

# GET UP!

Volume 1, Issue 7

11 September 2002

It's hard to believe it has been one year...

I continue to find myself in awe of the courage displayed on September 11, 2001. Let us never forget.

This looks to be our longest issue yet. We have articles covering GPP, SPP, Hammer Throwing and more Combat Conditioning. I know that some of our readership might not find all our articles applying to their lives, but *where else do you find stuff like this?*

Enjoy!

## Let's not forget our mission:

1. The Body is One Piece
2. There are three kinds of strength training:
  - Putting weight overhead
  - Picking it off the ground
  - Carrying it for time or distance
3. All training is *complementary*.

## GPP and SPP: Another Look

**Steve Shafley**

*Steve is one of my internet inspirations and an all-around excellent strength. His impact can be seen on many internet forums...the guy knows his stuff!*

We've all heard about GPP. It stands for General Physical Preparedness. Essentially it's work done to get you into shape for you to start practicing your sport. Read that again...It's work done to get you into shape to start

practicing your sport. This definition has specific implications. SPP, or Special Physical Preparedness is work done to directly improve aspects of your sport that you need to work on. This also has specific implications. Where does all this crap fit in? I mean, GPP is sled dragging and car pushing, and wheelbarrow work, and stuff like that, or it can be circuits of calisthenics, or hill sprints right? Well, that's kind of what can be, but it's not the whole story.



GPP is generally pretty easy to figure out. For an example, I will use rugby. To get into shape for practicing rugby I had to do a few different things. First off, I had to improve my cardiovascular conditioning, second, I had to prepare my body and joints for the game and the actual practices during the week, and third, I often had about 10-15 pounds to shed as well. So, some choices had to be made: Typically I would begin the pre-season with a slow runs. These runs had to be slow for me to ease into a kind of "pre-conditioned" state. I had to get my ankles and knees used to the pounding of running again, and start to get my heart and lungs into better condition. I would typically start off with a mile on an inside track. I would also begin to jump rope more frequently. Jumping rope is a great exercise, and it doesn't pound the body the way running does. It also conditions and hardens the joints and muscles of you legs, especially the calves, knees, ankles, and lower quads.

Well, you might ask, why the hell don't you just play rugby, or indoor soccer, or something like that? The simple answer is that those activities are too much like the sport to be considered GPP, and I didn't want to develop injuries or overuse symptoms from doing something too similar. GPP should really not relate to the sport much at all. For example: Long distance running has absolutely no place in rugby. None. Rugby is all sprint/contact/recover over and over again. If you are jogging around on the rugby field, you are definitely not in condition to play with any kind of intensity. However, slow long distance running worked very well to increase my levels of general fitness, and to toughen up my legs for the rigors ahead.

So, during the preseason, I would typically do a few things concurrently, and yes, you could consider this conjugate periodization. GPP, to improve overall conditioning and prepare for the SPP ahead, flexibility work (which should be done mostly after the rest of your training), and weight



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work.

You can view the weight work as a form of GPP and SPP. Basically you are developing, or trying to develop qualities that will enhance your game. Usually a paring down of exercises would occur. You must go to the exercises that give you the most bang for the buck. The time to get bigger is now over. You are losing fat, and working on strength and your explosiveness, and if possible, use exercises that will directly benefit actions of your sport. An example of this would be the power clean and press to develop the lift in line-outs during rugby play.

What are lineouts? A line of guys form up against each other, one team throws it in, right down the middle. There are usually two jumpers, and four guys to help lift them up and hold them in the air to try to get the ball. The power clean and press allowed me to lift our jumper, who weighed 200 pounds, and hold him up in the air at arms length by myself, thus freeing the lifter for defensive or offensive play. This gave us a distinct competitive advantage. The power clean is also a very good drill to help you improve rucking. Rucking is basically the type of play that forms over a tackled man and a loose ball on the ground.



Now let's go on to SPP. SPP is a different kettle of fish than GPP. SPP is, essentially, practice for your sport, and drills that directly enhance your performance on the playing field. Once again, I'll use rugby as an example.

Generally, you need to give yourself some time to get into shape, via GPP. For older guys, this might be 8-12 weeks, for teenagers and younger folks, this could be from 6-8 weeks. There were certain signs I looked for before thinking about starting the SPP for rugby. I

would look for faster and faster times on my longer runs, I would look for very little soreness in the muscles or joints from these runs and from the rope skipping, and I



would just feel ready to start intensifying the process.

Practice would begin, which would consist of ball handling drills, rucking and mauling drills, kicking drills, game flow drills, and some fitness work. The fitness work would typically be some kind of sprinting and calisthenics circuit. Those who didn't take time to prepare for the season would be obvious. They were the guys who were huffing and puffing, and sometimes puking. Practice would address practical issues of learning aspects of the game, but usually wouldn't address some very specific aspects of any field game that needed to be. Very specifically these would be agility, linear speed, and additional sprint/recover conditioning. Fortunately, these all enhanced each other.



