Athletic Foundation

Integrating athletic development into technical training

About the Author

Rob Anderson holds an MSc in Applied Sport and Exercise Physiology and a BSc (Hons) in Strength and Conditioning Science, as well as being an Accredited Strength and Conditioning Coach through the United Kingdom Strength and Conditioning Association.

Rob has coached youth athletes for over 10 years. He has held roles as a technical coach, sport scientist, lecturer and strength and conditioning coach. He has coached from amateur to professional level across sports including football, weightlifting, gymnastics, swimming, volleyball, basketball and rugby league to name a few.

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Introduction

Coaching at the youth development or “grassroots” level can be extremely challenging. Most coaches working with youth athletes are putting many hours in on the pitch, court or track voluntarily. In addition, these coaching hours are usually on top of the hours dedicated to family and career. Most of the time these coaches are selfless heroes giving up their own free time in the blazing sun, pouring rain or freezing cold because they love the sport itself and want to give back. Very often clubs are understaffed, low on finances and lacking the resources required to help develop the coaches stepping in to the gap to deliver valuable coaching to children.

This is all backwards of course. In the ideal world we would upskill and develop grassroots coaches to the highest level possible, as these are the coaches guiding the elite athletes of tomorrow through their formative stages in their sporting careers. Youth athletes present coaches with an incredible opportunity, a blank canvas. Upon this canvas we have the potential to instill good movement patterns, optimal technique and positive habits, but only if we fulfil our potential as their coach.

The aim of this book is to help these coaches, to provide a resource to help grassroots coaches to improve the athleticism of their youth athletes, whatever the age, by being competent in introducing basic strength and conditioning work into their coaching sessions.
In doing so, coaches will be giving their athletes a head start in their sporting journey. This is made possible by the consequences of appropriate youth strength and conditioning: reduced injury risk, increased work capacity, increased speed, increased power and increased strength.

I hope this book proves to be a valuable resource to you and your athletes. If you want to learn more about youth athletic development please visit: www.athleticevolution.co.uk

Yours in sport,

Rob Anderson
Founder – Athletic Evolution
(MSc, BSc, ASCC)

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The Myths

First things first, let's address a few myths surrounding youth strength and conditioning.

1. Strength and conditioning does not stunt your growth. In order to stunt growth, you require a significant injury to the growth plates on bones, such as a break. These types of injuries are not uncommon in collision sports such as football or rugby, but are uncommon in appropriately supervised strength programs. In fact, a proper training program may actually help reduce the risk of such an injury. Another factor is that youth is actually the optimal time to start a strength program, as an adolescent has a very favourable hormonal profile to create adaptations. In addition, creating good motor patterns early in life can help reduce numerous problems later in the sporting career.

2. Strength and conditioning programs are safe for young athletes. IF properly supervised. This means having knowledgeable and attentive coaches supervising at all times.

3. Athletes should not wait until they are 18 to strength train. If they do, they have missed a very good opportunity to improve athleticism. Remember, forming good motor patterns can prevent injury (tendonitis, strains and sprains) and the athlete can increase speed, strength, power and muscle mass. These can all impact upon sporting participation, performance and longevity. Failure to capitalise on opportunities early may reduce the likelihood of attaining a high performance level compared to athletes that do utilise these opportunities.

4. Young athletes do not require a sport-specific program. The only exception to this is competing in an early specialisation sport. E.g. gymnastics or figure skating. For late specialisation sports such as team sports, athletics, rugby, tennis or football, it is not required until later in a sporting career. Equipping the young athlete with a wide array of skills and abilities will assist in attaining full motor development. Engaging in a sport-specific program at a young age may result in over-use injuries, burnout and stunted athletic development.

If you are still unsure of the explanations, please visit the "Free Resources" page on www.athleticevolution.co.uk and access the research articles available. So now we have addressed the malicious myths that blight every youth strength and conditioning coach, let's move on…

The Plan

In order to equip coaches to engage in strength and conditioning fully and competently, it's necessary to formulate a plan. With regards to strength and conditioning in youth athletes, it should be the aim of the coach to establish general movement skills in the athlete. In the early stages it isn't necessary to devote full training sessions to this component. Rather, this can be incorporated into the training session in the warm up. This achieves two outcomes simultaneously: preparing your athletes for the session ahead, as well as establishing the foundations of strength and conditioning.

