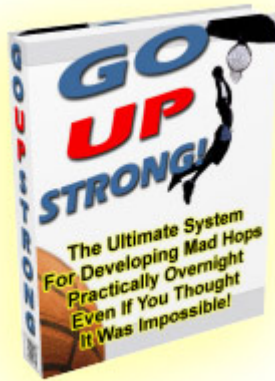


# "Go Up Strong!"

By Dave Moore



## **The Ultimate System For Developing Mad Hops Practically Overnight Even If You Thought It Was Impossible!**

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## Introduction

**Y**ou can't name me one basketball player outside the pros who doesn't want to add a few inches to their vertical jump or who wants to crash the boards with intensity. If you play basketball, you are always going to be trying to push the vertical limit as far as you can. Everyone wants to get above the rim – don't they?

Your desire to **Reach for the Sky** has brought you to our book. There are a lot of books out there that promise to get you 'above the rim,' and while that would be nice, for many of us out there who play, adding three or four inches to our jump, or tuning our body into playing at an elite level would be just fine.

There are no miracle ways to lift your vertical beyond reach, or to guarantee that you will be able to slam dunk – although many books out there believe they can do that. It takes hard work and a commitment to making yourself a better technical jumper, and to strengthen your body through proper training.

I can't guarantee everyone will be able to jam the leather by the end of this book, but you will notice a huge difference in your leaping ability and overall stamina on the court by going through this 30-day program and learning how to condition properly and get the most out of your body.

Here's a glimpse of what we are going to teach you in this book:

- The mechanics of jumping – why this is important
- What muscles make your vertical climb
- How you can work those muscles
- Training for endurance and power in basketball
- Your 30-day training program

- And more!

You will be primed and ready to take your game to a different level – literally.

Think of this for a moment – if you take the time to condition your body properly, you are going to be well ahead 90% of other high school basketball players and many of the players in college as well. If you really want to step up your game, you need to take the time to get your body ready for the rigors of the game.

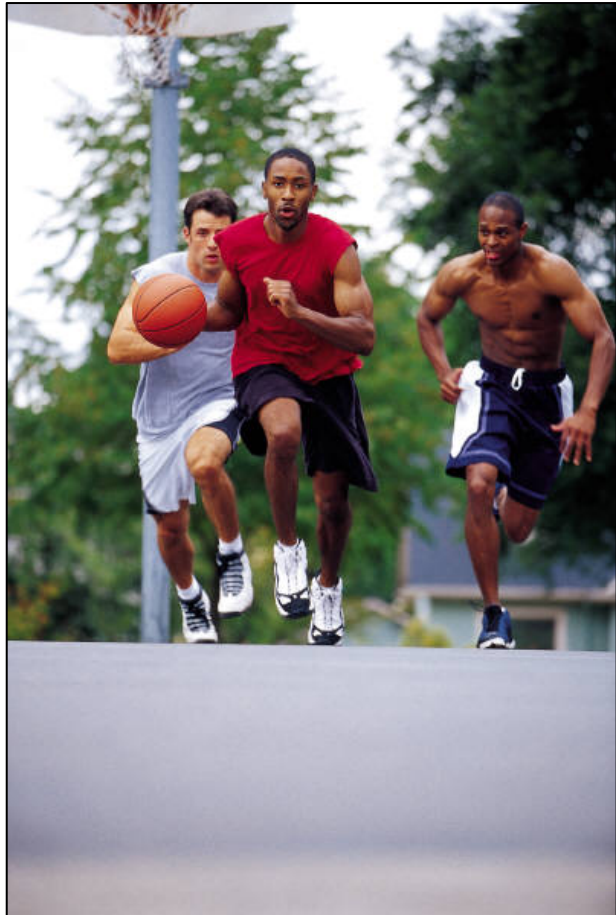
I will take you through that process, so you understand why you have to condition and how to do it properly. And in the end, you are going to be a powerful athlete ready to bring your basketball skills and your physical conditioning together to make a complete hardcourt package.

**Best of Luck!**

## **Conditioning and Basketball**

**Y**ou’ve been there before. Your coach wants you to put in 35 plus minutes in a game, and expects you to be able to give the same effort in the first five minutes as you give in the last five. Sometimes your body just doesn’t have the gas to go. But it should.

That’s where conditioning comes in. Your body has to be trained like a machine. It has to keep going – even when you don’t think it has enough. It has to be able to jump as high, run as fast and still hit the boards with the same intensity as it did at the start of the game.



A lot of things go into that. Your muscles still need to be able to react the same way in the end as they did in the beginning. Why do you think the best coaches stress conditioning in their practices? Because it is essential for success.

You can train your body to do exactly what you want it to, and when you want to do it. It takes time, effort and hours of hard work, but it will put you in the upper echelon of players at any level. Even at the NBA level, the best and most consistent players are the ones who can compete from tip-off to buzzer, and then into overtime.

### ***What is conditioning?***

It is getting your body ready to perform. Muscles that are ready to explode on to the court, a heart that doesn’t quit when you need it to,

and legs that will spring into action when they are called upon – that is what conditioning is all about.

One thing that most players don't understand is that you need to have as much of a commitment to conditioning as you do to improving your skills. In fact, in most cases, an improvement in strength and conditioning is going to dramatically improve your overall basketball skills. Trust me – every coach out there realizes the importance of conditioning in making a better basketball player.

Conditioning covers a few areas:

- Endurance
- Explosion (making your muscles react instantly)
- Recovery
- Injury prevention

### **Endurance**

The last 57 seconds are ticking away on the clock and you are down by 4. Do you have any gas left in the tank to bring the win home? Maybe, and maybe not. It really depends on your overall endurance. Endurance is the ability of your body to continue working at peak or near peak levels over extended periods of time. Your level of endurance will determine how long you can stay on the court.

The easy way to improve endurance is to demand more from your body over a longer stretch of time. This conditions your muscles, including your heart, to provide the boost they need to continue working at a high level.

It takes time, but you should be able to get your muscles and your cardiovascular strength to a point where you should be able to go for extended lengths without losing a tremendous amount of performance. At any level of basketball that is important.

### **Explosion**

The only way you are going to be able to beat players to the ball, or even to leap from just outside the paint for the dunk, is to develop the

explosive muscles in your body. You do this by building the quick twitch response in your muscles.

When you gear your body for explosion, your muscles are like the string on a crossbow – it’s ready to spring forward when you let go, firing the arrow at the target. Your body is much the same as that string. If the string isn’t taken care of, exercised regularly, and conditioned for the amount it is pulled back, it will snap or fire inaccurate arrows. You don’t want that to happen to your body.

Building the important muscles in your body that will help you as a basketball player is important. Building them to respond in a fraction of a second – at full power – is more important.

## **Recovery**

You’ve already put in 40 minutes this game, and the pace has been non-stop, back and forth. There is 58 seconds left in the game and you are four points down. Your coach calls a time out. Finally, a rest.

How does your body react to that rest? Does it shut down? Or does it take advantage of the quick break to rebuild any possible stamina so you can make it the distance when you need it the most. Believe it or not, you can train your body to recover as quick as possible during a 15 or 30 second break. Stretch it out to a full time out, and you might be ready to play another full game.

Part of your training routine should include game-like situations like a time-out simulation, so your body can get used to that. The body is an amazing machine and if you train it to recover as much as possible in 30 seconds, it will reprogram the ways it works to try and accommodate that. Essentially you **condition** your body to do the things you want it to do.

## **Injury Prevention**

No one wants an injury, but they are bound to happen. The easiest way to prevent an injury, and potentially limit its severity and decrease recovery time is by making sure that your body is prepared to handle the rigors of your sport. It needs to know that it is going to



be jumping, turning, sprinting and other athletic moves while on the court, and the ligaments, muscles and tendons need to be aware of what is going on. Conditioning takes care of that aspect of your body by preparing it for the athletic maneuvers you need to execute on the court.

Your regular conditioning program should include stretching as well. When you condition and perform strength training, your muscles tighten – almost like they are being spring-loaded into your body. You need to stretch out that spring so it doesn’t pop after you begin to work it out.

Every trainer will tell you that stretching is an equally important component to your entire training regiment. You risk serious injury by not preparing your muscles properly.

## **Strength**

Three guys in the paint are waiting for you to bust through the middle, their arms standing in the way, their bodies impeding your path. You better have more steam and more strength than they do in order to make it to the hoop. You will get stopped cold every time unless you bust through with power.

Strength helps in every aspect of basketball. You have to be able to box out players that are big, strong and fast. Training for strength will help you compete at a higher level. Like I said earlier, you will be ahead of the vast majority of players if you take the time to build your strength.

## **Train your entire body**

When you start your strength training program, you can’t just focus on a few major groups of muscles. You will need to train every muscles group so they all work in conjunction with one another. This makes your body work like a machine

You could have great leg muscles, but they won’t explode the way they should without strengthening your core muscles in your

abdomen, or the muscles in your shoulders to help you pump your way to the top.

