specific training series

How to improve your agility

training methods and programmes

PEAK PERFORMANCE
The research newsletter on stamina, strength and fitness

About the author

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As a journalist John has been a regular contributor to Peak Performance's monthly newsletter and at the time of publication has written/edited six other special reports on: speed training, speed training for masters, horizontal and vertical jumping, cycling and boosting your acceleration.

Contents

In this new *Peak Performance* series we provide athletes and coaches with specific drills, practices and training programmes designed to boost a specific aspect/aspects of sports performance or fitness. These specials are above all practical. They cut through the jargon and provide the information that will enhance sports ability.

Introduction

Agility is crucial for numerous sports participants. It can be defined as the ability to make quick movements in response to various sports situations. These may require quick feet and arm or whole body movements. Obvious examples include, the agility required by a boxer to avoid and land punches, a rackets sports player to reach and hit winning shots or a rugby player to side-step and turn and make try scoring opportunities or try saving tackles. Whatever the sport agility is critical. Specific agility work may not seem a high priority for a marathon runner. However, endurance athletes can benefit from agility training. This is because everything else being equal, the more agile the marathon runner the faster they will be. Specifically they will be 'lighter' on their feet, more propulsive, quicker, more dynamic and even less injury prone.

Full of practical information and illustrated throughout, this PP special will, to quote one of the most agile of sportsmen of all time, Muhammad Ali, have you 'floating like a butterfly and stinging like a bee', whatever your sport.

Section 1

Understanding agility

Agility can be trained just like any other component of sports performance. The application of the 'right' drills, placed regularly and progressively within a consistent training plan will lead to adaptation (*ie* improvement in physical ability). This will occur in much the same way as muscles respond in strength, power and size when subject to weight training (through repetition and overload). Specifically agility adaptations rely on:

1) Increases in muscular power
2) Improvements in sports skill
3) Improvements in proprioception
4) Improvements in kinaesthetic awareness
5) Improvements in coordination
6) Improvements in reactive ability
7) Neural factors

Factors 3, 4 and 7 may need further clarification:

Proprioception

Proprioception has been called the 'sixth sense'. It basically refers to the body's automatic ability to keep track of and control its movements, specifically through muscles, ligaments and joint actions. Proprioception messages are sent through the central nervous system (CNS) to other parts of the body (muscles, joints and ligaments), where proprioceptors (sensors)

are located, for example in the spine. These respond to pressure, stretch and tension to produce compensatory movements that maintain the balance and integrity of the body.

Proprioceptive mechanisms can be likened to the electronic stability control systems installed in numerous cars. These systems continually monitor the traction of the wheels, and adjust them to ensure the car's grip on the road remains constant without the driver doing a thing. The proprioceptive mechanisms of the body perform a similar function automatically looking after the body in regard to the load and stresses it is subject to.

The stretch/reflex

A key aspect of proprioception is the 'stretch/reflex' – this 'body fail safe' has two functions 1) to prevent muscles being over-stretched and 2) to retain control over posture, for example, when the body is subject to a load. The latter kicks in if a weight was placed in the palm of an outstretched arm and would attempt to prevent the weight being dropped or the body losing balance.

Athletes/coaches may be familiar with the stretch/reflex when trying to stretch a muscle beyond its sticking point in an attempt to improve range of movement (flexibility). In doing this there comes a point when the muscle will not want to stretch any further and a sticking point is reached – this is the result of the stretch/reflex. This mechanism as noted is designed to prevent a muscle being damaged through being over-stretched. However, as anyone who has strained a muscle will know this mechanism is not entirely fool-proof.

As I indicated proprioception is largely an automatic function of the body, consequentially it could be argued that it has little effect on agility. However, proprioceptive ability can be reduced/lost after an athlete has sustained an injury. In fact some researchers argue that the restoration of full proprioceptive ability during rehabilitation is crucial if an athlete is to return to full sport readiness and not re-suffer injury. There are numerous exercises that can be performed to restore proprioception (and improve it in the uninjured).

Balance drills and proprioception

Balance drills are often used to restore and develop proprioception. Here are some examples:

- Standing on one leg on tip-toes
- Standing on tip-toes with eyes closed
- Performing a single leg squat balance
- Standing on a wobble board – first flat footed with both legs and then progressing to single legs and even with eyes closed.