In the absence of any equipment such as a weight room, an appropriate and basic strength and conditioning program for youth athletes can be completed using the athletes own bodyweight. The programme for an able-bodied athlete should address some key movements, both bilateral (two limbs) and unilateral (one limb individually):

1. Global Mobility
2. Trunk stability
3. Bilateral Squat
4. Unilateral Forward Lunge
5. Unilateral Side Lunge
6. Bilateral Jumping and Landing
7. Unilateral Jumping and Landing
8. Bilateral Press-Up

The ability to complete the above movements competently will allow the athlete to increase the ability of the nervous system and may improve stability, strength and power. Efficiency in these movements will stand the athlete in good stead as they move forward in their strength and power training.

In the following section each movement above will be addressed with coaching points and progressions provided.

Global Mobility

Youth is the optimal period to commence improving flexibility and mobility. During this phase of life, musculoskeletal tissue is more pliable, allowing youth athletes to improve mobility and reduce movement restriction. Later in life athletes may find it significantly more difficult and time consuming to improve mobility, due to adaptations to the sedentary nature of academic studies restricting full range of movement.

The “inchworm” is an appropriate introductory exercise to assist in improving mobility in young athletes. Initially, the areas targeted include the gluteals, hamstrings and calf muscles. This can be completed for 1 – 2 sets of 3 – 6 repetitions

Inchworm

1. From a standing position the athlete keeps the knees straight, whilst bending forward at the hips until the hands touch the ground.

2. Keeping the knees straight and pushing the heels to the floor, the athlete walks the hands out until lowered into a push-up.

3. The athlete keep the hands still and walks the feet up to meet the hands, concentrating on keeping knees straight and heels pushed toward the ground

4. Repeat as desired.

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Global Mobility

Progression 1 – Inchworm with Spiderman lunge

1. From a standing position the athlete keeps the knees straight, whilst bending forward at the hips until hands touch the ground.

2. Keeping the knees straight and pushing heels to the floor, the athlete walks the hands out until lowered into a push-up position.

3. The athlete removes the left leg, placing it outside the left hand.

4. The athlete returns the left leg.

5. The athlete lifts the right leg, placing it outside the right hand.

6. The athlete returns the right leg.

7. The athlete keeps the hands still and walks the feet up to meet the hands, concentrating on keeping knees straight and heels pushed toward the ground

8. Repeat as desired.

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Global Mobility

Progression 2 – Inchworm with Spiderman lunge and rotation

1. From a standing position the athlete keeps the knees as straight as possible, whilst bending forward at the hips until hands touch the ground.

2. Keeping knees straight and pushing heels to the floor, the athlete walks the hands out until lowered into a push-up.

3. The athlete removes the left leg, placing it outside the left hand.

4. The athlete removes the left hand and rotates towards the sky, following with the head.

5. The athlete returns the left hand and then left leg.

6. The athlete lifts the right leg, placing it outside the right hand.

7. The athlete removes the right hand and rotates towards the sky, following with the head.

8. The athlete returns the right arm and then the right leg.

9. Keeping the hands still, the athlete walks the feet up to meet the hands, concentrating on keeping knees straight and heels pushed toward the ground

10. Repeat as desired

Global Mobility

Key Coaching Points:

- Ensure the head remains neutral throughout.

- Ensure the spine remains neutral throughout.

- Ensure the hips do not rock or tilt.

- Ensure the knees stay straight, emphasising pushing the heels down.

- Ensure the hands stay still when walking feet in .

- Ensure the feet stay still when walking hands out.

- Ensure feet come up outside the corresponding hand .

- Ensure the head rotates to follow the hand when reaching up.

Trunk Stability

It's very cliché but true, "You can't fire a cannon out of a canoe". You may have heard it referred to as "core" or "pillar" stability or strength. Essentially, the definition remains the same. In other words, in order to transmit maximum levels of strength, speed and power in a sporting context, the trunk needs to be stable. It also requires the ability to transmit force with minimal losses of energy. Any loss of energy due to instability is inefficient and will result in less than optimal sporting performance. This true in running, throwing, swimming and just about every sport imaginable.