They all work together, and each one plays an important part in making the others work. Too many athletes think that building big pectoral muscles, or a washboard stomach, or legs as thick as tree trunks are going to be the answer to your strength concerns. You need to have a well-rounded program – cardio, upper body training, core training, and lower body training.

Once you put it all together, you will be able to do things with your body that other players only dream of doing. Especially those players who don't make the same commitment that you have to getting your body into prime condition.

### **Strength, not bulk**

You aren't looking to win any bodybuilding competitions so you will be after power over bulk. Your body will naturally build a solid mass simply by working out, so you don't have to worry about putting on weight while you train. Natural mass weighs more and is inherently more solid than body fat, so as it converts its mass is greater. But, enough of the biology lessons.

When you try to build bulk, your body becomes more difficult to manage. And it takes a lot more resources to keep it together. Imagine yourself as a muscle-bound athlete who needs to do dynamic and athletic feats on the court. You can barely reach your two arms in front of you to touch, your chest swells out so far, so how on earth are you going to be able to make it around the court?

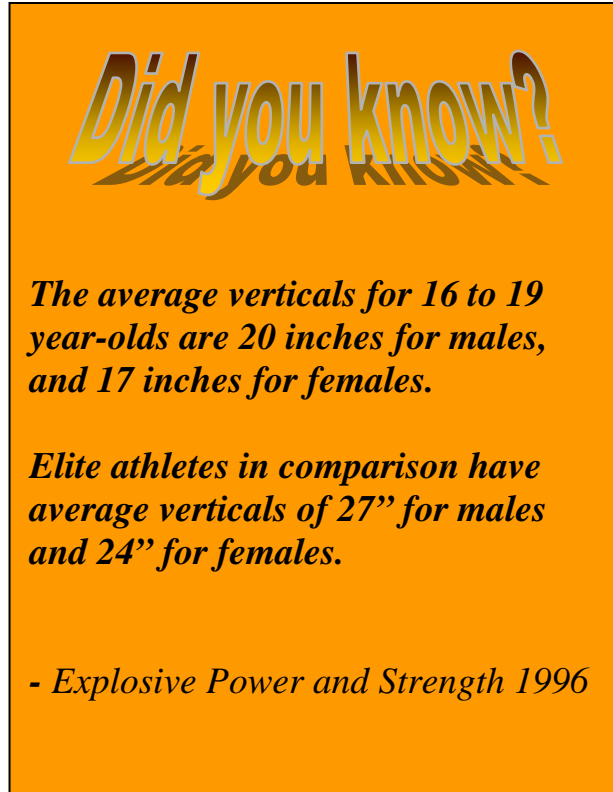
### ***The jump***

Many of you reading this book want to get straight to how to improve your vertical. I don't want to be the bearer of bad news, but there is no miracle for making it higher. All of the above in this chapter goes toward leaping higher and making highlight reel dunks, blocks and rebounds.

Jumping properly involves good technique and finely tuned muscles in order to get the most out of it. Scientists have studied the jump for decades in order to help athletes in several disciplines to increase the height and length of the jump.

Here is why this is not easy. You need all of the following to increase your jump:

- Properly trained (quick twitch) muscles
- Proper technique
- Regular jumping practice
- A commitment to long term program



This won't happen overnight. That's why the last one might be the most important – it's going to take a significant amount of time before you will see measurable results. And the extent of your results may vary by how committed you are to the program.

The players who stick to the program and train regularly, and do jump drills whenever they are on the court – indoor or outdoor – are going to be the ones who drive their vertical to the top.

We'll discuss more about the mechanics of the jump later in this book, but for the time being it is important for you to realize that in order to improve your jump, you need to improve the factors that make you jump.

That's the connection with strength training and conditioning. They have to be important aspects of the process, because just jumping against a wall, hoping each day that you are going to jump higher, just isn't the solution.

## **What's next?**

We've shown you the three major topics that we are going to cover on the way to building your body properly. In each of the next chapters, we will get into each one of those in more depth, giving you some ideas on how to incorporate them into your training program.

We will continue with the jump in the next chapter, and then tie in the strength and conditioning to help you achieve those big leaps through the air.

Always remember that the key to long-term success is to be committed to a program that works. This program will work if you give it time and you stick to it. No one ever said improving yourself wasn't going to be hard work. It is, and it always will be.

## **Jump Mechanics**

**Y**ou have seen all sorts of basketball players jump around the court – each with their own way of getting to the hoop. Upon closer look, they have one thing in common – great jumping technique. You may see some players who are able to gather air under their feet simply because they are naturally gifted leapers, but 90% of everyone else needs to learn how to jump properly if they are going to get better at it.



You are probably asking what is wrong with my jump? You probably think that you already get pretty good air. Maybe you do, maybe you don't, but I can almost guarantee that if I show you the steps to jumping properly you will see a difference in your vertical almost immediately.

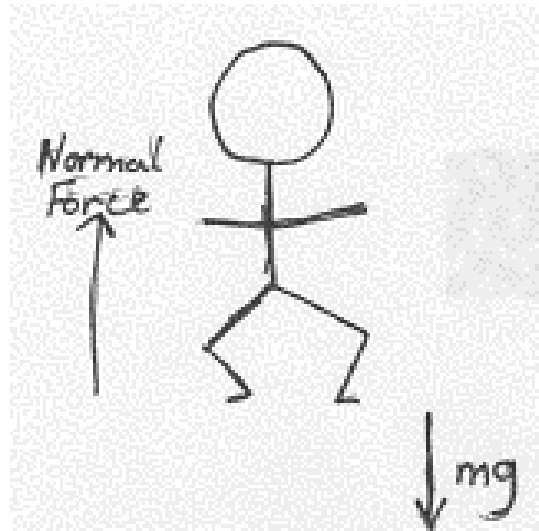
Then, once you incorporate the strength and conditioning, the sky really will be the limit.

### ***What happens when you jump?***

Who said you can't learn a little bit of physics while learning how to play basketball? It never hurts to know how something works before trying to go about improving it.

This may get technical, but stay with me, and you will understand how everything comes together in the end.

There are essentially two forces that act upon the basketball player – one is gravity, and the other is the ground pushing up on the player, which is called the reaction force. I know, it sounds pretty ridiculous that the ground is pushing up on you, but according to Sir Isaac Newton when a person pushes off the ground, the ground is actually pushing up with the exact same force.



Your torso moves upward with increasing velocity while your legs straighten, and the mass of your body will be driving upwards (this is why core training will become so important). The greater the velocity of the body going upward, the higher the overall height of the jump is.

Gravity always stays the same, and it always returns you to the ground at the same speed relative to your mass, after you reach the apex of your jump.

So, to use the terminology of physics, you have to increase your normal force (the velocity of the center of your mass) in order to raise your vertical. This means that the velocity of your torso needs to increase, so your overall height can increase.

The only way to have your torso speed increase is by creating a more powerful machine to slingshot it into the air. That's why we are here. You need to learn how to increase the speed of your core into the air. So, now you know why training your body is so important.

### ***The muscle groups that make it happen***

You could say that in one way or another, all of your muscles have an effect on the power of your jump, but of course, some have more than others. I'll take you through the role of each of the muscle groups and how they affect the quality of your jumping.

## The upper body

Upon first glance, you probably don't think the upper body has much to do with the overall height of your jump. In reality, this is the first aspect of your jump that you will need to focus on. Your shoulders, chest and arms create the initial momentum you need in your jump.

To illustrate this, try jumping as high as you can with your arms held at your side, only using your legs for power. Have your coach or a friend measure how high your head is when you make the first jump without your arms. Then do the exact same thing using your arms to help you jump. You will notice quite a difference in the height of your jump.

When you reach back, it is like pulling back an elastic band. When you let go of the rubber band, it will help lift the projectile into the air. This is how your upper body helps in increasing your vertical leap.

- Reaching back to gain momentum
- Thrusting your arms forward
- Reaching forward to finish the jump

Think of your arms as a pendulum – gaining power each time they swing forward and backward.