For sprint/recovery conditioning, I would begin timed sprint/jogs. I would sprint for 30 seconds, then jog for a minute. As I got better and better conditioned I would lower the recovery times. I knew I was ready to play when I could do 30 second sprints/30 second jogs for 30 minutes.

For agility, I would set up cones, about 20 yards from each other, in a zig zag fashion. Usually there would be about 4 legs to this drill. I would sprint to each cone, and work on changing direction rapidly and efficiently.

For linear speed I would do a series of 20-40 yard runs. Just an all out explosion from a standing position with full recovery in between them. Occasionally I would do hill sprints to help my overall leg strength. Overall, I would say that the agility, or lateral quickness, was the most important aspect of getting round and being "fast" on the field.

Weight work would be pared down once again. Essentially, all the strength you've gained previously is all you're going to gain, especially with the additional workloads of SPP. I would get down to the bare essentials of weight work, and attempt to maintain strength. For me the bare essentials were 2 or occasionally 3 sessions a week, power clean and press, squat, SLDL or Romanian DL, bench press, and ab work. I would usually continue to do some kind of rotator cuff work as well, because those

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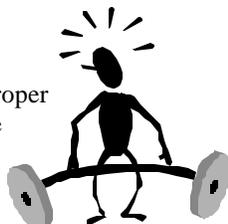
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needed to be kept strong for the rigors of scrumming.

So...now we've gone through all of that, I am sure you are wondering "Why?" I don't play rugby. That's totally useless to me. Use it as an illustration on how to set up your own type of GPP and SPP for your own sport. You notice I didn't mention sled drags, car pushes, wheelbarrow work, or other stuff like that. Those could all be used in place of some of the drills mentioned above, but, since it was usually winter when I began preparing for the season, I often couldn't be bothered with the hassle of getting all that crap out and bundling myself up. GPP has got to be something you are willing to do, and are able to do, not necessarily the best drills you can do.

Now, you often hear GPP talked about in relation to powerlifting, and usually it's talked about in conjunction with the sled, and assorted ways to drag the sled. This is because sled dragging provides the perfect medium for GPP for the powerlifts. It strengthens and conditions you in a fashion totally unlike performing the competitive lifts does. Light sled dragging can also act as a restorative, getting blood running through the muscles worked by lifting, and helping them recover, but the specifics of sled dragging are a whole other topic.

So, to determine the proper kind of GPP and SPP to include into your sport, you have to think about it. Does your sport include swinging a bat, or a golf club? If it does, maybe some kind of sledgehammer work might be useful as SPP. Does your sport require you perform out of breath with your heart racing, with precision and skill? Then you better be doing your sport specific drills fast and hard. The only thing is that GPP shouldn't mimic your sport. It shouldn't be sets of 20 in the deadlift if you are a powerlifter, and it shouldn't be 40 yard sprints if you are a football player, because really, that's SPP. Practically anything can be GPP, but SPP needs to relate directly to improving qualities needed in your sport.



## Hammer Throw Basics

**Todd Taylor**

*Todd is a senior citizen hammer thrower who does some coaching and helps anybody who is interested in improving. As a master's competitor, he has won USA Track & Field Masters National Championships. He states: "By nature I am an "analytical" type and I have also had the benefit of some of the best coaching available. My purpose is simply sharing what I have learned, what I think makes sense in terms of ease of comprehension, and what verbal and imagery cues work for me. I hope that you find it beneficial in being able to learn and enjoy this unique event. I have made attributions to coaches/athletes where appropriate."*

*"The Taylor Throwers—my wife, Joyce is also an accomplished thrower and Masters National Champion. **Mighty Mite Throwers**—the unofficial club for the super stud hammer throwers who are less than six feet in height; especially those of us in the 67"—69" vertically challenged category with short levers. **Portland Masters Track Club**—great camaraderie and great fun to compete with and against others and cheer each other on. "*

### **Fun but Frustrating**

The hammer throw is often acknowledged as the most technical of the throws to initially learn and eventually become proficient. This is largely due to the centrifugal force of the implement during rotation and the fact that you are shifting your balance and weight against the force of the ball as it speeds up. Technique rules in the hammer!! Hammer throwing can seem downright unnatural and something our bodies were not meant to do. Despite size and strength disadvantages, shorter and smaller athletes with good technique often perform well against larger competitors. This event takes a lot of patience. Because it can be frustrating, it will be helpful to understand a little bit about the athletic attributes and physics



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involved in a good hammer thrower and throw.