Training tip: *when performing these drills, try to let your body do what it does naturally, you'll find that you will automatically make compensatory movements when trying to find or re-gain balance.*

Kinaesthetic awareness

Kinesthetic awareness refers to an athlete's ability to 'know' where their body is in space. Think of a spring board diver performing a complex dive; they will need 100% awareness of their body's movements as it rotates and twists toward the water. This will allow them to optimally control its passage. Similar, though perhaps less obvious levels of kinesthetic awareness are also required by the majority of other athletes. Field sport players will, for example, have to adjust their body position in regard to other players and/or the ball. Very often they will do this when they are off balance, whilst performing one or more sports skills. Increased kinesthetic ability will improve the player's ability to do this. Often this ability is automatic *ie* the athlete will not have to 'think' about what they are doing. Years of playing their sport, innate ability, and the mastery of optimum sport technique enable them to automatically switch this on. Although some athletes are blessed with better kinesthetic awareness than others, the great news is that this ability can significantly be improved by appropriate agility training methods, drills and repetition.

Descriptions of numerous agility exercises which also enhance kinesthetic awareness are found in section 2.

Mental training to enhance agility

To perform a sports skill an athlete uses both their mental (neural) and physical capabilities. The neural input can be conscious or as we have noted for proprioception and kinesthetic awareness often subconscious. For conscious movements electrical signals are sent from the brain, through the spinal chord to the muscles to produce movement (*ie* a decision is made). This is done in response to on-field/court situation. This conscious element is crucial to agility as the athlete 'thinks' to move, adjust and balance their body, when performing a sports skill or series of skills. Their reactions are therefore very important.

Mental training can significantly enhance agility. This can be achieved by the continued rehearsing of specific sports movements in the mind – this is known as visualisation.

How to get the most from visualisation to improve agility

1) Visualise the agility skill/skills being performed at real speed or slightly faster (rehearsing them at a slower speed will 'pattern' the skill at this slower – and sub-optimal and therefore less effective speed)
2) Visualise in a quiet space without distraction
3) Visualise prior to performing a sports skill (where practical), for example, between repetitions if performing sets of relevant drills in training. This will significantly boost the mastery of the physical skill

Regular visualisation practice will enable the athlete to boost sports performance.

Section 2

Improving agility

There are numerous sports performance enhancing agility drills, systems and items of equipment available to the athlete and coach. The 'science' of agility (and speed and power) training has progressed light-years recently, especially in terms of its accessibility to the mainstream sporting world. Agility training often dissects a specific sports skill. For example, the fast stepping ability required of a rugby player, and breaks it down into its constituent parts. These are then specifically trained. Doing this will pattern and condition a heightened physical, neural, sports-specific response.

Agility practices do work

Just to bolster your confidence that agility can be significantly enhanced by the appropriate training here's some research on a commercially available agility training programme:

Three groups of female football players were put through different physical conditioning routines over a 12 week period. Two groups did SAQ® (speed, agility and quickness) training, whilst the other (active) group carried out their regular training. It was discovered that:

1) All three interventions decreased the participants' body mass index (-3.7%) and fat percentage (-1.7%), and increased flexibility (+14.7%) and VO2max (a measure of aerobic power) by 18.4%.
2) However, the SAQ groups showed significantly greater benefits from their training programme than the active group, on the sprint to fatigue test and crucially in the light of the subject matter of this special, left and right agility tests.

SAQ is one of the world's leading providers of speed enhancing equipment and programmes. Their methods have been used by numerous top teams and coaches. For more information go to www.saqinternational.com

Research ref: Res sports med. Jan-Mar;13(1):63-76

From tip to toe – developing agility for the whole body

It's often assumed that 'quick in a straight line athletes' will be agile, *ie* able to make equally speedy turns, cuts and other changes of direction. However, research indicates that athletes who are the fastest in a straight line will not necessarily be the most agile. The ability to perform flat out or near flat out agility movements is a specific skill which must be practiced. The drills and practices described in this section will with repetition, enhance specific speed agility.