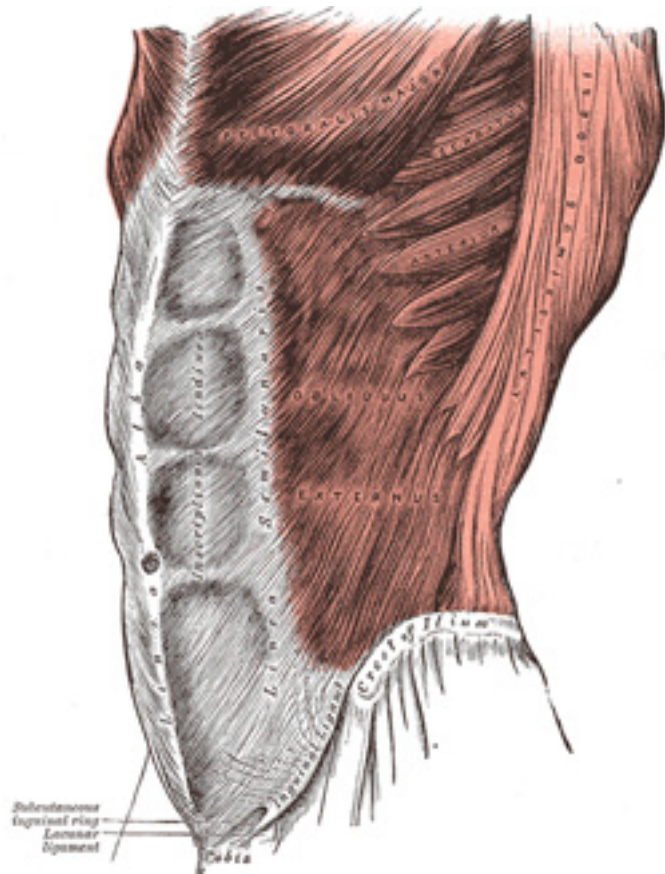
It may seem impractical to have to use your arms every time you jump, but you can modify it when you have the basketball in your palm. Simply use the basketball and the your arms in one fluid motion to help you with your jump. When you are rebounding, you will have to get your timing down to use your arms as quickly as possible to create the maximum thrust.

It will take practice to get this to a point where it becomes second nature to you, but it will increase help maximize your potential vertical.

## Your torso

Would you believe me if I told you that this area of your body, including your abdomen, lower back and buttocks contribute a great deal to the success of your jump?

Try the jumping exercise again. Try leaping straight up in the air without using any of your middle body muscles. It is literally impossible! Most athletic functions rely a great deal on the muscles in the trunk of your body. Standing, sitting, walking, running – everything you do relies on the way your torso functions – including jumping and increasing your vertical.



Most elite athletes have taken to something called core training – or working the muscles in the core of the body – to make the rest of the muscular function of their body work at an optimum level.

There are dozens of muscles underneath the typical muscles like the abs and other abdominal muscles that most fitness experts call **stabilizers**. These stabilizers are really the muscles that enable you to throw a baseball further, plow through tackles on the football field and, of course, jump higher.

Our program will spend a great deal of time building and strengthening these muscles because of their extreme importance in making you a better jumper, and a better basketball player.



## **The lower body**

This is where most of you will think the majority of power comes from in your jump. In fact, only 30% comes from this area – that leaves another 70% that comes from somewhere else. Still, this is where you need to create the spring at the end of the jump, and your muscles need to be primed to finish what the rest of your body has started.

The legs actually reverse the jump process by bending first, creating a deficit in the actual starting height. But, as you and I both know, this is an important part of jumping – just like swinging the arms backward before you start to get air.

From your groin and quadriceps right down to your toes, your legs provide an essential element to the jump. Without them you wouldn't be able to get off the ground – at least it wouldn't be very easy.

This area of the body is where we will focus our energy on developing 'quick twitch' muscles. By quick twitch, I mean that they need to be trained to create the most explosion in a split second. World-class sprinters have perfected quick twitch muscle conditioning, while their counterparts in long-distance running don't spend as much time on explosion, and they spend more time on endurance conditioning.

The quick twitch reaction will give you the final boost when you increase your vertical, as it comes through your legs and into your feet – each muscle creating an explosion that is going to raise you to great heights.

## ***How to jump properly***

You may be wondering what there is to jumping. You have been doing it since you were a kid, so what could be different now? Even though as a child you know how to run, to be an Olympic sprinter you need to know how to run properly, don't you?

Training to jump properly is especially important. I remember playing in high school (nearly 15 years ago) with a player who was 6'4" and

he couldn't dunk the ball. I am 5'9" and I could touch the rim. The difference between the two of us was that I knew how to jump properly, and he didn't.

Learning to jump properly is just another one of the aspects of increasing your vertical. If you put it together with proper conditioning and better strength training, you have a brand new triple threat in your basketball game.

### **Four parts to jumping**

When you are talking about dozens of different muscles working together to make your jump, it seems like a four-part system to jump properly would be a tad simple. It is that simple when you put it together in to these four elements:

- **Pre jump** – this is getting your body ready to make the big jump.
- **Coil action** – your body is a spring and you need to get that spring ready to pounce
- **The leap** – this is where it really happens
- **The finish** – you've got to reach for that last few inches if you want to break new ground.

### **Pre-jump**

This is all about getting your body ready to jump – the preparation if you will. It is a mindset for springing into action, as much as it is getting the coil ready to pop on the court.

If you have just stolen the ball and you want to go prime time on the other team, you have to know what you are going to do when you get down the court. Do you want to Statue of Liberty it, or a double pump Tomahawk? Or maybe you just want to make the sure thing and do a lay up. Whatever the case, you have always been taught that you need to know where to start your jump so you aren't too far away from the hoop, or too far under.

Most of us already know, just by second nature, where our jump should begin, and where it ends, but being mindful of it is going to help you prepare your entire body. If you are running down the court with the basketball and you look over your shoulder to see if any of the opposing team are bearing down on you, you may miss your mark on the floor unless you are aware of where you are.

Here are a few tips to starting off your jump:

- **Know where you are on the court** – There is nothing worse than getting a pass and you don't know where you are standing. Or making a steal and not knowing how far you have to the opposing team's hoop. Always try to get your bearings before you scoot to the hoop for a jam. Knowing where you are gives you the ability to set up the shot that you want given any circumstance.
- **Slow your body down** – This takes excellent mental control because you only slow your body down a fraction from when you get the ball and charge down the court. This is important because I think we have all seen what a player who is out of control is capable of. It has probably made for a few laughs on the court. Take your time. The court isn't that long and if you have a few strides on the opposition you also have the time to make sure you have your head about you – and your body.
- **Find your optimum position** – Every basketball player has their favorite spot to shoot from. Whether you are on the fast break, or in the paint, or fire treys from the outside – all basketball players have a comfort zone. Your jump will be a lot easier if you make it from that area. Even though there is no tangible difference between certain places on the court, except for the angle of the shot, your mind will tell you that it is considerably different. This already creates a deficit in your jump, because you aren't able to focus all of your energy on leaping. Play from your best spot and you will notice a difference in your jump.

**Note:** The one way to combat the above is to practice executing your moves on all areas of the court. If you become more comfortable no matter where you shoot from, you are going to be able to focus on your jump, and getting the most out of it.

The pre-jump phase happens in a split second on the court. In order to maximize your jump from the start, you need to make sure you have your head about you. We have all seen players who have no idea what to do when they have the ball. They get the pass and then get flustered and make a mistake. Don't be that player. You will expend far too much energy worry about making a mistake and not enough on springing over your opponents.

### **Coil action**

You have just raced down the court and you are ready to make the big move. This next part is the actual physical beginning to your jump. Whether you are taking off on one foot or two, the process is very similar.

Here are the components to making your jump the best it can be:

- Balance
- Control
- Timing
- The coil

**Balance** is one of the key components to a good jump. You've probably played with some ballers who streak down the court and they jump totally off balance. Even when you watch NBA or college players who are 'off-balance' they are as balanced as they can be given the shot they are attempting. I would suggest that until you understand the limitations of your balance that you focus on this aspect in order to give your vertical a good foundation.

Any time you try and do anything off balance, you are not able to execute it as well as if you were off balance. Picture yourself on one of those wobbly walkways at the amusement park. If you try and walk over that walkway, you have your arms out to help you balance,

and you are unsure of your next step. Sometimes the floor of the basketball court can seem like that wobbly walkway when you first get the ball and you have defenders chasing you down.

How do you achieve the balance you need in order to have the best foundation for your jump? Remember these tips:

- **Use your full foot** - You can't get maximum power from your body if you aren't using the entire surface area of your feet. Again, it is a strong foundation to begin with when you use the entire surface of your feet. Make sure you are not taking off from the side of your foot, your toes, or off the heel.
- **Center your center** – Not the tall guy in the middle of the floor, but your center of gravity. For most people, the center of gravity is between their upper thighs and their sternum. You need to center that over your foundation for the best balance.
- **Straight up and down** – You won't be able to get the best height on your jump if you are preparing to jump at an angle. Make sure your body is slightly bent at the waist (you don't want to be as stiff as a board), but don't be leaning forward or backward into your jump.

The following are a few drills you can do to help your balance:

**One foot shot** – This drill is exactly like it sounds. You take set shots on one foot. Take as many shots as you can before you have to put your second foot down on the floor.

**Shot from board** – Place a 2x4 on the ground and place your foot on it length ways so you can aim at the hoop. Your foot should be parallel with the board, not perpendicular. Try the one foot shot drill on the board and see the difference in how much more balance it takes. Make as many shots as possible without putting the other foot down.

**One foot pass from board** – There are several different variations of this one – you can do a chest pass, baseball pass, or bounce pass

using the same sort of technique that you have used in the previous two drills.

The next thing you need to remember is **control**. Again, we have all seen those gawky high school players that get flustered when they get the ball, and they start playing with very little rhyme or reason. They run around the court trying to dribble the ball around players, they are off balance and they miss lay-ups as often as they make them. That’s right, every team has one of these players, and they can be frustrating to the rest.

