jump is the exact same objective as the pole vault. Jump as high as possible, in a safe manner. Like any other jumping event, having a well rehearsed and comfortable approach is paramount to success. Much time should be spent in practice working on the full approach. We will go into this much further later on, but the reader should know that most success in the high jump is due to a good approach, that must be practiced on a regular basis.

Basics of Event

The approach- The high jump is the only jumping event where the athlete must run an approach that is not completely linear in nature. After anywhere from 1-6 steps in a straight line to establish speed in the approach, the athlete will then run a curved approach towards the bar in order to establish a good takeoff position from the bar. Most traditional approaches have the last 5 steps of the approach run around the curve. The straight part of the approach is where the athlete sets up a good acceleration pattern, and the curved part of the approach is where the athlete establishes a good lean and gets their body in an optimal position for takeoff.

The lean- One of the most important parts of the high jump approach (and therefore the high jump as a whole) is the body lean away from the bar. The curve in the approach is what takes the athlete into the pit, and the lean away from the bar (from running a good curve) is what gives the jumper time in which to bring everything UP before going IN. Since the jumper will automatically be traveling into the pit, the lean away from the bar (good space between the shoulders and the crossbar) is paramount to making sure the jumper gets all of their height before the bar, so that once fully off the ground, the athlete can then just focus in on rotating quickly over the bar. We try to cue our athletes to “keep their shoulders away from the bar” or simply “lean away from the bar” as they work on the curved portion of the approach.

Good lean before takeoff from left foot

Good lean before takeoff from right foot

The Takeoff- It sounds simple, but if the jumper is able to run a good approach, with a good lean away from the bar (see above) then the jumper only needs to be thinking about jumping up as high as possible, straight up into the air. If the ultimate goal of this event is height, that is all that the jumper needs to be thinking about at takeoff. The curved approach will take the jumper into the pit once they become airborne, so it is jumper's job to think about jumping straight up in the air at takeoff. Good features of a high jump takeoff include pushing off of the entire foot, driving the non-takeoff knee very fast straight up, fully extending the takeoff leg off the ground, and also driving the inside shoulder (or non-takeoff leg side shoulder) straight up into the air as well.

Rotation over the bar- As we have discussed in other articles, much like a long jump landing or hollowing out the chest over the pole vault crossbar, this part of the jump is almost the "icing on the cake" or should only be worked on AFTER all of the other parts of the jump are focused in on. I have seen jumpers who rotate over the bar perfectly, contorting their bodies like a Chinese acrobat, but still are only jumping marginal heights due to their poor approaches and take off fundamentals. A proficient approach, good lean, and an aggressive vertical takeoff determine your success in the high jump so much more so than good rotation over the bar.

Simply put, when the athlete feels like their hips are over the bar, they should try and press their shoulders down to the mat as fast as possible. This will allow the hips to keep rising, as well as allow the legs and feet to quickly rotate over the bar. The longer the jumper travels over the bar, the more likely they are to knock the bar off. Effective bar clearance comes from trying to rotate quickly over the bar. We tell our jumpers to try and get their shoulders down to the mat as quickly as possible.

A great illustration of this can be seen on the next page. Donald Thomas is a world champion and three time Olympian. And he goes over the bar in a very "non-ideal" position. However, he is able to jump over 7'9" in the high jump (one of the highest jumps ever in the history of the event) due to his jumping ability at takeoff. Of course if he improved his rotation over the bar he could jump higher, but 90% of what he is able to accomplish comes from what he does on the ground.

Donald Thomas hanging out over the bar

What we do in Training

Approach runs from full- At least one day a week, throughout the training year, we do full approach runs. In the fall training period they might be done in tennis shoes, just to work on the rhythm and posture of the approach, but from the very beginning of the training year, our jumpers are working on establishing a good rhythm for their full approach run. The majority of our athletes will go from 7-10 steps, and we will do anywhere from 4-8 of these approaches, at the beginning of a jump session. Sometimes the jumper will perform the approach with a modified takeoff into the pit, sometimes with a scissor jump over a bungee, and other times instead of taking off, they will simply keep running around the curve and back the other way, much like a horseshoe pattern. No matter how they end the full approaches, the keys we look for are a good rhythm, good body lean around the curve, and a tall body position around the curve. The coach will usually watch these approach runs from the opposite side from which the jumper is running, to look at the lean away from the bar. (ex. A left footed jumper will be running towards the right standard before the curve, and the coach will stand to the side of the left standard to watch the curve and body lean)

Scissors from full – As mentioned above, sometimes we do scissor jumps from a full, as an extension of working on the full approach. The takeoff in a scissor jump should be directed completely vertically, with the free knee (opposite leg) swinging up very quickly, and then blocking. The jumper will then simply step over (or attempt to) the bungee or bar.