All body agility drills

Running though posts – particularly suitable for field and racket sport players

Running/slaloming around posts requires the athlete to coordinate their entire body's movements to move past the objects. With thought coach/athlete can devise numerous agility enhancing drills using these items.

Field sport players can zig-zag in and out of closely spaced posts to improve lateral and 'avoidance' agility.

With greater distance between each a footballer could dribble a ball in and out of them, or run through the 'course' as fast as possible. The specific agility transference to their sport is obvious.

If a large enough area is covered randomly with posts more than one athlete can move in and out of the 'post field', attempting to avoid each other and the posts. This will really test both agility and the kinaesthetic awareness of the athletes. Obviously coach and athletes must be mindful of the potential risks in terms of collisions when performing such an advanced drill. The athletes may, for example, be instructed to perform their movements at 'half speed'. This drill would be relevant to, for example, rugby players who have to avoid 'bodies' (team mates and opponents) in confined spaces.

Further developments in the science of agility

The 'science' of agility has now become so specific that teams and individual athletes are experimenting with techniques designed to enhance visual acuity. Basically exercises are performed that sharpen, hand and eye coordination and even peripheral awareness. The hope is that the enhancement of this ability will transfer into improved sports agility. The England rugby team prior to their World Cup victory experimented with computer monitors and 'practices' that anyone who attends an opticians for an eye-sight test would find similarities with. Basically the tests were designed to enhance eyesight, peripheral vision, response and pattern recognition.

Note that speed and agility specialist companies, such as SAQ® manufacture specialists items of kit designed to create a similar but more physical sporting response to the more static computer tests used by Woodward's winners. The visual acuity ring is an example. The ring has three coloured balls on it. It is thrown to a training partner, with a colour being called out as the ring is in flight. The catcher then has to grab the ring at the appropriate colour.

Lower body agility

Fast feet

Think of a male sprinter powering down the track at close to 30mph or a rugby player 'dancing' through the defence to score a try and you immediately appreciate the benefits of possessing fast feet. Although a great deal of this ability will result from innate ability and prior specific sports training, there are numerous foot drills that will enhance this quality.

Perhaps the major training tool to this end is the floor based rope ladder.

The ladder is laid flat on the ground. Numerous forward, backward and sideways and combinations of running, hopping and jumping drills can be performed through it. It is also possible to add other ladders to make more complex drills. These can be placed side by side or at right angles to one another. By repetition these drills enhance fast feet (and upper body agility and kinaesthetic awareness), just like any other aspect of sports performance, by progressive overload (controlled repetition).

Make your own floor ladder

It is possible to make your own 20 rung floor ladder using tape or sticks. The distance between the rungs should be about 35cm and they should be 30cm long. The ladder should have 20 rungs.

Speed through a floor ladder can indicate much about a player's quickness. A time of less than 2.8 seconds and 3.4 seconds through a 20 rung ladder, one foot in each rung at a time, for example, is regarded as 'excellent' for college males and female athletes respectively and displays great speed and agility.

Examples of floor ladder drills

Run through with high knees, hitting every hole
Run through with low knees
Run through facing sideways, each foot in each hole (left and right)
Run through with cross steps hitting every hole diagonally
Low hops hitting each hole
Double leg low jumps through each hole
Run through high knees with 10m sprint at end
Run through with low knees turn and sprint 10m to right/left at end

Reactive agility

Avoiding an impact, and getting away quickly from an opponent, is a sports skill that relies on agility and reaction. It is possible to develop reactive ability through specific practices.

Lateral mirror drill

Two athletes face each other about a metre apart. One moves laterally whilst the other has to mirror his movements. The drill starts and stops on the command of a coach and lasts 10-20 seconds. The space in which the drill is performed is limited to 5m.

Variation: The athletes are tethered together by means of a velcro belt and cord. One athlete has to make lateral movements in an attempt to break the cord connection, whilst the other has to prevent this by, mirroring the movements of his partner.

These belts are available from specialist speed and agility kit suppliers/companies.

Other kit based ways to develop agility

As well as floor ladders, poles, speed balls and tornado balls, agility training utilises numerous other drills and items of specialist kit; these include slaloming in and out of cones, stepping over and round small hurdles and balance drills. It is beyond the scope of this special to go into specific detail about these. It is up to coach/athlete to explore the options and the potential benefits.