Control is extremely important in the jump, because without it, you increase your chances of not being able to execute rule number one – balance. Try running, spinning, bouncing a ball and then try and jump while you are in the middle of one of those moves. Your vertical is decreased significantly. You may be able to execute all of those moves and then jump, but you won’t jump as high as when you have control of your body.

Here’s how you can maintain control while you are on the court:

- **Don’t lose your head** – Some basketball players get blurred vision when the pace starts to get hot, and this causes them to lose control of what they are doing. If this is you, take a deep breath, calm yourself down, and refocus on the game.
- **Slow things down** – Unless your team is completely a fast break team, you don’t always have to run and gun. Even though you get a steal, it doesn’t mean you have to roll towards the hoop at 500 miles an hour. Slow it down a bit. If you are going to the hoop, make sure you do it with some semblance of control. No one wants to be out of control and end up rimming out on a lay up, or missing the dunk.
- **Practice control** – Sounds tough, but by practicing some of the different quick response situations you are faced with, you will gain focus and experience. This is going to give your game a considerable amount on control.

Like I said above, what I would do for improving control is to practice more often. The reason why a person loses control on the basketball court is because they aren't comfortable with all of the situations they will be thrown into.

One idea is to put on a **blindfold** (you are the only one on the court) and attempt to find the basketball hoop and put the ball in. What this does is force you to slow your game down and think about all of the things around you – the sounds, the smell and the last mental picture you had in your head.

**Timing** is another aspect of the jump that goes widely overlooked. You've seen players who will be bounding in for a lay up and they get mixed up and take off from the wrong foot, or they wait until they are nearly under the basket before they begin their approach. Funny to watch, but you don't want to be that person.

Proper timing synchronizes everything in your body. When you master the timing of each part of the jump, it will increase the overall success of your jump. If you imagine you were a high jumper (track and field type) and your timing were off. You wouldn't be able to do anything to get over the bar. Your jump would be off if your timing was off. It is the same in basketball. You need exceptional timing in order to make sure that you take advantage of every inch available to you.

You will have different situations where the timing is going to be different. It will be different if someone misses a short jumper and the rebound comes down low, or if someone takes a long distance shot and gives up a big rebound.

Likewise, if you are leaping up to tip a shot into the basketball, your timing is going to be a lot different than if you were all alone on the fast break looking for the big jam.

There are no real tips for improving your timing except practice. It also helps if you master the balance and control parts of this exercise, because your timing will naturally come if these things are under control.

## **Coiling your body**

Pretend you are a cannon that is being packed with explosives. Once your body is conditioned with the quick twitch muscles and more power and strength, you are going to burst into the air and add several inches. I can pretty much guarantee it.

This part of the game is packing the explosives in your muscles and getting them ready to burst out when you have the ball near the hoop, or you are ready to grab the ball from the boards.

There are a couple of different levels of coiling you can use, depending on the situation in the game. This is where timing, control and balance are going to come in handy. You need to know what is going on in the game in order to know how much time you have to coil your body.

- Full jump
- Half jump
- Quick jump

Each one of the above has its own level of coiling, and explosion from the body, and you are going to have to learn how to best improve each type of jump.

## **The Full Jump**

This is when you are all alone on a breakaway to the hoop, or when there is a high arcing shot and you have time to get some real air. You will have the time to use your entire body to create the motion you need to get the maximum height from your jump.

Here are the steps for executing the coil for a full jump:

- Reach back and dip
- Thrust forward and up
- Reach upward



**The reach back and dip** is the first part of the jump. Here’s how it works:

- Drop your center of gravity by bending your knees. For the full jump, you will want to drop your center straight down so the bend in your knee is just a bit greater than 90 degrees. If you go too far down, you actually have a negative impact on your jump because it requires too much energy to burst back up. You actually start off with a deficit in the physics of the jump – remember Newton’s Laws? Drop to where your knees are just about at right angles and you will be fine.
- Just as you begin your dip, you need to reach your arms back behind your body. Your arms are an important part of this entire jump process. They begin and end the vertical by being that rubber band that is pulled back and then fires forward.



There is a split second between the next two stages of the jump – the thrust forward and the reach forward. One is almost a natural reaction of the other, because when you launch your body through the air, your arms are going to follow close behind and reach forward to get the maximum height from your jump.

When you **thrust forward and up**, this is where your quick twitch muscles come into play. Each one of them all of the way up your body will fire, catapulting you into the air.

Once you have dipped and reached back, the next step in the jump is to thrust your body forward. You may think that this process starts with the legs, but it actually starts with the abdomen. Your initial power comes from the core area of your body. When you put your body into motion, the first muscles to tighten up are the stomach muscles. All of the abdominals and the obliques, along with all of the stabilizers in your torso are firing upward - being the thrust for your jump.

Within a split second, the upper thigh begins to help catapult the torso into the air – then the quadriceps, the calf, the ankle and then the toes.

Just like we described earlier in this chapter, in reference to Newton’s description of how to achieve the best jump, all of the muscles involved have to thrust the torso up into the air. This is where the majority of your mass is, and as Newton’s law says, the greater the mass thrust into the air with the most force, the higher it will go.

The final step is reaching upward to continue the momentum of the thrust. This may not seem like much, but if you are looking to gain an extra inch or two on the end of your jump, you need to do it.

It is really simple. Just follow through with your arms and reach for the sky. Throw them through – use them as leverage to lift your feet higher off the ground. You will definitely notice the difference in your overall jump by making this small adjustment, and making it matter.

## **The half jump**

This is in between the full jump and the quick jump – used most often for a quick jump shot or a typical rebound in close to the hoop. The mechanics of the jump are the same, however it must be executed more rapidly. You don’t have the time to do a full jump and a quick jump isn’t going to get you the height you need.

It is executed the same way as the full jump, but the dip and reach is shorter and quicker, and the thrust and reach are likely not going to possess the same amount of power.

The best way to execute the best half-jump is to practice it. Take some time at the outdoor court or spend time in the gymnasium at your school. It is a quick-twitch reaction, and it will only get better over time.

Remember the following:

- Reduce your dip
- Don't reach back as far
- Try to generate as much power as possible in the shortest period of time.

That, in essence is the half jump.

### **The quick jump**

You know the one. You have four or five players underneath the hoop and the ball won't go down. You have to keep jumping as soon as your feet hit the ground again. It might happen three or four times in a row. The object is to get as much out of the jump as you can each time you lift yourself in the air.

This is going to require the lower part of your body to be in great condition. The only way you're going to be able to improve this one is practice. You need to condition your muscles to give you the most power in an instant.

You can try to use your arms and your core to help stabilize the jump, but all of the power is going to be in the calves. Your quick jump is only going to improve through training to increase the power. We'll give you a couple of simple exercises you can do to help boost the oomph in your calves, later in the book.

## ***Now you know how to jump***

I've taken you through the physics behind the jump, the muscles that are involved, and how to jump properly. It makes a huge difference when you know what you are doing before you try and do it. Imagine trying to run without knowing that you have to put one foot in front of the other. It would be tough.

Knowing how to jump, and what muscles are involved provides the foundation for you to be able to begin your training.

In the next chapter, we are going to go through the different types of proven exercises that are going to help you increase your vertical. All it takes is a little bit of work, and you are going to start to notice the difference within a few weeks.

## **Training Your Body to Jump**

**A**ll right all of you out of shape basketball players. It's time to learn how to get your body into prime condition and start to make your vertical climb. It isn't easy, but when you want to be the best, it never is.

In this chapter we are going to take you through some of the different training methods to get you into shape to make you a better basketball player, and to get your vertical going in the right direction.

I will give you information on the following types of training methods in this chapter:

- Plyometrics
- Resistance training
- Isometrics
- Core training
- Cardio training
- Stretching
- Training for rest periods

Each one of the above training methods will help you gain inches on your vertical and make you a better basketball player if they are done in a regular routine that you stick with for your basketball career.



**Note: We are providing a description of the exercises that are available for athletes to improve their physical condition. We are using information that we have gathered that we assume to be correct to provide analysis of training methods for athletes. This is not intended to provide a complete alternative to professional advice. We would suggest any athlete who is wishing to conduct a regular, intensive training schedule to consult a professional trainer. Neither the author nor the publisher will be responsible for any injury, hardship or loss related to the following information.**

## ***Plyometrics***

These exercises are the ones that are most directly related to your jumping movements. They can include skipping, lunges, jump squats, jumping rope and others that condition your muscles to be ready for any sort of jumping motion.

Plyometric exercises are actually an advanced form of exercises that are used by elite athletes to condition quick twitch muscles, and they are used to help prevent many injuries that athletes may encounter.