An appropriate exercise to use with youth athletes is the "bird-dog" or "superman" exercise. This can be completed for 2 - 3 sets of 8 – 20 repetitions.

Arm raise

1. The athlete kneels on hands and knees.

2. The athlete should arch the spine to the sky and then reverse down to the ground to find a neutral position. This position is to be maintained throughout the exercise.

3. The athlete should brace the abdominals, as if coughing.

4. The athlete takes one hand off the floor, raising it to head level, then returns it to the ground.

5. The athlete removes the other hand to head level then returns to the ground.

6. Repeat as desired

Trunk Stability

Progression 1 – Leg raise

1. Complete steps 1-3 in introductory exercise

2. The athlete lifts the right leg up to hip height only. The athlete concentrates on trying to squeeze the buttocks, then returns it to the ground

3. The athlete removes the left leg to hip level. The athlete concentrates on trying to squeeze the buttocks, then returns it to the ground

4. Repeat as desired

Trunk Stability

Progression 2 – Full Bird-dog/Superman

1. Complete steps 1-3 in introductory exercise

2. The athlete lifts the right leg and the left arm up to hip and head height. The athlete concentrates on trying to squeeze the buttocks, then returns both to the ground

3. The athlete then lifts the left leg and right arm to hip and head height. The athlete concentrates on trying to squeeze the buttocks, then returns both to the ground

4. Repeat as desired

Trunk Stability

Key Coaching Points:

- Ensure the head remains neutral throughout.

- Ensure the spine remains neutral throughout.

- Ensure the hips do not rock or tilt.

- Ensure the arm does not raise above the head.

- Ensure the leg does not raise above the hips.

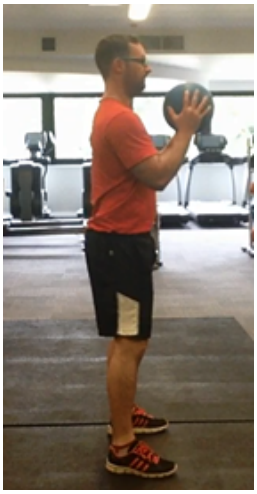
Bilateral Squat

The squat is a fundamental movement patter. It is a part of daily life, as we lower into a seat or stand up. It is also a fundamental part of many sporting movements, as such it is often the cornerstone of many strength programs. Establishing competency in the basic squatting exercises, will allow the athlete to undergo squatting with resistance in future programs, in order to increase muscular strength and power.

An appropriate beginner level exercise is the Goblet squat. This can be completed for 2 - 3 sets of 6 - 15 repetitions

Goblet squat

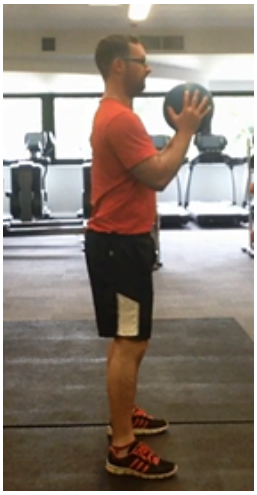
1. The athlete stands with feet neutral or slightly turned out, knees slightly bent, holding an object such as a ball (netball, basketball, rugby ball, soccer ball or helmet) close to their chest with two hands.



2. The athlete sits back, lowering the body by folding at the hips and bending the knees.

3. As the athlete descends they keep their knees outside their elbows.

4. As the athlete reaches a position where the thigh is parallel to the ground, they should hold this position for 2 seconds.



5. The athlete’s knees remain in line with the feet and avoid coming in to a “knocked knees” position.

6. The athlete should then stand up, returning to the starting position.

7. Repeat as desired.

Bilateral Squat

Progression 1 – Bodyweight squat

1. The athlete stands with feet neutral or slightly turned out, knees slightly bent, with hands outstretched in front to counterbalance their bodyweight.