Making agility training even more sports specific

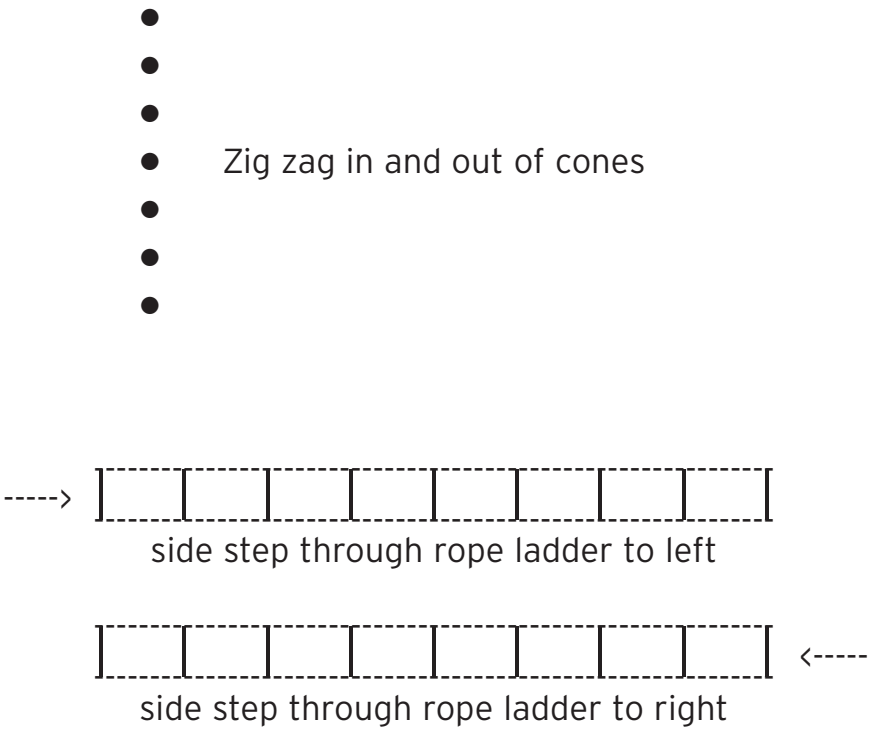
To make the transference of the agility skill even more sports specific, an actual sports skill can also be introduced where appropriate. Here are some examples:

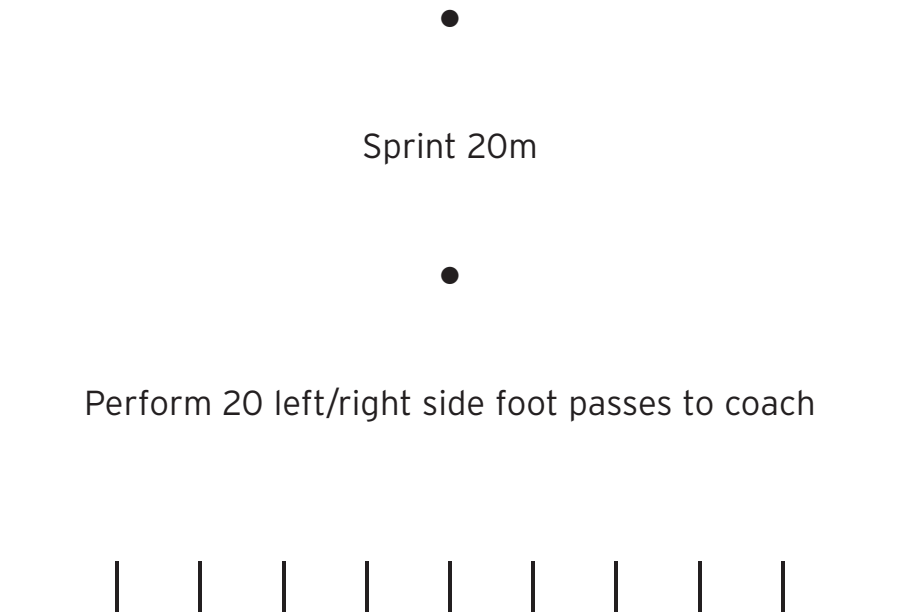
a tennis player holds a racket whilst slaloming in and out of cones
a rugby player receives a pass whilst stepping through a floor ladder
a football goal keeper or basketball player receives passes whist stepping sideways through the floor ladder

Agility obstacle courses

With thought it is possible to create highly sport specific obstacle courses for athletes from numerous sports. These, depending on their design and the number of repetitions employed, can be used at different times of the training year to have a different training effects. These courses are often liked by athletes as they are great fun to do. They also lend themselves to testing *ie* by time, making for great training evaluative tools.