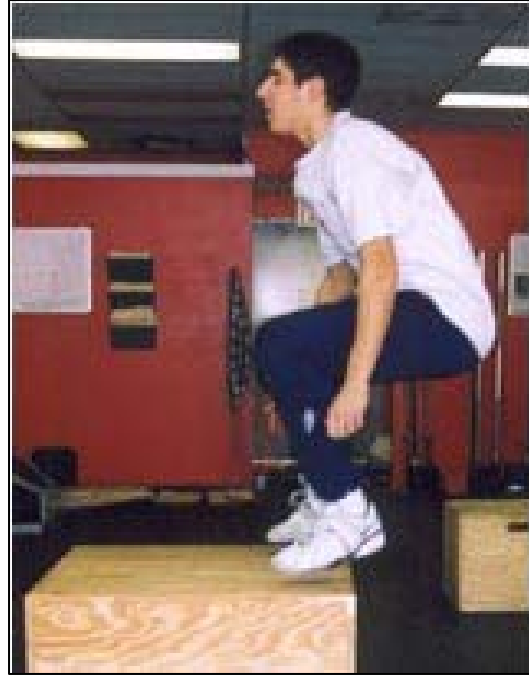
### **What do Plyometrics do?**

Plyometrics take advantage of two of the three types of muscles contraction – **Eccentric and Concentric.**

- **Eccentric** – This is when your muscle is contracted but it also lengthens at the same time. A good example would be when you are jumping – your hamstring and quadriceps are lengthening when you try and jump higher.
- **Concentric** – This is almost, but not quite the opposite to the eccentric muscles contraction. This is when the muscle contracts and is shortened at the same time. An example of this would be when you lift yourself up to the chin-up bar. Your bicep muscle is shortening, but you are straining your bicep by trying to lift yourself to the bar.

Plyometrics are exercises where you have an eccentric muscle contraction followed by a concentric contraction. The long and short of it is, the muscles are quickly extended and contracted, and then equally as quickly shortened and contracted.

**Here is an example of Plyometrics in action** – When you step off a step, and as soon as your feet touch the ground, you bound up to a pedestal in front of you – this is a Plyometric activity. If you employ that in a regular routine, then you will condition your muscles to react quickly when they are stretched and then contracted.



When you use the Eccentric and concentric phase of your muscle action in the same motion, you create an explosion of the muscle group that is being used.

This of course allows you to be faster reacting and have a greater explosion when you do execute a movement.

To bring this into relationship with your jump, imagine yourself jumping up for a rebound. You try to tip it once and it doesn't go, so you need to get up again quick. And you need to have just as much height as you did the first time you jumped. This is where Plyometrics come in.

You just jumped up in the air and landed. When you landed it was a concentric motion – when you jump up again, it is an eccentric motion. This is what you are training in Plyometrics for. You need that quick reaction so you can get up for the rebounds, or the tips or any follow up on a shot.

Most trainers will agree that for any sport that requires you to make quick reflex reactions, or quick changes in direction, that Plyometrics will help that aspect of your conditioning considerably.

## **Resistance Training**

This is pretty self-explanatory, because it involves any exercise that requires the body to resist the pressure of a weight – like a dumbbell or any other mass. This helps in basketball because you can enlarge your muscles to build power and strength in your game.



So, what exactly can resistance training do for you?

- Reduce body fat.
- Increase your strength, power and endurance of the muscles.
- Increase the density and strength of your bones.
- Once you condition your muscles, you will improve your balance and control – this is a proven fact. This is also something we have already identified as being important – they are aspects of improving the technique of your jump.
- This will also reduce the risk of your body being inflicted with new injuries and old injuries.

You can use resistance training in several different ways. You can use it to increase muscle strength and endurance, or overall power. You can also combine different elements of resistance training for increasing the size of your muscles and the strength.

For basketball, resistance training can help in many ways. For those of you who need to bulk up, you can tailor your program to increase your muscle size and density. If you are looking for something that can increase your muscle endurance, you can use resistance training for this as well.

### **Philosophy of gaining strength**

In the beginning, you can make great gains in your strength training if you are willing to continue in a regular strength training program. The



reason you can do this is because your body will go through something called ‘**neural adaptation**’. Your nervous system will begin to change the pathways that deliver energy to your muscular system, making them contract more often, creating more strength.

Once this happens, your body starts to recruit more motor cells to help you in this function. This is how you increase your strength through resistance training.

You can switch up your training program to achieve different things in your training program. If you want to be bigger, you can lift more weight for less reps. If it is endurance you are after, you can lift less weight with several repetitions. Here are the different ways to achieve the results you want in your strength training program.

- **Type of exercise** – Of course, depending on the muscle group you want to improve, this will determine what lifting you do.
- **Variety** – When you vary the specific exercise you do for, let’s say, the shoulders, then you force the muscles to adapt even more. This helps to increase the size and the strength of those muscles because they are getting a fuller workout.
- **Intensity** – This is the quickness of the lift. Especially when you are training your quick twitch muscles, this is important. Slow lifting conditions your muscles to react with less explosion. When you lift with greater intensity, your quick twitch muscles are the greatest benefactors.
- **Progression** – Increasing the amount of weight that you are using for resistance over a certain period of time, naturally increases the size and strength of a muscle group.

No matter how you manage your program, you should always include days off for rest. Whether you choose to have a complete rest, or just take a day off to rest a muscle group, that choice is yours. What you must understand is that you can damage your muscles if you decide to over work the different muscles.

What many training programs will do, is work one muscle group one day, and then another the next, then another the next, so each muscle group gets worked – and gets the appropriate rest.

## ***Isometrics***

Compared with Plyometrics, Isometrics don't involve quick movement to build muscles. This type of training was made famous by Charles Atlas, who claimed he could turn you into a 'Mr. Universe' in 90 days with isometric training.

You may not be Mr. Universe, but Isometric training is one of the best if you are looking for a way to build strength and size in a hurry. It also builds tremendous endurance in your muscles because of the principle behind the process.

### **How do isometrics work?**

Unlike Plyometrics, where you are trying to get both an eccentric and concentric reaction from your muscle groups, isometrics don't change the length and speed of contraction in the muscle. Instead, it is a sustained muscle contraction without changing the length of the muscle.

A good example of isometric exercises is to do bench press, and when you push the bar above your chest, you hold it there for an extended time. This is contracting the muscle group and holding it there for about 10 to 12 seconds.

The theory behind isometrics involves learning about **motor units**. These are the different fiber types (fast twitch, slow twitch and medium twitch) that work together for muscle movement. When you first contract the muscle (raise the bar above your chest), only some of these fibers are used – usually the slow twitch fibers.

As the bar continues to be held above you, the body recruits more of the motor units to help keep the bar in the air. This is what you want out of this type of training. Often, other methods are only relying on the same muscle fibers to execute their actions, and it only continues

to exercise those few fibers. Isometric training will adequately call upon all of the fibers types and give them a good work out.

The biggest advantage of isometric training is that you get a fuller workout for your muscles. When the body is required to call upon more motor units to execute an action within a muscle group, the result is a more full workout for your muscles.

Many athletes do not employ this type of training because they don't understand the benefits it can give. Too many training programs focus on the maximum output of the muscles derived by repetition and increasing the resistance side of the training. In actuality, more of the different fibers in the muscle groups are being trained when you use Isometrics.

As far as making this a part of your jump training program, it can have benefits, simply because you are calling upon, and training the entire muscle group rather than just a few of the same muscle fibers. It results in a more completely trained athlete, in my opinion.

### ***Core training***

As we discussed earlier, core training can make the difference between your muscles pulling together for a greater cause, or different muscle groups working on their own. Obviously, when you employ several different muscle groups together, the results of your action are going to be more dramatic.

Most of your body action in a jump is created by the core of your body. Remember that even when you jump, you need to use your core to get it going. Your torso contracts immediately – even before you start using your legs or arms. We go back to the example I gave earlier in this book. Try performing any action without the help of your midsection, and your overall strength is dramatically reduced. In fact, I challenge any athlete to try and execute a movement without using the core muscles.

This is why they are so important to train. Most elite athletes spend a considerable amount of time on this area. From golf, where trunk

rotation and power is extremely important, to baseball where you need the trunk rotation to swing the bat and throw the ball – this is likely the most important area to train to increase overall power in any action. In basketball, you simply cannot jump as high if you do not work on the core area of your body.

### **How does core training work?**

Core training builds stability in your body by strengthening the area in your abdomen and along the spine. With this training, you can significantly increase the power you are able to generate with the extremities of your body.

Most weightlifting uses individual muscle groups to improve strength in that area. Core training employs several different muscle groups at once in the torso giving the entire area a workout.

The benefits of core training for the basketball player are amazing. It improves the overall stability and balance of the player – something I have identified as being one of the keys to improving your game. When you make core training a part of your training regiment, your body is able to stabilize and balance quicker, making your movements solid, fluid and more powerful.

Using this increased ability to move, you can increase the range of your shot, go to the hoop with far more strength and stability, and of course, jump higher.

This will be one of the primary areas that we work on when we get into your training program.

### ***Cardio training***

This is quite self-explanatory. You need to condition your heart as much as the rest of your body. It acts just like any other muscle in your body, and it needs the same attention as the other muscle groups.

Your muscles need an adequate supply of blood flowing through them to provide oxygen and other nutrients to continue working at an optimum level. The only way to do this is by increasing the amount of blood that flows through them.

