

TOM PETRANOFF

Javelin - Level 1

Basic throwing skills and drills

Beginner Core Training

Tom Petranoff



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“Tom is without doubt one of the true javelin legends. He broke twice the World Record and has kept making history with the development of this amazing javelin, the Turbojav”

Dick Held - Javelin designer and manufacturer of OTE HELD Javelins. His javelins own top ten world best throws ever.



Javelin is one of the most demanding and challenging events not only from track and field but in sports in general. The javelin throw requires a lot of skills, drills, flexibility and technical understanding to execute the throw. You need to be fast, explosive, elastic, and have an overall fitness level that is very well-balanced.

Tom had a twenty year successful track and field career that included two world records, Olympic Games, World, African and Pan-American Championships as well as competed in 517 top track meets around the world. Tom found a need to teach the javelin event to youth that would enable kids from all ages to learn about javelin and throwing in a fun, safe and easy way. Over the past three decades we have sold over a million of TurboJavs all around the world. We have been helping young athletes to develop not only their skills, but to have tons of fun during the process. Turbojavs are a great tool to improve throwing in general; it does not matter if you are a baseball pitcher, a quarterback, or a javelin thrower. Learning the right mechanics will enable you to perform better.

KISS: Keep it simple stupid. Tom started out with the basics at nineteen years old, then stuck to the basics his whole career. Sure many drills were invented along the way, but if you lost the basics, you lost your throwing zone. You have to stick to the basics and build it brick by brick. Beginners should train 2-3 times a week for months and let the body get use to it. You need time to get the body use to training and add more as you get physically fit. It takes time to do any sport well and javelin is tough if you don't have basics down like clockwork. You must keep the fundamentals of training as your center, focus and build your anchor around it. The javelin event is a run, jump, and throw event! So you must do lots of running, jumping, and throwing, together in training your mind and body to get in sync.

You must do your drills so many times it becomes auto pilot. You don't have to think, you just let go, and let the throw happen. Repeat, and repeat with quality repetitions over and over, until you are sick of it and then do another 10,000. In Tom's twenty years of training he did the same medball drills over and

over two million times. Sledge hammer drills the same, over two million. How many have you done? Not to mention 517 competitions including masters meets in his forties. Its like any sport, you must get the reps and core strength so fine tuned and perfect, it can't break no matter what stress you throw at it. I lost my focus a few times and lost my basics. Lost the Zone! It happens. Get over it quickly, or it will eat you alive. If you are not enjoying your sport, not getting better, and most of all not loving what you are doing, forget it and move on. Javelin throwing looks simple to most people, but throwing a spear without serious training can be very dangerous to your body parts. Tom says he can relate the javelin throw to the golf swing in many ways. You must generate power and accuracy by letting the feet get torque from the ground, up to the legs, up to the hips, up to the shoulder and arms that guide the stroke and club head speed to the golf ball.

Tom Petranoff

The same chain reaction happens in javelin. The block and ground create the whip from

ground to hips and the chest and body reacts to the stretch reflex to the shoulder/ arm that is created by the torque. The shoulder is torque converter and most people think it is elbow and that means Tommy John surgery in many cases. There is no elbow use. It will bend a bit naturally to transfer energy. If you think of a bow and arrow, the

bow does not move much when you pull back arrow. You do not see energy as it is short big stroke of energy that accelerates arrow. The C position is the bow at plant and you can't see the bump of energy in real time. You can slow it down and see how stretch reflex bump hits and its linear energy that Tom could feel and knew it was a long throw. This is hard to find and it is found in the basic and fundamentals over and over.

Most javelin throwers use a run up with run, draw back, and throw over 20-30 meters. Tom's run up was 86 feet or 26 meters and draw back was at 14 meters or 45 feet. Tom used 14 steps and two follow through steps to stop momentum. He broke it down into four left foot to draw back and four more to the plant and two steps to stop or 10-12 feet to toe board. He did this run up 20-30 times a day 3-4 days a week. Walking it in slow motion to full run speed, Tom's momentum only accelerated on the runway. He always ran through he block, and chased out after javelin when thrown. 20%, 30%, 40%, 50%, and 60% build it up, feeling the bounding run build into a scissors like leg drive that ends in the block and left side action that creates the bump and pull. You can't do enough of these! Tom used his left side count as his focus to the block, and 1 left, 2 left, 3 left, 4 draw back, and attack the block. Some throwers use no drawback like Uwe Hohn or 5 and 3 was popular run up. There are many ways to run up and deliver the javelin, what works best for you. How many reps can you get in to get the feel. It starts in the

thousands and 10,000 run throughs you will be good, 50,000 you will be pro. You are training to run, jump, and throw. Keep that in mind whenever you train. Heavy weights are only for top shelf level and restricts flexibility to throw. Get good at the basics and get the form first. Then build it brick by brick.

Basics



Terminology



.You must take action and get into the zone. Can you let go of fears and let your right side wait for the whip to hit the SHOULDER and pull the javelin? If you don't believe it won't happen. If you can't taste it, smell it, feel it, dream it, you can't do it.....bottom line... tell me how bad do you want it. I showed how bad I wanted it. I did the work and deserved it , have you? Have you done everything possible to get to next level? Do you deserve it? It will when you do. Just do it.... I will share the secrets of my success and share the training I have used fning up with the hips and bringing the elbow of the throwing arm forward.

Terminology

- Applying Force: the act of pulling the TurboJav past the point of delivery. By applying force to the Javelin, the thrower can put the implement where they want it in terms of accuracy and distance. The force point where a thrower feels the force of the throw is in the area around the upper chest and shoulder muscles and the index finger at the back of the grip.
- Carrying: the process of holding the Mini Javelin or Javelin during the period before throwing and just before the “drawback”. The implement should be carried level and the point facing forward. The implement should be as close to the center of gravity as possible.
- Center of Gravity: the location somewhere below the thrower where the body is most stable. Usually the center of gravity changes with the movement of the body, head, arms, and legs through the process of running, jumping, and throwing or any other activity. The center of gravity is the location in an area below the body where balance, power, leverage and speed can be optimized or created best.
- Foot Placement: Placement of the feet for the Mini Javelin, as well as the javelin should be shoulder width apart as seen in the photo above. By placing the feet in this position, the implement will thus be

directly over one's center of gravity, and will allow all levers used in throwing the implement to be properly moved over the center of gravity.

- Drawback: the process by which a thrower moves a Mini Javelin or Javelin from a "carrying" position to a position whereby the implement is "cocked" in preparation for the throw. Like the "carry" the implement must be level and the point facing forward.

- Grip: this term means two things. First, it is the part of the Mini Javelin or Javelin where the thrower holds, or "grips" the implement. Secondly, it is how the implement is held throughout the duration of the process of throwing. The index finger and thumb of the throwing hand must be at the back of the grip where the grip cord and metal start on a Javelin.

- Leverage: the ability to balance the body through any process and to keep it able to perform at an optimum level. It is important to have a Mini Javelin or Javelin thrower to "apply force" and "leverage" over his/her "center of gravity".

- Leverage System: the utilization of the body's levers; arms, legs, head to gain complete control and balance. If one hand is behind a thrower, then one has to be in front and legs have to be placed properly, along with head positioning in order to gain complete control without losing the body's ability to apply force over the center of gravity. The

center of gravity of a thrower changes when the thrower

changes the position of his/her levers. When these levers work together and the control of body positioning in the process of carrying, drawback, and release, the thrower will experience his/her best performances.

- Overshoulder Throwing Motion: the process of bringing the Mini Javelin or Javelin over the shoulder in order to throw. By bringing the implement over the shoulder instead of around the body, like the way that some people throw baseballs, the center of gravity of the thrower never leaves the center of his/her body. By keeping the center of gravity underneath the thrower instead of out to the side, the thrower will experience more accurate and more powerful throws with less stress on the joints. By throwing out away from the body, the arm is susceptible to injuries and is not using the body's leverage system and the large powerful muscles in the chest and shoulder.

- Throwing through the Point: a common fault of any thrower in any sport is to think that throwing is a pushing motion. With the Mini Javelin and the Javelin, this is maybe clearer than any other implement. Javelins are elongated, or long and slender, implements. The level carry and drawback are imperative to long, accurate, and safe throws. When someone "throws through the point" they are "pulling", not pushing the tail of the implement

through where the point was only fractions of seconds earlier. By throwing the tail through the point, one is optimizing the flight pattern of the implement.

Key elements of the Javelin Throw:

To achieve maximum distance in the Javelin the athlete will have to balance three components - speed, technique and strength.

Grip: A strong, stable grip is acquired. The grip must remain firm behind the ledge made by the binding (cord), and the javelin must run down the length of the palm and not across it. The fingers, which are not secured behind the binding, must press firmly on the javelin in order to produce a natural spin at release.

Start and Carry: The aim is to carry the javelin to allow the muscles of the right shoulder, arm and wrist to relax and also to allow an easy running action.

- Stand with right foot forward,- Carry the javelin above the shoulders or head- Right elbow points forward,- Palm of the right hand points at the sky so as to provide a platform for the javelin to sit in- Javelin points in the direction of the run up - point slightly down

Approach Run: Experienced throwers will use an approach run of 13 to 17 strides - inexperienced throwers will use fewer strides (9). Run relaxed on

the balls of the feet with hips high- Free arm to swing more across the body- Carrying arm to flex to maintain carry position of the javelin.- The Speed must match athlete's physical and technical abilities

Withdrawal: The aim is to ensure the withdrawal movement does not affect the athlete's momentum. A checkmark can be used to indicate start of the withdrawal phase that commences with the right foot and lasts for two strides.- At the checkmark the athlete accelerates ahead of the javelin rather than physically pushing the shoulders and javelin back.- Head remains facing in the direction of throw,- Maintain hips at right angles to the direction of running- Drive the right leg forwards and upwards to help maintain the correct position of the hips

Transition: The aim of the transition phase, also known as the cross-over is to place the right foot ahead of the athlete's centre of gravity so as to produce the characteristic lean back. This must be achieved by advancing

the right foot forward and not by leaning back.- Right foot remains close to the ground to maintain forward momentum- Right heel makes contact with the ground- As the right foot is advanced forward the left foot is advanced ahead of the vertical axis so as to be in place ready for a quick plant after the right foot has landed - the trunk is inclined backward at an angle of about 115° to the

forward horizontal direction- The cross over phase ends when the right foot makes contact with the ground and the left leg is forward in the air

Pre delivery stride- The left leg reaches forward

- Shoulders & hips now in line with the direction of throw. - The athlete waits for the ground to come up and meet the left foot.- Trunk is upright,- Head facing direction of throw, Shoulders and javelin parallel, Throwing hand above the level of the shoulder

Delivery: Following contact of the left foot with the ground the left side must brace against a thrusting right leg action Right leg drives upwards and forwards bringing the hips at 90° to the direction of throw- Hip thrust is followed with the shoulders and chest turning square to the front and lining up with the hips and bringing the elbow of the throwing arm forward. The throwing shoulder is brought over the left leg. The left leg should lift as the athlete rides over it and the throwing arm now comes into play, Arm strikes fast with the elbow high and close to the mid line. The release angle (angle between the horizontal and the javelin) for the javelin has to take into consideration aerodynamic lift and drag.

Recovery: The left foot remains grounded and the right leg is brought past it to halt the athlete. The amount of space needed to stop before the scratch line depends on the amount of horizontal momentum. This is typically 1.5 to 2 metres.

Adjustment of the checkmark is required to achieve optimum distance on the runway.

Optimum Distance

The distance achieved in the javelin is dependent on 3 parameters:

- height of release of the javelin
- angle of release of the javelin - speed of release of the javelin

The parameter that has the greatest effect on the potential distance is the speed of release of the javelin.

Optimum Release Angle: With ballistics, the same initial speed is applied to the projectile regardless of the angle of projection. Research (Bartonietz 1995)[2] has shown that the athlete cannot throw at the same speed for all angles of projection, as the angle increase so the speed decreases. Each athlete has a unique combination of release velocity and release angle that depends on their size, strength, and throwing technique which means that each athlete has their own specific optimum release angle. Bartonietz (2000)[1] identifies that the optimum release angle for a world-class javelin thrower may be $33^\circ \pm 7^\circ$.

Rhythm

You must find the rhythm in your throwing that flows like water or plays like good music. The

cadence is so important to the delivery of the block and you must work on it daily if you want to perfect it.

Everyone has a slightly different cadence and rhythm but the last 5 steps are very similar in delivering the whip punch at block/plant. Some gallop, some run, some bound, me---- I liked them all and blended them into my delivery. 86 feet was my start point and I drew back javelin at 46 feet. 26 meters and 16 meters. I always left 3 meters at the end to follow through and reverse engines and stay balanced. I went from 1st gear to second gear and third gear was in the last 7 meters my momentum was fastest which left me to focus on the block. Forgot to throw it because I focused on the action side

of the throw. The reaction side was throwing the arm and shoulder waiting for energy to hit the chest and shoulder. I knew at draw back if I was going to throw far. If I was too close to toe board or too far away I would have to adjust and that created misses. If my run was right and my drawback was smooth and no shift in balance. boom!!!!!!! gone!!!!!!

The Gripp

There are three ways to hold the javelin. It is important that you feel comfortable and have a good grip as it will allow you to transmit the force into the javelin.

Grip Nr.1: Index Finger Grip. In this grip, the index finger grips right around the edge of the cord. The thumb and index finger are on the edge of the cord. Must be opposite to the index finger as well and the other fingers simply wrap softly onto the cord. This is the most popular grip to begin with because of comfort and simplicity. This is a great grip for beginner throwers and elite.

Grip Nr. 2: The Middle Finger Grip is also popular grip in javelin throwing. If you place the javelin in your hand, you will notice that the javelin comfortably sits in the groove of your hand and that middle finger naturally lands on the cord edge. Many throwers enjoy the feel of the middle finger grip including the world record holder Tom Petranoff so you can't go wrong with this grip.

Grip Nr. 3: The Fork Grip. We do not recommend this grip because it is hard to master. Not many throwers use it as it is hard to control javelin. With this grip, the thrower places the javelin between their index finger and middle finger very deep into knuckles. It is not very balanced grip. This grip is sometimes used by beginner and intermediate throwers and typically phases out of use as

throwers begin to throw further. Tom used the middle finger grip with old rules javelin. Then when new rules came out in 1986 he switched to fork grip as he threw it further with new grip. Try them all. Pick the one that feels best and gets you good flights.

Standing Throw:

With your feet flat on the ground, face in the direction of the throw. The Turbojav should be held at eye level, parallel to the ground, with the point facing forward. Your non throwing arm should also



be pointing out in the direction of the throw. Draw the Turbojav back being careful not to bend the throwing arm and also not allowing the nose of the Turbojav to rise up or fall down. Keep the Turbojav trajectory always over the throwing shoulder, as it will help you to throw clean and through the point. Practice first throwing light and clean and as you master the throw, add more strength and speed. Throwing correctly will help you to improve the mechanics, not only for the Turbojav, but for all throwing sports, such as baseball and football.

One, Three, Five Step Throw:

A right handed thrower will start with the right foot forward and the right arm back. The Turbojav should be drawn back and the non throwing arm or left arm pointing in the direction of the throw. Both arms should be held high just above the shoulders. Your first step will be with the left foot planting hard and blocking. The left arm at the plant or block should pull into the ribcage quickly, which will allow the right shoulder and hip to accelerate over the leg as you throw, which will then allow your body to continue to the follow-through position. Once you have mastered the one step throw, you can start practicing with a three step throw, which is done by adding a crossover from left to right before you reach the right position. Do this at low speed,

Full Approach Throw:

The full approach should be added only once you have successfully mastered the standing 3-5-7-step approach. Follow the guidelines as above, but you must learn to run smoothly, draw back the Turbojav with control and keep the point always pointing at the target or in the direction of the throw. The most common problem that throwers experience is losing the direction of the point. It is imperative that the thrower keeps the point parallel to the ground, not allowing it to move up or down when they start to apply the force of the throw. Most throwers do not use more than 25-30 yards for a full approach or 12-16 steps. Coaches should also advise the throwers of the importance of not stopping as soon as the Turbojav has been thrown, as they must allow the body to follow- through.

Training & Equipment



Training



“Fine-tune your body to throw far, stay healthy and have fun”.

-Improve conditioning and flexibility:

What I teach about Javelin throw for kids is how to improve their coordination, armspe- ed, and accuracy. As a young throwers group coach, I trained many kids with different abilities. A javelin throw coach experience entails all age group development.

The first group of throwers are the 9-12 years old boys and girls, then 13-15, 16-17, 18-19, 20 to senior throwers. Having a coaching experience for all age group might be a must for becoming a master coach. Good training habits formed early make all the difference.

The beginning (first year of training sessions) or a start is an important step in building a solid foundation in proper javelin throw mechanics, developing strength and flexibi- lity, and acquiring confidence with kids athlete throwing program. When young athle- tes injure their throwing arm, besides poorly learned mechanics, many times it's the thrower's weak hips, trunk and legs, that contribute to the problem. When the legs, hips and trunk are weak, coupled with poor mechanics, the arm takes most of the stress of the throw. Throwing with arms only mean the wrong or no use of hips, trunk, legs and body. Whether it is the coaches' or throwers' fault, it is something that need to be changed. Once a javelin thrower learn how to throw with good mechanics, and understand how to train and then use their hips and trunk, they begin to throw with a more powerful yet effortless delivery. And of course with less stress to the elbow and shoulder. Bodyspeed, legsspeed, armspeed, handspeed, quickness of reflexes, they are all important factors in achieving the farthest javelin throw distance. The athletes shoulder and arm act much like a slingshot during the javelin throw, releasing lar- ge amounts of focused energy. As we all remember David and Goliat's Story, we understand the importance of focus and concentration of the throw. A precise movement

right to the point!

There are thousands of kids with strong throwing arms. What separates them? Who becomes a good football or baseball or Javelin Thrower? Kids at early stages have no knowledge of the throwing mechanics, arm motions, arm and shoulder throwing power, or even the understanding of releasing large amounts of energy. They learn about skills and drills as they grow. The best way of teaching the throwing technique is with TurboJav. It is easy on joints and ligaments, safe, and most importantly it only flies when thrown properly. TurboJav is an implement that is introduced to hundred of thousands of schools as the safest throwing equipment that can be used indoor and outdoor!

Develop their throwing knowledge and skills: Start learning javelin throw drills, skills, competition rules, and everything about javelin. Create goals and dreams, Learn to be a humble and hard-working thrower,

Even my biggest critics would agree that I was very good getting the momentum into the block and waiting for the stretch reflex whip action

to hit from the ground up to shoulder. 88mph or 33 meters per second....I worked hard with drills perfecting this delivery with hose drags, run throws with javs and 10lb poles and doing them all the time. You must find your whip by letting go of

the throwing tension on strong side—yet not loose control point and attack with the legs and hip/knee drive to get the bounding whip to connect the body whip. The block and lift whip is in all throws and jumping events Good athletes find this stroke by getting good core strength and plyometrics action into your stroke. Most athletes are close but still lack the ability to get ballistic whip necessary to get to next level. Too fast, too anxious, too much chatter in brain?? What ever it is — it is weakness you need to fix mentally and internally. You can do it all by yourself.

You have to become a good runner, jumper and thrower, with an important amount of strength, flexibility and core power to become a good thrower and to prevent injury. Period. No short cuts.

You need to build multi directional agility before you start lifting heavy weights and finding your throwing stroke is most important. The drills will bring the stroke to you. This take time and patience and can only be done well after years of practice and quality training. The weak side is most important part of training and will help you find you strong side stroke. As you train, you will improve your fitness and conditioning, thus you will become a better thrower and help your body whip



create the throw. Javelin is one of the most physically demanding events on your back shoulder elbow and knees. You run up and build momentum and jump into the penultimate step and block at plant into the throw that creates a chain reaction from the ground up through the legs and and hips on to the back and shoulders

on to the elbow and wrist to the release. Tom's focus was on the block and left side action that created the reaction and throw. He never gave command to throw, he gave the the block the command and stretch reflex just happens. It is hard to imagine but toms throwing arm / shoulder were relaxed and waiting for the block to hit. Take a look at his video in slow motion and you will see his right side is loose and jelly like and left side is attacking.

-Training smart helps the javelin thrower find the bump energy

Javelin is an event that includes physics, as you use your body to create a catapult that will launch the javelin. You have to understand how the center of gravity is moved during the throw, how to use your legs and center of gravity to create with a clean block the hight, how you use your rotation to create additional power and how you delay your arm to create a longer acceleration. This creates two things, speed that is transferred into the implement, and hight that will create a better flying

orbit. Both will result in a longer distance. Learn how to throw really good at 30%/40%/50%/60%.

The optimal throw is 85-90 % one rep max. I thought it was 110% or more in his early years. Then he found the zone after getting help from sports psychologist Bob Niddefor trying camps in 1982. 6 months later 99.72 m 3272 feet. So quality training is key.

- Training helps you to develop mentally, emotionally, physically

World class athletes have one thing in common: They are winners, believers of their talent, aggressive competitors that want to win. This can only be done after years of mental preparation. You have to be able to handle the pressure in order to succeed, not only in sports, but in life. You have to learn to believe in your given talents and gifts. You are unique and no-one can tell you: You can't do it. You can, You will, you watch me!!!! was Tom's motto all his life. You must have an anchor to have a

not get board and complacent. We played basketball with 3-4 k med balls , we played soccer with 2k medals, we threw and punted footballs, we threw baseballs, we did weighted uphill and downhill with flak jackets. We threw rocks at the beaches, snow balls in winter, played a lot of tennis as well. Tom was very good swimmer and swam 2-3 times a week 500-700 meters in all strokes and



did lots of mobility drills. 1-3 meter diving was a blast unless you missed. lol . Bottom line is to have fun training and make it good quality. Get fit.

- Learn to focus:

Tom's philosophy was simple. Go to practice with positive attitude with total focus on training so you can get quality workout without distractions. Turn off the cell phone and music distractions. You have plenty of time to do that during the day. We never trained with distractions. Our mission was so



the competition. It took me six months of practice to turn the TV on. I was seeing static for months and then slowly it started to come and then it became like HD clear picture. That is where I found the throwing zone. The mind and body became one and javelin throwing became easy.

There are many things that we need to understand before you get into full training program. TAAT system is very simple to do. It was created over years by Paul Ward and Bill Webb 1977. The first thing

to do is to test your skills set on many different tests to access your strength and weakness for throwing events. Adjust the training load to fix your weakness and maintain strength. Once you are balanced you can go harder and load the training. This will also help your athletes to prevent injuries as well. We not only train to throw farther, we train to prepare when we miss the throw at full speed. It hurts when you miss and you can injure yourself easily if out of alignment.

focused that it reflected in our results on the field. When we were training you could see how much fun we had and how hard we worked. I was like training animal for 2-3 hours a day but twice a day most times. 1 hour in am 2 hours pm or visa versa. We would mix it up. Three days on one day off, two days on one day off. One light session, one hard session. The mental part of training was at night and during the day when Tom needed a nap. It was good to rest for 45-1 max and do mental training with eyes closed laying down. I close my eyes and try to turn on TV set of me getting warmed up of

Also important is how important rest and stretching is just as important as training. Tom did all his stretching in the evening watching TV. Massage therapy and chiropractic adjustments helped as well as good nutrition and hydration. No diet really. We burned like a hot furnace and nothing would stick to us. You must not go to practice hungry as this is counter productive. I always ate 2-3 hours before training. Always had water to hydrate and did it often.

Tom would always warm up 15 to 20 minutes of fun stuff to loosen up and slowly build the session as it went. No rush to get it over with. Rest in between reps was also important. 20-30% effort 40—50 % by one hour your at 60-70% and never go over 80% effort. The javelin take 5-6 seconds then you have two wait 10-15 sometimes 20 minutes between throws. You can't practice that way. Take 1-2 minutes between reps and mix up drills so you get coordinated and mix in throws during your workout to show your body what the training is for.

Tom took 2 months off from training after summer to allow the body to rest and heal. Training was reduced to beach swimming, easy jogging, tennis, golf, NO JAVELIN throwing for 3-4 months. I would put them away until December and and start easy 20-40% max both arms. Resting is fundamental to allowing the body to recover from 25-30 meets of throwing and traveling around the world. Tom never had any major injuries. He did tweak himself few times, groin, shoulder, back, ankle over the years



but few days rest and therapy would do it.

Active resting:

After a nice long break from javelin , the body and mind were hungry again to get ready to get ready for next season. We started with for 5-6 weeks of buildup training to get fit, stronger, for the new track and field season. This was the same deal for 18 years. Consistent training, good training partners, good therapy team and most of all good family. Awesome wife who supported me. It is very important that you have a good team to help you reach your goals. Tom never was injured in more than two decades of javelin throwing. This is a record by itself. Few javelin throwers manage to be on top for more than five seasons, very few for more than 10, only one javelin thrower in history was world class for more than two decades.

- Warm up:

Before every training session you must be sure that your body is warm, this means running 2-3 laps, stretching and doing some running and throwing drills, before you can add intensity to your training. Never start the main exercise without a proper warm up.

Check our warm up section to get a clear understanding on what needs to be done.

- Test your fitness:

Testing your level of fitness is key to understand where you are and what needs to be improved. Before we start our training cycle, we must have an idea where you are. As training progresses, we need to keep track

We have a standard test that includes measuring your running, jumping, flexibility, strength, throwing capabilities, strong side and weak side. Monitor your weight too. Javelin throwers are slim, strong, light athletes! You have to keep track of what you eat and what you drink. We include a test every month in order to monitor

the progress being made. An improvement of the abilities will result in a longer throw.

- Training book

physical

Most athletes keep track on their training and take notes on the training sessions made. This becomes important in the future as it helps the athlete have a clear view of what is being made over long periods of time. Have a book and take notes on your progress. Its a fun way to understand your activities

- Training cycles:

Active resting: once the season is over, it is very important that we allow our body to rest. It does not mean that we have to lay in bed and do nothing. No, during this phase, we do other sports

activities to keep the body active. Swimming has been one of my favorite activities during the offseason. I still keep swimming, as it is not only a workout, but a way to relax the muscles and keep them strong. Go out for an easy jogging, 15-30 minutes, stretch, do some long walks, play basketball, soccer, tennis.

- Training Equipment

Turbojav

Turboball

Rubberband

Axe

Med Ball types and weight to use?

Med ball come in various weights between 2 and 12 pounds. Use our Turboball that weights 4 pounds as it is safe and fun. It can be used indoor or outdoor and best for learning and teaching correct mechanics and drills.

Stretch Reflex with Med ball

Begin this drill standing up on your toes with your feet shoulder width apart. You should be about one or two foot lengths away from the wall with your core pressing against it for support. The Med ball should be positioned above your head ready to be

pulled into the wall. When performing this drill keep your arms at the elbow as straight as possible.

Throw the Med ball into the wall so it bounces off with enough force so it pulls your arms back behind your head. Then in one continuous motion repeat the process again

throwing the Med ball into the wall. We are trying to create a stretch in the shoulders so the harder you throw the Med ball against the wall the harder it will rebound forcing your arms behind your head. A tremendous stretch in the shoulders is needed in order to throw the javelin.

Core Development on Stability Ball and Gym Pad



Games



Games



Distance and Accuracy practice:

Once the throwers have successfully mastered the target drills they will then move on to throwing for distance...keeping in mind the importance of proper technique and by having control over the throw. Make sure that they learn how to throw with both weak side and strong side. The weak side has no bad habits so it helps the strong side find the right throwing stroke. Mix the games up, throw at garbage cans, targets, basketball hoop, or trees so you can develop accuracy is very important.

Three...Five...Seven-Step Approach:

A right handed thrower will start with the right foot forward and the right arm back. The Turbo Jav should be drawn back and the non throwing arm or left arm pointing in the direction of the throw. Both arms should be held high just above the shoulders. Your first step should be with the left foot, second step with the right foot moving quickly to allow the third step off the left foot or the block leg to get down quickly. The left arm at the plant or block should pull into the rib cage quickly, which will allow the right shoulder and hip to accelerate over the leg as you throw, which will then allow your body to continue to the follow-through position. Once you have mastered the 3-step, add 2 more steps which would be a 5-step then once you have mastered the 5-step, add 2 more steps which would complete the 7-step approach.

Distance and Accuracy Games:

Distance:

The object of this game is to throw for accuracy and distance. Draw a straight line for throwers guidance. Throws are measured from the toe-board to where the Turbojav lands nose first. 1st Place 5 points, 2nd Place 3 points, and 3rd Place 1 point

Skills and Drills:

Organize athletes into groups relative to how many Turbojav's are available. For example, a group of 24 athletes with 6 Turbojav's should be organized into 6 groups of 4 athletes. Place a group into a safe throwing formation. This means each group will be lined up behind a group marker, all facing the same direction, with adequate space between each group. For further safety, a coach may wish to have the athletes waiting for a turn behind a 2nd marker.

Target/Garbage Can & Basketball Hoop

The aim of these drills is for athletes to throw the Turbojav and hit the allocated target. For the first couple of lessons begin by positioning the throwers 5-10 meters away from the targets. As your athletes master the skills they can be moved further back. Points should be awarded only if the rubber tip of the Turbojav hits the target. Correct flight of the Turbojav is what we are after while performing these drills. Eventually athletes or groups could compete against each other and points should be awarded not only for accuracy but also for who has the best flight and technique.

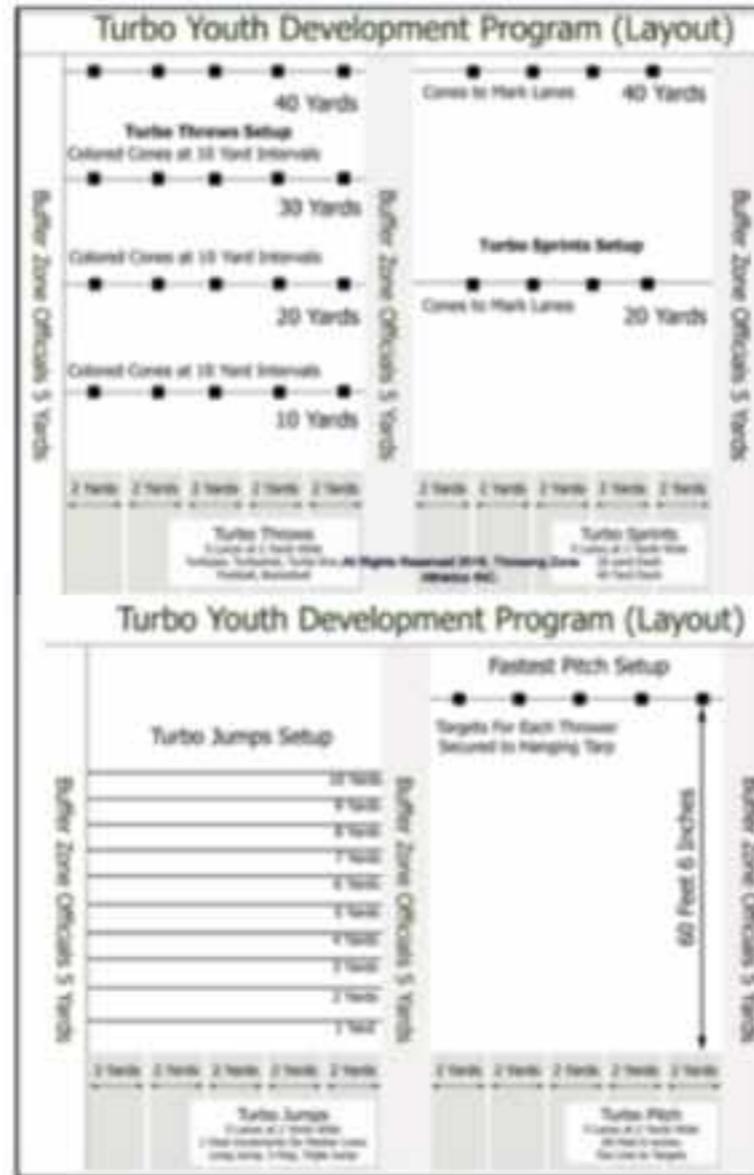
Skills and Accuracy Games:

Over the Shoulder System Target: Points are awarded for the nose only hitting the target. Five points-for inner circle; 3 points- for middle circle, and 1 point-for outside ring

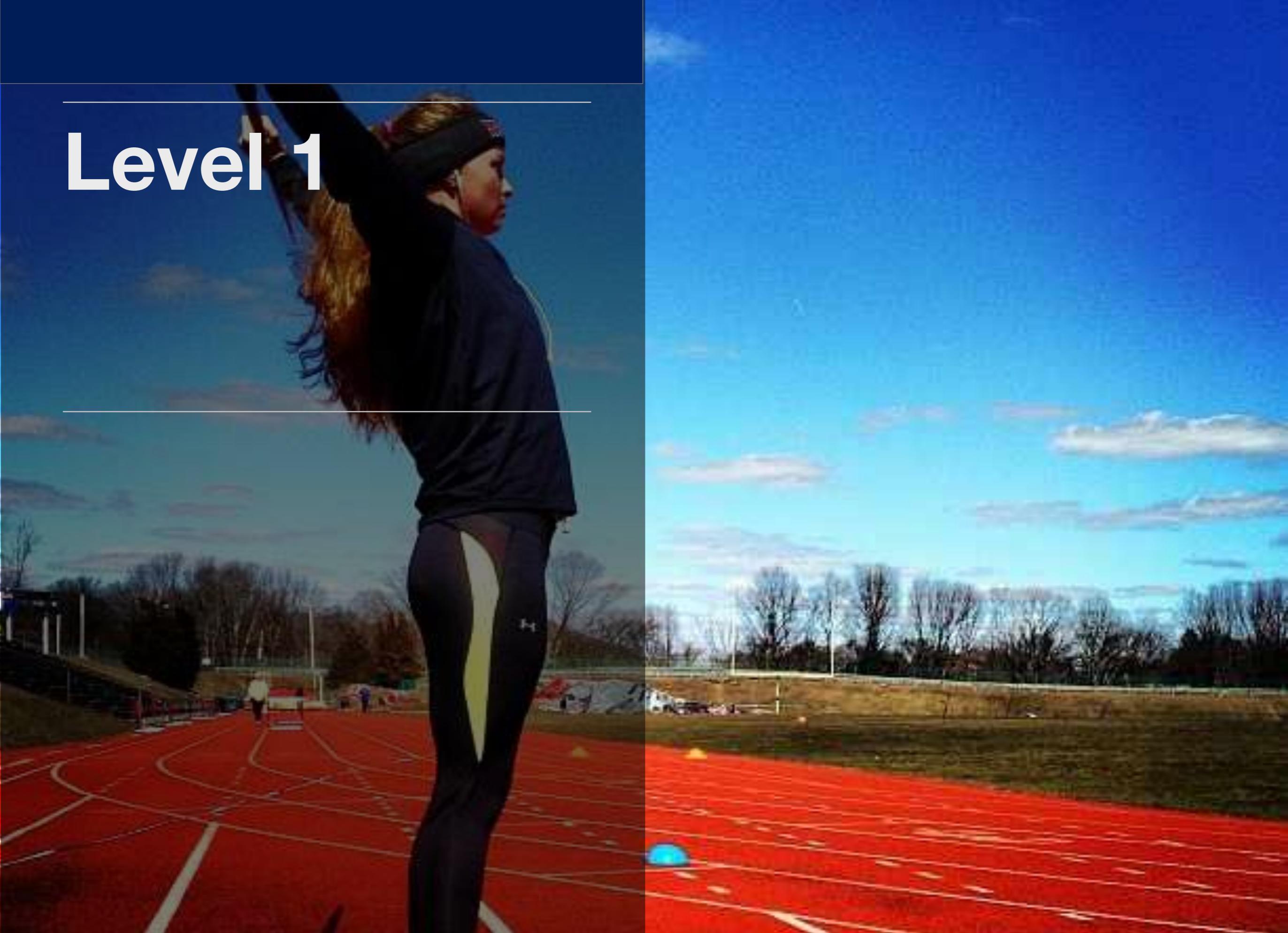
Garbage Can:

Points are awarded for nose hitting the can and Turbojav going into the can. Five points-going into can, and 3 points-hitting the can

Make up your own games. Turbo Golf, or throwing over fence.



Level 1



Level 1 Description



Training level 1

- Who should use our manual?

Middle school, high school, college, special Olympics, parents, little league, football coaches, throwers in general, master athletes, children. Young throwers should cut 20-25% of the volume but still try to do all the training groups. They can pick the core exercises and add few new drills each time.

- Goals

Level 1 is for throwers that want to become familiar with a world class system at a young age or at a basic conditioning and throwing level. Athletes will practice three times a week for an hour and a half. Two days are meant for conditioning and fitness and one day is for pure throwing. During conditioning, the athlete will improve gradually all the core through sprints, jumps, throws and flexibility. We emphasize weak and strong side throwing, as this brings the balance to the body. Throwing drills are a vital part of our training, it should be done from all throwing positions, with two arms and single arms.

Games are fun and help to improve throwing skills and mechanics as we use our fun targets to develop throwing fitness.

- Duration

Some throwers will be able to do Level 1 three to four months and jump into Level 2, this will depend only on how quick the athlete adapts and builds a basic fitness and improve, while some others just might stay at that level, as it is challenging enough and takes time and energy to accomplish.

is for throwers that want to become familiar with a world class system at a young age or at a basic conditioning and throwing level.

Athletes will practice three times a week for an hour and a half.

- How to follow our manual

We have included a list of groups that combine all major training areas. As a world record holder and elite thrower, I used the same principles as level 1, but added time, repetitions, weight, amount of training sessions and recovery

We want to measure our progress over a period of time. Basic level, maximum 10 tests, intermediate or level 2, 20 test, elite, or level 3, 30 tests. We test the core and add additional tests. Keep good track of them as you will be able to monitor your development and progress accordingly, TAAT, t

Level 1: 10 tests

Exercises, repetitions and weight

Groups of training exercises

- Equipment to use:

Turboshot – Medball of 2 kilos. Turbojav (depending on age, use 300, 400, 500, 600, 700 and 800 g)

Age 8-10, 300, Age 11-12, 400, Age 13-14, 500, Age 15-16, 600, Age 17-18, 700

Age 19-20, 800

- Rubberband: Rubberbands are an excellent tool to build flexibility and strength over time. How to do it? Tie one end of the Rubberband to a firm place, extend it and start pulling gently, increase the strength of the pull over time. The idea is that the stroke is relaxed but firm. Feel as your muscles stretch, hold the position for few seconds and go back to the starting position.

- Medball throws with 2 kilos

2 Handed forward, 2 hand over head, 2 hand under head, 1 hand strong side standing, 1 hand weak side standing, 2 hand side to side backward, 2 hand chest press, 2 hand one step, three step, five step, seven step

Core throws

2 Handed forward, 2 hand over head, 2 hand under head, 1 hand strong side standing, 1 hand weak side standing, Do these core throws twice a week, 20 throws each time. Warm yourself up into the throw. Don't start throwing with full power as you will fatigue the muscles and will not achieve the desired outcome. As you warm yourself up into the throws, increase slowly the intensity of them

Additional throws

2 hand side to side backward, 2 hand chest press, 2 hand one step, three step, five step, seven step. These type of throws require more coordination

and body control, so lets pick three or four throws each time and develop the body set

- Jumps and Sprints

Runs and jumps are essential part of the javelin throw.

Standing and triple jump: Choose a soft landing area, like the long jump pit. Bend your legs 90 degrees and try to jump as far as possible.

Standing triple and three hop jump: Count 6-8 meters back from the long jump pit border, bend your legs 90 degrees and do left-right-left jump and mix it with right-left-right jump. Be careful initially as this will put some stress to your knees. We javelin throwers don't like triple jumps, but they are essential to develop strong, explosive legs.

For the single leg bounce and 2 leg bounce, do them on a soft surface such as grass, as they will put stress on your legs. Start the first series very slow and build yourself into longer, more powerful jumps over time.

Depth and vertical jumps:

Start by choosing an area that is at least 50 centimeters higher. Stand with both legs and jump down softly, stretch your legs as soon as you land on the surface. This will help to develop a strong block and powerful legs.

- Sprints

Front and back sprints will help develop overall running and leg speed that is very important for throwers. Mark 30 meters and go to the starting line. Ideally is that you gradually increase speed, so start slow in order to avoid injuries. Do 5-10 Sprints, front and back.

- Running drills: You can do a mix of different running drills, that include skipping, exaggerated skipping, sideways running, hops, and all sort of drills.

Stadium stair drills

Stadium offers a great way to increase leg strength. Use the stairs to do skipping, two leg jumps, one leg jump, fast skipping, exaggerated skipping. Do at least 20 repetitions on a distance of 15-20 meters if possible

Stretching: Stretching is a core part of our training and it should be done after practice. Try to stretch main muscle groups slowly, staying at fixed position for at least 10 seconds, then rest, then do it again. We need to be flexible in all muscle groups in order to avoid injuries.

Mental training: how to do it,

MISSING

Medball Drills

Text





Javelin Flexibility Drills

2-3 Series x 10 seconds



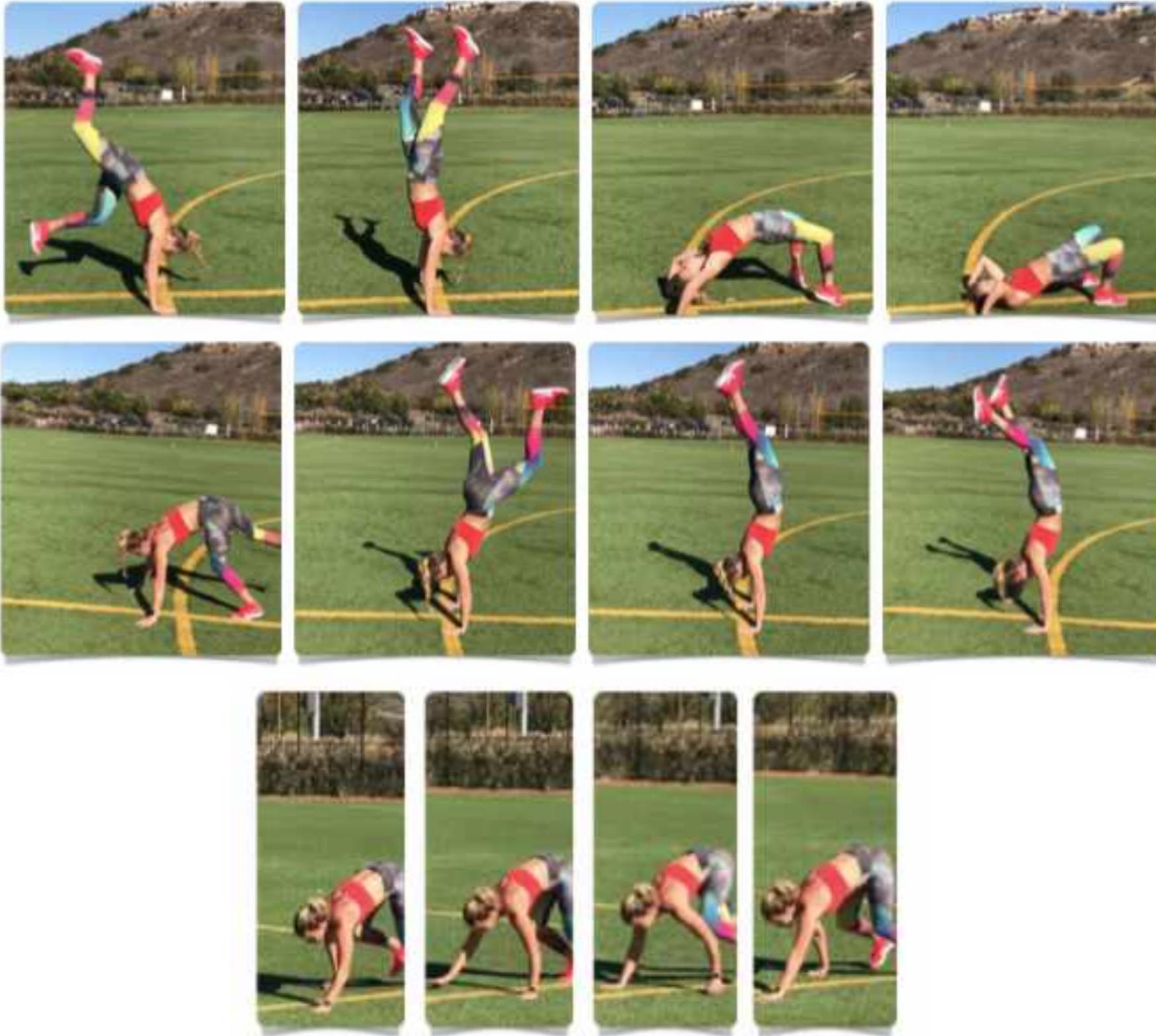
Agility Drills

Text



Javelin Flexibility Drills

2-3 Series x 10 seconds



Flexibility

Text



Javelin Flexibility Drills

2-3 Series x 10 seconds



Weight Training

Text

Full Body Exercise

2 -2 Series x 20 Reps



Leg Drills

2 -2 Series x 20 Reps



Bar Drills

2 -2 Series x 20 Reps



???

2 -2 Series x 20 Reps



Pullover

2 -2 Series x 20 Reps



Throwing

Text



Stand straight and relaxed, with the Turbojav over your head. Aim at a target with your left arm. Pull slowly back and bend your knees. Use your back and your hip to create an arch. Once you feel the shoulder stretching, move your arm forward. Remember to do it strong-side, weak side.

Stand straight and relaxed, with the Turbojav over your head. Aim at a target with your left arm. Pull slowly back and bend your knees. Use your back and your hip to create an arch. Once you feel the shoulder stretching, move your arm forward. Remember to do it strong-side, weak side.



Stand straight and relaxed, with the Turbojav over your head. Aim at a target with your left arm. Pull slowly back and bend your knees. Use your back and your hip to create an arch. Once you feel the shoulder stretching, move your arm forward. Remember to do it strong-side, weak side.



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One Arm Drills: Left and Right Side

2 x 20 Reps

Stand straight and relaxed, with the Turbojav over your head. Aim at a target with your left arm. Pull slowly back and bend your knees. Use your back and your hip to create an arch. Once you feel the shoulder stretching, move your arm forward. Remember to do it strong-side, weak side.



Hammer Drills

Text

Hammer Drills:

2 x 20 Reps



Jumps

Text



Hose Running

Text

Hammer Drills:

2 x 20 Reps

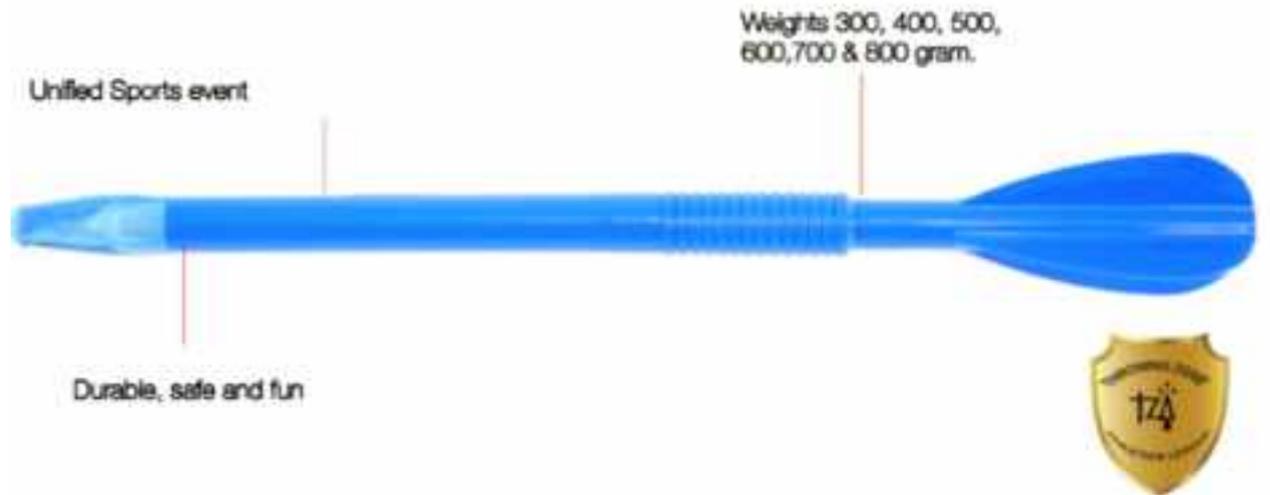


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TURBOSHOT



Turboshot: The All-in-One Ball, Shotput, Hammer, Discus, Medball. Lini grip, High Grade Rubber. Sharkskin Surface. Weights 4 Pounds

All-in-One Ball, Shotput, Hammer, Discus, Medball



Weights 4 Pounds or 2 Kilos.

High Grade Rubber, Lini grip, Sharkskin Surface.



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