



SPORTS  
SCIENCE  
INSTITUTE OF  
SOUTH AFRICA



# Junior athletics

coaching manual



Primary

school



# Junior athletics

coaching manual contents



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## Introduction

Junior athletics  
coaching manual



“We wish to change our nation’s children by instilling in them the desire to be more active, not just now but for all their lives. We aim to achieve this by teaching each child a competence in and passion for at least one sport. This we will do by building a sports coaching culture for our children ...”

Many factors in modern society have resulted in children and adults becoming increasingly inactive and this has had an alarming effect on their health. Regular physical activity plays an important role in the prevention and treatment of many lifestyle-related diseases, such as coronary artery disease, strokes and type 2 diabetes (non-insulin dependent diabetes). Sports are a great way to encourage children to get more physically active and healthy, and that’s why Discovery Vitality has developed a series of sports coaching manuals for primary schools in South Africa.

### The purpose of the Junior athletics coaching manual

This manual provides teachers and coaches with relevant information on how to coach athletics so that children get the maximum benefits from participating in the sport – getting physically active, healthy and fit. The focus of the manual is on developing the **basic skills needed** for juniors (up to the age of 12) to become competent athletes. The main focus is on **providing exercises and drills** to help you plan your practice and develop skills, rather than to give a comprehensive framework of the rules and tactics of the sport.

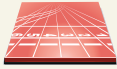
Professor Tim Noakes of the Sports Science Institute of South Africa has a dream to make South African children the fittest in the world by 2020. He believes that through initiatives like the Vitality Schools Programme we can reach this goal. You too can play a part in making this vision a reality!

### Get your kids active with athletics

Athletics is the most basic and accessible of all sports, with many of its disciplines requiring no equipment, only an open area in which to run. It consists of three main disciplines: running, jumping and throwing.

It is unlikely that you, as the coach, will be required to teach all the different disciplines, so we have divided this manual into four separate sections. The first section is a general introduction to athletics, and the next three are running (track events), jumping (field events) and throwing (field events). Only events appropriate for the 8 to 12 age groups will be covered.





## Understanding athletics

### The aim of athletics

Athletics is generally considered an individual sport where one athlete competes against others, but there are some team events as well (see Relays on page 21). The aim of athletics varies according to the discipline. The aim of track events is to be the fastest runner over a given distance in a specific age group; the aim of jumping events is either to leap the furthest distance into a sandpit (the long jump) or to clear the highest bar (the high jump); and the aim of shot-put is to push (or throw) a shot (a metal ball) the furthest distance from inside a circle. This will be explained in more detail in the sections that cover the individual events.

### Safety

The most important safety consideration in athletics is the warm-up. In order to prevent injuries, athletes must be adequately warm before they participate in any athletics events. For a list of warm-ups refer to the Warm-up activities section on page 6. For more advice on safety in athletics please refer to the sections covering the individual events.

### Rules

While the rules specific to each event are dealt with in more detail in the following sections, it is important to mention here that the rules for athletics competitions vary. The number of competitors and the length of the event are dependent on the type of competition held. So, treat each competition individually and understand its particular rules.

### Equipment

As an athletics coach, your most important items of equipment are your noteboard and stopwatch. These allow you to measure and write down times and details of what athletes are doing during training. You will also need a whistle and cones. For field events, a tape measure is required to measure throws, jumps and run-ups.

It is recommended that you do not use weight training equipment for young children. Rather let them use their body weight as resistance.



## Planning your practice

### Practice frequency and duration

When trying to encourage children to participate in sport it is essential that sessions are fun. Training is not necessarily about quantity but rather quality, so we suggest that you have two one- hour sessions a week.

### Putting the practice together

As the coach, use your imagination and creativity to get the most out of your practice sessions. It is helpful to stick to a framework that will help you cover all the important aspects of athletics-training. The table below summarises the framework for how to set up a good practice session, and can be used for all the different disciplines:

Phase	Description and principles	Length
Warm-up*	<ul style="list-style-type: none"> <li>The objective is to prepare athletes physically and ease them into activity</li> </ul>	15 minutes
Skills development and training	<ul style="list-style-type: none"> <li>The more formal part of the training session where specific attention will be paid to the development of skills and technique</li> <li>For young children (aged eight to 10), this section should be shorter with more time spent on activities</li> </ul>	35 minutes
Warm-down*	<ul style="list-style-type: none"> <li>Opportunity to get all the athletes together at the end and reinforce key lessons of the practice</li> <li>Also helps to ease athletes out of activity</li> </ul>	10 minutes
		Total 60 minutes
<p>All phases have drills and training games you can use to make sessions fun and enjoyable for your athletes while also teaching skills and techniques. Each discipline requires different drills, which will be explained in each section.</p>		

\* Refer to the General coaching manual for a list of activities and static and dynamic stretches.



## Warm-up activities

The warm-up activities are the same for all events. They should be fun and ease players into activity. Skills should not be coached during this phase of the practice, and there should be very little talking except to encourage athletes to perform the activities safely and correctly. Feel free to adapt the activities and create new ones to suit your athletes.

### Yo-yo

- This game will develop acceleration, coordination and balance.

### Set up

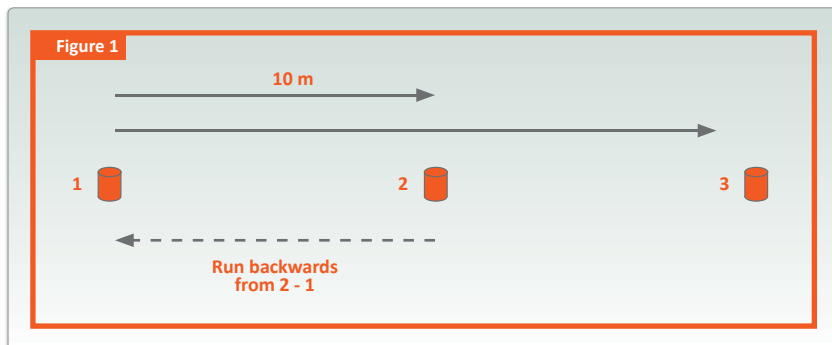
- Set out three cones 10 m apart, as shown in the diagram.

### How to do the activity

- Divide your runners into two groups, with half the runners lining up behind cone 1 and the other half behind cone 3
- One of the runners lined up behind cone 1 sprints to cone 2
- At cone 2, the runner returns to cone 1 by running backwards
- At cone 1, she sprints forward again to cone number 3
- When she reaches cone 3, she 'tags' the next runner who runs forwards from cone 3 to 2, then backwards from 2 to 3, and then forwards from 3 to 1, before tagging another runner
- This cycle repeats until every runner has had a turn
- The total distance run each time is 40 m, so repeat no more than four times for each runner.

### Progression

- For slightly older runners, or towards the end of the season when runners are fitter, increase the distance between the cones to 15 m, then 20 m
- You can have three or four relays running at a time.



