



Essential High Jump Drills for athletes that want to seriously improve their high jump performance.

*Jump higher and more consistently.*

1st Edition

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## Before you start reading this book.

Are you ready to take the frustration of your high jump performance? If you keep on hitting the bar on your way up, knocking the bar down with your feet, have run-up issues or just struggle to clear the bar in general, then this is the book for you.

Before you start reading the book, make a list of the common mistakes or troubles that you are finding with your high jump performance. Whether it is inconsistency with your run-up or your actual jumping performance; or if you find that you keep on making a common mistake.

Write them all down on a sheet of paper because you will be structuring your high jump drills program around your current strengths and weaknesses.

You will use certain drills to improve the strengths that you currently have and you will practice other drills to improve the weaker areas that you have with your high jump approach, preparation and jump execution.

## Why is it important to be more consistent?

Consistency allows you to focus on one thing. Execution. There are so many phases that occur in the high jump that if you think about them all at once, your mind will become overwhelmed.

Successful athletes can execute all of the necessary phases required to jump high in the high



jump unconsciously. The only way they can accomplish that is by conducting drills that will improve the different phase technique in the high jump.

## Why did I write this book?

I was fortunate to be exposed to high-level high jump coaching as a result of my high jump achievements in school. However, there were several other high jumpers who weren't granted that same opportunity and as a result, didn't get the training insight and knowledge that I had.

If you are an athlete that's serious about improving your high jump performance, I want you to use the drills inside this book to help take your performance to the next level. Whether you have a coach or not, access to equipment or not, you will be able to conduct certain drills that will allow you to excel as a high jumper.

## What high jump training drills will be covered in this book?

- Explosive drills
- Curve running drills
- Acceleration drills
- High jump running drills
- Speed drills
- Turnover drills
- Warm up drills



## Warm up drills.

As an athlete, I would usually allocate at least 1h to warm up the body properly prior to a competition. In training, warm-ups lasted for up to half an hour. This would ensure that our muscles, tendons and movements were mobile so we'd avoid obtaining any injuries.

*Note: The warm-up drills should only make the muscles feel warm in preparation for the competition. The athlete shouldn't feel like their body is tired from doing the warm-up.*

Another thing to keep in mind is that the warm-up preparation should vary based on the athletic conditions. Athletic preparation on hot days will differ to those on cold days where the athlete's muscle temperature can decrease easily.

You can use the following guide to warm up the body for high jump.

### Warm up drill 1.

Warm-up jog.

2 slow jogs around the athletics track twice doing a slow jog. (800m). Alternatively, if you aren't at an athletics track, do a slow jog for 1km. The jog should take 5-8 minutes to complete.



Warm up stretching.

Conduct stretches that focus on the following areas.

Hamstrings

Quadriceps

Glutes

Calves

Triceps

Back

Neck

Core

Warm up run throughs

Conduct running accelerations of 40-60m at 60-70% of your top running speed. Do this at least 5 times.



## Warm up drill 2. - Dynamic warm-up

This warm-up combines dynamic stretching and exercises with the warm-up run. You want to find a running route that is flat and that also a platform like a step or a bench, as well as a wall to incorporate some of the different warm-up drills. Aim for a route that is 1-2km long.

You will run and at each 100m interval, you will incorporate an exercise drill.

I want you to conduct the following exercise drills at least 8 times during your warm-up.

- Skipping runs
- Left side skips for 50m
- Right side skips for 50m
- Right leg take-off skips
- Left leg take-off skips
- Explosive step-ups (On a bench)

After you have finished the initial warm-up, you will need to stretch your muscles and conduct the run-throughs as stated above.





## Other tips.

### Hydration

In order for your muscles to perform at an optimum level, they need to be completely hydrated.

Ensure that you drink up to 8L of water a day to keep your body completely hydrated throughout the season.

In the 2 days leading up to the competition, ensure that you keep on drinking water every hour.

When you urinate, your urine should appear clear, meaning that your body is free of toxins and is completely hydrated. If you notice more colour in your urine, take in more water.

## What are your high jumping goals?

You want to execute a jump that will allow you to get the maximum height over the bar whilst clearing the bar. This is your sole objective.

Your high jump runup will be less than 30m. You need to ensure that you can generate enough speed and explosive power to set you up for the perfect take-off. You then need to manage your body's mechanics as you jump over the bar.