Scissors from 4-6 with no mat – One drill we use that I borrowed from my mentor "Fuzz" (yes, that is real) is short approach scissor jumps, over a bar, but with no pit to land on. We will go from just 4-6 steps, and scissor jump a bar, then (hopefully) land safely on the ground, on their feet. It is so much easier to jump *into* the bar, when you know that you will be landing on a big, comfortable, mat. When you take the mat away, the jumper will only jump into the bar once, and then not like the sensation of landing hard on the track, and will self correct on the next few jumps. This drill, if done in a safe manner, can be very helpful in teaching a good lean away at takeoff, and then a complete vertical jump at takeoff.

One of our decathletes clearing 5'10" from 4 steps. And he landed on his feet!

Jump from 6- The majority of our high jumping in practice is from a short approach. We do a lot of jumps from 6 steps, as the jumper is still able to bring some speed into the jump, as well as take a lot of jumps without tiring out too quickly. We look for the same fundamentals that we would from a full approach. Good speed, good lean around the curve, staying tall throughout the curve, and a takeoff that is vertical in nature. We also try to watch from the opposite side that the athlete jumps from, so that we can see the shoulders away from the bar at takeoff, and see the inside shoulder and knee drive up fully before going back into the mat.

Jump from 6 off ramp- Want to know a way to give your high jumper even more jumps in practice, more time in the air, and more confidence? For $99.95 you can learn this one special trick the experts don't want you to know! Or you can just keep on reading……..

One of the drills our athletes love to do is jumping from 6 steps off an elevated ramp. The ramp we have is about 6 inches high (you can see it in the pictures on page 2) and is large enough that if a jumper has a bad approach, they can still jump off of it and not worry about breaking their ankle (that would be bad). Athletes really like jumping off the ramp for one simple reason; they can jump really high off the ramp. That makes the activity fun for the athlete, and one they enjoy working on.

We like to start off pretty low, then go up in 3-6 inch increments, with the goal of getting the jumper to extend off the ramp longer and longer, to get them to keep jumping at the bungee. If a female jumper who has a PR of 5' starts with the bungee at 5' from 6 steps off the ramp, she should have no problem jumping at that height. However, if you keep the bungee there, the jumper will get used to jumping high enough to clear the bungee, but then not much higher. Moving the bungee up forces the jumper

put more pressure into the takeoff and to extend more at the takeoff, to try to have a good attempt at the higher bungee. We have had athletes jump off the ramp at heights that were almost two feet over their current PR. Did they come close to clearing the bungee? Of course not. But the goal of this drill, and why it is so much fun for the athlete, is to try to jump as high as possible. This is so much easier if they have something really high to jump towards.

Current PR of 5'5", bungee is at 7'3" from 6 steps.

The main reason we jump from 6 off the ramp is simply to jump at high bungees. To get the athlete used to jumping high at takeoff. We also jump from 6 off the ramp to work on rotation over the bar, as well as having competitions over a bar. To work on rotation over the bar, we put the bar up around the athletes PR, and have them jump off the ramp (which gives them more time in the air) and work on rotating over the bar properly. The goal is now to work on what you do over the bar, and not so much how high you can jump. We will usually do this 8-10 times, leaving the bar at a manageable height, so that they don't have to worry so much about the takeoff, rather think more about rotating fast over the bar.

The final exercise we do off the ramp from 6 steps is to compete! Jump over a bar to try to set a new 6 step ramp PR. We have club records for this activity, and it is a lot of fun to have the athletes compete against themselves, each other, as well as past club members.

So this "simple" exercise of jumping from 6 steps off the ramp can be done to try and accomplish different goals. Jumping up as high as possible, working on rotation of the bar, and working on bar clearance at higher heights. I have yet to work with a jumper who doesn't enjoy this drill / activity, and usually this is the one activity we do the most on jump days.