## Zigzags

### Set up

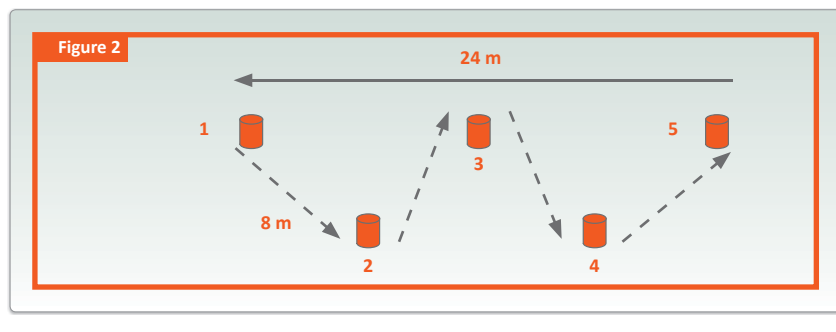
- Set out a zigzag pattern of five cones, as shown in the diagram
- Each cone is separated from the next by 8 m.

### How to do the activity

- Runners line up behind cone 1, and then sprint to cones 2, 3, 4 and 5
- At cone 5, the runner returns to cone 1 down the outside of the zigzag, as shown by the arrow
- The runner can then tag the next athlete who starts. You could also start athletes simultaneously, so that athlete number 2 starts when athlete 1 is at cone 2, athlete 3 starts when athlete 1 is at cone 3, and so on
- Each athlete will run 56 m doing this game, so be careful to avoid too much running. Do not repeat more than three times for each athlete.

### Progression

- For slightly older runners, or towards the end of the season when runners are fitter, increase the distance between the cones to 12 m, then 15 m.





## Flags

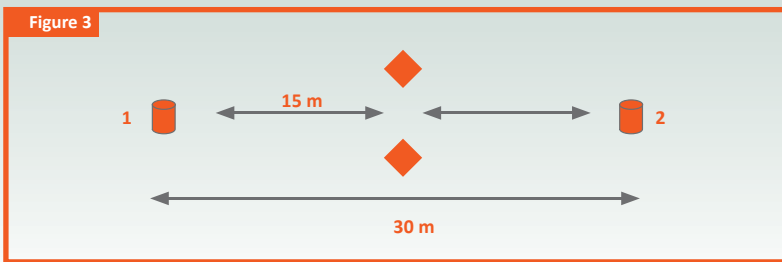
### Set up

- Place two cones 30 m apart with two 'flags' in the middle exactly 15 m from each cone. The 'flags' can be tennis balls or relay batons, or any object the runners can pick up.

### How to do the activity

- Divide the runners into two groups, with one group standing behind cone 1 and the other behind cone 2
- On your whistle, one runner from each group sprints from his cone to the middle and picks up a flag (ball or baton), before sprinting back to the cone and handing it over
- The second runner from each group must then sprint and place the cone back in the middle before returning to the cone to tag in the next runner
- This continues until each runner has had a turn
- Repeat no more than four times for each runner.

Figure 3





## Whistle sprints

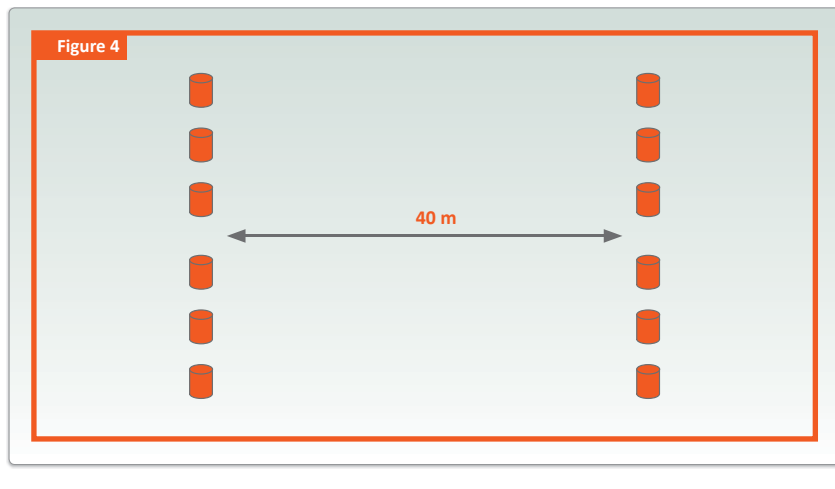
This game teaches acceleration and reaction time. Jumping up from a lying position also develops strength.

### Set up

- Form a grid, about 40 m in length, by lining cones up on each side.

### How to do the activity

- Runners start from one side and jog towards the other end
- When you blow the whistle, runners must sprint the remaining distance to the cones where they turn around immediately and lie on their stomachs
- On your next whistle, runners must jump up as quickly as possible and begin jogging towards the other end again
- Your next whistle starts another sprint, and this continues
- They should not run for more than 2 minutes in this game.





## Skills development and training

Skills development and training should be the focus of your practice sessions so the basic skills of athletics can be taught. The aim with young athletes is to spend about 70% of the time focusing on skills development and only 30% on competition. This way, training is fun and stimulating and not too competitive. It is important that athletes don't have to wait in lines where they get bored – you should have a 'no queue' policy during your practices!

### The five S theory

The focus of your athletics coaching to children between the ages of eight and 12 can be summed up in the five S theory:

- Skills development and rhythm
- Strength
- Stamina – introducing children to longer-duration exercise and some disciplined training
- Suppleness (or mobility or flexibility)
- Speed development.

As you coach athletics, remember that children grow and develop at very different rates. One child might develop quickly and appear much faster, stronger or athletic than another child of the same age, but this may not be a true reflection of their natural ability. Encourage every child to participate in all the disciplines.

### Running (track events)

The two types of track events dealt with are short (sprint) events and long distance events (long-distance running and relays).

#### Sprint events

Sprinting is all about speed: how quickly the limbs move and the ability to cover a short distance in as quick a time as possible. Children are either fast or they are not, and training cannot turn just anyone into a champion sprinter. Nevertheless, every athlete, even those who are not gifted with natural speed, should be encouraged to work on developing their speed through training.



## The objective

The objective is to cross the finishing line first and win the race. Depending on the age of the child, the sprint distance in competitions ranges from 70 - 400 m. The race is started with a gun and the athletes run the whole race in an individual lane.

## Rules

### Disqualification

- Runners can be disqualified for stepping outside their lanes
- Athletes must only start running once the gun has been fired. Starting too early (a false start) can result in disqualification.

### Number of athletes

The number of athletes is usually limited to eight per event.

### Managing the event

The race is started by a shot fired by a meeting starter.

### Equipment

Well-cushioned, neutral shoes (though there is no problem with training barefoot if the track is clear of thorns, nails and broken glass).

### Planning your practice

#### Practice frequency and duration

When trying to encourage children to participate in sport it is essential that sessions are fun. Training is not necessarily about quantity but rather quality, so we suggest that you have no more than three one-hour training sessions a week. It is recommended that sprinters do not run more than 1 000 m in a training session.

### Teaching correct technique

#### Five phases of the sprint race

Each phase of the sprint race requires certain skills and techniques. The five phases are:

- On your marks
- Get set
- The B of bang
- The acceleration phase
- The stride phase.



Let's take a closer look at what skills are needed for each phase and what you, as the coach, should look out for when young athletes are sprinting.