2. The athlete sits back, lowering their body by folding at the hips and bending the knees.

3. As the athlete descends they keep their knees outside their elbows

4. As the athlete reaches a position where the thigh is parallel to the ground, they should hold this position for 2 seconds.

5. The athlete's knees remain in line with the feet and avoid coming in to a "knocked knees" position.

6. The athlete should then stand up, returning to the starting position.

7. Repeat as desired.

Bilateral Squat

Progression 2 – No hands squat

1. The athlete should stand with feet neutral or slightly turned outwards, knees slightly bent, with hands on the back of their head.

2. The athlete should slowly sit back, lowering their body by folding at the hips and bending the knees.

3. As the athlete descends they keep their knees outside their elbows

4. As the athlete reaches a position where the thigh is parallel to the ground, they should hold this position for 2 seconds.

5. The athlete’s knees remain in line with the feet and avoid coming in to a “knocked knees” position.

6. The athlete should then stand up, returning to the starting position.

7. Repeat as desired.

Bilateral Squat

Key Coaching Points:

- Ensure the head remains neutral throughout, avoid a “nosedive”.

- Ensure the spine remains neutral throughout.

- Ensure the chest remains facing forward in a “ready to - play” position.

- Ensure the knees do not turn inwards to a “knocked knee” position.

- Ensure the feet are parallel or slightly turned outwards.

- Ensure the heels stay in contact with the ground.

Unilateral Lunge

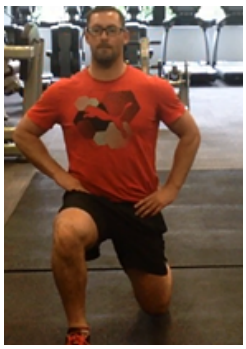
Any sport that requires running as a key component of performance, requires athletes to be competent on one leg. During normal human gait running, we spend a large amount of a stride on a single leg. In addition to running, many of these sports require the ability to be explosive off 1 leg, or to land on 1 leg. Analyse a lay up or dunk in basketball, a spike in volleyball, a header on soccer, a change of direction in rugby or NFL and you will see the on a single leg at some stage. High levels of force are placed upon the limbs upon landing or changing direction. As such, it is vital for athletes to competent at movement patterns on one leg at to avoid injury to the knee and ankle ligaments, as well as to achieve maximum sprint speed and effective change of direction

An appropriate beginner level exercise is the static lunge exercise. This can be completed for 2 - 3 sets of 3 - 10 repetitions for each leg.

Static lunge

1. The athlete takes a large step onto the right foot.

2. The athlete has feet hip width apart on separate “train tracks”.



3. The athlete bends the back knee until both back and front knee should be at 90 degrees.

4. The athlete’s knees remain in line with the feet and avoid the “knocked knees” position. The athlete holds the bottom position for 2-3 seconds.

5. The athlete’s head remains forward.

6. The athlete should raises up until in the starting position.

7. Repeat as desired before changing legs.

Unilateral Lunge

Progression 1 – Forward lunge

1. The athlete takes a large step onto the right foot.

2. The athlete has feet hip width apart on separate “train tracks”.

3. The athlete bends the back knee until both back and front knee should be at 90 degrees.

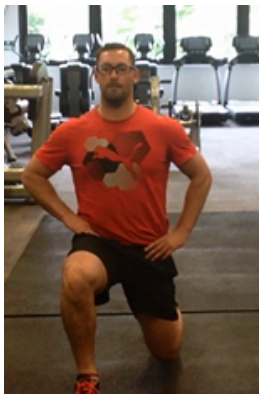
4. The athlete’s knees remain in line with the feet and avoid the “knocked knees” position. The athlete holds the bottom position for 2-3 seconds.

5. The athlete’s head remains forward.

6. The athlete pushes off the front foot and replaces it alongside the other in a normal standing posture.

7. Alternate legs by stepping onto the left foot and repeating coaching steps 2-6.

8. Repeat as desired.



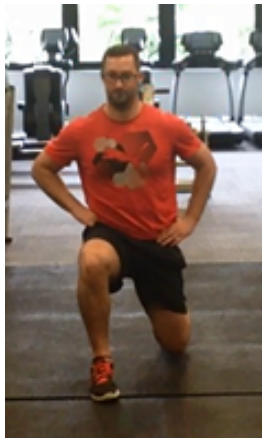
Unilateral Lunge

Progression 2 – Walking lunges

1. The athlete takes a large step onto the right foot.

2. The athlete has feet hip width apart on separate “train tracks”.

3. The athlete bends the back knee until both back and front knee should be at 90 degrees.



4. The athlete’s knees remain in line with the feet and avoid the “knocked knees” position. The athlete holds the bottom position for 2-3 seconds.