Jump from 4- Early on in the year (fall period) we will jump off the ground and off the ramp from 4 total steps. Same principles apply here, just a shorter approach. From this short approach we will usually put a bar to work on rotation over the bar, but at a height that is not too challenging for the athlete.

No "back over" work- The only time we do "back over" work is when we are teaching a complete beginner how to high jump. A lot of time is wasted in high jump training doing back flops and all sorts of cool looking matrix type moves in the air, when in reality what matters most is a good lean and takeoff. If you do these things correctly, the rotation over the bar becomes much easier.

Bungee vs bar- In our training, we mostly high jump with bungees, due to the fact that we have a lot of athletes jumping at one time. If we want to work on rotation work over the bar (from a run) we will have the jumper jump over a lower bar, to work on some of the rotation mechanics in the air. I have found that much like Pavlov's dog, athletes have been conditioned to equate the bar falling off with failure. They could have done a great job with the approach, and done something minuscule over the bar to cause it to fall, but as soon as a jumper knocks a bar off their first thought / instinct is one of failure. The vertical jumps can be very mental, so in training, we try to make it as much of a positive environment as we can. I know other coaches who only use bars in practice, and they have had a lot of success as well doing it that way. It is up to you to do what works best for your system and your athletes, I have just found it to be better in our group with using the bungee more than the bar in training.

Practice Ideas throughout the Year

A complete training schedule for the high jump is beyond the scope of this article (you can find a detailed training plan in our articles on training for the jumps as well for the combined events) however I did want to mention that we train all of our high jumpers as either combined event athletes (heptathletes and decathletes) or as jumpers who are able to do the horizontal jumps as well. A better overall athlete becomes a better high jumper, so we work really hard at getting our jumpers faster, stronger, and more coordinated, and this has carried over very well in the development in their high jumping ability. Our high jumpers will usually high jump 1-2 days a week, with the other days working on speed, power, coordination, as well as general strength development.

Final Thoughts

The high jump is one event where we have had a lot of success over the past few years, and I believe this is due to how we teach the event, and how we train our high jumpers to be better athletes first, and then focus on the "high jump stuff." We have found drills and exercises that work, and we are able to have our athletes buy into our system of teaching the high jump. As you will see in the appendix, most of the success comes from the athlete, wanting to get better, doing what is necessary, and trusting the program. This event is not rocket science (although it is the closest resemblance to such study, as both are trying to put a body in flight……) but HOW you teach it and coach it can make a huge impact in the athlete's success in the event. If you want your athletes to jump high in meets, they need to jump high in practice. Off a ramp, attempting really high heights over a bungee, or jumping high bars from a short approach all help accomplish this goal.

Thanks

I would like to thank the following coaches and mentors for all of their wisdom and guidance as I learned how to coach the high jump better. Glenn McAtee, Dr. Drew Hardyk, Fuzz Caan, Robert Olesen, Boo Schexnayder, Noel Ruebel, and Clark Humphreys. All of you have taught me so much, and all of the improvements we have had in this event are a reflection of your knowledge and insight, so thank you again!

Appendix JAC Success Stories

C.D- 5'8" – 6'8"in 9 months- I was contacted in August of 2013 to give some high jump lessons to a senior in high school. He was currently running cross country, but wanted to get some high jump help on Sundays to get ready for the track season. When I first met him, I noticed that he looked just like a high jumper (6'3" and thin) and that his cross country times were, um, less than fast. His current PR in the high jump was 5'8", and he wanted to jump over 6' for his senior year. There was no talk about wanting to do sports in college, he just wanted to have a good senior year in the high jump.

That fall we met every Sunday to work on his high jump, and most of these training sessions were the day after his cross country races. I would argue he was more tired than most since he spent more time on the course running than most of the other athletes…… During our high jump sessions we would work on a good 10 step approach, leaning away from the bar, and jumping HIGH. He didn't care for jumping off the ramp much, so we spent most of our time jumping from six steps, off the ground, trying to jump some really high bungees. I would put the bungee at 7' or higher, just to get him to be really aggressive at takeoff, and to keep driving everything up. A 5'8" high jumper jumping at a 7' bungee sounds ridiculous, and it looked just as silly. But as time went on, he was really figuring out how to extend up on his takeoff. I wanted to see him extend everything up as long as possible, and this was just the thing for him to do. During this time I also introduced him to the long jump.