### On your marks

This is the starting position where the athletes are lined up behind the starting line in their individual lanes. Athletes should be in a crouched position, as shown in Figure 5.

During this phase, it is important to ensure:

- Fingers are behind the line
- Fingers form a high bridge
- Hands are evenly positioned and slightly wider than shoulder-width
- Shoulders are back and positioned above or slightly forward of the hands
- Arms are straight, but not locked at the elbows
- Head and neck are in line with the spine
- Eyes are focused on the track one or two metres ahead
- Breathing is gentle
- Face and neck muscles are relaxed.

One of the more common mistakes to look out for is the back leg being extended too far behind the athlete (look at Figure 6). This often happens when athletes aren't using starting blocks, since the blocks 'force' the back leg to be tucked in closer to the body (compare Figure 5 and Figure 6). It is important to be in this tucked position so that maximum push-off power can be generated. So if your athletes are not using blocks, check that they get this back leg into the correct position.

Another common error is to have 'flat hands' (see Figure 6) – the hands should ideally form a bridge or arch, and the palms should not be flat on the ground, Figure 5 shows the correct technique.



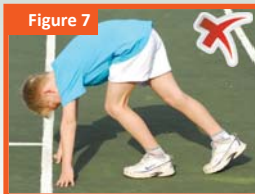
### Get set

The starter will then call out 'get set', which is the cue for the athlete to lift the hips up and slightly forward. This puts the athlete in a position to push off the ground at maximum speed when the gun goes off.

During this phase, it is important to ensure:

- The breath is held
- Hips are slowly raised to a position above the shoulders
- Head and neck are in line with the spine
- Eyes are focused on the track one or two metres ahead
- Shoulders are vertically above or slightly forward of the hands
- Front leg knee angle is approximately 90 degrees
- Rear leg knee angle is approximately 120 degrees
- Feet are pushed hard back into the track.

The most common error made in the 'get set' phase of the race is shown in Figure 8. Here you can see that the hips have gone straight up so that the athlete's weight is actually quite well behind him. It is impossible to get a quick start from the blocks from this position. The correct technique is shown in Figure 8; the athlete is leaning forward so that the shoulders are in front of the hands and ready for a good start in the direction of the finish line.





### **The B of bang (Go)**

As the gun goes off to start the race, it is important that athletes don't just suddenly jump straight up and take off running. The best method is to run from the starting line and keep as low as possible to the ground, like an airplane taking off and gradually easing up, as shown in Figure 9.

During this phase, it is important to:

- Exhale
- Drive the arms hard
- Drive the back leg forward into a high knee action
- Extend the whole body so there is a straight line through the head, spine and extended rear leg. The body should be at an angle approximately 45 to 60 degrees to the ground
- Eyes should be focused on the track two to three metres in front of the athlete
- Keep low, relaxed and drive.

### **The acceleration phase and the stride phase**

Most sprinters take about 50 to 60 metres to speed up and hit top speed. They then have to maintain that speed. Coaching the first three phases (the start) is important from a technical point of view. The last two phases involve training the muscles and metabolism to function better for sprinting.

Training sessions should be used to develop the key aspects of the acceleration and stride phases of the race. These are:

1. Stamina (ie the ability to maintain that top speed for as long as possible)
2. Sprinting technique (which allows the runner to maximise their speed and strength).

### **The importance of developing technique**

It is very important to focus on coaching good technique to young athletes. As they grow they will naturally become stronger, more powerful and more agile, but good technique not learnt now can be difficult to learn later. Here are some tips on coaching good technique in sprinting.



### A tall action

- Athletes should run tall, on the balls of feet / toes (not heels) with full extension of the back, hips and legs. Make sure the athlete is not 'sitting down' when running.
- The hips should be forward to achieve this posture – think of the athlete leaning forward at the ankles. A common mistake made by young athletes is to lean forward at the shoulders, which actually slows down running.

### A relaxed action

- Focus on moving easily as opposed to tensing and 'working hard' to move
- Let the movements of running flow
- Keep the hands relaxed, the shoulders low and the arms swinging rhythmically by the sides
- Young athletes often struggle to relax. A simple and effective trick is to teach relaxation from the face down. If the athlete can relax the jaw and eyes, they will not tense up as easily.

Two of the more common mistakes with the arms are shown in Figures 10 and 11 below.

In the first figure (which has been exaggerated for effect), the runner is swinging the arms all the way across the body, which is not ideal – the hands should move more or less from the shoulder down past the hips, as shown in Figure 12 and 13. Generally, it is recommended that arms not cross the midline.



In Figure 14 the runner has tensed up arms and is 'hugging' herself. This is wrong because the arms should counterbalance the upper body and prevent rotation when running. If the arms are held too close to the upper body and do not swing freely, this won't happen and the shoulders will tend to roll from side to side (try it for yourself and see). So, it's a good idea to emphasise that arms should be relaxed, bent at about 70 to 100 degrees, and that they should swing freely back and forth in opposite time to the legs.

### A smooth action

Athletes should virtually float across the top of the ground. Leg action should be efficient and rhythmic, moving easily under the body like a wheel rolling smoothly along.



## Drive

Push from an extended rear leg. Drive the elbow back with a high forward knee drive, followed by a strike and claw foot action just behind the body's centre of gravity.

Some aspects of the running technique are shown in Figure 15a-e. (The sequence of pictures is really important here because it shows the full stride of the left leg). These pictures are not of a sprinter, but they illustrate the running technique very clearly. Note the balance and the smooth and efficient stride, and how the arms pull in an opposite direction to the legs.



Figure 14



Figure 15a



Figure 15b



Figure 15c



Figure 15d



Figure 15e

## Interval training

Interval training is the structured part of training sprinters, and is an excellent way to develop speed, stamina and strength. It involves breaking a run into shorter segments which are run numerous times. It consists of short- and long-interval training.

Short-interval training is when the distance run is less than or equal to the race distance, and the focus is on developing technique, strength and speed.

Long-interval training is when the distance run is more than the race distance. It is run at a slower pace with the intention of building strength and endurance. This would probably be more suitable for older children (aged 11 to 12).

These two types of training will be discussed in more depth on the next pages.



### Short-interval training

We will use the example of a 100 m sprinter to make sense of short interval training. A 100 m sprinter can break the distance down into a 30 m distance that is repeated 6 times, with rest periods of 3 minutes in between. This session would be summarised as follows:

- 6 x 30 m, with 3 minutes' recovery.

The athlete is now running only 30 m. The focus can then either be on the start phase or the acceleration and drive phase of the sprint.

If you focus on the **start phase**, make your athletes practise running the first 30 m of their race from the starting blocks. Focus on technique and balance.

If you focus on the **acceleration or drive phase**, athletes do not start from blocks or the crouched position. Instead, they jog from a point 20 m away, hit the line at a reasonable pace, and then work on speed for 30 m. Here, the focus would be on developing technique and speed (remember that teaching technique to young children is more important than forcing speed and performance).

The long 3 minute rest period between runs is very important if you are doing this kind of session. It prevents the athlete becoming over-stressed and fatigued so they can concentrate more on their technique. Athletes will not develop speed if they are unable to recover between runs.