When you do cardio training, whether it is on the treadmill, or a regular jog through the park, or anything else that raises the heart rate for an extended period of time, you increase the ability of the heart to force blood through your body, nourishing the muscles you are calling upon.

Conditioning your body in this way increases the overall endurance of the muscles. It also improves your stamina. If it takes longer for the heart to get tired, the longer it can pump adequate amounts of blood into your muscles to keep them firing at high levels.

Most athletes do some cardio training, but it is typical to incorporate it into other areas of the their training program. For instance, quick bursts on the exercises bike followed by briefs rests, condition quick twitch muscles, but they also help you with the conditioning of your heart.



In order to have an adequate cardio workout, you need to have your heart beating at a certain level for an extended period of time. For most athletes that level is between 120 and 140 BPM (beats per minute). This type of exercise will benefit all of your muscles and allow them to function at maximum capacity.

## ***Stretching***

Although not an exercise that is going to show a major increase in strength or power, it is an essential one to make sure that you do not

sustain major injury. When you build up muscle mass, it tightens the joints in your body. It can put tremendous strain on them if they are not stretched to create an elasticity that allows for proper movement. This is why stretching is so important.



You can sustain major injury if you push your muscles too far without any give. For example, to use the elastic band idea again, when you take a new band and you stretch it and keep working it, it becomes easier to stretch each time.

If you leave that same elastic band for quite awhile and not work it at all, it become dry and fragile. When you stretch it once, it has the potential to snap at any time. Your ligaments react the same way. If they are not stretched and you continue to add more and more strain to them via weight training, they could snap at any moment when you are on the court.

It is important to ensure all of the active muscles in your body are stretched. And equally important to stretch the major muscles because they are the strongest and have the most impact on your joints.

Not only should an athlete make every effort to include stretching as a part of the regular training program, they should make sure it is a part of the warm-up and cool down after every weight training session. In fact, stretching should be used whenever an athlete is about to engage in any sort of physical activity.

## **Warming up**

Stretching should be used to let the muscles know that they are going to be used at any moment. It loosens the ligaments and the muscles to prevent any serious injuries.

Most athletes will stretch their quads, their hamstrings, their calves and other major muscles groups, but they should also pay attention to some of the smaller ones as well. The abdominal muscles that are so important in creating stability and balance should be stretched adequately to prevent injury in that area.

Other areas that should be looked at (especially for basketball players) are:

- The forearms
- The neck
- The wrists
- The shoulders
- The ankle

### **Cool down**

Stretching is as important when you finish a workout as it is when you begin one. Cooling down and releasing the built up lactic acid in your muscles is important in their recovery.

Try a quick 10 minute stretch after you work out, in order to help your muscles ease out of the stress they have undergone as a part of your training program.

### ***Training for rest periods***

We touched on this earlier in the book, and this method can be utilized in a few different ways. It can be used to create muscle endurance, and to help your body learn to recover in the time it has to rest.

This can be extremely important – especially for basketball – because it is a sport where your body is constantly being called upon to perform for long stretches of time, with very short periods of rest in between. In any given game you may have to run and gun for 10 or 15 minutes at a time, and you might get a 30 second time-out to recover.

You can train for your rest periods by simulating those times on the court. Train hard for 10 minutes straight, then rest for 2 minutes. Then continue training for another 10 minutes. You can gradually get this down to 60 seconds, and then 30 seconds after your body become conditioned to it.

When you weight train, you can train your muscles to recover during the rest periods as well. Between each set of lifts you do, reduce the amount of time you take to recover your muscles. Instead of three or four minutes between sets, take two minutes.

These simple methods are going to help your train your body to recover as much as possible in as little time as you need.

### ***Which method is the best?***

Each of the above methods has their place in your training schedule. In fact, when we reveal our training program, it will include many of the methods that we have discussed in this book.

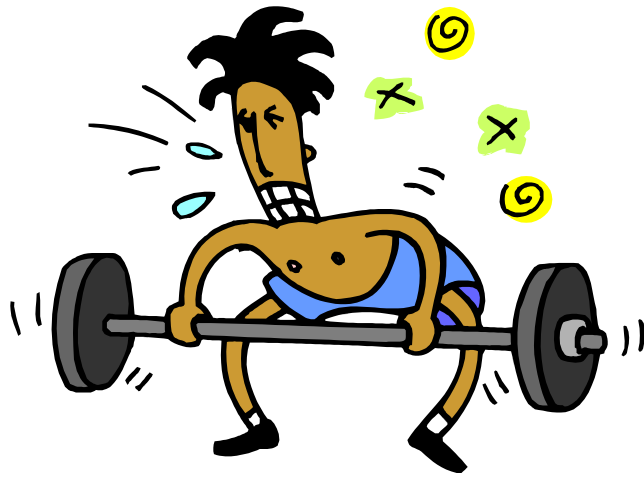
It would be incorrect to say any method is better than another, simply because you need aspects of all of them in order to achieve an overall fitness level that is going to make you a better basketball player.

In the next chapter, you are going to be on the road to building your vertical with a 28-day training program. You have all of the knowledge of what makes your vertical climb and now we are going to make it all happen.



## Your Training Program

**T**his is where it all begins. Are you up for the challenge? I have mentioned this many times already – it is not easy. You have to be ready to make a commitment to being a better basketball player, and it starts with training yourself to be an elite athlete. It’s not with fancy moves and trash talk – it is with hard work.



Over the next 28 days, you are going to begin building your body into a machine. While we are going to provide you the foundation for getting started, you will have to continue it much past this 28 days and throughout your entire basketball career. If you want to be the best, you have to train like the best. If you want your vertical to explode, you need to pack as much explosion as possible into your body.

The way this chapter is going to work is I will provide the guideline for the workout program, and the give you several different exercises that are going to help you achieve your vertical limit. From there, we will provide a framework for the next month that is going to help you achieve your fitness goals.

What you have to realize is that you will lose the effect of the **first 28 days** very quickly if you do not continue with this workout program. Your body will quickly plateau and then start to drop off when you don't work out for an extended period of time.

I thought it would be better to give you the fundamentals for improving your basketball game through training, and you would be able to continue the program after you have gone through our program.

**Before undertaking any intensive training program, you should consult a professional trainer. Our information is provided as a resource for the reader, and is derived from researched information. It does not take the place of professional advice. Neither the author nor the publisher takes responsibility for any injury, loss or hardship that may occur due to the following training program.**

**Please note that athletes under the age of 16 should consult a physician before undertaking any exercise program.**

**Adequate warm up and cool down should always be done before doing any physical activity.**

### ***Before you start***

Just before you get into a new training program, you need to make sure you understand a few things.

- **Don't over do it** – When you first start a training program, don't try to max out your body. Take this first week to find a few benchmarks for how much you can lift, how many times you can lift it, and the rest periods you need.
- **You must warm up and cool down** – You risk serious injury if you don't do a complete warm up or cool down before or after you workout
- **Plan your workout** – Don't just go to the weight room and start pumping iron. You will harm your body if you are trying to lift more weight than you can handle. It might be a good idea to go to the gym a couple of times to familiarize yourself with any equipment, and if you haven't worked out before, find your weight limits.
- **Use all areas of working out** - Don't just go to the gym to start building the typical muscles like biceps, pectorals, and quads and hammys. Getting your body fit is so much more than the high profile muscles. And while those muscles do

have an effect on your jump, they don't have nearly as much effect as other muscles do. Also make sure that cardio training is an integral part of your routine.

- **Keep practicing your basketball** – It isn't a good idea to take time off from your basketball drills to start working out full time. You should be as committed to the fundamentals of basketball as you are to the new training program.

The following program that we are giving you is based in increasing your overall vertical, but will still help increase your level of fitness. It has been made to address all of the areas that we have identified for improving the jump. The program will center on the following muscles:

- Upper body
- Torso (Core)
- Lower body

And we will focus on the following types exercises:

- Core training
- Improving quick twitch response
- Power (not bulk)
- Muscle endurance
- Training for rest periods

So, let's get on with it.

## ***Week One***

This is where the journey begins. Hopefully you have spent a couple of days figuring out where you are at in terms of weight that you can handle, and where your muscle endurance is.

The focus of this training program is going to be on increasing your vertical jump. With that said, most of the information I am providing is going to help with your entire physical fitness goal. All of the main

exercises and drill I am including will help any basketball player get into excellent physical condition.

I will take you through the first week of the program, and then give you the parameters for the next three weeks to follow. If I give you the foundation for a workout program, you will be able to adjust it as you see fit.

This is how a general workout day will look for you:

- Warm up (stretching, skipping, generally raising the heart rate)
- Strength training (resistance (weights), isometrics, Plyometrics, core)
- Quick twitch response training
- Muscle endurance training
- Cool down

We'll put a good cardio session in at some point during the week. The only reason why we don't include regular work on the treadmill or the stationary bike is because that works the slow and medium twitch muscles, essentially defeating the purpose of the quick twitch training.