Here's an example for football outfield players:





'Wake up' drills – agility moves designed to increase neuromuscular response

Athletes need to be sharp to be able to react and move as effectively as possible. To this end their neuromuscular system must be optimally aroused. There are mental strategies that enable this mental state to be achieved (for example, self talk or visualisation), however there are also drills that can be used to 'hype up' the nervous system, preparing body (and mind) for dynamic movement. Here are some examples:

Hand to knee drill

Start position

- Assume a medium stance lunge position. Keep your trunk upright and look straight ahead. Extend the arm on the same side as your front leg, so that its hand is parallel to the ground and the palm facing downward.

Action

- Summoning your mental energy and focussing on your hip, 'drive' the knee toward your hand as fast as you can, by driving your hip forward

and up. Do NOT move your hand toward your advancing knee, to shorten the movement.

- Return the foot to the floor and either pause for a second before repeating or immediately perform the exercise again.

Do 3 x 6 repetitions left and right – with a minute's recovery between sets

Jog and rapid foot strike drill

This drill is used by sprinters to heighten their neuromuscular capacity, but can be used by those from numerous other sports, especially field and racket sport players. Begin jogging and after 5-10m 'dab' your feet as fast as possible in an alternate action against the ground. Complete 6-10 dabs. The dabbing movement is achieved by lifting one foot at a time just a couple of centimetres from the ground and dynamically pushing back down, as fast as possible in a very staccato type movement. Each dab should be about a foot length in front of the other. Foot-strike is made on the balls/ forefeet of the feet. The athlete should move their arms are fast as possible to 'drive' the exercise.
Do 4 x 15m with a walk back recovery

Conditioning agility

Conditioning refers to the process of improving an athlete's physical and mental readiness to perform their sport. Agility training is a form of conditioning. However, to optimise 'agility condition' other training means should also be employed. These will increase speed, power and strength potential – thus assisting agility. This conditioning process should be carefully considered. It is beyond the scope of the *Peak Performance* special to provide specific and detailed analysis of all these means, however I have summarised the key requirements of the main methods in the following:

Weight training

Weight training alone will provide only a minimal contribution to improving agility. Stronger muscles created, for example, by squatting will not necessarily lead to quicker turns. Rather, the strength gained in the weights room needs to be channelled into actual sports skill. However, some weight training exercises have a greater agility relevance than others in that they are more sport specific, here are some examples:

Russian twist

This exercise mimics the shoulder rotation employed in numerous hitting and throwing sports. Sit on the floor with your knees bent to an approximate 90-degree angle. Get a training partner to hold your feet down. Hold a weights disc with two hands over your chest and lower your trunk to a 120-degree angle, then rotate left and right stopping the weight 10-15 cm from the floor. If specialist equipment, which supports the body in the air, is available then you can rotate further.
Do 4 x 8 reps with a light to medium weight

Reverse trunk twist

Lie on a weights bench face down having positioning a barbell across the back of your shoulders. Again you'll need a training partner to hold your ankles down. Rotate your torso left and right whilst keeping your hips in contact with the bench. Again some gyms may have specialist equipment designed for this exercise.
Do 4 x 8 reps with a light to medium weight

These exercises would produce great foundation strength for developing explosive torso power. Tornado ball (see following) or medicine ball drills would then be used to further – and much more specifically – condition this ability.

Further ways to condition upper body agility

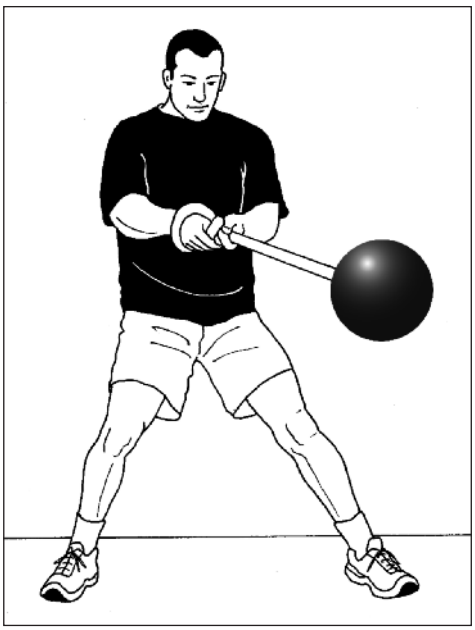
Speed balls

Boxer's speed balls have been used by athletes from a variety of sports. One of the most famous advocates was 1980 Olympic 100m champion Allan Wells. Their use is founded on the belief that the continuous hitting at short range of the suspended ball will develop quick, high repetition-reaction ability in the upper body. However, the direct transference to sprinting (and indeed boxing) given the nature of the speed ball punch action would appear relatively minimal. Nevertheless, its effects on the athlete's neuromuscular system in terms of hyping it up to super-fast levels should not be ignored (drills specifically designed to increase neuromuscular response and create 'white hot agility' are found on page 13).

Tornado balls

This piece of kit was specifically developed to enhance rotational agility and power, primarily in the torso. It's a polyurethane ball on a length of sailing rope.

The wall chop



The wall chop is a typical Tornado ball exercise. It can be performed kneeling, sitting or standing and with varying angles of 'chop'. For the standing version the athlete should stand one metre away from a wall with their back to it. They should then rotate and swing the tornado ball, either to the left or right so that it hits the wall (the angle of the 'chop' can be varied). It will of course spring back with great force. The athlete should be braced and ready to control this reaction, so that they can immediately swing back into another chop. The rapid transference of power will increase torso agility and power (through a plyometric response in the trunk muscles – see below).

This specific exercise would be of benefit to racket sport players, golfers and martial artists, and athletic throwers.

To find out more about Tornado balls go to: http://www.chekinstitute.com

Core strength and agility

Although it is beyond the scope of this special to go into specific detail it is important that coach/athlete realise that core (back and abdominal) strength is crucial for maximising agility. A rigorous routine of relevant exercises should therefore be included in the athlete's conditioning routine – these will enhance agility and protect against injury.

Plyometric drills

Plyometric drills are great for developing reactive ability, such as that needed by the side-stepping rugby player. They utilise a specific muscular contraction.

Here's an example to explain how this works: when an athlete moves into position to complete a dynamic movement, such as a jump, their leg muscles

are put on stretch (technically speaking they are contracting eccentrically). As they spring into the jump their muscles shorten (a concentric contraction is performed). This concentric contraction is made more powerful by the immediately preceding eccentric one. Agility movements nearly always result from these plyometric contractions, which for the lower body occur at the ankle, knee and hip. Plyometric training will therefore enhance agility.

It is beyond the scope of this *Peak Performance* special to go into great detail about plyometric training, readers with a specific interest in this subject should consider the PP specials, 'Developing Vertical Jumping', 'Developing Horizontal Jumping' and 'Plyometric Training'. However, I have provided a couple of examples of plyometric drills that will be of specific benefit to those in search of greater agility. It should be noted that many agility drills are themselves plyometric, such as hopping through a floor ladder.

Depth jump and sprint

This drill is designed to boost acceleration and 'off the spot' agility. From a 40cm high platform the athlete steps off to land on two feet. They then react immediately on landing to step forward dynamically with one leg and sprint for 10m. The angle of sprint can be varied to improve 'angled-agility acceleration', as required by racket and field sports players.
Do: 3 x 6 reps with a 20 seconds' recovery between jumps

Training tip: *angle the body forward on landing and pumps the arms and legs vigorously.*

Side to side jumps

The athlete jumps from side to side over a small object or line, primarily using their feet and ankles to do this. This drill will boost agility by developing the dynamic capabilities of the ankles and feet.
Do 3 x 10 reps with a 30 seconds' recovery between sets

Line bounce and react

The athlete takes up a double footed stance a few cm's back from a line (an athletics track makes for a suitable surface). Beginning with a slight bend of the knees they then jump, with a very low trajectory just over the line to land on their forefeet. On landing they immediately 'bounce' back to the starting position. They continue in this 'forward-backward' fashion, completing their designated numbers of reps.

The athlete should react as quickly as possible on both sides of the line and should use their arms to assist their speed.
Do 4 x 10 reps with a 30 seconds' recovery between sets

Triangle pattern low hop

This plyometric/agility drill is similar to the previous one. This time the athlete begins the exercise on one leg and hops forward over the line. They then hop a short distance to their right (or left as designated) and then laterally and back to the starting position. They continue hopping this triangular path until they have completed their designated number of reps. The drill will improve multidirectional agility ability (as well as improving ankle strength).
Do 2 x 10 reps on each leg with a 30 seconds' recovery between set

Agility training can beat injury

Research has indicated that performing agility conditioning drills can reduce injury potential. This is because these drills will 'pre-condition' – that's prepare the athlete's body for the rigors of playing and training – thus making soft tissue (ligaments, muscles and tendons) more injury resilient. They also do this by improving balance, proprioception, kinesthetic awareness, and specific strength.

Warming up for agility

To get the most from agility (speed and power) training requires a dynamic warm up – one that does not slow the athlete down physically or mentally. Static stretching, for example, should therefore not be emphasised. Many of the exercises just previously described make for great warm up exercises, such as the line bounce and foot ladder drills. They should be preceded by a few minutes of easy paced jogging, walking lunges, high knee drills and similar sport specific moves.

Agility and over-speed training

Over speed training is designed to enable an athlete to move their body at quicker speeds than would normally be achievable. Running down a gentle slope is the most obvious example of over-speed practice. However, bungees (elastic tubing) can also create over-speed conditions. Using them the athlete is 'pulled' to faster than normal movements. Note: it is crucial that the athlete moves their limbs and bodies consciously to achieve over-speed and is not simply dragged to greater speeds. Failure to adhere to this will result in

minimal transfer into actual sport performance. It is also recommended that the athlete performs the skill unassisted immediately after the over-speed practice to create a greater transference into actual sports performance.

Example of over-speed agility drill using a bungee

Tie one end of the bungee securely around the athlete's waist and the other to a secure object, such as a football goalpost. The athlete positions themselves backward or sideways on to the direction of pull and then moves away from the goalpost to tension the bungee. At the appropriate point they 'allow' the bungee to pull them toward the post, whilst performing the requisite agility skill.

Training tip: *Over speed training should be progressed gradually. The athlete must be rested and sufficiently motivated to complete the workout to maximise its effects.*

Section 3

Sample agility boosting workouts

In this section I provide examples of agility enhancing workouts. These 'off-the-shelf' programmes should be adapted for specific sports and the needs of individual athletes. In terms of the latter it is crucial that the athlete's training maturity is taken into account. It would obviously be inappropriate for a 16-year-old who has just started rugby training to train like a 28-year-old professional.

Most of the exercises that follow have been described in detail elsewhere in this special.

Agility workout 1

Purpose: To develop agility (and strength) in runners of all speeds (also great as a specific warm up for all agility, power and speed training workouts).

Lunge walk
The athlete should take a large step forward into a lunge, then step forward into another lunge. Keep the chest up and look straight ahead, coordinating arm and leg movements – *ie* opposite arm to leg.
Do 4 x 20m

High knee lift

In an alternate stepping action, extend up onto the toes of one leg, while lifting the thigh of the other leg to a position parallel with the ground. Next, lower this leg and place the foot flat on the ground, before lifting the other thigh and extending from the ankle as before. Co-ordinate arms with legs and keep the chest elevated when moving forward. The speed of the drill can be increased over the repetitions and sets.
Do 4 x 15m with a walk back recovery

Calf walk

The athlete should keep their legs relatively straight and use a heel-to-toe action as they move forward. They should co-ordinate their arms with their legs and keep their chest elevated.
Do 4 x 20m with a walk back recovery

Sideways running

The athlete assumes a side-on position with their feet just beyond shoulder-width apart. They should bend their knees to attain a three-quarter squat position. Their arms should be lifted up and out to their sides until they are parallel with the ground. The athlete then moves to the left or the right (as directed) by pushing off from the inside foot, landing lightly first on the outside foot, then the inside foot, before pushing off into the next side step from the inside foot.
Do 3 x 15m to the left and to the right with a walk back recovery

Backward running

To state the obvious, coach/athlete should ensure that there is nothing behind the athlete. From an upright position with feet shoulder-width apart, the athlete should push off from the ball of one foot, to land lightly on the ball of the other foot. They then continue to push themselves backwards in the same fashion. The athlete should step (ie lift and push) their legs backs as they move backward. Co-ordinate arms with legs. Perform the exercise at about 50% effort until familiarity is gained and then progress to faster speeds.

Variation: On pushing back into each step, lift the legs up, out and back further, to literally run in reverse. This will open up stride length and develop quadriceps and calf muscle strength.
Do 4 x 20m with a walk back recovery

Line bounce

Refer to page 17 for descripton. Do 3 x 10 bounces with 30 seconds' recovery between each.

Side to side jumps

Refer to page 17 for descripton. Do 3 x 10 bounces with 30 seconds' recovery between each set.

Agility workout 2

Purpose: To develop fast feet and agility in field sport players

Table of exercises with descriptions provided where necessary

Exercises	Description (if necessary)	Comments
Floor ladder drills: Run through with high knees Run through with low knees Run through facing sideways, each foot in each rung (left and right)		6 repetitions of each exercise. Walk back recovery. Take 2 minutes' recovery between sets
Over-speed lateral movement drill (6 side steps)		5 repetitions to the left and right, 1 minute recovery between left and right sets
Line bounce		4 sets of 20 repetitions, I minute between sets
Triangular line bounce		As above, but perform sets for left and right legs – recovery 1 minute between reps
Jog and rapid foot strike drill		4 x 20m with walk back recovery
Sport specific practice	Example: Outfield footballers could dribble a ball as fast as possible 1) in a straight line over 20m 2) in and out of a 15m line of evenly spaced cones	5 repetitions of each. Recovery could be varied to have a more or less fatiguing effect, dependent on the conditioning needs of the player and the time of the training year

Agility workout 3

Purpose: To condition and enhance lower body agility potential for most sports players

Table of exercises with descriptions provided where necessary

Exercises	Description (if necessary)	Comments
Straight leg jumps		3 x 20 with 30 seconds' recovery between sets
Single leg hops on the spot		Emphasise ground reaction speed 3 x 10 each leg, 30 seconds' recovery between sets
Depth jump with 10m sprint		6 repetitions, with 1 minute recovery between each
Floor ladder drill Low hops hitting each rung Double leg, low jumps through each rung		3 left, 3 right 6 reps 1 minute recovery between reps and different exercises
Sprint 10m with 45 degree angled, 10m change of direction sprint	Cones should be used to mark the starting, transition and end point of the drill	The angle of the end sprint can be varied and 'cuts' should be made both left and right
Agility obstacle course	The course should be designed to reflect the needs of the athlete's sport. One for football could include most of the exercises described above, plus cone and post work, with or without a ball – see section 2	The length and number of circuits can be varied in regard to the time of the training year and the conditioning needs of players

Agility workout 4

Purpose: To condition and enhance upper body agility for most sports players.

Table of exercises with descriptions provided where necessary

Exercises	Description (if necessary)	Comments
Russian twist		4 x 16, 30 seconds' recovery between sets
Cable chop		4 x 12, 60 second's recovery between sets
Reverse trunk twist		4 x 16, 30 seconds' recovery between sets
Seated medicine ball throw	Assume a sit-up position, holding a medicine ball to the chest, hands on the side of the ball. Lower the trunk toward the floor then dynamically lift the trunk. Throw the medicine ball, using a chest pass action, as the trunk nears a vertical position. Get a partner to catch and throw ball back, or throw the ball against a wall	4 x 10 throws, 2 minutes' recovery between sets
Plyometric press-up	Assume a press-up position. Lower the body toward the floor then drive the arms upward to 'jump' the body from the floor. On landing react as quickly as possible to perform another jump	4 x 10 repetitions, with 2 minutes' recovery between sets. This exercise should be progressed to gradually and should not be performed by those with weak ankles or shoulders