## *Athletic Attributes*

A stereotype exists for all track & field throws of the big and strong athlete. "Functional strength" is essential, but the key athletic attributes for a hammer thrower are balance, rhythm and timing. All movement has balance and rhythm. Balance is needed to counter the weight of the hammer and sustain the rotational forces involved. Good foot speed and general quickness is helpful, but speed in the hammer is a result of a gradual speed progression or buildup with each subsequent turn with the implement; this is contrasted with the quick explosion of the "glide-style" shotputter. The rhythm of the throw enables the speed progression. Timing is the ability to hit precise positions optimally at key points or stages during the winds, entry (transition from winds to turns) and turns.



Let's back up to strength. Lower body and core strength (lower back & abs) is more important than upper body strength in the modern throwing technique. Variations of

the Olympic style lifts along with plate twists are the foundational lifts for all throws—**power or hang cleans & snatches, front, back and jump squats, lunges & step ups, push presses, incline bench presses**, etc. Strength in the hammer is needed for counterbalancing the force generated by the hammer and to get into and hold the key positions during the throw. A great finish in a hammer throw is not a huge upper body testosterone movement, if done correctly. The infamous "thrower's yell" should not be the grunt at the end of a muscle tightening and straining yank on the implement; rather it should simply be the release of energy from a smooth, controlled, forceful movement.

For relative perspective on athletic attributes for success in the hammer throw, consider the success of American throwers at the open level of international competition. Americans are traditionally at the top of the shot and discus world rankings and these throwers often started at the elementary, junior high and high school levels. Few American states throw the hammer or javelin in high school and few American athletes can meet the Olympic "A" Standard (minimum qualifying mark) in those events. In Eastern European countries, youth begin throwing hammer at the American equivalent of 7<sup>th</sup> & 8<sup>th</sup> grade using very light implements. The implement weight is gradually increased as they learn the proper technique to throw world class distances; only then do they begin serious weight training to increase their strength levels. In short, they learn to throw far before they even worry about strength. One can certainly achieve a measure of success "muscling" the hammer and weight (its indoor version), however, this generally creates bad habits that interfere with proper technique to throw far and maximize your

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potential. Remember, as in all the throws, the “feeling” of your best throws is “effortless” because of the fluidity and smoothness of the ironically explosive movement, i.e., balance, rhythm, and timing.

## *Hammer Throw Physics 101*

You need to understand the rotational forces involved and the determinants of distance.

As the hammer increases in speed, the ball has more outward force pulling against your body; therefore, you must counter the increased speed/force by setting your body against (opposite) the weight of the ball. This explains the awkwardness and jerkiness that many beginning throwers feel as the ball moves around in the orbit as they learn one turn and then add turns—one feels like the ball is going to pull them off their feet or out of the circle. In reality, the hammer throw becomes a constant leaning where you have to “trust” that the hammer will hold you up and keep you in the ring. This “**countering the ball**” thing is subtle; you don’t just lean real hard all at once and jerk the ball out of its orbit path.

Related to basic physics of the throw is the concept of the so-called modern technique of hammer throwing—“geo-synchronous orbit”. In the old technique of “counter and drag”, the thrower pulls the ball with the left arm & side and drags it off of their right side as they turn. It takes great strength to counter the ball and pull/drag it while on one foot for much of that style of throw. The Russians took hammer throwing out over 80m in distance with a fundamental concept in the modern technique—the “hammer thrower system” is the thrower **turning with the ball as an integrated unit** and all of the thrower’s energy ideally goes out into the ball. The other key aspect is that one attempts to maximize the amount of time

that he/she is in “double support” phase (i.e., both feet on the ground) because greater force can be exerted on the hammer when you are more stable with two feet in contact with the ground. Also, the thrower “**pushes the ball**” with the right arm (like a tennis forehand stroke) and **drives with the right foot and leg** (like the pushing leg while on a scooter or skateboard).

Distance in the hammer throw is a function of radius (arm length), ball (not body) speed, and angle of release. The genetically blessed with long levers have a distinct advantage, if they have decent balance and rhythm. Therefore, for the rest of us mortals, “**staying long**” with the arms from the winds, entry and in all of the turns through the release is absolutely critical. The object of speed in the hammer is not to turn like a helicopter rotor “whirly bird” but generate “**ball speed around your body**”. Optimum angle of release is obtained by starting with a relatively flat orbit of the ball

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during the winds, and then the momentum of increased acceleration in the turn's increase the orbit angle with each turn. If you establish the right "high and low point" of the orbit, you will find yourself "**throwing the ball up**" at release and not a line drive shot off the center field wall. While there is a "posting up" of the left turning axis leg (right-handed thrower), a common fault is not "**throwing out into the sector**" at the release. Instead of continuing a ¼ heel/toe turn and rotating the hips around that blocked left leg (so you are looking at the sector with your chest), often the hammer incorrectly gets thrown over the shoulder like a sack of potatoes.



So, just by understanding the basic physics involved, you have some key "cues" for good hammer throwing technique. A quick word on "cues"—some of us learn visually, others by hearing, and yet others by both methods. The concept of "sitting against the hammer", for example, works for some as the key to counterbalancing, yet others take it too literally and get bent forward at the waist and off balance; and still others try to mechanically insert the cue and motion into a portion of the throw not realizing that the

cue means a constant natural reaction to the increased speed/force of the ball. Cues that work for some people do nothing for me. In the text of this paper, I have tried to place most of the cues in boldface font to assist the reader. Some athletes may have to forgive my analogies to other sports with which they are not familiar.

## Posture

Posture is critical and often overlooked. Getting the right posture at the beginning and maintaining it is the key to good balance throughout the throw.

You want to be **bent in the knees** (not the back) enough in a standard athletic "ready position" (football linebacker type) with **back straight**, so that you feel your calves/Achilles tendon pulling on you a little bit. **Feet** should be about shoulder width or a little wider with your weight evenly distributed between forefoot and heel and between left and right feet. This is the key to the "hammer thrower system" as it is called. A good metaphor for me is to imagine myself as a **tetherball pole** that is unwinding the tetherball around me—the more you hit the ball, the radius increases and the ball accelerates. The pole is a solid, anchored foundation in the middle of the ball's increasing speed.

The **head** (a fulcrum for the body) is to be looking straight ahead; your **hips/butt** (the body's other fulcrum) counterbalance the force of the ball. It's best if you can pick up the path of the ball with your peripheral vision (keep your head level and **eyes** looking straight ahead) rather than looking right at the ball; otherwise most beginners will bend over when they rotate around to the back of the circle and get off balance with no counter against the force of the ball.

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The **arms** should be kept as long as possible from beginning to end of the throw; remember, radius is a key distance variable. Another tendency for beginners is to bend the arms and pull the hammer in towards the body to help stabilize them. You have to try to be relaxed in the upper shoulders and feel as long a radius as possible. Whenever you feel the hammer is pulling/bending you over, bend your knees in front of your chest; this automatically places your butt/hips behind your heels as a counter to the ball and you will regain your balance. Beginners may find that as the hammer is at its low point in the back of the circle and then at its high point of the orbit at the front of the circle that they are on the “tilt-a-wheel” ride at the amusement park. The more you practice turns with and without the implement, the more quickly this sensation will subside.

## **The Winds**

*The winds impart initial momentum to the implement and are the key to **establishing the rhythm of the throw** which in turn enables a speed progression and gradual increase of the orbit angle to its ideal angle at release. The thrower faces the back of the circle and generally winds the hammer around him/her twice and then begins the entry into the first turn when the ball comes around past the center of their body at the end of the 2<sup>nd</sup> wind.*

**The right-handed thrower grips the handle with the left hand then comfortably wraps the other hand around it. The thumbs rest on the outside of the handle and are pointed upward during the throw. You will either need to tape the left fingers or purchase/make a throwing glove with the fingertips exposed. The optimum grip position of**

**the handle on the fingers is in the middle portion and not closest to the palm. Some throwers just use three fingers of each hand on the handle to even further extend the radius; however, many find this uncomfortable and/or too hard on wear and tear of the hands. Beginners may wish to both lightly wrap the fingers of the left hand along with using a glove until their hands are used to the pressure on the hands. Now jumping forward with a little heads up on a sore and/or beat up left hand from throwing the hammer—once you get beyond very beginning stages, this usually means you are over engaging the left side and pulling on the hammer and dragging it during the turns.**

The wind can be started several different ways depending upon preference. The classic wind is to place the ball in the circle just off to the right and behind the right leg; the handle is gripped with both hands and the ball is then pulled around in front of you and up towards the left shoulder. I personally don't prefer this style because there is a tendency to bend around to grip and pull the hammer at the start and not stay in that good posture, i.e., one gets bent over right from the start. With both hands on the handle at the start of the wind, the other wind starting styles are to place the ball: 1) between the legs and behind you inside the circle (ball is swung forward & then back to the right before swinging it in front of you), or 2) outside the circle directly in front of you (ball is swung back to the right & then across the front). Yet another way is placing the ball behind and to the left of the left leg with only the left hand gripping the handle; the ball is swung forward and up in front of you to a comfortable height, back along the right side, and then across the front. The purpose of the last three methods

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is to establish a little rhythm and momentum right at the beginning.

Regardless of the starting position of the ball, the **left shoulder initiates the movement** of the implement across the front of you for the first wind, rather than simply lifting the implement up with your arms. You should keep looking straight ahead and keep your head still as you rotate the shoulders to the left, feel the ball directly behind your head, and then turn the shoulders back to the right as the ball comes around. Often beginners will wind with their arms only and not get a full shoulder turn; the **full shoulder turn will help you establish a longer radius**. If you **turn your hands over** with the back of the right hand facing up as the ball passes in front you between the legs, it will help you get into a good full shoulder turn as the ball travels left in the wind.

**Nice and easy does it** with the winds. You are simply imparting initial momentum to the ball. Don't be winding so fast and hard that it pulls you out of that good starting posture position. Avoid bobbing up and down or weaving/leaning from side to side. A good check on your winding speed is the **"wind & turn drill"**. In this drill, you wind the hammer once, do one turn, and upon rotating back to your starting point (at the back of the circle) you go right into another wind & turn, wind & turn, etc. If you are not in a good stable position when you wind the second time, you will be pulled off balance, which means you are winding too fast. [The beginner or person just throwing from the stand position or one or two turns will obviously need to generate greater speed in the winds prior to release].

Some throwers are simply winding around themselves with no particular emphasis

during the orbit other than setting the low point directly in front of them. However, I am heavily influenced by Lance Deal, the American record holder in the hammer and weight, and his coach Stewart Togher. For many beginners, I have found the "pendulum wind" concept helps them understand the rhythm and key positions of the throw. Right from the winds, Togher and Deal emphasize the "main event" of the throw that occurs at 180 degrees directly behind you out into the middle of the sector at release of the hammer.

If you think about the pendulum on an old clock, the pendulum is moving fastest at the bottom after a gradual gravity drop from the top of the arc. Think of the hammer orbit like the pendulum arc—180 degrees behind you being the top and zero degrees between your legs in front being the bottom. After you have turned the shoulders left, then shortly you should distinctly feel the ball at 180 degrees (directly behind the head) and **feel the gravity drop of the ball** to zero degrees (directly in front between your legs). Feel and focus on the rhythm that this establishes in the winds. To feel this rhythm correctly, practice slow multiple winds.

The orbit of the 1<sup>st</sup> wind around the body is not critical, but as you come back around to the front to begin the 2<sup>nd</sup> wind, you want to consciously **set the low point of the ball directly in front of you**. On the 2<sup>nd</sup> wind, you want to set the **radius out long** (be relaxed in the shoulder girdle), sweep the ball **out around the left side**, and **let the ball "run long"**.

## *The Entry*

The **"traditional entry"** of the throw is considered the start of the left heel/right toe turn as ball passes by directly in front of you

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(hard for discus and rotational shot throwers who may try to turn on their left forefoot). It is very important to maintain good posture, let the ball turn with you, and not dip or lean with the left shoulder to start the turn.

*However, I have found it easier for*

*beginners to learn the “loose upper body”*

*style of throwing. One of its proponents is a*

*successful small thrower and collegiate*

*coach, Ken Norlen, at UC Davis. I have*

*found that his three key principles or cues*

*allow one to forget about footwork and*

*concentrate on balance and rhythm instead:*

***1) see the ball, 2) send it by, and 3) step to the ball.***

But I first need to back up and talk about **where the “entry” really begins** for Toger and Deal. Deal uses the metaphor of the fly fisherman who casts the line rhythmically several times before setting the fly on the water where he wants it to land. Here’s how to apply the metaphor—in the 2<sup>d</sup> wind (as the ball is behind you at 180 degrees) the ball falls in the pendulum gravity drop down through zero in front and all the way around again to 180 degrees behind you, as you step quickly toward the ball with your right foot. It is a nice long sweep of the ball out into the direction of the throw.



Those who initiate the entry or first turn with the heel/toe turn as the ball passes in front of them at the end of the second wind can have a tendency to “turn inside the orbit” of the ball. Their body can get ahead of the ball and they end up dragging the ball around for the whole throw. The cue of “**see the ball**” means generally that you want your body mass aligned with where the ball is; however, remember not to have your eyes fixated on the actual ball and get yourself bent over as mentioned above.

The next Norlen cue is to forget about the footwork and “**send the ball by**” to at least off your left shoulder (90 degrees) and let the ball “pull you into the turn”. You will find your feet automatically going into a heel/toe turn and you find yourself able to easily “step to the ball”, as the outward pull of the ball toward 180 will pull the right foot off the ground when it is time. At the entry and on subsequent turns, you want to keep the right foot down as long as possible in “double support” and then “**step to the ball**” very *quickly* at 180. Your foot lands somewhere around 220 degrees; thus, you have minimized the amount of time you were on one foot or single support. You want to actually “see the ball” with your

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body at 180 degrees and be relaxed enough to have a focal point out in the distance (tree, fence post, etc.) with your vision to know you are at 180.

A word here about how you “count” your turns (1...2...3...). Many count the start of each turning motion or pushing of the ball at the back of the circle. Here is another method of counting that gets you focused on the main event of the throw—out into the sector. As you step to the ball, the hammer is at the top of its orbit and it is called **“the catch”** of the hammer. Counting your step down with the right foot as “one” will help you get focused on 180 and the importance of the quick step and set-up for the rest of the turn and throw. From that **fly-casting metaphor** of the pendulum gravity drop of the ball (from 180 down through zero) and on out to 180 with the quick step of the right foot, you are patterning the release of the throw out into the sector. Togher and Deal, then, would “count” a 4-turn throw as “five throws” of the ball to 180 (turns 1-4 & release). I looked pretty silly and kept taking 5 actual turns when first trying this; but if you can orient yourself to 180 and the catch of the hammer as the “count” for each turn, it may help you do a better job in this critical part of the throw and keep you from over-rotating on your turns.

Once you “enter” the throw, the **knee angle of the turning axis leg** should be locked in for the remainder of the turns. There should not be any up and down movement with that leg. [Advanced throwers that “appear” to drop the left knee lower at the “catch” in reality have a lower left hip countering the ball that is caused by the right knee/foot aggressively moving toward the ball in single support] It is also important to fight the tendency to stand up on the left leg that will cause you to do a toe turn with both feet

and then get you off balance. Also note, that if you over rotate on the entry, you will tend to subsequently do toe turns and be aligned for throwing the ball into the cage or out of the sector. Four-turn throwers initiate the entry with a toe turn in order to have the foot room inside the circle to complete four rotations, but turns 2 through 4 are heel/toe turns.

## The Turns

When you “catch” the ball at the top of Turn 1 (i.e., top or high point of the ball’s orbit) somewhere between 180 to 220 degrees, as you “step to the ball” that **right foot is pressed down into the circle** (not just tapping down as you go around). Then, you counter the speed you just put on the ball with the entry into the turn as you **immediately shift your hips/butt behind your feet**. The right leg drives and the right arm sort of **“sweeps the ball”** around to zero degrees at the back of the circle and on around again to 180; and you take another quick step to the ball. It is important to **feel the “ball speed” move around you** (the tetherball pole metaphor) and “send it by” into the next turn and out to 180. This is the “main event” in the hammer. The key to the hammer (like breaking the rotation of the full discus movement into line and wheel drills and  $\frac{1}{2}$  &  $\frac{3}{4}$  throws) is to make it a linear 180-to-180 event, rather than a circular one, i.e., you are simply walking towards the back of the circle rather than spinning around.

Notice that you are using your body weight to counter the hammer in a gradual lean against the ball. The more you lean, the faster the ball moves around you (remember ball speed not body speed is the key distance variable), and the more you have to lean (back against the ball) to keep up with its

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speed. A good drill for grasping this feeling is the one ball “walk-around” drill. Starting with the hammer on your right side on the ground, you assume your good posture then start turning around in little “pitty pat” steps with arms extended to give you some momentum. After 2 or 3 turns start a heel/toe turn and go into successive turns. Really concentrate on sitting against the ball more and more just after the catch in each turn and feel the acceleration of the hammer around you back around to 180 just by counterbalancing the ball. Unless you are really big and strong, you will find better success by learning this countering concept and the feeling of the ball speed moving around you.



**“Do nothing in the first turn!”** This is the one consistent training journal entry made by Lance Deal. It simply refers to the concept that the entry and first turn is merely an “extension of the winds”. It also says that even though you know better, there is a tendency when the adrenaline is cranked up to wind faster and try to push the ball around hard in turn 1. Deal often refers to the many “paradoxes of hammer throwing”; one of these is that you have to “slow down to speed up”. Next I will discuss acceleration and speed progression, but it cannot be overemphasized for the 3 & 4 turn thrower that you need to be smooth and under control with good rhythm in the 1<sup>st</sup> turn to

generate the acceleration in the final turns and transfer force out into the ball at the release. Do not get caught in the trap of trying to push the ball around hard right from the beginning. When you do this you just find yourself turning faster (inside the orbit of the ball) the more you push, but you won’t necessarily get the extra distance you desire because you are unable to counter the increased force. Remember the faster the ball goes, the more force the ball has, and, thus, the more you have to lean/sit against the ball to counterbalance the increased force.

How and when do I add the next turn? This question often gets asked and here is the answer—before you need to! For example, the best way to stabilize your 2<sup>nd</sup> turn of a 2-turn throw is to throw some on 3 turns and pretty soon you won’t even be thinking about that 2<sup>nd</sup> turn. On a concrete pad or your driveway or sidewalk, practice multiple turns with the walk-around drill and wind & turn drill. The only way you get used to turning is to turn; for most throwers the dizziness will go away and the balance will come.

## **Acceleration and Speed Progression.**

You probably will notice that I have spent far more time with the winds and the first turn. The reason is that the correct body position, balance, rhythm and countering provide the foundation to “set up” the last two or three turns. Everybody wants to know how he or she can “go faster” or get “more speed” with the hammer. In reality, you can’t just turn on the turbo jet boost or find some extra gear, rather it is a **gradual countering and speed progression** using that same sweeping motion from 180 to 180 that you did at the catch in turn 1.

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For a 2-turner with the hammer, especially with some size and/or strength, you can accelerate the ball in 1 1/2 turns--turn 2 & the release. The 3-turner simply uses the first turn as an extension of the winds and only really accelerates hard for 2.5 times—turns 2, 3, & release. The top 4-turn throwers generally use a 2 + 2 pattern where they use the first two turns to **“set up the acceleration”** in turns 3, 4, & release.

Now, for the magic elixir of acceleration—there is none! Unlike golf where the duffer can become a decent bogie golfer with better clubs like the oversized woods and perimeter weighted & cavity back irons, as a hammer thrower, you will have to do the equivalent of a lot of time on the driving range, practice greens and get some lessons!! I will tell you what works for me that I have modeled after successful open throwers. Most throwers need to be able to understand the hammer physics, the technique fundamentals, obtain coaching, practice with drills and 50%-80% effort throws to engrain the neuromuscular patterns, and then “find your throw”. By this I mean there are many different body types, athletic abilities, strength levels, and abilities to comprehend and emulate certain concepts. You have to be able to incorporate bits and pieces of this theory, imagery, and cues and find what works best for you. You will have found “your throw” when you are very consistent and have more good throws with balance and rhythm with most of them landing out in the sector.

I follow a traditional 2+ 2 pattern as a 4-turn thrower. In my case I counter, counter (butt/hips behind heels), push, push (the ball with my right forearm).

- I “do nothing in the first turn” except that nice smooth entry (fly fishing cast from 180 in 2<sup>nd</sup> wind out around to the sector), counter at the right foot step to the ball at 180 (**count “1”**) and nice long sweep around back to 180.
- At this point, then I am at the top or catch of turn 2 (**count “2”**), I consciously counter the ball more by sitting back more while simultaneously driving hard with the right foot/leg and pushing hard with the right forearm on through zero and on back out to 180 (**count “3”**).
- So, what I have done until now is basically smoothly counter the ball and sweep the hammer around me feeling the ball speed in the first two turns.
- I then end up adding the push of the ball at the top of turn 2 (count “2”) which accelerates me into turn 3 where I simply push a little harder while countering and it takes me into turn 4.
- At the top of 4 (**count “4”**) I do not have a mad dash to get to a power position for the release. I am just repeating what I did at the top of the previous two turns—pushing a little harder each time as I simultaneously counter with the hip/butt behind the heels and sweep the hammer to feel the ball speed around me.
- Do the stomp!! A real key for me in those last two turns is the ability to stay in double support as long as possible before stepping with the right foot, and then, stomp the foot down, push hard and drive the right leg.

## The Release or Finish

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As you catch the ball at the top of your last turn, you pretty much just hold on and do that sweeping action with the whole right side/arm (not a pull with the left) out around the left and up out into the sector. You **anticipate** the ball coming to zero in front where you stand up ramrod straight with the **head back** (getting the head back **will lift the chest**) and **arms lifting**. The key on the release is to keep on doing another ¼ heel/toe turn, so that you are throwing around the left leg block to 180 and not just throwing it over your shoulder like a sack of potatoes.

I prefer the term “finish” over “release” because you should be just finishing the last of a series of throws around you out toward the sector—you simply release the last one. You should feel both arms come through the bottom in front of you and out into the sector. If your left hand/arm ends up substantially apart from the right one at actual release, then you are pulling on the ball (ironically you will take momentum off the ball you just got through building up!).

## Epilogue

Throw far and have fun. Hammer throwing is a journey. I hope this road map helps. The goal like modern business is “continual process improvement”.

*I just gotta say...*

*That is an incredible piece of work, Todd. Really...this is going to be reprinted and recopied and Xeroxed and posted and pinned on places all over the world that respect the art of hammer throwing.*

*Thank you!*

## An Email from Todd

Dan:

It was certainly great to meet you and the wife in person and enjoyed throwing with you. Glad you could make this fun event.

For a "*discus*" *thrower* you had some pretty solid technique in the hammer. One thing that will really help your hammer...speed progression. Although a 4-turner like myself will take the first turn slower than a 3-turner, for a strong guy like yourself you can accelerate the ball on just one-two "cranks" (application of force) on the ball. All three of your turns were pretty much the same speed. Wind slower and concentrate on getting a nice full shoulder turn and radius and then use the entry/first turn to "set up" the thrower. Analogous to the *discus*....rushing (even for a 3-turner) the first turn is like getting out of the back of the circle too fast with the left foot pivot. To prove my point...take a single wind then hit the second turn hard and the third turn very hard...you will feel the acceleration at the end and the speed progression.

You have very good balance and sit against the ball well. You had tendency to get a little bent over in turn 3; looking at the ball and cause you to get bent over; keep your eyes on the horizon and pick up the ball with your peripheral vision.

Here is the article I promised...hope it helps.

In the weight throws, it helps to get the ball to about shoulder level going into that first turn so you set up a nice orbit (especially with the 56#). The key to both the weight and superweight is to be patient at the finish by anticipating and waiting for the ball to come down through zero degrees between your legs and then lift with the legs and arms. In reality, a good finish in weight and hammer is like a hip snatch with a dumbbell.....take a dumbbell and hold with both hands off your right hip in a hammer stance; move the DB down to zero degree between the legs and immediately pop those hips (like a snatch/clean) and use that momentum to lift the

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DB straight up as you pivot the left foot....done right your head will be between your arms on the finish.

A key to the finish....too often throwers will finish the hammer by throwing over their left shoulder like a sack of potatoes. Instead, throw around the blocking left leg by opening up the left foot into a 1/4 turn and throw straight up. You'll notice when I finish my arms are still in a prolonged follow through just like a basketball player shooting the free throw with full wrist extension to impart the final rotation on the ball.

Regards.

Todd  
Ironman

*Talk about a resource!  
But, what's wrong with being a discus thrower?*



## Overhead Carry:

### A Much Neglected Exercise

**Jim Smith**

*Jim Smith lives in Yorktown, Virginia. Jim has been lifting for years and is always ready to experience new techniques and ideas. Jim's forum, "Animal Ability," is a place where people meet for polite conversation about all kinds of health and strength questions.*

One of the most neglected, but in my opinion valuable exercises is the overhead carry. When walking with a weight overhead your body really has to work in unison and needs constant stabilizing. You can do this exercise HEAVY for short distance or medium for longer distances. You'll receive benefits of cardio, tremendous trap/shoulder work, core stabilizing, and some leg work. If you power clean and push press it from the ground/street you get even extra work.

You can use a beam, log, barbell, sandbag, even do a waiter's walk with a dumbbell. I got this idea from Dan. I haven't tried a barbell waiter's walk yet, but that sounds like FUN.

One thing to be careful of is dropping it. Believe me the last thing you want is a weight coming down on your head. Even if it doesn't hurt or kill you, you don't want the neighbors to think you are even crazier than they originally thought.



So how do you get started? Easy pick a course, take whatever weight/object you are going to carry out to your start line. Now a couple of tips for anyone especially someone doing it by him or herself: In an ideal world we would have someone there to spot/coach us, but in the real world that not always possible. If you are going to do the overhead carry from a place where you can't take it off a rack (and let's face it most people don't have a rack on the street), you are going to have to get it from the ground to overhead using the least amount of energy. You don't want to waste energy before you've even started. With a barbell all you have to do is a typical power clean and push press (push press it even if you can press it, don't waste energy). On a side note this adds an element of safety to the exercise. You will not be using a weight that you can't lift.

I'm not saying that you NEVER should just make sure you are very advanced before you do. I've done this a lot and I will not use a weight that I can't get overhead myself. With a beam, log, or sandbag make the necessary adjustments. On the waiter's version use your free hand to help swing or power clean it. If you use a long farmer's size bar I have found that getting my carry hand as centered as possible and placing my free hand to the rear of the handle while straddling it allows you to swing it to your

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shoulder easy. Then your free hand is already in position to help push press it. As is normal you'll find that you can always use over half of what you can with one hand as with two.

The last time I barbell overhead carried I used my bodyweight 165 lbs and still was able to waiter's walk with a thick 2+ inch handled 36 inch long dumbbell using 110 lbs. Could I carry 220 lbs

overhead for 100 yards, not anytime soon.

Another tip is if it starts to lean back either get control quickly or drop it.

It's better to break anything other than yourself. One way I've found to help avoid this leaning backwards is when you are trying to get those last few yards and the weight just wants to

go. Let it slightly lean forward so you are moving fast to catch up with it. As you practice you'll come up with your own techniques and realize that doing an overhead carry is something that will give you a sense of strength and accomplishment.

So go out and scare the neighbors or spandex gym crowd if you get nothing else from this exercise that should be enough.



*Thanks, Jim. I will add Thick Bar Waiter Walks to my next Step Aerobics Class.*

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Next Issue???

*Hopefully, we will continue to get lots of submissions. We have contacted Mike Rosenberg about his ability to turn a caber...on his very first ever attempt? Will he share his secrets?*

*Any way...if you want to send something in, email us at [dj84123@yahoo.com](mailto:dj84123@yahoo.com) and let us know!*



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