The other way to manipulate rest is by introducing sets. You can build in very long rest periods between sets to make sure athletes recover, while also increasing the overall volume of the session. For example, instead of doing 6 x 30 m, with 3 minutes recovery (as explained on the previous page), you could do:

- 2 x 4 x 30 m, with 2 minutes' recovery between repeats, and 6 minutes between sets.

This means sprinters do four repeats of the 30 m run, with 2 minutes' rest. Then they take a very long rest of 6 minutes before repeating the set. This way athletes do more running, but also get more rest so they do not become too fatigued.

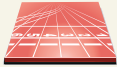
### Long-interval training

In long-interval training, the athletes run more than they would in a race, but run at a slower speed. The goal is not speed, but endurance and strength. It can be done once every two weeks.

To make more sense of it, let's look at an example of a 150 m sprint. The long-interval session could be summarised as:

- 4 x 150 m, with 3 minutes' recovery.

In this session, runners do four repeats of the 150 m run, with 3 minutes' rest. It is very important that all the athletes run the final repeat (in this case, the fourth one) faster than the previous repeats. Remember, it is recommended that the total distance run in each session should be limited to 1 000 m. For example, a session of 5 x 200 m would give a total of 1 000 m.



### Putting the sessions together

As the coach, you have the choice of doing short- or long-interval training, and can focus on any phase of the sprint during training sessions. Here is an example of how you might make use of three sessions and cover all areas of training:

Day	Session and examples	Purpose and key outcomes
Day 1	Longer intervals (choose one of): <ul style="list-style-type: none"> <li>• 4 x 150 m, with 3 minutes' recovery</li> <li>• 5 x 100 m, with 3 minutes' recovery</li> <li>• 5 x 70 m, with 2 minutes' recovery</li> <li>• 6 x 80 m, with 3 minutes' recovery</li> </ul> (Note that this is 'long' because the total distance run is much longer than the race distance)	<ul style="list-style-type: none"> <li>• Develop good running technique and fitness</li> <li>• Focus on technique, not speed</li> <li>• Make sure the final repeat is faster than the previous repeats</li> <li>• Athletes should not get too exhausted</li> </ul>
Day 2	Shorter intervals (choose one of): <ul style="list-style-type: none"> <li>• 6 x 30 m, with 3 minutes' recovery (focus on start and technique)</li> <li>• 2 x 5 x 40 m, with 3 minutes' recovery between repeats, and 5 minutes between sets</li> </ul> From the starting block: <ul style="list-style-type: none"> <li>• 8 x 20 m, with 3 minutes' recovery (focus on start technique, speed and power)</li> </ul>	Select the focus of the session: <ul style="list-style-type: none"> <li>• Develop speed and power by making athletes run flat out with long rest periods</li> <li>• Or develop form, technique and style</li> </ul>
Day 3	What's covered in this session will depend on the time of season. If school events are approaching, it is best to spend time focusing on starts and technique. Shorter intervals would then be more suitable. During the off-season, when races are more than four weeks away, longer intervals can be used.	

### Distance events

Distance events include long-distance running and relays.

#### Long-distance running

Many children find distance running difficult and dislike the 'military-like' structure of it. As the coach, you can make it more exciting by using interval training. Here we show you how to do this, but first let's take a closer look at the aims and rules of long-distance running.

## The objective

The objective is to cross the finish line first and win the race. Distance events for children between the ages of eight and 12 start at 800 m and go up to 1 500 m, with cross-country races of 2 km. The race is started with a gun and the athletes run the whole race.

## Rules

### Disqualifications

- Athletes must only start running once the gun has been fired. Starting too early (a false start) can result in disqualification
- Athletes do not have to run in an individual 'lane'. They usually run in lane one or two (the inner lane) because it is the shortest distance. They will get disqualified if they step off the track
- Athletes will be disqualified if they obstruct other runners. This includes blocking another runner.

## Number of athletes

This is dependent on the number of schools participating and the type of competition being held. Usually each school gets three entrants.

## Managing the event

The race is started with a shot fired by the meeting starter.

## Planning your practice

### Practice frequency and duration

It is recommended that you do not spend more than one session a week on structured training. Two sessions should include group runs and relays, and should be more relaxed and enjoyable. Each session should be no longer than an hour.

## Teaching correct technique

### Interval training

As already mentioned, interval training is the structured part of training sprinters and involves breaking a run into shorter segments which are run numerous times.

As the coach, you can play around with certain variables of training to change the goal of the session. These include distance, total distance, rest period and the speed of the run.

### Distance for each run

- The distance for each run can range from 100 m to 600 m (longer than this is not recommended for young children)
- If the focus is on speed, choose shorter distances (eg 100 m up to 300 m)
- If the focus is on developing stamina/endurance, choose longer distances (from 300 m up).



### The total distance

- The total distance can range from being shorter than the race distance (eg 4 x 150 m) to longer (eg 8 x 300 m)
- Total distance should not be longer than race distance by more than 50%. For 800 m, the total distance should be no more than 1 200 m. For 1 200m, total distance should be 1 500 m or less
- If the focus is on stamina or endurance, the total distance should not exceed 3 km in each session. So, aim for between 1 500 m and 3 km by increasing the number of runs.  
For example:  
8 x 300 m = 2.4 km  
6 x 400 m = 2.4 km  
3 x 600 m = 1.8 km.

### Rest period

- The rest period can be short or long. Short rests are less than 2 minutes, and long rests are longer than 2 minutes
- If the focus is on speed, use longer rest periods (3 - 5 minutes) to allow full recovery after each run
- If the focus is on developing stamina or endurance, shorter recoveries can be used because the running speed is slower. The last repeat should be run faster than the previous ones, so do not make recovery time too short (usually 2 - 3 minutes).

### Speed of run

- The speed of the run can be slower than, equal to or faster than race pace
- If the focus is on speed, run at a speed faster than, or at least equal to, race pace. For example, if the athlete's 800 m pace is 2:30 (75 sec/lap), then they should run at a pace between 70 and 75 seconds/lap
- If the focus is on stamina or endurance, run slower than race pace. The exact pace should be determined through experience. If runners cannot finish the last repeat more quickly than the previous ones, the pace is too fast.



### Examples of interval training for 800m and 1200m runners

Speed	Stamina or endurance
3 x 400 m, with 3 minutes' rest	5 x 300 m, with 2 minutes' rest
2 x 400 m, with 5 minutes' rest	8 x 300 m, with 2 minutes' rest
4 x 200 m, with 4 minutes' rest	6 x 400 m, with 2 minutes' rest

## Relays

The training for running relays is not that different from doing interval training. Distance, speed and the rest period are all based on the same principles described above. The major difference is that relays require teamwork and are more sociable than long-distance running. The other difference is that the distances in the relay race are shorter and the speed is faster.

### Key coaching point

Make sure that the teams competing are of equal ability. It won't be much fun for young athletes if they get badly beaten.

### Teaching correct technique

#### A. 4 x 100 m, repeated 6 times

- Each runner does one leg: 6 x 100 m, with about 3 minutes' recovery
- Repeat relay 6 times
- Have a short rest in between (teams can be changed).