After our fall and winter Sunday jump sessions, he started the season with a PR of 6'! His 3rd meet he jumped 6'6", and that season he was able to jump 6'8". He became an all-state high jumper, and was able to obtain a scholarship to jump in college!

M.M- 5'- 5'5" in 3 months – I was contacted in April of 2016 to work with a freshman high jumper. She started high jumping in 8th grade (4'11") and jumped 5' her 9th grade year. She did not make the state meet, so was looking to get started right away to work on her high jump. During her freshman year on her track team all she did was high jump, so my initial meeting with her I asked if she would be open to trying other events as well. The first practice I worked with her in the high jump, but also taught her a little bit about the hurdles, long jump and triple jump.

She trained with us very consistently that summer, and I trained her as a heptathlete. Within a month she was able to compete in meets in the hurdles, javelin, long jump, as well as in the high jump. We high jumped about twice a week, and with her we worked a lot on not leaning in at takeoff as well as working on extending up on her takeoff. Her favorite drill was jumping off the ramp from 6 steps, so we did a lot of that when we did high jump work. The main focus however was getting her faster, more powerful, as well as more proficient in the other events that she was learning.

Her first meet with us she jumped 4'8" in the high jump, and long jumped 14'7". To her credit, she believed in the process, and kept working hard each day. In June she jumped 5'1", beginning of July she jumped 5'3 ½" and at the end of July she jumped 5'5" as well as long jumping 17'2" and throwing a javelin almost 100'!

N.G.- 5'10" – 6'1 ½" in 1 year – The current Florida state record holder in the high jump was a week away from hanging up her spikes due to frustrations of not improving over a three year period. Her parents decided to give us a call to see if we could help her before she gave up the sport. We started working with her in April of her junior year of high school (2014), about a month before the state meet. Her current PR was 5'10", which she was able to jump her freshman, sophomore, and junior years. She also did some 200m and 400m sprinting. After watching her jump from a full approach in our first practice, a few things were quite clear. She needed a longer approach, she needed to do more than just the high jump, and if she bought into our coaching, she would jump very high, and very far. In the first month we worked on keeping with a 10 step approach, but by lengthening it out, so that she could bring more speed into her approach. Her first 5 steps were really good in her approach, but when she ran around the curve, her steps were really choppy, inconsistent, as well as slow. By moving her approach back and allowing her to RUN around the curve, she was able to bring more speed into her takeoff, with a better lean, and this would then allow her to jump higher. We did a lot of work on her new approach, and it took a long time for the new approach to feel comfortable. She actually got worse for the first few months (including losing the state meet in the high jump), and I give her a lot of credit for trusting the process, and not giving up. I also suggested she stop with the 200s and 400s, and learn the horizontal jumps. I felt with her speed and jumping ability, that she would be good, and that the training would be a complement to what she was trying to accomplish in the high jump. After the high school season, she jumped with us a few days a week, and we did a lot of approach work, jump work off the ramp, as well as short sprint work for the horizontal jumps. That summer, with lots of work on her approach, she was able to FINALLY, after 3 years, jump a personal best of 5'10" ¾". Not a huge improvement, but enough for her to be inspired again, and excited again about the sport.

The fall of her senior year, we kept the focus on helping her become a better athlete, not just a better high jumper. We kept speed and power development the number one priority, and did not do any traditional "conditioning work". Her senior year, with added confidence from her ¾" improvement in the high jump, she became one of the top high jumpers in the US. Her first indoor meet in December she jumped 5'10", but also long jumped over 18' and triple jumped over 38'. Her first indoor meet in 2015 she jumped 6', and the rest of the year she NEVER LOST A MEET IN THE HIGH JUMP. She won everything, including indoor and outdoor nationals, an international meet in Cuba, as well as setting facility records all over the place. At the 2015 state meet she won the long jump, triple jump, and high jump. Her long jump (20'5") was a 3A state meet record, and her triple jump (40'2") was as well. At the 2015 New Balance Outdoor Championships she jumped 6'1 ½" to win, and break the all-time state record in the high jump. At the end of the year, she was the #6 ranked high jumper in the US by Track and Field News. She had a good year.

I write all of this to say this; the athlete needs to buy into what you are trying to get them to do. This athlete was so frustrated with her lack of progress, that she almost left the sport. In my opinion she was doing the wrong things, and in the wrong events, but that is a side note. I firmly believe that she improved as much as she did, in just 1 year, because we had a plan, she stuck to it, and she kept staying positive!