This is day one, and I would say that it is best to ease into your program. You don't really want to burn your muscles out on the first day because you didn't know how to progress through a fitness program.

If you haven't done this already, go through all of the weight sets on the first day. You could be at the gym, or you could be at home with a home gym – whatever the case, if you haven't figured out your boundaries now is the time. You don't want to be benching 200 pounds if you can't press it more than once. That totally defeats the purpose of the program.

## Warm up

Start with a quick (10 minute) jog in the morning (which is the best time to exercise), and then come home and give your entire body a good stretch. This will get your body ready to work, and eliminate many of the small nuisance injuries.

Too many athletes overlook the obvious advantages of warming up before they begin a session. Then they wonder why they tweaked a muscle when they were lifting. It just makes common sense to give your body a little bit of a head start before you put it through an intense workout.

## Strength training

Each day of your program, you should rotate your strength training between each of the major areas. For instance on Mondays, work your entire upper body, including shoulders, chest, biceps, triceps, your lats and your upper back.

On Tuesday, work your torso and build the core muscles and stabilizers. Then on Wednesday, you can do a lower body workout. You can also rotate your workout schedule. For instance, even though you worked on your upper body on Monday, you don't have to wait until Thursday to do it again. Your body really only needs a day's rest for the muscle group before it is ready to go again.

When you are doing strength training, you can do it one of two ways for the best results – **isometrics or resistance training** (weights). Strength training will be similar to endurance training for your muscles except the weights will be different and the number of repetitions will vary as well.

When you are doing strength exercises, you want to lift an amount of weight that you can repeat about 8 times. By the 8<sup>th</sup> time, your body will just about have maxed itself for that set. When you are strength training, you should give yourself about 4 or 5 minutes between sets. Then begin again with another set of 8 repetitions. Each exercise should have 3 sets of 8 reps, and by the end, you should be feeling it. If you are easily lifting the weight and your body doesn't feel the

slightest fatigue, up the weight slightly. There is a fine line between underdoing it and overdoing it.

Upper body exercises – (for each exercise) **3 sets of 8 – lift 75% of your maximum**

Lower body exercises – (for each exercise) **3 sets of 8 – lift 75% of your maximum**

Core training – **see below**

### **Core training exercises**

While both the upper body and lower body strength training exercises are fairly straight forward, those for improving core strength aren't very well-known. Only recently have athletes paid attention to core strength and stability, so the exercises that have been developed are not new, but they aren't very well known. Here are just a few:

**Note – Core training exercises can be intense in their effect on the bones, muscles and joints, so it is advised that the reader start off doing these exercises with light to moderate intensity.**

Common core exercises

- Crunches
- Back extensions (lie face down on hyperextension table, cross your arms across your chest and lift your body into a straight line)
- Squats
- Lunges
- Squat lunges (lunges with a barbell over the shoulder for extra weight)
- Leg raises (several different variations)

Most of your major muscle groups in the pelvis and lower back should be exercised with the above exercises. But to get the true stabilizer muscles worked, you need to do a few of the following:

- **Prone Bridge** – Lying face down on a floor mat, raise your body on your elbows and toes – that’s it - and maintain a straight line from your feet right to your head.
- **Lateral Bridge** – Very similar to the above bridge, this one works on the obliques and the transversus abdominus. You need to balance yourself on one elbow and the side of your foot, facing in a sideways direction. Sounds tough – and it is tough, but it works.
- **Crunch twist** – In the standard crunch position, lift your upper body forward with your knees at a 90-degree angle in the air. When you are lifted forward, lean your knees to either side. Do this 10 times on each side, and you will certainly feel the burn.
- **Hip lift** – In the standard crunch position, lie straight back with your knees lifted and bent at 90-degrees. Keeping as much of your spine stuck to the floor mat, raise your hips. Try not to contract any of the muscles in your body except the ones you are using for this exercise.

One of the most popular ways to help with core training is the use of an exercise ball. The balls can also help you tremendously with balance, while also helping your core muscles. The theory behind the exercise ball is that because it is not a stable support, you need to develop muscles to stabilize your body on the ball.

It is not uncommon to see elite athletes trying to stand atop the exercise ball for extended periods of time. You should try to stand on one of these balls before you go and say how easy it is. There is a reason they use the balls, and if you get one, you will soon find out.

Core exercises, such as bridging, are also more effective if done with the use of an exercise ball.

### **Quick twitch response**

We have separate quick twitch response exercises to show you, but you should know that with each workout you can build the quick

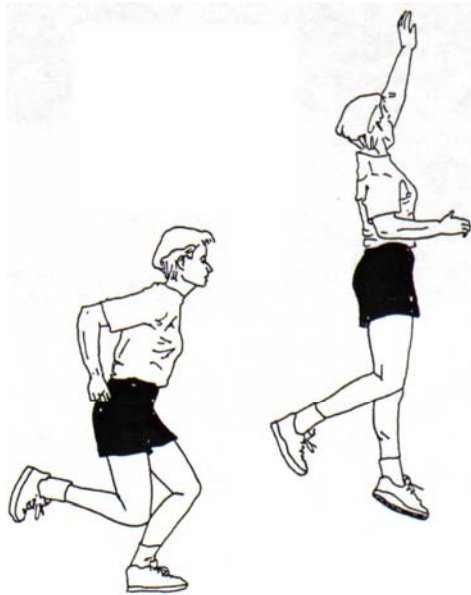
twitch response no matter what you do. For example, instead of doing a regular squat where you are pushing yourself to get quite a bit of weight in the air, and doing it slowly, try decrease the weight and exploding through the movement. Instead of benching 200 lbs. and slowly struggling through it, do 145 lbs. and push it up with an explosion rather than an extended push.

Other than incorporating it into your regular strength workout, there are a few quick twitch response exercises you will do every day to improve your vertical. Here they are, and most of them would be considered **Plyometric** in nature:

- **Toes raises** – This is going to work your calf and ankle and provide that last bit of explosion in your jump. For this exercise, stand on the edge of a stair with the front balls of your feet. Drop your heel slightly below the level of the stair and bounce quickly to your toe. Do this 10 or 15 times to start. It will begin to build the quick response in your calves and ankles almost immediately.
- **Jump Squats** – Start in a squatting position and lace your hands behind your head (good for balance, too). Spring up and fully extend your legs to jump. As soon as your full foot hits the ground, spring up again. To start, you will probably only be able to do this 5 or 6 times before your muscles start to fatigue. DON'T over do it. You have to build up this quick twitch response.
- **Bounds** – This is a very similar action to sprinting but done in an exaggerated way. As you stride, explode with your legs and 'bound' as far as you can. Alternate legs just as you would when you run. You wouldn't believe what this one can do for your quick twitch muscles.
- **Knee Highs** – You can do this while standing in the same spot, or you can simulate running down the track. The focus of this exercise is not speed; the height of the knee and how your body pushes (and pulls) it up is important. The explosion of the knee to your chest is where your quick twitch muscles will be conditioned.



- **Single leg jumps** – You can do this similar to the jump squat, but don't dip down as far. This is a high intensity Plyometric designed to make your quick twitch response climb. Also, don't over do it. Start off with between 5 and 10 single legs jumps per leg. Remember the explosion when you lift off from the ground. If you don't focus on the explosion, you aren't going to train the muscles for the proper reaction.



And like we mentioned earlier, you can increase the quick twitch response of your entire body if you also do your regular strength training with a twist you can kill two birds with one stone. To do this, simply lower the amount of weight you are lifting, and focus on exploding through your lift – whether it is a squat, military press, flies for your shoulders, or bench press. They can all be executed with explosion, and you help your overall quick twitch response if you pay attention to it every time.

### **Muscle endurance training**

Now that your muscles are tired from a day of work, it is time to start the muscle endurance challenge. This isn't a whole lot different than the rest of your training, except that you are training your body to recover in a quicker amount of time.

At first, you probably won't be able to start another set before a few minutes. You probably shouldn't do anything more than that in the first week. Eventually you will get down to a recovery time of 30 seconds to one minute.

The key, of course, is to not try and do this with maximum weight. For example if you regularly bench with 150 lbs., then try 100 lbs. and do it as many times as you can before your muscles start to tire.

Start off with a rest of two or three minutes. Then do as many reps as you can again. Then rest for another two minutes. Then try to drop that by 10 seconds. Try the reps again. Don't do anymore than 3 sets of reps.

You can do this with all of your exercises to increase endurance. Whether it is strength training, or Plyometric training to increase your quick twitch response, you can use muscle endurance to help you reduce your recovery time. As another example, try doing your toe raises with your regular sets. Gradually decrease your time in between the toe raises so you can improve your muscle endurance.

This should be a part of your regular training schedule during the next four weeks.

**Isometrics** are another way to increase your muscle endurance and your strength at the same time. We have discussed this process earlier in the book, and it should be incorporated into the strength training routine.

Isometrics can be brought in, in substitute of your regular strength training routine. Try it on a Wednesday, or a Thursday instead of just pushing weights to the ceiling all day long.

### **Cardio training**

On your day off, it would be a great idea to go for a run, go as far as you can in a run, and then walk back. This will be a good day for your muscles to relax to some extent, except for the extra cardio work.

It can be a jog, or a ride on the regular bike, or the stationary bike, anything to get the heart rate up for an extended length of time.

Make sure when you do your cardio that you push yourself. You won't gain anything if you only go until you start to get slightly out of

breath. Now don't go and knock yourself out because you can't catch a good breath, but make sure your heart rate stays above the 120 mark for at least 10 or 12 minutes at a time.

When you do your cardio training, it should be the only thing you do that day. There is no reason to head back to the training room when you are just raising your heart rate. Your body needs some time to recover.

### **Recovery days**

In order for your body not to revolt on you, you need to have time to rest. At least one day out of the week, you need to sit back, relax and drink lots of water and get some good rest. You are going to need it in order to start working again the next day. Training doesn't end as long as you want to be an elite athlete and stand above everyone else on the court.

You should take time to stretch out your body, as it has worked all week long looking to make you the best player you can be. Get good rest, and maybe take some time to go and shoot a few hoops and work on your latest move to the hoop.

Rest is incredibly important to make sure your muscles do not get overly fatigued. Fatigue leads to injury, and the last thing you want is to get injured before you start the season, or worse, before you start your next game.

### ***The next 21 days***

Over the next three weeks, you are going to see amazing things happen with your body. Your strength is going to explode, you will notice your vertical climbing and you will see your basketball game soar.

In order to continue making progress in your program, over the next three weeks you need to push yourself to the limit – without going over. It is like the Price is Right of basketball, that way.

You need to get your body to start responding to the new training program you have placed before it. After the first week, you should have no problem acclimatizing to the new pressure on your body, and then you need to decide how much you want to add to the program.

No matter what you do during your training program, it should never exceed 3 to 4 hours total. So if you decide to add something new, make sure you aren't piling more on to an already hectic training schedule.

### **How to change your program**

You will naturally need to change the amount of weight you are doing in many of your exercises, just because the weight you started with won't pose a challenge after a while. So, after a week (maybe more) you may want to increase the amount of weight you are using.

You are continually building **motor units** in your muscle groups while you are into your training program, so naturally you are going to be able to lift more. You need to do this within reason – you don't want to start by doing reps with 150 lbs. and then go to 200 lbs. – that is unreasonable, and you could hurt yourself doing it.

Here's how I would up my weight levels over the first four-week period:

- Week two – Increase your weight by 5 to 7% (If you were at 150 lbs. go to 157 or 160 lbs.).
- Week three – You can increase the weight again by 5 to 7%
- Week four – by this time you should be able to increase the weight by 7%.

You should be roughly around 180 pounds by the time you finish up the fourth week. This is the type of progress you can expect when you workout four or five times a week with strength training.

**Don't be concerned if you aren't at 180 lbs. if you started at 150 lbs. These are approximate numbers and each person is different. An average person working a standard workout**

**program should be able to increase their weight by 3 to 5% over the first several weeks before they plateau.**

Everybody is different and their bodies start the training program at different levels of fitness. Results will vary from person to person and you shouldn't be discouraged by any progress. As long as you are going in the right direction, you have nothing to worry about.

### **The daily workout**

Here is an idea of what your weekly schedule should look like, when broken down by daily activities:

#### **Monday – Warm up**

Upper body strength training / Core training  
(Quick twitch strength training)  
Muscle endurance  
Cool down

#### **Tuesday – Warm up**

Lower body strength training  
(Plyometrics for lower body quick twitch)  
Muscle endurance  
Cool down

#### **Wednesday – Warm up**

Upper body training  
(Quick twitch strength training)  
Muscle endurance  
Cool down

#### **Thursday – Warm up**

Core training / lower body strength training  
(Plyometrics for lower body quick twitch)  
Cool down

#### **Friday – Warm up**

Upper body strength training  
Cardio work (for recovery training) Jog or bike for 10 minutes, then rest for a short period of time, then go another 10

minutes. Your recovery period is something you will gradually have to bring down over time.

**Saturday** – Cardio training – Must raise your heart rate over 120 for at least 10 to 20 minutes. Go for a jog, go for a bike ride, or play some pick up basketball at your outdoor court.

**Sunday** – Do some stretching and squeeze the lactic acid out of your muscles. And then, let your body recover. There are probably a few NBA games on the television, or maybe an NCAA game or two. And it is time to start thinking about your next week on the training trail.

One thing you need to realize about training is that your body goes through different stages of progression. You will see a lot of change in your body during this month, but you may not see as much in the next four weeks. Don't let this discourage you – it is completely natural.

Your program should reflect this 'plateau' because you won't feel like you are making any progress with an increase in weight, or you won't have gained anything on your vertical. Again, this is completely normal. Your body has to catch up with the progress you are making and then it takes its own time to rest and rejuvenate. Then it will be ready to continue increasing in strength and your vertical.

### ***Ready to climb***

At the end of these four weeks, you are already going to notice a huge difference in your overall fitness, and most importantly your vertical – especially if you have never embarked on this type of fitness challenge before.

If you stick with this program for the full four weeks, there is no reason why you can't raise your vertical from 5 to 14" inches over the next month.

## **Let's Play Basketball**

**Y**our friends and teammates aren't going to recognize you after you have completed this 28-day program. You are going to be able to out rebound them, dunk over their heads and last longer on the court than they can.

Not enough athletes at the high school and college level pay close attention to their conditioning, strength, and how to improve their vertical. Yet, if they did, they would probably catapult themselves over many of the players who do make the NCAA ranks.

Most teams that are recruiting take a look at work ethic and conditioning as an equal to your skill level when they are selecting players to come to their school. Plus, developing a good conditioning program is going to put you that much further ahead of many of the players who show up to camp in the fall – because you decided that improving your body was more important than talking a big game. You wanted to be able to back it up.

Unless you are born with a special gift and you can somehow circumvent the need for conditioning, you have no choice – especially if you want to make it into the NCAA or the pros. You need to spend a great deal of time getting your body ready to compete.

It isn't easy being a top athlete, it is work, just like anything else. But, if you want it, you can have it, if you are willing to do what it takes to get there. Getting your body ready is one of those things you have to do.



I hope I have provided a foundation for you to take your game to a different level. You know the forces that affect your jump, the muscles that make it happen and you have a ton of information on the types of exercises that are going to help you along the way.

If you already have the moves, you need the conditioning, strength and power to match. This is going to put you at the top of the pack when it comes to playing and succeeding at the game of basketball.

**Best of luck and happy jumping!**



## Useful Websites

I have tried to provide you with as much information as possible to help you raise your game to a different level. A level higher than most players you will compete against. Still, it is impossible to cover all of the information available to the athlete when it comes to training their bodies. You can get the information from a professional trainer (which is a good idea) and have them monitor your progress, and help you design a program that works for you.

One of the most important ways to find the information you need is on the Internet. That is where you found our resource, and you can find information on just about anything you want - including your fitness training.

I have put together some of the sites that I think will give you an even better foundation for success in this area. There are a number of excellent resources out there to help you in your quest to **Reach for the Sky!**

<http://www.topendsports.com/sport/basketball/testing.htm>

I thought this was a good site to give the basketball player an idea of what types of things they can work on for their basic fitness training. This site has a list of tests that the player can work on to get their fitness level to where it should be.

<http://basketball.lifetips.com/cat/59049/vertical-jump/>

This particular page will give you some more ideas on how you can improve your vertical jump. But, aside from that, this site is a one-stop resource for several basketball skills that you are going to be able to use to make your game excel.

<http://www.insidehoops.com/gym/>

Yet another great site that will give you information on fitness and increasing your vertical jump. It also has more information on ways to improve your basic basketball skills.

[http://www.allspiritfitness.com/library/QandA/qa\\_core.shtml](http://www.allspiritfitness.com/library/QandA/qa_core.shtml)

If you want to know how important your core muscles are to the overall training of an athlete, this is a great site. I spoke with a number of elite athletes about their training programs, and they said the shift is definitely toward improving your core strength. It amplifies the strength training you are doing in the other areas of your body. It doesn't have much to do with basketball, but the knowledge is essential.

[http://www.ballyfitness.com/rapid\\_results/workouts/workout\\_pages/basketball.asp](http://www.ballyfitness.com/rapid_results/workouts/workout_pages/basketball.asp)

This site provides a good base of strength exercises for the basketball player. It has a list of exercises that you can do for your legs, upper body, and the abdomen.

<http://www.ocua.ca/node/1361>

This is an article from the strength and condition coach of the Miami Heat, posted on a college website. It gives you a basic understanding of what you need to work on, in order to increase your overall vertical leap.

[http://www.powerbasketball.com/jump\\_programs.html](http://www.powerbasketball.com/jump_programs.html)

I included this site, because aside from regular strength and vertical leap training, there are a few different aids that you can purchase that will enhance any of the training that you do with the foundation I have provided. This site has reviews of the different items available for this purpose.