#### B. 10 x 60 m, in a straight line

- Place two cones 30 m apart
- Divide runners into two teams
- Each runner must sprint 30 m to a cone, then turn around (or run around the cone) before sprinting back to hand over the baton to the next runner
- Repeat 10 times for each runner.

#### C. Zigzag relays

- This activity is exactly the same as the warm up game described previously (see page 7)
- It builds strength and the ability to accelerate (athletes are forced to slow down around each cone and then speed up)
- Set the zigzag course up with the cones further apart (20 m instead of 8 m)
- Each runner will run a total of 120 m each time they run
- The session will be 4 x 120 m, with a short rest in between each run.



## Putting the practice sessions together

Day	Session and examples	Purpose and key outcomes
Day 1	<ul style="list-style-type: none"><li>Interval training</li><li>Do no more than one interval session a week</li></ul>	<ul style="list-style-type: none"><li>Speed should be equal to or more than goal race pace</li><li>The final repeat must be faster than previous repeats</li><li>Athletes should not get too exhausted</li></ul>
Day 2	<ul style="list-style-type: none"><li>Relays</li></ul>	<ul style="list-style-type: none"><li>Should be more relaxed and fun than the more structured interval session</li></ul>
Day 3	<ul style="list-style-type: none"><li>A slower run that develops endurance</li><li>The maximum duration of this run is 20 minutes</li><li>Runners should run at a slow pace that allows them to finish comfortably.</li></ul>	

## Jumping

The two jumps we will look at are the long jump and the high jump.

### The long jump

#### The objective

The objective of the long jump is to run up to the take-off board at a good speed and, with control, leap as far as possible into a sandpit. Each athlete gets three jumps. The winner is the athlete that records the longest jump.

#### Rules

##### Disqualifications

Jumps are measured from the take-off board to the nearest impression made in the pit by any part of the jumper's body. Athletes must take off from behind a marked point on a white take-off board. If they overstep the marked point, the jump is illegal and is not measured.

#### Number of athletes

There are usually three athletes from each competing school.



## Managing the event

Generally two or three officials are responsible for measuring jumps. They make sure the athlete completes the jump legally.

## Planning your practice

### Practice frequency and duration

We recommend that you have two days of training a week. One of them can be devoted to normal speed development, which can be combined with the sprint athletes. The second day can be devoted to training the long jump technique. Each session should be no more than one hour.

## Key coaching point

Offer young athletes a basic understanding of the jumping technique rather than going into too much detail. We recommend that during coaching you first observe the natural jump of the athlete and then correct the athlete's technique. Allow athletes plenty of opportunity to practise the correct technique.

## Teaching correct technique

The training you do with your long-jump athletes consists of speed development and technique training. For the development of speed, refer to the section on sprinting. Here we will discuss technique training for the long jump.

### The three phases of the long-jump technique

There are three phases of the long-jump technique: run-up, take-off and landing. It is recommended that you spend ten minutes on each phase during each session.

#### Run-up

Being able to hit the take-off board at a high speed is crucial for achieving distance in the jump. That's why the run-up is so important. The run to the take-off board is not a flat-out sprint, but should be controlled and rhythmic.

As jumpers get closer to the board, they must begin to change body position from a forward lean to an upright position. This is explained in the following section (take-off and landing). The Figure 16 sequence on the following page shows the entire run-up of a long jumper. Note the change in body position over the final three frames as the jumper begins to lean slightly backwards in preparation for take-off.

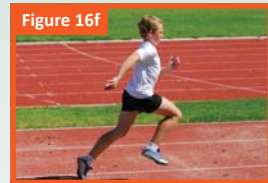
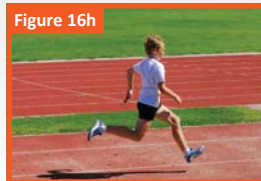
#### Coaching tips for the run-up

Allow children to practise the run-up. Stand in position at the take-off board and allow children to run as if they are going to jump. Concentrate only on perfecting the rhythm and measurement of their run-up.

At first, shorten the run-up to five steps and have the child do the last few steps of the run-up at a much slower speed than normal. This allows you to pay close attention to their technique. Children must also be made aware that running flat-out is not the best way to jump.



For young children, it is recommended that you limit the length of the run-up to no more than nine strides. Longer than this is not really necessary and becomes more difficult to control. They can work out their nine strides by taking nine steps back from the take-off board before doing the run-up. Once jumpers are more confident, they can increase the length of the run-up if desired.



### Take-off

During the take-off, the jumper lands on the take-off board with their strongest leg and then pushes off to gain distance through the air during the jump.

The correct method for take-off:

- Sink hips when two steps away from the board
- Begin to lift hips during the last step towards the board (this makes the final stride shorter than usual)
- Come into an upright body position
- Make sure the foot lands on the board
- Lift up the arms and the non-take-off leg. The quicker these limbs are lifted upward, the better the height and distance of the jump.

Figure 17 a and b on the following page emphasise this movement. Note the non-take-off leg driving up and the movement of the arms.



Figure 17a



Figure 17b



### Landing

Once in the air, jumpers tend to rotate forwards, which cuts the possible distance they could jump because their feet hit the sand early. This can be prevented by focusing on their technique in the air. For children aged 10 to 12, the best technique to teach is the stride technique.

#### The stride jump technique

Once in the air, the athlete must maintain their take-off position for as long as possible. The take-off leg should be behind and the non-take-off leg in front of the body, reaching out for the landing. This is shown in Figure 18 a-d below. Land with legs out in front of the body and not under it because this reduces the distance by a large amount.

#### Coaching tips for the take-off and landing

Demonstrate the stride technique by showing how arms and legs should be positioned in the air (it is not necessary for you to jump). Constantly reinforce these principles so children can learn through repetition.

Figure 18a



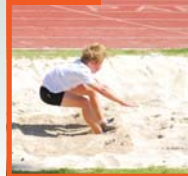
Figure 18b



Figure 18c



Figure 18d



### The high jump

The best technique for the high jump is the Fosbury Flop, where the athlete goes over the bar head first, facing upwards, and then lands on the back. Many young children find this very intimidating, but there are some ways to ease children into this event and make it more fun for them. We will go into these in more detail, but first let's look at the objective and rules of this event.



### **The objective**

The objective in high jump is to clear a bar that is balanced between two supporting poles (called uprights). Those who fail to clear the bar three consecutive times are eliminated, while the rest continue. This goes on until only one athlete remains and is the winner.

### **Rules**

Each jumper gets three opportunities at each height. If they clear a height they move onto the next one. They also have the option to 'pass' at a given height and choose instead to wait for the bar to be raised before taking a jump. There is no set number of jumps that can be performed.

### **Disqualifications**

- An athlete is eliminated for three consecutive failures at any height
- Athletes must take off from one foot only.

### **Number of athletes**

There are usually three for each competing school.

### **Managing the event**

There are usually two or three officials who are responsible for measuring jumps. They make sure the athletes complete the jumps legally.

### **Teaching correct technique**

#### **Approaching the bar**

The first step in teaching the high jump is to make landing on the back more comfortable for beginners. Often beginners are afraid of landing on the bar so it is a good idea to use a rope, cord or string in its place. Put some type of weight on the rope, like a bag or sock full of sand, to keep it in place. It doesn't have to be perfectly taut to do these beginning drills. When jumpers knock the rope out of place it won't hurt them when they land on it. This will give them confidence when practising the high-jump technique.



### The run-up

When training children to do the run-up, first let them experiment until they find what is most comfortable for them, then provide more input and correct their technique.

The correct method for the run-up:

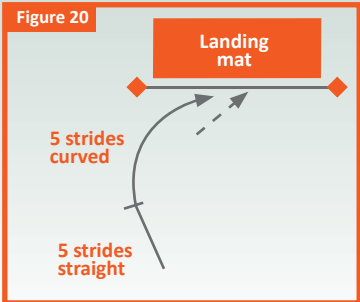
- The run should be controlled and rhythmic
- If take-off is on the left leg, the jumper runs in from the right-hand side of the mat. If take-off is on the right leg, the athlete runs in from an angle on the left of the mat
- Take eight to 13 strides
- Run in a curved shape. This allows the jumper to take off and rotate in the air for maximum height
- The first few steps should be done in an upright position
- When running the last few steps the jumper should lean inwards from the ankles so that the whole body is tilted towards the central point of the curve.

The run-up is shown in the Figure 19 a-d sequence below. Note the jumper leaning in the third and fourth pictures of the sequence.



Figure 20 below illustrates the curved approach used for the jump, which is also the suggested approach for the drills that follow.

**Figure 20**



5 strides curved

5 strides straight

Landing mat

**Curved approach for the high jump**

- This is an example of a 10-stride approach, where the first five strides are straight and the next five are on the curve
- This approach allows the jumper to reach the bar at an ideal angle for take-off and rotation of the body using the Fosbury Flop technique
- For young children, this is best taught using demonstration and is refined through trial and error. Once older, children can adopt a more systematic approach to learning the technique.



## The jump phase

As the athlete approaches the bar from the angle described above, he starts to prepare for the jump.

- In the last two strides before the take-off, the arms rotate so as to keep momentum during take-off
- The speed of the run-up must be controlled so that the athlete does not take off too close to or too far from the bar. The preparation phase and bar clearance are shown in the Figure 21 a-c sequence below:



- Land on the take-off foot, as shown in Figure 22a
- At this point, lean slightly backwards with the arm nearest the bar raised to assist with vertical height
- Lift up the leg nearest to the bar (not the take-off leg, which is on the ground) and rotate to get into position to clear the bar
- Head goes first and faces up towards the sky, as shown in Figure 22a
- As the jumper leaves the ground, the other arm (which was further away from the bar) swings up, and the back arches to provide the best body position for maximum height, as shown in Figure 22b
- At the highest point, the athlete is in a 'bridged position', shown in Figure 22c and d
- For the landing, the athlete will have to kick the legs up so they clear the bar and then land on the mat in the position shown in Figure 22e.



Figure 22d



Figure 22e



## Activities



### The scissor jump

The first drill to practise is the scissor jump. This is a method that can be used to clear the bar if the athlete is still learning and does not want to attempt the Fosbury Flop technique. It is also a good drill to teach the basics of the run-up and take-off. A good high jumper can clear a decent height using this method, so you will be able to spot talented athletes quickly.

#### How to do a scissor jump

- Start off by focusing on the jump technique, and have athletes take only a step or two before scissor jumping over the bar
- Begin the drill without any type of bar and then add rope or cord. Only introduce the bar later
- At first let them land on their feet. Only when comfortable should they attempt to land on their backs
- When jumping, the athlete must push off with the outside leg, furthest from the bar, and raise the inside leg, closest to the bar. See Figure 23
- For the run-up, athletes should run towards the bar at an angle of about 45 degrees
- Later increase the length of the run-up and perfect the curve technique
- Have jumpers try this drill from both sides so they can see which side is most comfortable for them.

Figure 23



**2**

### Back flips

This drill helps teach young athletes to clear the bar in the correct position, and gets them used to landing on the mat.

#### How to do back flips

- Have jumpers stand with their heels against the front of the mat with the bar or rope low
- Get them to jump over the rope and land on their backs. At this point, don't worry about how high their feet get up in the air.
- When jumpers are comfortable with landing on their backs tell them to repeat the drill, but this time make sure they can see their hands and feet when they are in the air. This will encourage them to lift their hands and feet up while jumping.

**3**

### Determine the take-off leg

These methods help young jumpers see which leg they should take off with.

#### How to do the take-off leg

1. In the high jump, children can simply try both sides and decide which is more comfortable.
2. Put a ball on the ground and have them kick it. Whichever foot they prefer to kick the ball with is their inside foot for the high jump.
3. Have them stand up straight and tell them to fall forward as far as they can. One foot will naturally shoot forward to break their fall. That is the take-off leg and the other is the inside leg. If the jumper's right foot is the inside foot, he'll begin his approach from the right side, and vice versa.



## Throwing

Throwing events such as discus, javelin and hammer throw are only done from high school onwards. At primary school level, children participate in shot-put, so this is the event we will focus on.

### Shot-put

Shot-put is an event that requires strength, speed, power, balance and coordination. It is questionable if young children should learn shot-put because they have not yet developed all these skills, so practise safety through proper supervision and teaching the correct technique.

If young children are taught the wrong technique, it will be difficult for them to unlearn this later on when the shot gets heavier and technique becomes more important. If incorrect technique is taught, there is also a risk of injury because the shot can place stress on the shoulder joint and bones of the arm.

To avoid injury, children should not do shot-put training too often, and the type of training done should teach children correct technique. Before discussing correct technique, let's take a closer look at the shot-put event.

### The objective

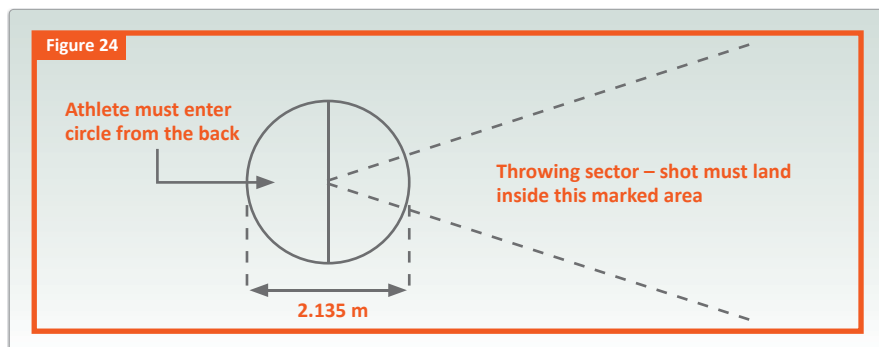
The objective is to push (or throw) a shot as far as possible from inside a circle. Each athlete usually gets three throws, but, depending on the rules of the competition, the top athlete gets extra throws. The athlete who achieves the greatest distance is the winner.

### Rules

#### Disqualifications

When completing a throw, the athlete is not allowed to step outside the throwing circle. This is called an overstep and results in a foul throw. A board, called a stop board or toe board, is placed at the front of the circle and forms a barrier that the thrower is not allowed to cross while making a throw. Foul throws also happen when the shot lands outside the designated throwing sector, known as the arc. This throw is 'out of bounds' and will not be measured.

Athletes must enter and leave the shot-put circle from the back as shown below:





### **Number of athletes**

There are usually three athletes from each competing school.

### **Managing the event**

There are usually two or three officials responsible for measuring throws. They make sure the athlete completes the throw legally.

### **Equipment**

A shot (a metal ball weighing 2 kg).

### **Planning your practice**

The planning of sessions will depend on the age group you are coaching. For children under 10, the aim of training sessions will be to make throwing fun, as well as prepare them to take up proper throwing events at a more appropriate age. For children aged 10 to 12, the shot put technique becomes more important.

### **Practice frequency and duration**

We suggest doing no more than 10 throws for each exercise, and only four or five of these exercises in each training session.

Doing more than this will increase the risk of injury.

For children aged 10 to 12, we recommend you spend 10 minutes on the general throwing exercises followed by 10 minutes building shot put technique. Don't overdo these exercises and use the shot sparingly.

Try to combine these exercises with a variety of jumping, running and other activities that develop balance and coordination.

### **Teaching correct technique**

#### **General throwing exercises (U10)**

These basic exercises are suitable for children under 10 years and help build coordination, skills and general throwing strength. Steer clear of using the actual shot for these exercises and rather make use of other equipment, such as medicine balls, cricket balls or tennis balls filled with sand. Try not to use balls that are too hard.

- A. Overhead backward throw (both arms)  
Throw a medicine ball (or tennis ball filled with sand) backwards over the head using both arms.
- B. Underhand forward throw (both arms)  
Throw the ball forward with an underhand throw.





**C. Overhead forward throw (both arms)**

This is similar to the underhand throw, except that the ball is now thrown over the head (like a soccer throw-in).

**D. Over-the-shoulder backwards throw (both arms)**

Throw with both arms over each shoulder rather than straight overhead.

**E. Over-the-shoulder throw (one arm)**

This is the same as the previous exercise, except now use only one arm when throwing the ball over the shoulder.

**F. Vertical push (both arms)**

Push a medicine ball upwards so it lands some distance from the feet. Be careful that children don't strike another athlete or themselves.

**G. Push from chest (both arms)**

This is similar to the vertical push, except now push the medicine ball to the side as far as possible. For this exercise, have children form pairs and push the ball to each other. They will need to stand about 5 m apart so they don't get struck by the medicine ball.

**H. Push from chest with run-up (both arms)**

This is similar to the previous exercise, except that a short run-up is now allowed. At first, make it one step, then two steps, and then gradually increase the number of steps. Balance is still very important, so don't let the run-up be too far and quick or they might fall over after releasing the ball.

**I. Push from shoulder (one arm)**

This is an introduction to the actual shot-put movement. The medicine ball is pushed with only one arm. This should only be attempted when athletes are stronger and more balanced.

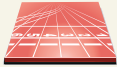
**Key coaching points**

- When doing the above exercises, it is important to make sure that children are using their legs when throwing. They should keep their knees bent and then push up with them when throwing
- It is also important to teach children to keep their backs straight and finish tall. They should follow the ball with their eyes after it's released
- To make these exercises more exciting use buckets, towels, or any other objects as targets, and then have contests to see who can reach the targets. This is a fun way to measure distances
- These exercises form the foundation upon which more complex techniques can be taught later. They can also be used to develop throwing speed and strength in higher age groups.

**The shot-put technique (ages 10-12)**

Most children aged 10 to 12 are ready to begin learning the basics of the shot-put technique. During the first few practices, it is recommended that you teach this technique using a tennis ball, cricket ball, or any other object that is easy to throw. Only use the shot when the technique has been learnt, and make sure it isn't too heavy for the athletes as this could lead to bad technique, as well as strain and injury.

The way a shot put is thrown is called a 'push' because it is different to the way a cricket ball is thrown. In the push the elbow stays high and the left side of the body remains rigid. This will now be explained in more detail.



### Holding the shot

- The shot is held at the base of the fingers, not the palm. This is shown in Figure 25. Figure 26 shows the incorrect position, with the shot deep in the palm
- The fingers are slightly spread apart, with the thumb giving support
- Bend the hand back in the cocked position when holding the shot (it should look like you are carrying a pizza).

### Neck placement

- Raise the shot above the head
- Lower the shot straight down until it is under the jaw
- Push the shot into the neck
- Lift the elbow parallel to the floor. Don't squeeze the elbow towards the back
- Check to see that the thumb is pointing down towards the shoulder blade
- The palm should be pointing towards the throwing direction
- Figure 27 shows the correct neck placement for the shot-put technique.



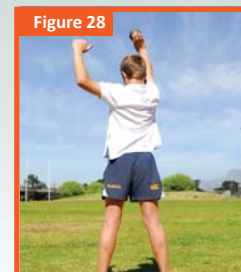
### The glide technique for shot put

The most common and easiest method for teaching shot-put is the glide technique, where the athlete starts on the far side of the circle and then 'glides' to the release point before pushing the shot. This technique can be broken down into three phases and is often taught in reverse order, from the release point and then working backwards to arrive at the start point. We have adopted a similar approach in this manual, which should help you gradually introduce more movement and speed to the athlete's technique.

### Release

As explained, the glide technique for shot-put is often taught in reverse order. For this reason the release point of the technique, shown in Figure 28 below, will be taught first.

- Face in the direction of the throw
- Push up off the toes
- The non-throwing arm (the left arm in this case) is pulled back to help create a catapult effect for the throwing arm to generate speed and power.



### Turn (second step)

The second phase that's taught is the turn, and is shown below in Figure 29 a-d:



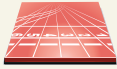
- Start out holding the shot up against the neck and facing the back of the circle. The left foot (for a right-handed thrower) is up against the front edge of the circle (there is usually a board here)
- Begin to turn so as to move into the release position, facing the throwing sector with the chest
- At this point, rotate the upper body and move the right foot up against the front edge of the circle
- Note that the left arm, the supporting arm, must remain high because it is responsible for 'pulling' the body through during the final phase. Body position must also remain low with knees bent for as long as possible.

You will see that the athlete eventually ends up in the release position, which we described previously.

### The starting point

The first part of the technique is a step, which moves the athlete from the back to the front of the circle. It is important to perform this phase with precision and speed because it provides the forward momentum that gives the shot distance. The entire sequence is shown in Figure 30 a-d below:





- The step begins with the athlete in the starting position, shown in the first frame of the sequence (Figure 30a)
- The right knee (for a right-handed thrower) must be bent, the shot against the neck, the right elbow raised (as described previously for shot placement) and the left leg extended out behind the athlete, pointing towards the throwing sector (Figure 30a)
- The left arm is bent at 90 degrees and is lifted up in front of the body. It is important not to drop this arm
- Shift weight towards the eventual release point, leading the way with the left leg (shown in frames b and d of the sequence)
- This involves bending the knees to get into a very low position, and then pushing off the right leg so that the whole body moves in the direction of the throw
- The left leg, which is now leading in the direction of movement, will reach the front edge of the circle
- The step ends with the athlete in the position where the turn or rotation (described previously) begins, as seen in Figure 30d. Here, the left leg is against the front edge of the circle, and the athlete is preparing to rotate and drive forward into the release position. (Figure 31 on page 37 shows the entire shot put technique).

#### **Delivery of the shot**

- Looking at the sky, punch the shot away from the neck
- Keep the elbow high at all times. Lowering the elbow can cause the shot to be thrown like a baseball and could result in injury
- Finish the punch with a flip of the wrist
- The left side of the body will be stopped and locked to help form the block, and the left arm will be tucked close to the side of the body.

#### **The slide**

The movement from starting position to release is called the slide. This is where the thrower slides from the back to the front of the circle. We suggest first teaching the throw from a standing start with knees bent. The slide can be learned much later when the throwing technique has been perfected.

#### **The slide method**

- The weight starts off on the right leg, which then drives upwards so that the hips move forward in the direction of the throw



- This transfers the weight onto the left leg, and the left arm stretches out in front
- The right elbow must stay high and behind the shot
- The hips move from the back to the front of the circle and start to rotate so that the thrower eventually ends up with the chest facing the front
- The left arm swings across the body while the right arm comes through and punches the shot out.

The left shoulder must not drop at any time during this slide and the thrower must concentrate on keeping the left side of the body rigid or braced. A strong left-hand side helps to generate speed and power in the throw.

Every aspect of the technique is important, but perhaps the most crucial aspects are:

- Getting the position correct before the throw
- Making sure that the elbow remains high when throwing
- Making sure that the left arm is tucked in close to the body.



The Figure 31 a-i sequence above shows the entire shot-put technique.



## Teaching the proper release of the shot

### Wrist flips

- The thrower stands holding the shot in his throwing hand above his head
- The thrower flips the shot out of his hand
- Make sure that you start out teaching this exercise using a tennis or cricket ball because it requires a strong wrist.

### Two-arm puts

- The thrower stands holding the shot in both hands in a chest pass position
- The hands must be behind the shot with the thumbs pointing down
- Push the shot out with both hands and make sure the elbows stay high
- Flip the wrists at the end of the throw.

## Teaching proper arm movement for the throw

### Arm strike

- Stand upright facing the throwing direction with the shot against neck in the throwing position
- Look up towards the sky and push the shot away from the neck while focusing on driving the shot towards the throwing area
- Flip the wrist at the end.

### Bent knee

- This drill is identical to the arm-strike drill explained before, except the thrower now stands with knees bent
- As the shot is pushed upwards, make sure the thrower is looking up towards the sky and driving up by pushing up forcefully with the knees.

## The Warm-down

Finish off with one or two of the warm-up activities, described on pages 6 to 9. Also, reinforce key skills and aspects that were covered during the session. While you do this, you can also have them do some gentle stretching before closing the session down. (Please refer to pages 12 to 16 of the General coaching manual for more information on the warm-down.)



## Putting it together

To put the practice session together we gave a number of examples of drills and activities you could choose from. These are guidelines only and you should feel free to adapt the drills and create new ones depending on your athletes.

## Evaluation

One of the most important things you will learn to do naturally while coaching is evaluate your athletes. At every practice session you will watch and observe, looking for athletes who are learning the skills and those who are battling with certain concepts.

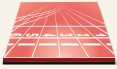
In order for you to be a successful coach, it is important that you constantly notice which of the athletes is battling with certain skills so that you can address problems early. The typical problems encountered will be difficulty in executing the key components of a skill and a tendency to fall back into bad habits.

The checklist on the next page is a summary of some of the key coaching points that were explained in detail in the skills development sections earlier. We recommend that you pay very close attention to all those skill descriptions, but use this checklist as a quick evaluation for individual athletes.

## Checklist

### Running track events

Skill	Yes	No
<ul style="list-style-type: none"> <li>Do athletes show good technique in the starting position? Are the body and hand positions correct, and are the shoulders positioned over the hands as depicted in the diagrams?</li> </ul>		
<ul style="list-style-type: none"> <li>Are athletes aware of the common mistakes in the starting position, such as extending the back leg too far out and away from the body, and being 'flat' with the hands?</li> </ul>		
<ul style="list-style-type: none"> <li>Do they exhibit a good "get set" position by moving the centre of body mass forward and over the hands instead of lifting the hips straight up?</li> </ul>		
<ul style="list-style-type: none"> <li>Do they start with good technique by gradually rising into the running position rather than jumping straight up?</li> </ul>		
<ul style="list-style-type: none"> <li>Do runners show good technique when running? Arms must not cross the mid-line, posture should remain tall and not hunched over, and arms should be carried loosely at the sides of the body.</li> </ul>		



## Long jump

Skill	Yes	No
<ul style="list-style-type: none"> <li>Can athletes measure out their own run up, check that they have measured it accurately and practice the run-up to ensure they are ready for competition? In order for them to do this, they need to know which leg they must take off from and how much distance they will need to hit a top, relaxed speed before take-off.</li> </ul>		
<ul style="list-style-type: none"> <li>Do they 'modify' their running technique as they are about to hit the take-off board? For the modified running position, the hips should be lowered and the body position should become more upright.</li> </ul>		
<ul style="list-style-type: none"> <li>Do they display good timing and coordination in the last steps leading into the board and the jump phase? The hips should sink and then rise, which is followed by a drive of the non-take-off leg.</li> </ul>		
<ul style="list-style-type: none"> <li>Do they perform the stride-jump technique and reach out into the sand? They should not fall backwards on landing, but rather rely on their momentum and leg drive to carry them through the pit.</li> </ul>		

## High jump

Skill	Yes	No
<ul style="list-style-type: none"> <li>Do jumpers understand how to approach the bar and take-off point? In order to do this, they will need to know which side they will take off from, how many steps they will need to take before take-off and that a curved run-up is the best angle of approach.</li> </ul>		
<ul style="list-style-type: none"> <li>Do they have good rhythm in the run-up, or do they run straight at the bar with either too much or too little speed?</li> </ul>		
<ul style="list-style-type: none"> <li>Do they show good technique at the take-off point, as described for the jump phase?</li> </ul>		
<ul style="list-style-type: none"> <li>Have they mastered the simpler activities such as scissor jumps and backflips?</li> </ul>		

## Shot-put

Skill	Yes	No
<ul style="list-style-type: none"> <li>Are throwers competent in performing all the exercises as described on pages 32 and 33? Do they use good technique by generating power from the legs and keeping their backs straight?</li> </ul>		
<ul style="list-style-type: none"> <li>Do they hold the shot put correctly? It should be held at the base of the fingers and not deep in the palm, and the wrist should be slightly cocked.</li> </ul>		
<ul style="list-style-type: none"> <li>Have they mastered the various phases of the glide technique – the release phase, the turn (second step) and the starting point?</li> </ul>		



Discovery has endeavoured to ensure that all the information contained in this manual is accurate and based on credible clinical and scientific research. Discovery cannot however, be held responsible for any injury, loss or damages that may result from reliance on the information, and by utilising the information you specifically waive any claim you may have against Discovery in this regard. You are advised that each individual has their own unique clinical make-up and while the lesson plans were designed with all individuals in mind, some may respond differently to others. You are therefore advised to take due caution when participating in any of the activities recommended.



## Notes

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