5. The athlete’s head remains forward

6. The athlete should slowly push forward and step on the left foot in a lunge position, repeating coaching steps 2-6 on the left leg.

7. Repeat as desired.

Unilateral Lunge

Key Coaching Points:

- Ensure the head remains neutral throughout, avoid a “nosedive”.

- Ensure the spine remains neutral throughout.

- Ensure the chest remains facing forward in a “ready to play” position.

- Ensure the athlete bends the back knee towards the ground rather than leaning forward.

- Ensure the knees do not turn inwards to a “knocked knee” position.

- Ensure the feet do not turn inwards or outwards excessively.

Unilateral Side Lunge

It's important to note that sport is not 1 dimensional in the planes of movement. So far, all of the exercises have been predominantly focussed on the forward or "sagittal plane". Another important place of movement is the "frontal" or sideways plane. This is particularly important in sports that require sharp changes of direction in order to escape of evade an opponent. Sports such as soccer, rugby, and NFL rely heavily on this skill. In order to be effective and competent at such changes of direction, it is important to first be competent in slower, controlled scenarios which progress to this movement. An example of this is the side lunge.

An appropriate beginner level exercise is the static lunge exercise. This can be completed for 2 - 3 sets of 3 - 10 repetitions for each leg.

Static side lunge

1. The athlete takes a large step to the side onto the right foot.

2. The athlete bends the right knee until the hips sit back and the thigh is slightly above parallel to the ground.

3. The athlete keeps the left leg straight and the right heel in contact with the ground.

4. The athlete holds the bottom position for 2-3 seconds.

5. The athlete keeps the feet in place and shifts their bodyweight to the left side, bending the left knee until the hips sit back and thigh is slightly above parallel to the ground. Repeat steps 3 and 4 on the right leg..

6. Repeat as desired

Unilateral Side Lunge

Progression 1 – Stepping side lunge

1. The athlete takes a large step to the side onto the right foot.

2. The athlete bends the right knee until the hips sit back and the thigh is slightly above parallel to the ground.

3. The athlete keeps the left leg straight and the right heel in contact with the ground.

4. The athlete holds the bottom position for 2-3 seconds.

5. The athlete pushes back to the centre and returns the right foot next to the left.

6. The athlete takes a large step to the side onto the left foot.

7. The athlete bends the left knee until the hips sit back and the thigh is slightly above parallel to the ground. Repeat steps 3 and 4 for the right leg.

8. The athlete pushes back to the centre and returns the right foot next to the left.

9. Repeat as desired

Unilateral Side Lunge

Progression 2 – Explosive side steps

1. The athlete takes a large step to the side onto the left foot.

2. The athlete bends the leftt knee until the hips sit back and the thigh is slightly above parallel to the ground.

3. The athlete keeps the right leg straight and the left heel in contact with the ground.

4. As the athlete makes contact with the rleft foot, they explosively push back to the centre position, keeping the knee lifted as they return.

5. Repeat as desired

6. Alternate legs and repeat coaching steps 1-5.

7. Repeat as desired.

Unilateral Side Lunge

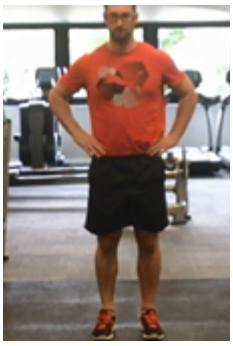
Key Coaching Points:

- Ensure the head remains neutral throughout, avoid a “nosedive”
- Ensure the spine remains neutral throughout
- Ensure the chest remains facing forward in a “ready to play” position
- Ensure the athlete bends the knee of the outer leg rather than leaning forward
- