ATHLETICS

Special Olympics Coaching Quick Start Guide

Special Olympics

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Special Olympics athletics welcomes your ideas and comments for future revisions of this guide. We apologize if, for any reason, an acknowledgement has been inadvertently omitted.

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Essential Components of Planning a Athletics Training Session

Special Olympics athletes respond well to a simple well-structured training outline with which they can become familiar. An organized plan, prepared before you get to the athletics center, will help establish such a routine and help make best use of your limited time. Every practice session needs to contain the following elements. The amount of time spent on each element will vary because of several factors.

- ❑ Warm ups
- ❑ Previously taught skills
- ❑ New Skills
- ❑ Competition experience
- ❑ Feedback on performance.

The final step in planning a training session is designing what the athlete is actually going to do. Remember when creating a training session using the key components of a training session, the progression through the session allows for a gradual build up of physical activity.

- Easy to difficult
- Slow to fast
- Known to unknown
- General to specific
- Start to finish

Tips for Conducting Safe Training Sessions

Though the risks can be few, coaches have a responsibility to ensure that athletes know, understand and appreciate the risks of athletics.

- ❑ Establish clear rules for behavior at your first practice and enforce them.

1. Keep your hands to yourself.
2. Listen to the coach.
3. When you hear the whistle, Stop, Look, and Listen
4. Ask the coach before you leave the field of play

- ❑ When the weather is poor, have a plan to immediately remove athletes from inclement weather.
- ❑ Always rope off the throwing areas so that athletes do not wander into the line of throwing.
- ❑ Never play around with the shot puts or relay batons
- ❑ Make sure athletes bring water to every practice, especially in hotter climates.
- ❑ Check your first aid kit; restock supplies as necessary.
- ❑ Identify the nearest phone accessible during practice.
- ❑ Ensure that the locker rooms and or rest rooms are available and clean during practice.
- ❑ Train all athletes and coaches on emergency procedures.
- ❑ Do not allow athletes to play while wearing watches, bracelets, or jewelry including earrings.
- ❑ Provide proper stretching exercises after warming up at the beginning of each practice.
- ❑ Provide activities that also improve general fitness levels. Fit athletes are less likely to get injured.

Special Olympics Athletics Skills Assessment Card

Athlete's Name _____ **Date** _____

Coach's Name _____ **Date** _____

Instructions

1. Use tool at the beginning of the training/competition season to establish a basis of the athlete's starting skill level.
2. Have the athlete perform the skill several times.
3. If the athlete performs the skill correctly 3 out of 5 times, check the box next to the skill to indicate that the skill has been accomplished.
4. Program Assessment Sessions into your program.
5. Athletes may accomplish skills in any order. Athletes have accomplished this list when all possible items have been achieved.

Running Basics

☐ Maintains a balanced and upright posture

☐ Can maintain a hips tall position

☐ Lifts opposite knee/arm while running

☐ Does not swing the arms in front of the body or rotate the shoulders while running

Starts

☐ Performs a stand up sprint start

☐ Demonstrates proper sprinting form

☐ Takes relaxed "On Your Mark" position in the starting blocks

☐ Takes balanced "Set" position in the starting blocks

☐ Performs a sprint start out of the starting position upon hearing start command

☐ Athlete performs a stand up start

Sprints

☐ Athlete can perform a stand up or block start

☐ Athlete has good foot speed

☐ Demonstrates ability to start and finish a sprint event

☐ Athletes sprints under control

☐ Athlete likes to run fast

Hurdles

- ☐ Athlete attempts to step over a low barrier
- ☐ Athlete demonstrates the ability to step over a low obstacle while running
- ☐ Athlete demonstrates flexibility in hips
- ☐ Athlete demonstrates ability to start and finish a sprint
- ☐ Athlete likes running over barriers

Relays

- ☐ Receives baton in a visual pass
- ☐ Performs an upsweep/palm down baton pass
- ☐ Performs an downsweep/palm up baton pass
- ☐ Performs baton pass in exchange zone
- ☐ Runs designated leg of relay race in proper manner
- ☐ Athlete runs to teammate in proper lane
- ☐ Athlete runs in lane while reaching back with designated arm
- ☐ Athlete can run to teammate with baton
- ☐ Athlete runs in lane while looking back at incoming runner
- ☐ Athlete can run 100M
- ☐ Athlete can run 400M
- ☐ Athlete likes running relays with teammates

Middle Distance

- ☐ Athlete can run for 3 minutes at a steady pace
- ☐ Athlete can run for 30 seconds at a fast pace
- ☐ Athlete likes running 2-4 laps around track

Long Distance Running

- ☐ Runs in balanced and erect posture
- ☐ Demonstrates correct distance running form
- ☐ Demonstrates ability to start and finish a 1600M race
- ☐ Demonstrates ability to run at a certain pace

Running Long Jump

- ☐ Performs a 9-step approach
- ☐ Performs a single leg takeoff
- ☐ Demonstrates the step-style flight technique
- ☐ Demonstrates the hang-style flight technique
- ☐ Demonstrates proper landing technique
- ☐ Jumps on command and under control
- ☐ Athlete can perform a good standing long jump
- ☐ Athlete can locate his/her starting mark
- ☐ Athlete can locate takeoff board
- ☐ Athlete likes jumping into sand pit

Standing Long Jump

- ☐ Assumes a ready-to-jump position
- ☐ Demonstrates the correct takeoff for a standing long jump
- ☐ Demonstrates proper flight technique
- ☐ Demonstrates proper landing technique
- ☐ Jumps on command and under control
- ☐ Athlete can perform two-leg takeoff
- ☐ Athlete likes jumping

High Jump

- ☐ Performs a 7-step approach for a flop style high jump
- ☐ Performs a flop style jump, landing on back
- ☐ Performs a scissor style high jump
- ☐ Performs a 7-step approach for a scissor-style high jump
- ☐ Jumps on command and under control
- ☐ Athlete can jump up into the air off one foot
- ☐ Athlete can take off with one foot and land in the pit
- ☐ Athlete can perform a consistent three-step approach
- ☐ Athlete can perform a one-foot takeoff
- ☐ Athlete can jump backward into the pit
- ☐ Athlete can run on a curve
- ☐ Athlete likes jumping

Shot Put (for wheelchair athletes too)

- ☐ Grips shot correctly
- ☐ Takes a ready-to-put position
- ☐ Performs a standing put, or wheelchair sitting put
- ☐ Performs a sliding put
- ☐ Performs a glide put
- ☐ Puts shot in a forward direction
- ☐ Puts shot in the shot put marking area
- ☐ Performs reverse or weight transfer
- ☐ Athlete can balance the shot in the palm of one hand
- ☐ Athlete can safely pick up and hold the shot in the proper position
- ☐ Athlete likes putting the shot

Race Walking

- ☐ Race walks in a balanced and erect posture
- ☐ Race walks in proper form at low speeds
- ☐ Race walks at various speeds, slow-fast
- ☐ Race walks in competitive form
- ☐ Race walks under control
- ☐ Athlete likes race walking

Wheelchair Racing

- ☐ Assumes a ready-to-race position
- ☐ Performs a forward stroke and recovery
- ☐ Demonstrates ability to complete a wheelchair race
- ☐ Races in a controlled manner

Softball Throw (wheelchair athletes too)

- ☐ Grips a softball correctly
- ☐ Demonstrates proper overhand throwing technique
- ☐ Throws softball on command
- ☐ Throws softball in a forward direction
- ☐ Throws softball in the softball marking area
- ☐ Athlete can properly grip softball in throwing hand
- ☐ Athlete can take a correct ready-to-throw position
- ☐ Athlete likes throwing a softball

Athletics Attire

Appropriate Athletics attire is required for all competitors. As coach discuss the types of sport clothes that is acceptable and not acceptable for training and competition. Discuss the importance wearing properly fitted clothing, along with the advantages and disadvantages of certain types of clothing worn during training and competitions. For example, long pant jeans to blue jean shorts are not proper Athletics attire for any event. Explain that they cannot perform their best 100M or 3K race while wearing jeans that restrict their movement. Take athletes to high school or collegiate while training or during competitions and point out the attire being worn. You can even set the example, by wearing appropriate attire to training and competitions and not rewarding athletes that do not come properly dressed to train and/or compete.

Athletes must wear clothes that are suited for the activities in which the athletes are engaged. In general, this means comfortable, non-confining clothing and well-fitted athletic shoes. Proper fitting and clean uniforms tend to give athletes a boost. Although the saying "You play as well as you look" has never been proven, many athletes and coaches continue to believe in it.

Shirts

Shirts should provide comfort and a good appearance while allowing freedom of movement in the shoulders and arms. Shirts should fit loosely, but not so loosely that they appear to be baggy. A sleeveless shirt or T-shirt is recommended. Make sure the shirt is long enough to tuck into the shorts or warm up pants.

Shorts

Gym shorts with waistbands that fit snugly around the waist are recommended. Shorts should provide the athlete with comfort and a good appearance. The elastic waistband should help keep the shirt in place. Loose shorts can cause athletes discomfort, and are a distraction from their sports activities.

Socks

White tube socks made of good material will add support, help prevent blisters, give a good appearance, last an entire season and add to the length of the life of shoes.

Shoes

Probably the most important article of clothing an athlete wears when participating in track and field is a properly fitted running shoe. A good running shoe needs to have the following.

1. A thick padded heel cushion, which lowers the incidence of calluses, bruises, spurs, shin splints, ankle sprains, etc., by absorbing impact
2. Thick durable rubber sole
3. A firm heel counter, which adds more stability and keeps the heel straight in the shoe
4. Good flexibility; and, most importantly
5. A good fit

Warm Up Suits

Warm up suits are worn for warming up prior to, and staying warm after, a practice or meet. Medium weight cotton sweatshirt and pants are excellent and inexpensive warm ups. Nylon windbreakers are excellent for retaining warmth and keeping the athlete dry during inclement weather.

Athletics Equipment

The many events of Athletics requires numerous sporting equipment. It is important for athletes to be able to recognize and understand how equipment for the specific events works and impacts their performance. Have your athletes name each piece of equipment as you show it and give the use for each. To reinforce this ability within them, have them select the equipment used for their events as well.

Timing Devices

A fully automatic timing system or electric or digital stopwatches are recommended. When Fully Automatic Timing (FAT) is used, times will be recorded in one one-hundredth (1/100) of a second. Most manual timing devices are equipped with a button for start, a button for stop and a reset button. All manual times will be recorded in one-tenth (1/10) of a second.

Starting Pistol

A starting pistol should be used during training sessions. Special Olympians should be exposed to the gun prior to participating in a competitive event. Suitable replacements for the gun are a bell (mandatory in an indoor track), whistle or verbal start.

Starting Blocks

The use of starting blocks is optional. Starting blocks should be anchored behind the starting line so that when in the start position, the athlete's hands are set just behind the starting line. The blocks must be adjustable to allow the athlete to attain the most beneficial starting position.

Hurdles

Hurdles that suit the ability of the athletes should be used. Competitive hurdles shouldn't be used until athletes have learned the basis of hurdling technique over practice hurdles. Practice hurdles can be collapsible or designed to fall over easily. Practice hurdles come in many forms — from a light stick balanced on traffic cones to specifically designed beginner/practice hurdles.

Relay Baton

One relay baton is needed for each participating relay team. Batons measuring 10cm in circumference are made of anodized aluminum, or lightweight, unbreakable plastic. For practice, the following materials cut into 30cm lengths and having smooth edges can be utilized: dowels, old broom handles or PVC pipe.

Long Jump Pit

The running long jump pit should be filled with a minimum depth of 30cms of sand. The pit should be long and wide enough to ensure a safe landing by the athlete. A temporary takeoff board may be set in the runway, 1m from the front edge of the pit, if the permanent board is set more than 2m from the pit.

High Jump Pit

The high jump pit consists of a landing pit, a pair of adjustable standards and a crossbar. The ideal practice crossbar is a fiber glass crossbar. The high jump pit should have a minimum measurement of 500x250x50cm. Only approved and certified high jump pits may be used; pits made of other materials (such as gym mats) are not acceptable.

Shot Puts

Outdoor shots, made of iron, and indoor shots, covered with hard plastic, are acceptable for use in Special Olympics competitions, and either type may be used in competition as long as the following minimum weight requirements are followed:

- Men: 4 kg.
- Women: 2.72 kg.
- Wheelchair Competition:
- Men: 1.81 kg.
- Women: 1.36 kg.

Softballs

Official size (30cm) and weight (blue dot, traditional flight) softballs are recommended. Usually a dozen softballs are adequate for a training session. Tennis balls can be substituted for use by lower functioning and multi-handicapped athletes.

General Athletics Equipment List At-A-Glance

Batons	Rakes, level board
Bell for start of indoor meets	Restraining ropes, or pennant flags
Brooms for field event runways, circles	Rubber bands
Clipboards	Rules Books
Crossbars	Safety pins, numbers
Flags for restraining ropes	Score sheets and event cards
Foul/Fair flags (red and white)	Sector flags
Throwing Implements	Shovels
Landing pits	Standards for high jump
Lap counter	Starters pistols
Last lap bell	Starting block carrier (or wheelbarrow)
Masking tape	Starting blocks
Public address system	Steel or fiberglass tapes
Megaphone or bullhorn	Stopwatches
Officials' stands	Two-way radios
Pencils and pens	Whistles

Teaching the Rules of Athletics

The best time to teach the rules of athletics is during practice. For example, as athletes are working on their hand-offs, not only should you practice legal exchanges, but also explain to your athletes why the exchange must be in the zone. We have provided some of the essential event-specific rules below. Not adhering to these rules can result in athlete disqualification during competition. Please refer to Official Special Olympics Sports Rules Book for the complete listing of athletics rules.

General Rules for the Running Events

1. Runner is disqualified after two false starts. Pentathlon gets three false starts.
2. Sprints: Runner must remain in lane throughout race.
3. Runner must start behind the start line.
4. Runner is disqualified if he impedes another runner's progress by obstructing, jostling or interfering, and gains an unfair advantage.
5. Runner must wear sneakers or athletic shoes.
6. Jumping the gun will cause a false start, which could lead to disqualification from the competition.
7. Athletes are not automatically disqualified for leaving assigned lanes if no advantage is gained.

General Rules for the Relay Events

1. Runners must pass the baton within the exchange zone.
2. Runners may not throw the baton to make a pass.
3. Runners must remain in their lanes throughout the 4x100 meter relay race.
4. Runners are disqualified if they obstruct, impede or interfere with another runner's progress.
5. Within the takeover zone, it is only the position of the baton which is decisive, and not the position or location of the body or limbs of the competitors.
6. In the 4x400M relay, the first leg as well as the part of the second leg through the end of the first turn of the second leg shall be run entirely in lanes.

General Rules for the Long Jump

1. Always start behind the takeoff line.
2. The best of three non-consecutive jumps will be marked as the final score.
3. Measure the distance of the jump from the takeoff line / board to the closest impression made in the sand by any part of the body.
4. Exit pit from the sides or rear. Walking back toward the runway, through your mark and crossing over the takeoff line will result in a foul.
5. Running: Athlete must be able to jump at least 1M, the minimum distance between the toe board and sand pit.
6. Standing: Athlete must use both feet on the take-off.

General Rules for the High Jump

1. Do not dive over the bar in competition or warm-up for competition.
2. Do not touch the pit, standards or bar, or cross the horizontal plane, when deciding not to jump after a bad approach. The approach can be restarted if the pit, bar or horizontal plane has not been touched and time remains.
3. Do not take off from both feet. High jumps of any style must be made from a one-foot takeoff.
4. Exit the pit from the sides or the rear.
5. Three consecutive fouls at any one height will determine final placement. Final score is last height cleared.
6. Athlete must be able to jump at least 1M, as the minimum opening height for all high-jump competition is 90cm.

General Rules for the Throwing Events

1. Use an official size and weight softball, tennis ball or shot.
2. Enter and exit the back of the throwing ring/circle or area.
3. Throw the softball or tennis ball in any manner.
4. The best of three non-consecutive throws will be marked as the final score.
5. Do not step over the softball throw foul line, or on or over the shot-put toe board.
6. Shot Put: A legal put must be initiated from the shoulder and the crotch of the neck with one hand only. The shot does not drop below the shoulder.

General Rules for the Wheelchair Racing

1. Wheelchair athletes must start races with the front wheels behind the start line.
2. All other running rules apply.

Protest Procedures

Protest procedures are governed by the rules of competition and may change from competition to competition. Only rules violations can be protested. Judgment calls made by officials or divisioning decisions cannot be protested. The protest must site specific violations from the rulebook and a clear definition of why the coach feels the rule was not followed.

The role of the competition management team is to enforce the rules. As a coach, your duty to your athletes and team is to protest any action or events while your athlete is competing that you think violated the Official Athletics Rules. It is extremely important that you do not make protests because you and your athlete did not get your desired outcome of an event. Protests are serious matters that impact a competition's schedule. Check with the competition team prior to competition to learn the protest procedures for that competition.

Athletics Protocol & Etiquette

Expectations of Coaches

1. Always set a good example for participants and fans to follow.
2. Instruct participants in proper sportsmanship responsibilities and demand that they make sportsmanship and ethics the top priorities.
3. Respect judgment of contest officials, abide by rules of the event and display no behavior that could incite fans.
4. Treat opposing coaches, directors, participants and fans with respect.
5. Shake hands with officials and the opposing coach in public.
6. Develop and enforce penalties for participants who do not abide by sportsmanship standards.
7. Read, sign and abide by the Special Olympics Coaches' Code of Conduct.

Expectations of Officials

1. Ensure that every athlete receives courteous, objective and impartial officiating.
2. Be consistent in applying the rules of the sport to all competitors.
3. Ensure that all officials know the **current** rules of the events that they are officiating.
4. Treat every event and every meet as a prestigious and important event.
5. Maintain a calm demeanor throughout and refrain from actions that draw attention away from the athlete.
6. Be sure to take appropriate preventative steps to ensure that every competitor has a fair chance to compete.
7. Keep the safety of the athletes, coaches and spectators in the forefront at all times.

Expectations of Athletes

1. Treat teammates with respect.
2. Encourage teammates when they make a mistake.
3. Treat opponents with respect: shake hands prior to and after contests.
4. Respect judgment of officials; abide by rules and display no behavior that could incite fans.
5. Cooperate with officials, coaches, directors and fellow participants to conduct a fair contest.
6. Do not retaliate (verbally or physically) if the other team demonstrates poor behavior.
7. Accept seriously the responsibility and privilege of representing Special Olympics.
8. Define winning as doing your personal best.
9. Live up to the high standard of sportsmanship established by your coach.
10. Read, sign and abide by the Special Olympics Athletes' Code of Conduct.

Athletics Glossary

Term	Definition
Adaptation	When a muscle fiber or organism is overloaded, that muscle fiber or organism will adjust to the added stress and become stronger.
Aerobic (with oxygen)	A cellular process in which foods (carbohydrates) are completely oxidized by the oxygen in the air, and the maximum chemical energy from foods is produced. Aerobic activities use the largest muscle groups that can be maintained continuously and whose function is rhythmical in nature (i.e. walking, jogging, swimming, bicycling, etc.).
Anaerobic (without oxygen)	A cellular process in which foods (carbohydrates) are not completely oxidized because the oxygen in the air is not used.
Anchor Leg	The final or fourth leg of a relay race.
Approach	The run-up made by an athlete before performing the actual skill, i.e. long jumping, high jumping.
Arm Swing	The movement of the arms as they are moved forward and back as a counter balance to the opposite leg.
Athletic Shape	How fit an athlete is for his chosen event.
Base	Running that does not train any specific system, yet is aerobic running that provides the basic strength to do specific running.
Baton	Tubular object carried by and passed between members of a relay team.
Blind Pass	Passing the baton in a relay race with the outgoing runner receiving the baton from the incoming runner without looking at the exchange.
Center of Gravity	The point at which a line drawn through the head and torso extends to the ground.
Chute	An extension of the straight-away on an oval or semi-oval track.
Circle	The competition area for the shot put.
Closed Position	A powerful throwing position for the shot put in which the putting shoulder and hip are back.
Crossbar	The bar, which can be raised and lowered, that is placed between two standards for the high jump.
Crouch Start	The all-fours position of a runner at the start of a sprint.
Date Pace	The pace of the interval to be run that is equal to the pace of the best performance that the athlete is currently able to achieve for the event that he or she is preparing for.
Dead Heat	When two or more runners cross the finish line simultaneously, resulting in a tie.
Did Not Finish (DNF)	When an athlete starts a race, but drops out before crossing the finish line.
Disqualification (DQ)	When an athlete violates a rule, does not show up for a scheduled event, or gains an unfair advantage by impeding or interfering.
Drive Leg	The leg that exerts the force during a stride or takeoff.

Duration	The time that stress placed on an organism.
Exchange Zone	The 20M-long zone in which the baton must be passed from the incoming runner to the outgoing runner during a relay race.
False Start	Leaving the starting blocks before the start command.
Fartlek	A Swedish term meaning speed play. A type of workout which requires the runner while on a continuous run to use fast, moderate, or slow periods of running alternated as desired by the runner. This workout is both aerobic and anaerobic.
Field	Participation area for field events.
Flex	The act of bending a joint, such as the elbow or knee.
Flexibility	Ability to move a body joint through its normal full range of motion.
Follow Through	The movement of a part or parts of the body following another movement of the body.
Foot Strike	Striking the ground with the foot supplying the mechanical force that propels the body forward.
Forward Lean	The angle that the torso assumes during running or walking that is initiated at the hips.
Foul	An infraction of a rule.
Front Runner	An athlete who is leading a race, thus setting the pace.
Grip	The hand position of a throwing implement.
Handoff	The exchange or pass of the baton between the incoming and outgoing runners of a relay team.
Head Wind	Direction of the wind blowing toward the athletes.
Heat	A grouping of athletes for competition.
Hip Rotation	The forward rotation of the hips that takes place during a stride while running or walking.
Impeding	A violation in which one runner bumps, or cuts in front of, another runner, forcing him to slow down or break stride.
Intensity	The degree of stress placed on an organism.
Interval Training	Alternating runs at maximum effort for specified times (usually 2-5 minutes) with "recovery" periods of jogging. Usually the period of rest is equal to the period of the run. This is an aerobic workout.
Jogging	Running at a slow pace.
Kick	Acceleration of pace; leg speed at the end of a race.
Lead Leg	First leg to leave the ground in jumping or hurdling.
Lead-off Leg	First runner on a relay team.
Legal	A successful attempt and completion of any jump or throw in which there are no rules violations or infractions.
Marks	An athlete's starting point for a race or a jump.

Max	Maximum amount of weight that can be lifted for one rep.
Mechanics	The manner in which one puts one foot in front of the other, striking the ground in an action that tends to push the earth backward causing the body to be propelled forward.
Muscle Endurance	Ability to repeatedly continue the work without muscle fatigue. This is particularly important for distance runners.
Muscle Power	Work done over a given period of time. Power is very important to those events in track and field that require explosive strength such as the long and high jumps.
Muscle Strength	Greatest amount of force an athlete can exert at one time.
Over Distance	Steady pace running in excess of 10 minutes in duration and the basis of any distance running or walking program. This is an aerobic workout. This is the only type of workout carried on year-round. Long Slow Distance (LSD) running is accomplished at a pace approximately 65 percent of VO_2 Max.
Pace	The rate of covering a specific distance while running or walking.
Passer	The relay runner who hands off the baton.
Passing	When an athlete declines to attempt a jump or throw when it is his turn.
Pit	The landing area for long jumpers and high jumpers, usually filled with sand or sawdust (long jump) or synthetic materials (high jump).
Plyometric Training	Exercises characterized by powerful muscular contractions in response to rapid, dynamic stretching of the involved muscles. The muscle flexes and extends. Through this type of exercise this muscle reflex process is improved.
Power Foot	The lead foot in a race; preferred or strength foot.
Power Phase	The time from which the foot makes contact with the ground through the extension of the leg until the toes lose contact with the ground.
Progressive Resistance	Gradually increasing the weight lifted as the body gets used to the new stress. When the muscle is stressed beyond its normal demand, the muscle responds positively and becomes stronger.
Receiver	The athlete who receives the baton in a relay race.
Recovery	The act of bringing an arm or leg back to the drive, push, or stride position.
Recovery Phase	The time from which the foot loses contact with the ground until it again strikes the ground.
Reflex	An involuntary and automatic muscle reaction.
Repetitions (reps)	Number of times a lift is made continuously, one lift after another and without rest.
Rest	That period of time allotted to recovering from a period of stress, usually spent in rapid walking or slow running.
Rhythm	Uniform and well-coordinated running action.
Scissors Jump	A high-jump style in which the legs are moved in a scissors motion when crossing the bar.
Scratch Line	The restraining line which cannot be crossed in throwing and jumping events.

Sector	The landing area for the shot put and softball throw.
Set	A group of repetitions followed by a rest period.
Shot Put	Iron, plastic or brass spheres used for shot put competition.
Specificity	Physical conditioning for an event in track and field which matches the physiological demands of the activity. For example: endurance training produces endurance; power training produces power; strength training produces strength.
Sprint Training	Repeated quality runs (in excess of 75 percent of the runner's basic speed) of 50-150m with rest periods that allow complete recovery. This is an anaerobic workout.
Staggered Start	The start used for the 200M, 400M, 800M, 4x100M and 4x400M relay races, in which the runners are positioned at different points around the curve of the track.
Stance	An athlete's particular starting position.
Starting Blocks	Metal blocks set on the track behind the start line, used to support the athlete's feet for all sprints.
Straight-away	Straight area of a track from one curve to the next.
Stress	The overload that is placed on a muscle fiber or organism.
Stride	Distance covered by an athlete's leg cycle while running.
Strike Impulse	The amount of time that the foot is in contact with the ground during the strike phase.
Stroke Volume	The amount of blood ejected by the ventricle of the heart with each beat, usually expressed in milliliters (ml). Highly trained endurance athletes have considerably higher cardiac outputs.
Swing	Pendulum action of an athlete's body or parts of the body.
Takeoff	The act of leaving the ground.
Takeoff Foot	Foot from which the athlete propels himself off the ground.
Takeoff Mark	Spot from which the athlete leaves the ground.
Technique	The form used by an athlete to perform a skill.
Tempo	The number of turnovers required to run or walk at a given pace.
The Overload Principle	Strengthening of muscles through one of the following methods: ◆ Lifting the same weight as before, but more quickly. ◆ Increasing the amount of weight lifted. ◆ Lifting the same weight, but lifting it more times than before.
Toe-board	A restraining board, which the athlete may not cross over, used in the shot put.
Torso	That part of the body which extends from the hips to the top of the shoulders.
Turnover	The number of times that the right or left foot strikes the ground in a given period of time.
Tying Up	The point at which the muscles can no longer perform at a given intensity.

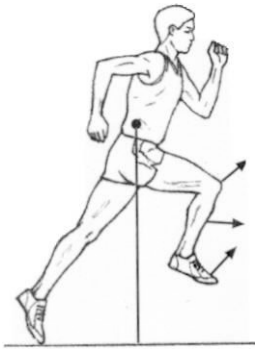
Visual Pass	A relay pass with the outgoing runner receiving the baton from the incoming runner while looking back at the other runner and baton during the exchange.
VO_2 Maximum	Body's ability to use oxygen at the cell level. Equivalent to the pace one can run for 10 to 12 minutes ◆ A measure of the maximum oxygen uptake of the whole body. It is based on the following events: ◆ Movement of air in and out of the lungs ◆ Movement of oxygen from the lungs to the blood ◆ The blood picking up the oxygen ◆ The heart pumping the blood ◆ The delivery of blood to the muscles via arteries, arterioles and capillaries ◆ The availability of nearby cells to extract and use the oxygen carried in the blood
Warm-up	The gradual process of raising the body temperature and loosening muscles prior to strenuous exercise.
Weight Training	Development of strength with the use of weight lifting and based on the overload principle.
Wind Sprint	Short, practice sprint for conditioning.

Appendix: Skill Development Tips

Basic Mechanics of Running

Running differs from walking in that, when running, the athlete only has one foot in contact with the ground at all times. However, in both running and walking events, the athlete must maintain a balanced and upright posture. The form for running sprints or distance events follows the same basic principles. However, in distance events the knee drive and arm carriage are a little lower. This section gives general guidelines for running mechanics. More specific, technical details are included in the sprints, middle and long distance sections.

Sprinter



Distance Runner

1. The athlete controls his/her speed by how much force is applied with each foot strike.
2. The quicker the foot strikes the ground, the faster the athlete runs.
3. When running fast, the heel must be lifted high under buttock.
4. Leg turnover and stride length determine the speed at which an athlete runs.

Getting Into Proper Running Form

1. Take a Hips Tall position with your trunk and head directly above the hips.
2. Let arms hang loosely at the sides of your body.
3. Close hands loosely with the thumbs up.
4. Lean forward slightly; bend ankles until body weight is centered on balls of feet.
5. Bend arms; bring hands to top of hips forming a 90-degree angle between lower and upper arms.
6. Keep head in a neutral position, looking forward, with facial muscles relaxed.

Lifting Knees/Driving Arms

1. Lift heel and push off with ball of foot.
2. Bend leg at knee and drive it forward.
3. Bring foot forward under knee.
4. Strike ground with ball of foot while bringing the foot back under the body.
5. Swing the arms forward and back with no help from the shoulder muscles.
6. Stop hands at midline of torso at the top, and at the back of the hips at the bottom, shortening the angle slightly on the upswing and lengthening the angle slightly on the downswing.

Faults & Fixes – Running Basics

Error	Correction	Drill/Test Reference
Athlete not running in upright position.	Need to make sure drive leg is being fully extended (push off).	Bounding and strides.

Starts

A good start can make all the difference in any track event, regardless of the distance. At the start of a race, athletes want to get out strong and fast. There are two primary types of starts – the stand-up and the block start. In sprint events, athletes use stand-up or block starts. In distance events, athletes use the stand-up start.

Power Foot

In this start, the athlete puts his/her "power foot" forward for a strong launch. Determining the power foot can be easily accomplished by having the athlete pretend to kick a ball. The foot that is used to kick the ball is the back foot. The foot that is used to support the body is the front foot, the power foot.

Stand-up Start

Teaching Points

The fundamentals of the start involve three commands: "on your mark,, "set" and "go." Note that "go" can be a starter's pistol or whistle.

"On Your Mark" Command

The "on your mark" command is used when the athlete comes to the starting line to begin the race.

1. Stand behind start line, relaxed, power foot in front.
2. Place toe of back foot behind the heel of front foot, about 20-30cm.
3. Look up slightly, focusing 2 meters ahead.

"Set" Command (Note: Not used in races longer than 400m)

On the "set" command the athlete must become as still as possible.

1. Bend front knee slightly - about 120 degrees, placing weight on ball of front (power) foot.
2. Hold arm opposite from front foot flexed in front of body.
3. Hold other arm back, hand closed slightly past the hip.
4. Stand as still as possible.

"Go" Command – Sound of the Starter's Pistol or Whistle

The "go" command is for the athlete to start moving. The "go" command is usually created by the sound of a starter's pistol or other device, such as a whistle.

1. Drive back leg forward, leading with knee, swinging front arm back.
2. Push strongly off ball of front (power) foot, swinging back arm forward forcefully.
3. Stay low, using arms to drive body forward.

Block Start

Each athlete needs the blocks set in a way that is comfortable to him/her. Whether to learn, train on and use blocks is an individual decision that should be discussed between the athlete and coach. Note: These are general guidelines and may not apply to every athlete depending on physical ability or range of motion.

Teaching Points

Setting the Blocks

1. Align blocks in direction of start.
2. Place starting blocks one foot-length from the starting line.
3. Place front pedal two foot-lengths from the starting line.
4. Place rear pedal two and one-half to three foot-lengths from starting line or approximately one foot-length from the front block.
5. Note: The front and back pedals will have to be adjusted depending on the athlete's preference. When you travel to compete, starting blocks are different. However, your athlete will become able to make minimal adjustments, and you will become consistent at setting of the blocks.

"On Your Mark" Command

6. Kneel.
7. Place feet firmly against pedals so toes barely touch ground, with the power foot in the front pedal.
8. Heels are off the pedals and the toes are curled under and touching the track.
9. Rear-leg knee is resting on the ground.
10. Place hands shoulder-width apart behind start line.
11. Place fingertips down, thumbs pointing in toward each other, creating an arch between the index fingers and thumb, parallel to the start line.
12. Roll body forward slightly, keeping arms straight and rigid but not locked.
13. Distribute weight evenly over hands and back knee.
14. Hold head up in line with spine.
15. Focus on a spot a few meters in front of start line.

"Set" Command

16. From "on your mark" position, lift hips from ground slightly higher than shoulders, front knee bent approximately 90 degrees, back knee bent 110 degrees to 120 degrees.
17. Keep arms straight, but not locked.
18. Distribute weight evenly over hands.
19. Focus 2 meters down track.
20. Back and head form a straight line.
21. Concentrate on reacting to sound of gun or start command - driving out of blocks.

"Go" Command - Sound of the Starter's Pistol or Whistle

22. From "set" position, at the sound of the starter's pistol or start command, thrust back knee and opposite arm forward strongly.
23. Drive off footpads of both blocks.
24. Keep the body low, pushing off the power foot hard, fully extending leg.
25. Continue driving legs and arms forward, accelerating into full sprinting stride.
26. Concentrate on moving the hands quickly to initiate movement out of the blocks.

Acceleration to Top Speed

1. Use short, quick steps out of blocks, allowing stride to increase in length as velocity increases, gradually standing up. Should be inclined forward for first 5-6m, fully upright at 25-40m.
2. Make sure feet strike ground directly under the center of gravity.
3. Use the arms vigorously, bringing loosely-closed hands to chest line during upswing and stopping them at back side of hips on downswing.

Sprints (100m-400m)

Sprinting is the art of running as fast as possible. Power and coordination are the essential ingredients in the production of speed. Coordination can be improved through practicing good running mechanics. Speed is mostly an inherent factor; however, both coordination and speed can be improved through proper training. Mechanics of running is explained in the "Running Basics" section. Sprinting can be broken down into four phases: the start, acceleration, maintaining momentum and the finish.

The two main components that increase speed are how long steps are (stride length) and how quickly they are made (stride frequency).

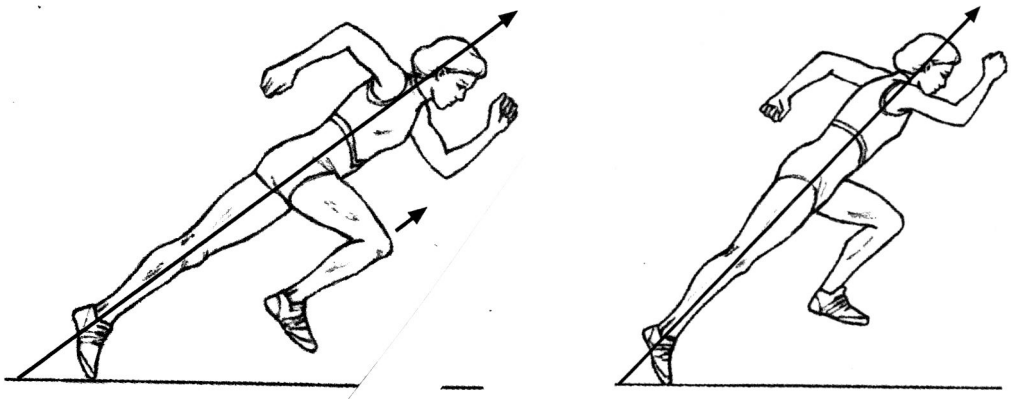
Start Phase

Starts are explained in the section titled "Starts."

Accelerating Phase

The accelerating phase is achieved by driving or pushing with the drive leg. This requires a forward lean, which is directly proportional to amount of acceleration. Remember that acceleration does not mean speed, or fast; it means the rate of increasing speed.

1. As drive leg is driving or pushing, free leg is also driving low and fast to place the foot under the body's center of gravity.
2. Heel recovery of drive leg is low coming out of the blocks.
3. With each step, speed increases until top speed is reached
4. Each leg is driven powerfully until it is fully extended.
5. Vigorous arm action is maintaining balance, rhythm and relaxation.



Maintaining Momentum Phase

The maintaining momentum phase is achieved by combining basic mechanics with the speed attained in the accelerating phase.

1. Drive knees up so thigh is parallel (horizontal) to track.
2. High heel recovery is maintained as drive foot leaves ground.
3. Maintain tall posture, with slight forward body lean from ground, not from waist.
4. Swing arms forward and back vigorously, without rotating shoulders.
5. Keep feet flexed, toes up.

Sprinting on a Curve

1. Lean inward around the curve.
2. Keep feet parallel to the curve (the same direction as the lines).

Finish Phase

1. While sprinting down the track, the athlete maintains good posture with normal stride action through finish line.
2. Taking the last stride, the athlete lunges forward and leans through finish line. Athlete should pretend that the finish is beyond where it really is to continue momentum.

Drills for Sprints

A - Skips

Reps: 3x30m

Purpose

- Develop quick leg action – drive up/drive down
- Develop consistency in proper foot strike
- Develop hurdling rhythm

Teaching Points

1. Take Hips Tall position, begin skipping.
2. Quickly drive legs up, heels to buttocks, alternating legs.
3. Jog back to start, repeat with other leg.

B - Skips

Reps: 3x30m

Purpose

- Develop quick leg action – drive up/drive down
- Develop consistency in proper foot strike
- Develop hurdling rhythm

Teaching Points

1. Take Hips Tall position, begin skipping.
2. Bend and drive up one leg.
3. Extend leg from knee, drive leg down to ball of foot.
4. Alternate legs with every other skip.
5. Jog back to start, repeat with other leg.

Fast Leg Drill

Reps: 3x10-15 seconds

Purpose

- Develop quick foot action and leg action

Teaching Points

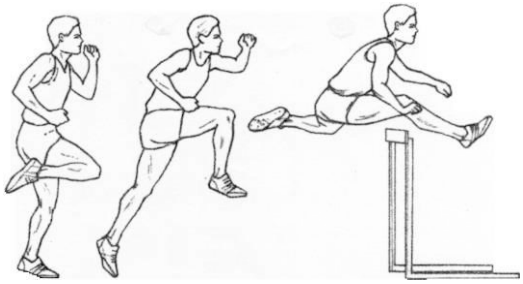
1. Take Hips Tall position.
2. Quickly, alternate driving knees up.

Hurdles

Hurdling is a sprint race that is run over barriers. The faster and more efficiently an athlete can clear a hurdle and begin sprinting again, the faster his/her time will be. The athlete must develop the skill of stepping over the hurdle rather than jumping over it. Rhythm is the key to running a good hurdle race. The athlete who can clear the barriers with the least amount of stride alteration will be the most successful. The athlete should strive to use the same number of steps between each hurdle. The optimum is three. Basic foot speed is an essential ingredient for becoming a good hurdler.

Training hurdles that are collapsible and adjustable from low to higher are good for introductory and indoor training.

1. Take block start position with lead-leg foot in rear block.
2. At starting signal, run from blocks to first hurdle, keeping body erect while using good sprint form. Should have eight strides to first hurdle.



3. Extend a slightly bent lead leg over hurdle and lift up on ball of the foot of the lead leg, using the opposite elbow and lower arm for balance.
4. Drive trail leg over top of hurdle by turning the knee and foot outward, with the knee higher than the foot and the toes higher than the heel.

5. Continue rotation until knee is up to the chest.
6. Drive lead leg down to ball of foot.
7. Bring trail leg through with foot directly striking track on ball of foot.
8. Sprint between hurdles.
9. Maintain consistent number of strides between hurdles.
10. Sprint from last hurdle to finish line.

Hurdle Drills

High Knee Lifts

Reps: 3x30m

Purpose

- Develop knee drive
- Develop coordination

Teaching Points

1. Take Hips Tall position.
2. Alternating legs, drive knees up as high as possible while walking.
3. Gradually increase pace from walking to jogging.
4. Jog/skip back to start.

C - Skips

Reps: 2x each leg

Purpose

- Develop quick leg action and extension
- Develop consistency in proper foot strike
- Develop hurdling rhythm

Teaching Points

1. Place 8-10 hurdles, about 1.8-2.4 meters (6-8 feet) apart.
2. Take Hips Tall position; begin skipping 1 meter (3-4 feet) from first hurdle.
3. Bring trail leg up and over hurdle with every other skip.
4. Jog back to start, repeat with other leg.

Trail Leg Lifts

Reps: 10x each leg

Purpose

- Increase flexibility in hip joint
- Develop trail leg sensation with forward lean

Teaching Points

1. Sitting in hurdle seat position, lift trail-leg knee as high as possible.
2. Reach for lead-leg foot with trail-leg-side arm.
3. Drive lead-leg arm back in sprint position.
4. Switch legs and repeat.

Relays

Relays in athletics are the time when athletes get to come together as a team. Relay racing is the art of running with a baton and passing it from one teammate to the other, and making three exchanges with the fourth runner crossing the finish line with the baton.

The most difficult concepts to instill in relay athletes are running away from someone while trying to receive something from that person, and passing within the "zone." The ultimate goal of the relay is to move the baton around the track and across the finish line in the fastest way possible without getting disqualified.

Coaches need to incorporate relay passing into daily conditioning exercises. The coach may find that some athletes are better at handing off than receiving a baton. Place the athletes accordingly. The lead-off runner only has to hand off, but must be consistent at getting a legal start. The second and third runners have to both hand off and receive the baton. The fourth runner only receives the baton but must know how to effectively finish a race.

The Special Olympics relay races include the 4x100-meter and the 4x400-meter, which can also be called 400m and 1600m relays.

4 x 100m Relay

All runners in the 4x100m relay must stay in their designated lanes the entire race.

Leg	Baton Ability	Athlete Strengths
Lead-off Leg	Passes baton	• Good starter, with good acceleration and balance • Can run the curve, staying in the lane
Second Leg	Receives baton Passes baton	• Very fast runner • Ability to run strong straightaway • Excellent speed and endurance
Third Leg	Receives baton Passes baton	• Can run the curve, staying in the lane
Fourth Leg or "Anchor" Leg	Receives baton	• Most competitive runner • Ability to catch and pass runners

Teaching Relay

Holding baton

- Grasp one end of the baton with the fingers around the baton and thumb lying on top of it.
- When teaching how to hold, use a piece of tape around the baton, indicating where the athletes should grasp the baton.

Receiving baton

- Identify the 20m exchange zones with athletes.
- Stand just inside the zone.
- Have power foot forward (see Starts Section).
- Hold recovery hand back. Receiving hand depends on what type of exchange is chosen.

Beginning and Advanced Exchanges

In beginning exchanges, the baton carrier has baton in the right hand; baton receiver accepts the baton in the left hand and immediately shifts it to the right. The risks are that athletes could drop the baton when changing hands and that the shift may hinder running action.

In advanced exchanges, the baton receiver does not switch the baton from one hand to the other; the runners exchange as follows:

1st runner	• carries baton in right hand
2nd runner	• receives in left hand, carries in left hand and passes with left hand, stands closer to right in lane
3rd runner	• receives in right hand, carries in right hand and passes with right hand, stands closer to left in lane
4th runner	• receives in left hand, carries in left hand, stands closer to right in lane

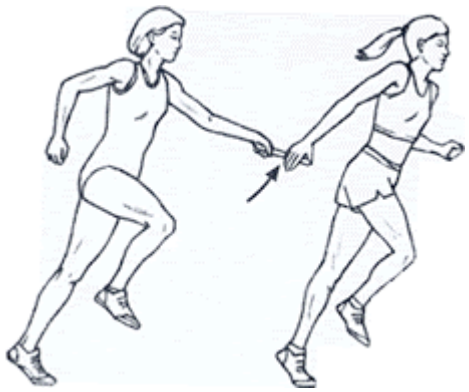
It is recommended to teach athletes the advanced exchange wherever possible.

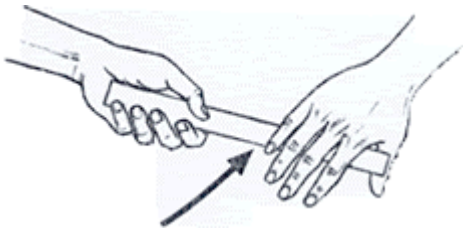
Up-Sweep Exchange

The baton is placed "up" into the waiting runner's palm. The waiting runner holds the arm with palm facing down. The thumb and finger form an upside down "V."

Teaching Points

1. Upon command from incoming runner or when incoming runner hits predetermined mark, outgoing runner begins to sprint.
2. Outgoing runner reaches back with receiving hand, forming an inverted "V."
3. Incoming runner places baton in receiver's hand with an upward motion.
4. Outgoing runner takes baton from incoming runner.



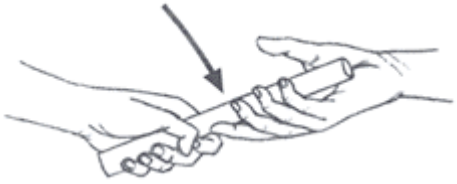


Down-Sweep Exchange

The baton is placed "down" into the waiting runner's palm. The waiting runner holds the arm with palm facing up, in a "V," with the thumb positioned toward the body. This technique is the most popular of the relay exchanges.

Teaching Points

1. Upon command or when incoming runner hits mark, outgoing runner begins to sprint.
2. Outgoing runner reaches back with receiving hand almost parallel to track.
3. Palm is facing up, forming a "V," with thumb turned toward torso.
4. Incoming runner places baton in receiver's hand with a downward sweeping motion.
5. Outgoing runner takes baton from incoming runner.



4 x 400m Relay

A visual pass is described (see below) for the 1600m (4x400m) relay. This technique can also be used for the 400m (4x100m) relay. However, the exchange may take longer.

In the 4x400m relay, the lead-off runner must stay in lane the entire lap. The 2nd runner can break for lane 1 after running around the first turn. The 3rd and 4th runners may break for lane 1 after receiving the baton, as long as other runners are not impeded.

Leg	Athlete Role
Lead-off Leg	• Get the team out in front. • Must be aggressive and strong, and have a good sense of pace. • Ability to run in lane the entire lap.
Second Leg	• Keep the team in the race. • Must be physically strong, able to handle bumping. • Must be able to negotiate the breakpoint. • If the team is not in first place, job is to get team in first place.
Third Leg	• Put team in a position to win. • Must be able to run well from behind or maintain a lead and build upon it. • Often, this is second best possible anchor on team.
Fourth Leg or "Anchor" Leg	• Secures the victory, puts the relay away. • Must be able to run well from behind or maintain a lead. • Ability to catch and pass runners. • Often, the strongest/fastest leg – the "horse."

Teaching Points

Receiving a Visual Pass

1. Receiving athlete stands in front of first zone line (nearest start line), and to the right side of lane.
2. Place power foot forward and look back over the left shoulder.
3. Hold inside hand back (left hand) and keep body weight slightly forward.
4. Look back over inside shoulder for incoming runner.
5. Begin running forward when incoming runner reaches a point 4-5 meters from exchange zone.
6. Keep left hand back, fingers pointing to left, thumb pointing down and palm up.
7. Watch incoming runner pass baton overhand into left hand.
8. Turn to look forward, continue running and move baton to right hand.

Relay Drills

Practice, practice, practice is the key to successful relay teams. Below are a few reminders before we get into training drills.

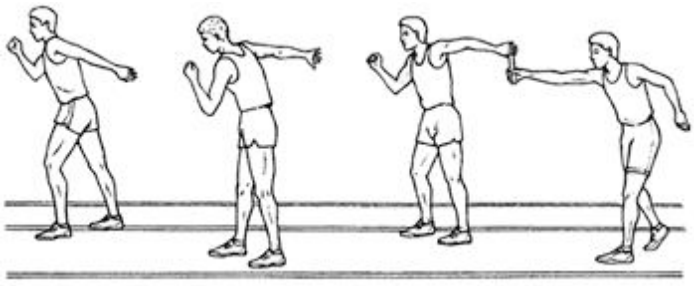
Light Touches Drill

Purpose

- Experience receiving and giving baton.
- Improvement of hand-eye coordination.

Teaching Points

1. With full relay team, take positions as if running relay.
2. Fourth leg is in front of 3rd leg, in front of 2nd leg, in front of 1st leg.
3. First leg has baton in right hand, will pass to 2nd leg and so on until baton reaches 4th leg.
4. Repeat. Can also do this while jogging.



Continuous Relay Drill

Purpose

- Practice handing off in exchange zone

Teaching Points

1. Athletes will run 100m (or shorter) intervals.
2. Incoming runner passes to next runner.
3. Runners will remain where they finished running their interval while baton is carried around track.
4. Each runner passes to the next runner.
5. Repeat.

Middle Distance

Middle distance events are the most demanding in track and field because they are actually long sprints. Usually 800m and 1500m events are considered middle distance. Training is designed to develop these attributes. A training program should be developed to meet individual needs.

Technique

When coaching middle distance runners, the coach needs to find the right combination of speed and endurance for each athlete.

1. It is important to have a comfortable stride and rhythm and to not overstride.
2. The foot strikes the ground less on the ball of the foot and more to the back of the foot, the foot rolls onto the ball and pushes off.
3. The knee has some flex.
4. Knee lift is lower than that of a sprinter.
5. Heel does not go as high.
6. Leg movement is smooth.
7. Swing arms from shoulders; elbows are bent at approximately a 90-degree angle but can straighten a little more on the down swing. Arms and shoulders should be relaxed.
8. Head straight; focus ahead ten to fifteen meters.

Training Focus (Workout Theory) for Middle Distance

The focus of middle distance training is pace, with a balance between volume and intensity. Athletes need a good aerobic base to allow them to be able to pace themselves. However, they also need to incorporate speed training. They need good endurance to maintain speed over middle distance races.

Middle distance runners should try and maintain a predetermined pace established by their coach. An example would be running 400m in 45 seconds every lap during a 1600m training run. As well, the coach should set appropriate times for the athlete to run set distances at certain time intervals; for example, the athlete would run 200m every three minutes. To improve, the athlete would increase speed or decrease time to shorter intervals.

To work on speed, the athlete can do “surges.” For example, have cones set out at intervals around the track. The athlete will run at normal stride to first cone and then “surge,” or increase speed, to next cone and keep changing from normal to “surge” between cones.

Middle Distance Drills

As a general rule, duration for the 800m runner is not very long, 25-35 minutes on non-track days and 45 minutes to an hour on the long run day. Remember: the focus is maintaining speed over a longer distance.

Russian Workout

Reps: 5x, increase to 15

Purpose

- Develop speed endurance

Teaching Points

1. Run 5x200m at ¾ race pace.
2. Rest 45 seconds between each 200m.
3. After five repetitions, rest three minutes.
4. Repeat.

Distance Runs

Include a distance run of 60-90 minutes. This run is set at a pace that the runner can manage without too much stress. This run is one of two kinds, depending on the type of effort and recovery needed. One type is a flat, soft-surfaced, continuous run. Early in the season, do not worry so much about time. As the season progresses, mark each mile and make necessary corrections.

Hill Running

The other long distance run is more difficult. The first 30 minutes are flat. The next 20 minutes need to have a series of uphill climbs or a steady hill climb. As in the distance run, early in the season do not worry so much about time. As the season progresses, push the athlete to faster times over the same course.

Interval Training

Adjust recovery times as necessary.

1. Increasing speed/decreasing recovery reps
   - 2 sets of 4 x 200m
   - No additional recovery between sets
2. Russian intervals
   - 2 sets of 3 x 300m at set pace with jog
   - Recovery between 300s: 100m at 30 seconds
   - Jog 800m between sets
3. Pick-up Reps
   - 4 x 400m at set pace

Recovery between 400s: 90 seconds

Long Distance Running (3000m-10,000m)

Long distance events are great for those athletes who enjoy running and have a desire to maintain dedicated training throughout the week on a long-term basis. Success in the distance events comes from planning. Training must be consistent and progressive. The training sessions are designed to physiologically and psychologically enhance an athlete's potential to maximize his/her competition experiences.

Technique

1. It is important to have a comfortable stride and rhythm and to not overstride.
2. The foot strikes the ground less on the ball of the foot and more to the back of the foot; the foot rolls onto the ball and pushes off.
3. The knee has some flex.

4. Leg movement is smooth.
5. Swing arms from shoulders in a comfortable back and forward movement. Arms and shoulders should be relaxed.
6. Head straight; focus ahead ten to fifteen meters.

Training Theory – Long Distance

There are several types of training techniques for long distance runners. When designing a training plan, it is important to match the plan to the athlete's fitness and skill level. It is important to review the plan frequently and adjust it as required. To get the most benefit from training, it is important to use various techniques since they have different purposes.

Interval Training

Repetitive training runs on a track. Effort and recovery are usually equal. Effort can be from one to five minutes. Recovery can be walking or slow running.

Fartlek Training

Also known as "speed play." Athlete combines normal run with varying bursts of effort (speed). Usually on a varied terrain (flat and hills).

Long Runs

Athletes run for a specified distance or time at a moderate speed for longer distances.

Speed Training

To improve the speed at which the athlete can run relaxed and maintain running form. This training is done mostly at the end of the season just prior to the big meets. For example, the athlete runs 1x600m all out with a 20-minute rest interval, followed by 10x100m as fast as possible, with a 100m walk interval between each.

Marathon

Competing in a marathon can be a challenging athletic achievement. Whether it is going for a fast time, trying to go for a personal best or just to finish the race, runners are always looking for the best training program that will lead them to accomplish their goal. The individual runner will be faced with many questions concerning training, such as how many miles to run per week, the intensity and volume of the workouts, recovery, long runs and so on. There are no concrete rules because every runner is unique. A coach can prescribe a specific training program according to the athlete's ability and goal for that specific marathon.

However, training for a marathon is very serious business. Not training properly can lead to failing to complete the race and the risk of injury. While training, distance should be gradually increased. Rest times should be planned and followed. The rest (recovery) day is an important part of training.

The most important part of any training program is designing its detail to match the needs and abilities of each athlete. Once the coach understands and incorporates the basic principles and components of training, he or she will be ready to develop a successful training program regardless of the athlete's ability.

The principles established to carry out the training plan are the foundation for the complete preparedness of the runner to achieve his or her goal. The coach must determine the athlete's training needs and maximize his or her abilities. Please refer to the *Athlete Nutrition, Safety and Fitness* section within the *General Coaching* sections for additional guidance.

One warning contained in almost all marathon running resources is, "Don't run a marathon without the proper training." It is essential that an athlete is trained and prepared to enter a marathon.

Marathon Training

It is very apparent that marathon training is a science, with several theories and techniques available. The energy systems challenged in marathon training and competitions are anaerobic (without oxygen) and aerobic (with oxygen). The key to a good marathon runner is to maximize the efficiency of his/her energy systems. There are several detailed sources available that discuss VO2 max training principles (the ability of muscles to make use of the oxygen that they receive) if coaches desire to learn more technical details behind the principles of marathon training. Marathon training consists of phases, with cycles contained within each phase (and even the cycles can have cycles).

VO2 max

Fitness can be measured by the volume of oxygen that is consumed while exercising at maximum capacity. VO2 max is the maximum amount of oxygen in milliliters one can use in one minute per kilogram of body weight. Those who are fitter have higher VO2 max values and can exercise more intensely than those who are not as well conditioned.

Factors affecting VO2 max

The physical limitations that restrict the rate at which energy can be released aerobically are dependent upon:

- the chemical ability of the muscular cellular tissue system to use oxygen in breaking down fuels
- the combined ability of cardiovascular and pulmonary systems to transport the oxygen to the muscular tissue system

Anaerobic and Aerobic Training

The anaerobic energy systems allow for short, intense efforts, while aerobic energy systems provide the energy for activity lasting longer than 2 minutes. Marathon runners require endurance, which is mainly conditioning the aerobic system. When a marathon runner is not processing oxygen quickly enough (aerobic), the anaerobic system kicks in. The anaerobic system creates by-products (of which one is lactic acid) that need to be removed. This is done by training the anaerobic system to allow the athlete's muscles to maintain intensity despite the by-products. The training for marathon contains runs that are short, runs that are long, runs that are intense and runs that are less intense. These components are included in the training programs for both half-marathon and marathon.

Aerobic conditioning consists of increasing the amount the athlete runs and including a longer run weekly in training runs. This results in greater endurance and improved running economy. This is the largest component of a distance runner's training program. To develop an aerobic base, training sessions consist of high volumes of continuous, longer distance running at below what an athlete's race pace would be. This works out to be at about 70-80 percent of the athlete's maximum heart rate. This would translate to an athlete being able to carry on a conversation while running. Of course, at times, the athlete's aerobic energy system training has to be increased with more intense runs.

Training for marathon and half-marathon consists of a combination of the following:

1. Long runs
2. Speed work/Tempo work/ Hill training /Interval training/Fartlek training
3. Rest

Some runs can be done as interval sessions or Fartlek training. Fartlek training is introducing short periods of slightly higher paced runs in an athlete's normal run. The pace should be picked up for a short period (200m to 400m), then dropped below normal running pace or slowed to a jog, until the athlete has fully recovered (breathing returned to normal). The athlete should repeat, slightly faster, later in the run. This type of training slightly stresses the system, which will lead to improvements in speed and anaerobic systems.

Rest forms an important part of training and needs to be planned appropriately. Rest days can contain some "mild" activity, such as walking your dog, but this should not be intense. Overuse results in injury, which leads to reduced training that will impact achieving goals.

Following are simple training plans for marathon and half-marathon training. These are only guidelines and need to be modified to meet the athlete's specific goals, ability and training schedule.

Note: 1 kilometer = .62 mile and 1 mile = 1.61 kilometers

Half Marathon

The characteristics of the half marathon are what make training and racing the half marathon unique. It can be too long for a 5-10k runner or it may be too short for the marathon runner. However, it can be the perfect distance for training and racing if planned accordingly. For the marathon runner, it can be used as race-pace training distance.

Training sessions are normally of high volume and long intervals with a high number of repetitions. The rest time between intervals can be very short or moderate, but it never allows for a full recovery. The running pace is usually between slower than 10k pace and a little faster than marathon pace. The speed and the rest period between intervals can be manipulated according to the needs of the athlete, taking into consideration the goals the athlete is trying to achieve during training.

Training Components for Half Marathon

1. Building aerobic base
2. Developing speed, endurance and strength
3. Developing anaerobic strength and endurance
4. Developing strength through tempo runs
5. Long runs to increase stamina and running economy
6. Short intervals - lactic acid tolerance workouts
7. Long intervals - lactic acid tolerance sustain workouts
8. Short recovery - long recovery
9. Race pace workouts
10. Running pace - training at different speeds
11. Competing

Most of the running sessions are done on the roads and/or dirt trails instead of the track. Interval sessions are run as Fartlek training or pick-ups. There is also a great emphasis on hill work and tempo runs. During this training cycle the main concern is the development and improvement of cardiovascular strength and endurance.

Long Jump

Long jump is divided into two separate events:

1. Standing long jump
2. Running long jump

Running long jump is a more advanced event than the standing long jump.

The long jump is an event that combines speed and spring and can be a lot of fun. Teaching the event is divided into the following components:

- Approach
- Takeoff
- In flight (step or hang style) (Note: In flight also includes landing)

Standing Long Jump

Standing long jump does not include a running takeoff.

Ready Position

1. Stand behind board/line with feet shoulder-width apart, toes pointed out slightly.
2. Hold chin up, head straight, arms extended in front of body.
3. Arms are relaxed at sides, back straight, and body leaning forward slightly.

Takeoff

4. From ready position, bend knees and ankles and strongly swing arms backward.
5. Strongly swing arms up and out toward landing area as both legs drive and extend off ground.
6. Take off by swinging arms forward and low past knees, then up toward landing area.
7. Exhale and spring forward off both feet at a 45º angle; use strong ankle and leg extension to create a powerful takeoff (thrust).
8. The toes leave the ground last.

In Flight

9. In flight, extend body with slight arch to back; raise arms above head.
10. Bring legs under buttocks; then bring them forward by bending 90 degrees at hips.
11. Extend legs forward, leading with heels, and swing arms downward past legs.
12. Keep feet parallel and slightly apart.
13. Keep head forward to prevent falling backward; look ahead of landing.

Landing the Jump

14. Extend heels forward for extra length.
15. Land in pit or on mat, heels first, with momentum carrying you forward.
16. Bend knees to absorb the impact of the landing.

Running Long Jump

Determining the Takeoff Leg for the Running Long Jump

The athlete's stronger leg is usually used as the take-off leg. On the track, have the athlete take three consecutive hops from a standing start using the right foot only, and measure the distance traveled. Repeat with the left foot. The leg that was used to hop the farthest is probably the favored leg. If a true preference is not shown, most right-handed people will use their left foot as the takeoff foot for jumps. If the athlete feels more comfortable with the opposite leg, he/she should use it.

Please note that a left-footed takeoff will be assumed in the material below. If an athlete prefers a right-footed takeoff, simply switch the foot named in the instruction.

Measuring an Athlete's Approach

The approach will need adjustment as the athlete progresses through skill and strength improvements. Initially, three strides should be used, progressing through five, seven and nine strides. The most skilled athletes can use up to nineteen strides.

1. Athlete stands on takeoff board and runs back, down the runway, the number of strides that will be used on the approach. The point where the athlete stops or reaches the number of strides is marked. This is the initial mark that will be adjusted forward or backward.
2. Athlete faces takeoff board from this mark.
3. Athlete steps forward on non-takeoff foot.
4. With a controlled run, athlete starts with takeoff foot and runs nine strides toward takeoff board, running through the sand.
5. Mark spot where takeoff foot hits takeoff board.
6. Adjustments can be made forward and backward to fit individual needs.
7. When a consistent approach is made, record distance for future practice and competitions.
8. Run approach again and note location of first and third steps taken with takeoff foot. These two check-marks will help the athlete run a consistent approach by matching his/her stride to meet these marks.

The Takeoff

1. Perform the approach run and plant the takeoff foot on board behind foul line.
2. Stretch upward immediately prior to takeoff.
3. Strongly take off from board by extending takeoff leg.
4. Bend other leg; drive thigh up and over sand pit.
5. Keep upper body straight, head up, and vision focused ahead in the sand.
6. Land in a running position on non-takeoff foot and run through the sand.

In Flight – Step Style

1. From takeoff, drive right knee and left arm forward and upward over sand pit.
2. While in flight, extend the lead leg with the takeoff leg trailing, appearing to be in a stride position mid-flight.
3. Circle right arm overhead and bring left leg forward, so that arms and legs are parallel.
4. When preparing to land, extend arms and upper body to reach forward.
5. Drop arms below legs and bend knees upon hitting the sand.
6. Land in sand heels first, with hands sweeping past hips.
7. Roll over on toes, falling forward.

In Flight – Hang Style

1. From takeoff, drive right knee and left arm forward and upward; hold the left leg and right arm back.
2. Drive the left leg and right arm so that they are parallel.
3. Arch the back to achieve the "hang" position.
4. Move the arms in a circle clockwise.
5. Lower the upper body toward thighs, extend legs, and reach arms forward and then backward in preparation for landing.
6. Hit sand heels first, bend knees to absorb shock of landing, move upper body forward, and roll over toes to fall forward.

Long Jump Drills

Pop-ups

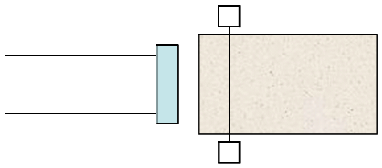
Reps: 10-12 jumps

Purpose

- Develop hitch kick and arm action in air
- Develop height on jump

Teaching Points

1. Place hurdle or string or light rope across pit about five feet from takeoff board.
2. Take Hips Tall position and begin short approach (five or seven strides).
3. Run toward pit with moderate, controlled speed.
4. Hit board driving up and out over marker.
5. Perform hitch kick and arm action in air and land into pit.



Forward Height

Reps: 10-12 jumps

Purpose

- Develop height on jump
- Develop tall body position during jump

Teaching Points

1. Place string or light rope across pit about 10 feet from takeoff board.
2. Take Hips Tall position, begin short approach.
3. Run toward pit with moderate, controlled speed.
4. Hit board, driving up and out beyond marker.
5. Perform hitch kick or hang using arm action in air, and land into pit.

Cross the Brook

Reps: 10-12 jumps

Purpose

- Develops jumping and falling forward
- Develop tall body position during jump

Teaching Points

1. Place two ropes on ground about shoulder-width apart, forming a "brook."
2. Jump from one side of the brook to the other.
3. Space ropes farther apart to work on hopping distance.

High Jump

High jump is an event that combines power and speed. Important safety information is found in the section on Sport Equipment. Athletes should wear spikes on grass or in wet conditions because the surface can become slippery.

There are two types of jumps:

1. Fosbury Flop
2. Scissor Kick

The Fosbury Flop is the more popular technique in which the athlete does a backward rotation during flight. The Scissor Kick is a more basic jump in which the athlete lifts legs sequentially over the bar, remaining facing the same direction. Regardless of the jump style, all jumps must be made off of one foot only.

Please note that all of the guidance to follow will use a left-footed takeoff, with a right side approach.

Fosbury Flop Style High Jump

The Fosbury style high jump components consist of the following steps/approaches, to be used as the athlete develops his/her style. Some athletes may use up to 13 strides.

1. Establish takeoff foot
2. Flop Style, straight three-step approach
3. Flop Style, five-step curved approach
4. Flop Style, seven-step curved approach
5. Flop Style, nine-step curved approach

Establish Takeoff Foot

1. Jump over a rope held by two people.
2. Raise rope higher as height is cleared.
3. As the rope gets higher, dominant leg will become obvious and identify takeoff foot.

Flop Style - Straight Three-step Approach

1. Stand next to crossbar one arm's length away and quarter of bar's length from right standard. This is an approximate takeoff point to be used.
2. Walk backward three steps at a 45-degree angle from bar. This is the spot for starting stance.
3. Coach marks the spot of third step.
4. Face pit with feet together. Take first step with left foot and run toward pit.
5. As the third step is taken, swing bent right leg up toward left standard; swing both arms from below the hips to above shoulders in front of body.
6. Jump into air, taking off on one foot.
7. Arch back; drop shoulders; look at right shoulder and pull knees toward chest.
8. Land in pit on back.

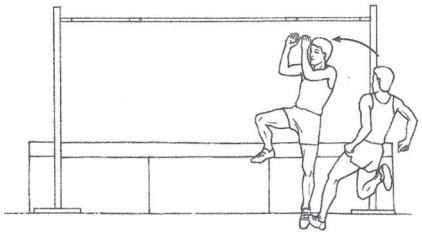
Flop Style, Five-step Curved Approach

1. Locate the spot where the athlete will start the approach. Measure to the right of the right crossbar standard 3-5 meters. Mark this spot. Now measure 6-9 meters away from the pit. This is the athlete's approximate start location, facing the pit. This location might have to be adjusted for each athlete.
2. Take Hips Tall position and begin five-stride approach with left foot.
3. Approach pattern will look like an upside down "J."
4. On fifth step with left foot, swing the bent right leg up toward left shoulder, and swing both arms from a low back position to high front position in front of body.
5. Take off from left foot, using a strong leg extension of knee and ankle.
6. Turn right shoulder away from bar, rotating counterclockwise.
7. Land on back and roll off the pit.

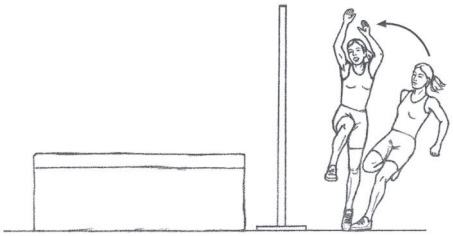
Flop Style, Seven-step Curved Approach

1. From five-step approach, take two more strides away from pit. Adjust as necessary.
2. Take Hips Tall position and begin seven-stride approach with left foot.
3. The first two steps will be straight, last five will be curved.
4. On the seventh step, plant left foot and make jump.
5. From this point, jump mechanics are same as five-step approach.

Correct forward lean into curve



Incorrect forward lean away from curve



Flop Style, Nine-step Curved Approach

1. From seven-step approach, take two more strides away from pit. Adjust as necessary.
2. Take Hips Tall position and begin nine-stride approach with left foot.
3. Run straight toward pit; on fifth step, start the curve.
4. Place two check marks: one for starting stance and one at second stride of left foot, where curve starts.
5. On the ninth step, plant left foot, and make jump.
6. From this point, jump mechanics are same as five- and seven-step approaches.

Scissor Style High Jump

The scissor style high jump components consist of the following steps/approaches, to be used as the athlete develops his/her style.

- Establishing Approach
- Scissor Style - Three-step Approach
- Scissor Style - Seven-step Approach

Establishing the Approach

1. Stand next to the pit, with or without bar.
2. Run back three steps from takeoff point at a 45-degree angle from pit.
3. Run toward pit, starting with left foot and taking three steps; take off on left foot.

Scissor Style - Three-step Approach

1. Place bar just higher than pit.
2. Take same three-step approach as above.
3. Take first step on left foot.
4. Take second step on right foot and swing both arms back.
5. Take third step on left foot and forcefully swing both arms above shoulders.
6. Lift right leg (closest to bar) up and over bar.
7. Left leg follows to complete scissor.
8. Athlete lands in pit on buttocks.

Scissor Style - Seven-step Approach

1. Stand parallel to and an arm's length away from the crossbar, and a quarter of the bar's length from the right standard. This is the takeoff point to develop consistency in the approach.
2. Take seven steps away from this point on a 45-degree angle to the right of the pit. This is the location of the starting stance.
3. Face the pit, take the first step with the left foot, run straight to the pit, and accelerate with every step.
4. Plant left foot on seventh step at takeoff spot; jump into the air.
5. Keep arms and legs up with head held straight.
6. Land in pit on buttocks.
7. Roll to the rear of pit and get off.

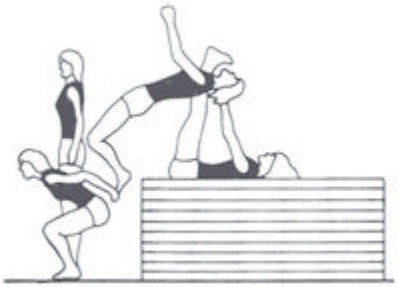
High Jump Drills

Flop into Pit w/out Bar

Reps: 10-20 jumps; decrease as comfort level increases

Purpose

- Develop back-bend sensation of flop technique
- Develop comfort in jumping backward into high-jump pit



Teaching Points

1. Stand with back to pit in Hips Tall position.
2. Bend at hips while driving arms back.
3. Jump up, driving arms up over head.
4. Dive, bending back into pit.
5. Arms/feet are extended up toward sky.

Flop into Pit w/Bar

Reps: 10-20 jumps; decrease as comfort level increases

Purpose

- Develop back-bend sensation of flop technique
- Develop comfort in jumping backward into high-jump pit over bar

Teaching Points

1. Stand with back to pit in Hips Tall position.
2. Bend at hips while driving arms back.
3. Jump up, driving arms up over head.
4. Flop over bar, bending back into pit, landing on back.
5. Arms/feet are extended up toward sky.

Pop-ups w/out a Crossbar

Reps: 5x; may decrease as skill level increases

Purpose

- Develop consistent plant, takeoff and arm coordination

Teaching Points

1. Take a three- or five-step approach to practice plant, takeoff and arm action.
2. See how high the athlete can pop up on each plant.

Shot Put

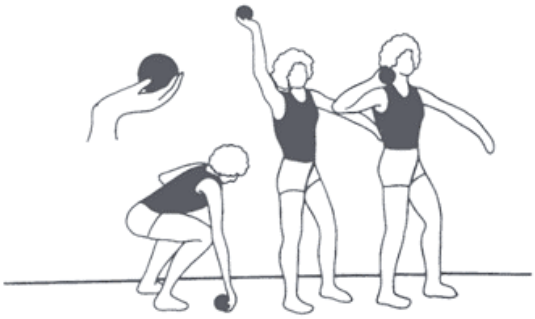
There are three primary styles of putting the shot:

1. Standing put
2. Slide
3. Gliding put

Warm-up is very important for shot put (as well as all other events) to prevent injury. The warm-up consists of jogging, stretching and light exercises. Special care needs to be taken to ensure the wrists and hands are thoroughly and properly warmed up.

Gripping the shot put is the same for all athletes. The following explanations use a right-handed put.

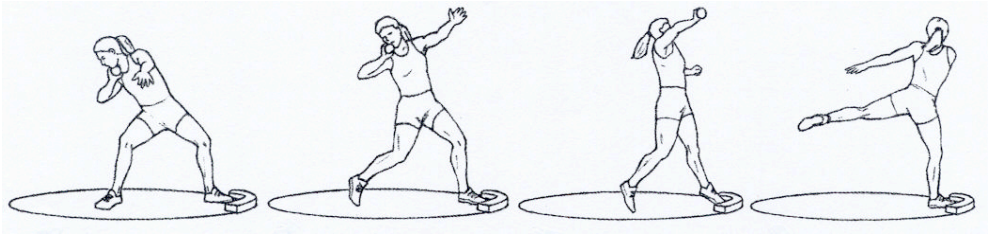
Gripping the Shot Put & Ready Position



1. Hold shot with both hands.
2. Place shot in throwing (right) hand and spread fingers around shot.
3. Do not rest shot in palm of hand
4. Place thumb and little finger wider apart for balance and support.
5. Raise shot above head, wrist flexed backward.
6. Shot is supported by thumb and little finger on sides; majority of weight is on other fingers.
7. Bring arm down, place shot against neck, below ear, with palm turned out.
8. Elbow is away from body.
9. Apply pressure against neck to support shot.

Standing Put

1. From ready position, stand straddle near toe board, facing perpendicular to direction of throw (left shoulder at front of the ring).
2. Shoulders are parallel to direction of throw.
3. Left arm (non-throwing arm) is relaxed, extended in front of body.
4. Step back and bend right leg, keeping back straight.
5. Turn upper body 90 degrees away from direction of put.
6. Body weight is over bent right leg.
7. Drive hips and chest counterclockwise toward direction of put.
8. Extend right arm and snap fingers, releasing shot.



Sliding Put

1. From ready position, stand straddle near middle of ring, facing perpendicular to direction of throw (left shoulder at front of the ring).
2. Lower upper body and flex right leg to quarter squat.
3. Lift left foot and extend it forward, sliding body toward front of circle.
4. Right leg remains flexed and body is perpendicular to direction of throw.
5. Rotate right leg and extend body upward to force hips around to direction of put.
6. Thrust chest forward and extend both legs.
7. Transfer weight to left leg.
8. Extend right arm and push shot with fingertips.
9. Release shot, right arm extending in direction of put.

Gliding Put

1. From ready position, stand at rear of circle, facing away from the direction of put; weight is on right leg.
2. Place ball of left foot on throwing surface.
3. Hop backward powerfully, turning both feet 90 degrees parallel to toe board.
4. Land on both feet simultaneously.
5. Rotate and raise trunk upward; feet begin turning 90 degrees toward direction of put.
6. Transfer weight from right to left foot, pivoting both feet and knees toward direction of put.
7. Keep right elbow away from body, and extend right arm forcefully.
8. Keeping thumb down, put the shot and forcefully snap the wrist and fingers outward.

The Reverse – Weight Transfer

1. After shot is put, right arm continues past body to the left.
2. Left arm continues back around body.
3. Switch feet - right foot moves toward toe board, and left foot moves to the back.
4. All of weight is on right leg.

Wheelchair Shot Put

Wheelchair Athlete - Ready Position

1. Set front wheels of chair behind toe board of the ring, lock back wheels.
2. Sit upright in chair with buttocks against chair and the feet on foot supports.
3. Grip shot in right hand.
4. Place shot against the side of neck, not under chin.
5. Keep right elbow to the right side, pointing back away from body.
6. Grab left armrest with left hand for balance.
7. Extend right arm forcefully.
8. Lower left shoulder, raise right shoulder.
9. Keeping thumb down, put shot, snapping wrist and fingers outward.

Shot Put Drills

Underhand Toss

Reps: 10 throws

Purpose

- Warm the body up properly for any shot put practice or competition

Teaching Points

1. Stand facing landing area.
2. Hold shot in front of body with both hands.
3. Bend knees and throw shot up and out, away from body, using an underhand toss.

Glide Drill

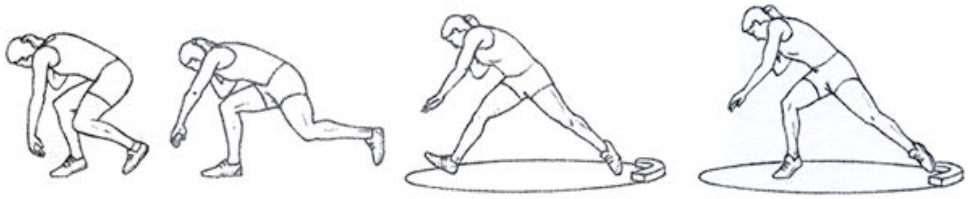
Reps: 5-10 glides

Purpose

- Warm the body up properly for any shot put practice or competition
- Develop powerful and explosive glide action

Teaching Points

1. Stand with feet parallel in back of circle.
2. Using a normal glide, drive backward off left foot.
3. Land in power position.
4. Rotate hips and feet on drive back.
5. Keep shoulders square to back of circle, opening up left foot and hip.

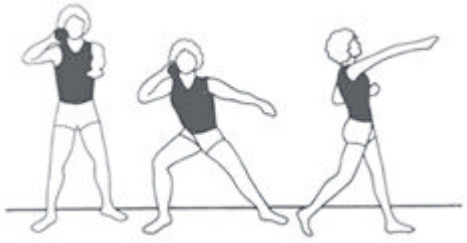


Weight Transfer – Standing Throw

Reps: 5-10 throws

Purpose

- Develop effective use of the legs



Teaching Points

1. Take straddle position with shot in throwing position.
2. Bend the throwing-side knee, transferring weight over foot.
3. Non-throwing leg is relaxed and extended; arm is out to the side.
4. Shoulders are parallel to ground.
5. Drive weight up and out from throwing side.
6. Rotate hips, transferring weight behind shot release.
7. Thrower is facing direction of throw upon release of shot put.

The Pentathlon

The pentathlon is an athletics event that involves five individual sporting events. These are listed below in the order of competition. If a coach has an athlete who performs the long jump, shot put and high jump well, he or she might want to discuss with the athlete the possibility of competing in the pentathlon as a single athletics event. As in other athletics events, the athlete must possess speed, strength, endurance and flexibility to be successful; however, the multiple events of the pentathlon require strong dedication, motivation and concentration as well.

1. 100m
2. Long jump
3. Shot put
4. High jump
5. 400m

Athletes' times and distances are converted into points. Special Olympics athletics has devised tables of scores ranging from 1 to 1200 points per event. In pentathlon, the athlete who scores the greatest number of points in all five events wins. Place standings in each of the five events have no bearing on the final outcome.

According to the official rules, athletes competing in the long jump and shot put get three attempts to register a legal record. This directly impacts the coach's and athlete's strategy for approaching these events. If the athlete fouls on all three attempts, he/she does not score any points for that event. Athletes compete to get a safe and legal mark on the first attempt, and then use the next two attempts to achieve a better mark.

Training Components of the Pentathlon

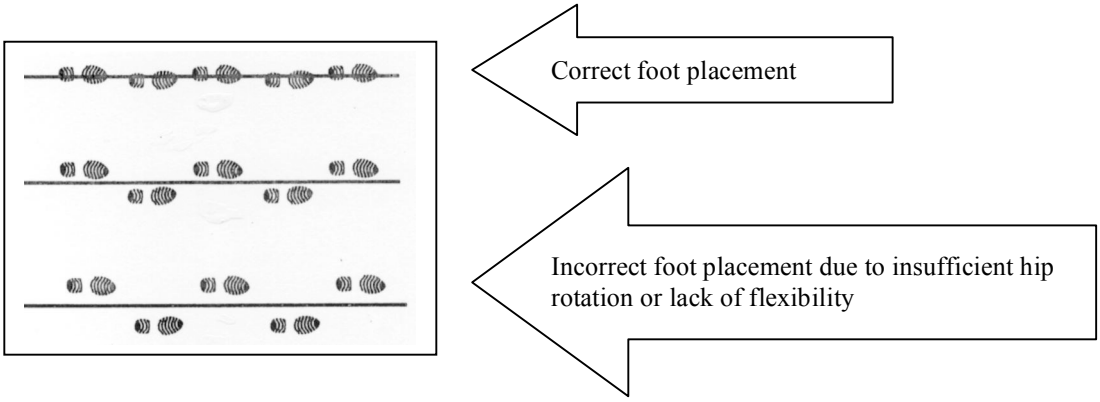
Training should emphasize major components of a pentathlete's conditioning, such as speed, strength and endurance. Developing skills for the weaker events should also be emphasized, but to a lesser extent. Once the athlete is well conditioned, and the events are balanced as far as scoring is concerned, the focus shifts to the jumping events and the 100m. These events provide the greater share of points. The training components for the pentathlon follow.

- **Speed Training** is the most important aspect, because speed is directly related to the 100m, 400m and long jump.
- **Technique Training** is kept simple. Identify similarities in events. With a few hours of training, you can obtain more points in those events that require technique.
- **Strength Training** focuses on the general overall condition of the athlete.
- **Specific Strength Training** deals with plyometrics, or exercises focused on the eccentric/concentric contraction cycle of a muscle, such as hops and bounds.
- **Rest and Recovery** is very important due to the demands on the body during training and competition. You want to avoid injuries and burnout.

Race Walking

Walking by definition is propelling oneself forward while keeping at least one foot in contact with the ground. The art of race walking requires a great deal of practice. It requires that the athlete use quick steps while making sure that the heel of the lead foot touches the ground before the toes of the support foot leave the ground. Race walking is a race of endurance and quick leg movements.

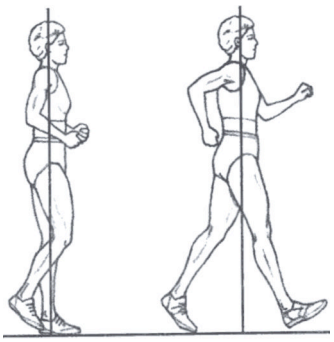
Race walking is a progression of steps taken so that unbroken contact with the ground is maintained. The lead foot, preferably the heel, must touch the track before the back foot leaves the ground. During stride, the leg must be straightened at least momentarily. The supporting leg must be straight in a vertically upright position. When a walker does not have continuous contact with the ground, he/she is not race walking and shall be disqualified.



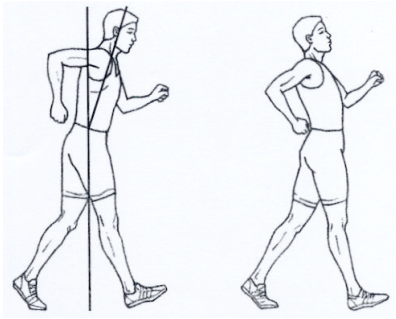
Begin Walking Motion and Acceleration

1. From a stand start, push off with rear foot and front foot simultaneously while stepping forward with rear foot.
2. Swing arms vigorously to stimulate quick foot movement.
3. Power body forward by lifting the heel and pushing off with toes.
4. Walk forward, swinging bent arms in opposition to legs.
5. The heel of the lead foot should touch the ground just before the toe of the trailing foot leaves the ground, in heel-toe movement. Feet are placed one in front of the other.
6. Hold hands so the fingers are bent, yet relaxed and loose.
7. Walk with the head up and the torso erect and centered over the hips.

Correct Form



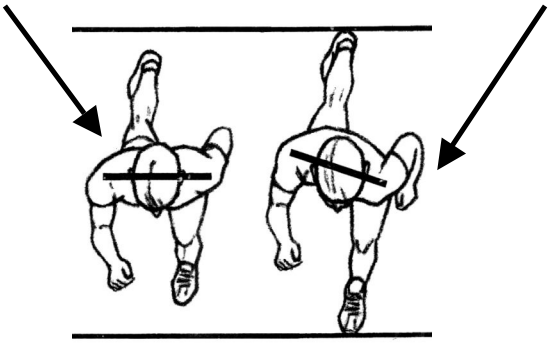
Incorrect Form



Maintaining Momentum

1. Let toe and calf muscle push body forward with feet landing in a straight line.
2. Let the hips rotate forward and in with each stride.
3. Hold arms at 90 degrees, swinging them vigorously forward and back.
4. Maintain an upright position with neck and shoulders relaxed.
5. Hips drop and roll while twisting back and forth. This allows your legs to move faster and easier and gives you a longer stride.

Good hip rotation Too much hip rotation



6. Arms are always bent at a 90-degree angle and pumping vigorously. Let them swing across your chest as they move back and forth. Forearms should be parallel to the ground, and arm swing originates from shoulders.
7. The knee bends and swings forward taking the step. This allows toes to clear ground.
8. The advancing leg must be straightened from the first moment of contact with the ground until it is in the vertical position.
9. Toes and calf muscles are used to push the body forward. Feet land in a straight line with toes pointed directly forward.
10. Keep neck and shoulders relaxed.
11. Body and head should be upright at all times.
12. Increase drive off toes by rolling over and off them.
13. Use relaxed hip movements as speed increases.
14. Race walk at highest speed possible while maintaining the correct form.
15. Complete race with a strong finish.

Wheelchair Racing

Ready-to-Race Position

1. Athletes must remain seated on the cushion or seat of the wheelchair.
2. Lean upper body forward so shoulders are ahead of hips.
3. Hold knees and feet together in the center of the chair.
4. Grasp wheels or handrails at 11 o'clock position; i.e., just behind highest point of wheel (12 o'clock position) with thumbs inside and fingers outside.
5. Keep head slightly forward and focus several meters ahead.

Forward Stroke and Recovery

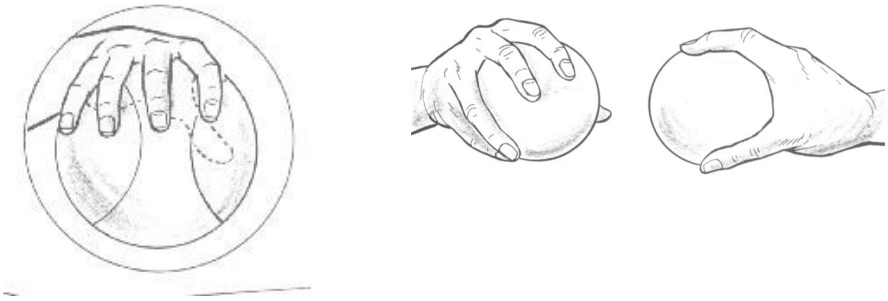
1. From ready-to-race position, push the wheels or handrails forward from 11 o'clock to the 4 o'clock position, and release hands from wheels.
2. Keep moving arms and hands in a circular motion, i.e., past 6 and 9 o'clock positions, and recover to the 11 o'clock position.
3. Keep body and head still during stroke and recovery.

Softball Throw

Throwing events in Special Olympics athletics are fun and exciting. Special Olympics athletes have the opportunity to train and compete in the softball throw, a unique event for Special Olympics athletes with a lower ability level. The shot put, which has been contested on the world stage for many Olympic Games, is a part of Special Olympics Official Sports and is discussed in another section.

Gripping the Softball & Ready Position

1. Pick up softball with the throwing, dominant hand.
2. Place the thumb under the ball with the index, middle and ring finger on top, and little finger on the side. This grip may vary according to the size of the athlete's hand.
3. Apply pressure by squeezing fingers to keep ball in the hand.



Standing Overhand Throw

1. Stand 1½ strides behind foul line, with left shoulder facing direction of throw, feet parallel and a little wider than shoulder width, and toes pointing forward.
2. Raise right arm, with elbow pointing back and holding ball behind head.
3. Bend left arm and hold it in front of the chest.
4. Push off right foot and take one step with left foot toward direction of throw.
5. Transfer body weight from right leg to left leg.
6. Bring the right arm up and forward, leading with the elbow.
7. Forcefully extend right arm, snap the wrist and release the ball off fingertips.
8. Follow through, down and across body.

Wheelchair Athlete - Ready Position

1. Set front wheels of chair just behind the foul line and lock back wheels.
2. Sit upright in chair with buttocks against back of the chair and feet either on the ground or on the foot supports.
3. Properly grip the softball.
4. Bend right elbow to 90 degrees, lift it away from body, and bring ball behind the head. The hand is behind the elbow.
5. Hold left arm above eye level, and lean back slightly in chair with a small arch in back.

Wheelchair Athlete - Overhand Throw

1. From ready position, throw ball by pushing left arm to the right, then pulling it back down to left.
2. Raise right shoulder as the left shoulder drops, keeping right elbow up and away from the body.
3. Bring right arm up and forward, leading with elbow.
4. Extend right arm sharply, high over right leg, snap wrist, and release ball off fingers.
5. The right arm follows through, down and across body.

Special Olympics

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