There are different phases of the high jump that you must master in order to execute the perfect jump.

- Starting the runup.
- Acceleration phase
- Body positioning phase
- Running the curve
- High jump take off
- Knee drive
- Arch over the bar
- Heel flick over the bar.

The drills in this book will help you improve the different phases of the high jump. You will eventually put all of the phases together so that you will be able to maximise the height that you jump.

### Starting the runup.

There are two approaches that high jumpers use. There's the standing start and there is the rolling start to the runup. It's highly recommended that you opt for a standing start since the rolling start can cause inconsistency with your runup. This could see the athlete not starting on their right mark (such as overstepping the mark).



Practice the start of your runup so that you consistently take off from the same mark and build into the acceleration phase.

## Acceleration phase

The acceleration phase in the high jump is the first few steps that will allow you to generate the horizontal speed that you will transform into vertical power. It is important to generate quick speed, however the speed needs to be controlled as you run your curve.

Usually, the athlete will have at most 7 steps to accelerate to the top speed. Therefore, the athlete must train their body to reach top speed in the acceleration phase of the high jump.

Acceleration drills.

20m acceleration sprints

The aim is to increase your acceleration as quickly as possible. You aren't looking for quick leg speed like a sprinter. You want to execute power so that your body will reach the maximum velocity by the time you hit your mark in the high jump.

20m bounding for acceleration and distance.

To increase your power, you need to increase your explosiveness. Do repetitions of 8-10 bounds and aim for the maximum distance, whilst accelerating off each bound so that you have a quick reaction time off the ground. Do this for 3 sets.



20m hopping for acceleration and distance.

As with the bounds, you will perform the exercise with explosiveness. Aim for 8-10 repetitions for 3 sets. Ensure that you accelerate off each movement. Your legs will gain more strength and power by since the muscle has to take the full force of the body's weight.

30m acceleration sprints with the high jump rhythm.

You want to accelerate but using the high jump running technique. This means that you will be running tall and upright and that you will need to increase your acceleration with every stride without breaking your high jump form.

After training with these drills, you should see yourself running faster in your high jump approach, which will set you up for a greater lean in your curve and that should allow you to gain extra height when making your jump.

## Body positioning phase

### **Add to this section**

## Running the curve

Many high jumpers require speed to get the lift and height that they desire to clear great heights in the high jump. There's a very good chance that you are in this category. To transition the



speed into height, you need to run a curve that will give you the centripetal force that will launch you up and over the high jump bar.

Whatever speed you have coming into your curve, you must be able to hold that speed and even accelerate in the curve.

A common mistake most high jumpers make is that they think they are running the curve, but they either cut their curve or drift in their curve. If either of these two things occur. The athlete will run straight into the bar and knock it off. They also won't get any jumping height from their take-off.

So you must practice these drills to make sure you hold the curve and leverage the centripetal force.

#### Circle accelerations

Pick a point or use a marker and run around it in a circle as quickly as you can. The circle will become larger as you gain more speed. The key is to hold your curve and to run tall whilst on a lean. Once you feel you have reached top speed, finish with a pop-up jump where you jump up. The force will naturally make you jump higher and will also force you to jump outwards. Practice this for a minimum of 3 repetitions.



Run-up curve drills.

The key is to avoid drifting in your curve. For beginners, it may be necessary to place several markers from the start of the curve until the take off point. This is usually 3-5 steps. Mark where each step should be and run the curve without drifting away from the markers. As you gain more speed and acceleration on the curve, your body will force you to step away from the markers. If you hold the curve, you can use that extra force to jump higher when you take-off.

Don't drift - hold the curve.

## High jump take-off

The take-off phase puts all of the building blocks of the previous phases together. You must end up in the right take-off position so that you can do the following.

1. Jump at the correct angle compared to the bar.
2. Jump so that you can maximise the vertical force to make you jump higher.
3. Take-off so your body will naturally transition into the flop position.

You need to practice the take-off drills regularly so that your body will transition into the Fosbury flop jump.

- Straight line run and pop-up
- 3 step scissor kick with a straight angle approach.
- 5 step scissor kick with a straight angle approach



- 3 step pop-up
- 3 step Fosbury flop
- 5 step Fosbury flop
- Full runup run through
- Full runup pop up
- Full runup jump

## Knee drive

If you want to leap to great heights, you must train your body to drive your knee upwards and to hold your knee until it gets in line with the bar so you can transition into the fosbury flop and maximise your chances of clearing the bar.

There are certain strengthening exercises that you will need to conduct to condition your body to hold the knee for as long as possible. However, you can also use the following drills to improve your knee drive.

*Note: Please keep in mind that you need to improve the strength in your hip flexors and your abdominals to improve the strength during the knee drive phase. Your muscles can fatigue very quickly, so it is essential that you build the strength so that you can maintain your form and technique whilst executing the jump during the competition.*



**Tip:** The first thing to do is focus on keeping your toe up whenever you are doing any running or jumping. It makes it easier to keep your knees up, which will make it easier for you to run faster and to jump higher.

## A walks

The A walk will see you focus on the running motion and will also force you to keep your toes up and your hip flexor at 90 degrees. Because the movement is slower, you will also strengthen your core and your hip flexors at the same time.

Conduct at least 3 of these over 10-20m during your warm-up.

You will notice that by doing the drill, your run-up pattern/cadence will start to mirror the way you practice the drill. This will make your run-up more consistent and you will also approach the bar in a way that will make it easier for you to execute the high jump technique.

## Leg extensions (gym)

This one is an exercise and not a drill. But it is essential for building up your leg strength. Find the nearest leg extension machine and complete a full leg extension with some resistance





weight. The exercise will strengthen your quadriceps, which will allow you to focus on driving your leg upwards.

The best way to test your improved strength is to conduct leg raises in the following weeks after regularly doing the exercise. You should notice that you can raise your legs up straight and hold them in front of you for a set period of time.

Conduct these exercises for 8-10 reps with the maximum resistance weight that will force you into failure. Warm up with lighter weights to improve the mobility in the knees. Then conduct at least 3 sets.

## Leg raises

The strength in your hip flexors and your abdominals will account for a large part of your high jump technique and execution. Hold onto a horizontal bar and conduct at least 15 repetitions of raising your legs to at least 90 degrees. If you can, try to it to 120 degrees.

Because you will initially be building strength, the goal is not to raise them as quickly as possible. Instead, you want to raise them up slow (in a 4 second count) and then lower them. Repeat this until you reach 15. Your legs should be straight when conducting this exercise.

Conduct at least 3 repetitions of this exercise. Aim to do this exercise at least twice a week.



## Knee raises

Knee raises will focus on improving the strength of your lower abdominals and your hip flexors. Over time, you should find it easier to conduct this exercise, which means you will be able to increase your leg speed (turnover) and thus have a more explosive knee drive.

Find a horizontal bar and hang from the bar. Then lift your knees to your chest for at least 15 repetitions.

Do this for at least 3 sets. Aim to do this exercise at least twice a week.

## Short approach knee drive drills

The knee drive in the high jump is different to the other events. In high jump, you need to drive your knee up and then hold it while you transition into the Fosbury Flop. This means you need to drive up explosively, but then open up your hips so that you give your body more flexibility to arch over the bar.

You can use the high jump bar and apparatus and do a walking approach from 3 steps. On the take-off step, drive your knee up and hold it as if you were going over the bar. Do not let your knee drop. As you hold your form, start to look outwards and open up your hips so you will transition into the flop.



Conduct this drill for 8 repetitions for at least 2 reps

## Knee drive pop-ups for maximum height.

There are a couple of ways you can do this. The first way is you run in a straight line and then jump vertically as if you are doing a high jump take-off. The goal is to hold your knee drive phase for as long as possible.

If you have access to a high jump apparatus, raise the bar to a height that is slightly beyond your personal best. (E.g. If you can jump 1.80m, practice at 2m). Then practice your knee drive so you can hold it when it gets over the bar.

The second way to do this drill is to use the high jump apparatus with an elastic bar. You will be jumping from your run-up. The goal is to only do the take-off phase and get your knee over the bar. Practice this for approximately 8 repetitions before combining the take-off phase with the other parts of the high jump.

## Fosbury flop

If you improve this well enough, it is possible to get up to 20cm extra in height in for your high jump performance. The action happens very quickly and there are quite a few components to it that you will need to master.



Body rotation from the take-off.

Once you have taken off from the right position, the knee and arm drive that you use should automatically start turning your body outwards so that you are facing away from the mat.

You will need to do pop-up drills where all you practice is taking off and popping up so that you land on your back on the mat. Do this without the high jump bar and without trying to arch.

Conduct 2 sets of 5 and practice these drills twice a week so that it becomes natural when you travel.

Arch over the bar.

You will need to maximise your arch and the timing over the bar. Conduct the following drills on the high jump mat.

3 x Jump up and land on your glutes on the mat

3 x jump up on and land on the mat on your back.

3 x jump up and land on the mat on your back, but this time squeeze your glutes to force a greater arch in your back.

This next set, you will need to find a spot to look at over your shoulder. This will usually be the back corner of the mat. If you jump from the right side, you will look over your left shoulder. If you jump from the left side, you will jump over your left shoulder.



3 x jump up and land on your back, but make sure you see the corner before you bring your head back up and land on your upper back. (Make sure you do not land on your neck)

Heel flick over the bar.

To successfully flick your heels over the bar, all you need to do is bring your chin towards your chest once you are over the bar. The key is to time this successfully as you are completing the jump over the bar. Practice this with arching drills and heel flicks on the mat. Then practice it with short runups and jumps over the high jump bar.

## Plyometrics drills.

The drills that we have covered are important for improving the technical performance of your high jump. However, 80% of your high jump performance will be a result of the body conditioning exercises that you do. High jump is about maximising your vertical power. So you must train your body to explode upwards through strength and speed.

You will also need to incorporate these body conditioning drills twice a week.

*Note: As a high jumper, you want to do these exercises in a way that will maximise your vertical jumping height.*



## Bounding

Single-leg bounding will improve your power and overall speed. As a high jumper, you will need to do bounding exercises that will allow you to maximise your vertical jumping height. You will need to conduct these drills in a way where you can maximise your height with each bound.

Bound upwards, not for distance.

Conduct at least 3 sets of 8 repetitions twice a week.

## Hopping

Hopping is important as you will be doing a single leg take-off in the high jump. You will need to practice this but focusing on maximising your vertical jump with each jump (not aiming for distance).

Do at least 3 sets of 8 repetitions.

## Hop hop step

This combines the hopping and bounding exercises together. Do this for 2 sets of 8 repetitions.

As you become better and more powerful with this drill, you should introduce hurdles (or an obstacle that you can hurdle easily). Start with a height of 45cm. Then work your way up to 60cm, 90cm, 1m and then 1.10m. The aim is to maximise your vertical height on the start of every hop phase.



## Hurdle jumps

This exercise is guaranteed to improve your vertical explosiveness. Take a set of 4 hurdles and set them at a vertical height that you are confident in clearing. (E.g. 45cm or 60cm). Space them approximately 1m apart. You then want to jump double legged over the hurdles and focus on a quick reaction time off the ground.

Do 4 sets of 4 repetitions.

As you become more confident with the drill, you can increase the vertical height.

## Straight leg take-off jumps over hurdles.

This is where you space 4 hurdles apart so you can do 4 acceleration steps in between and then maximise your vertical height more consistently. You will alternate legs during the jumps. You will accelerate towards the hurdle like you are about to complete the take-off. When you do, you will take-off, but keep your leg straight whilst going over the hurdle. Your goal is to clear the hurdle while keeping a straight leg. When you land, you will go straight into the drill, but take-off with the opposite leg.

This should be conducted for 2-3 sets with 4 repetitions.



## Box jumps

There are several variations with box jumps that can help athletes improve their jumping ability and take-off.

### Plyometric box jumps

Place 4 boxes a few metres apart. You will conduct a variety of drills using the boxes to condition your muscles. You opt for boxes that are the same or different heights. Conduct drills such as:

- Double leg jumps
- Hops
- Bounding
- Hop Hop Steps

Remember, use the boxes to maximise your vertical jumping height.

### Take-off box jump

This is where a small box is placed in front of the take-off area and the athlete does take off drills by planting and exploding off the box. This should help the athlete improve their explosiveness. This drill can be done 8 times.





## Cool down after training.

Your muscles will be very active from the drills training that you do. So it is necessary for you to cool down your muscles to avoid cramps and muscle tightness. Conduct a 5 to 10 minute cool down jog after finishing the drills and stretch the same muscle areas that you did in the warm-up.

## Keep a training journal

Make sure that you document your training and also track your improvements every 4-6 weeks.

**Tip** - Don't focus on doing many competitions. Instead, focus on training your body so you can maximise your performance at those competitions that are important.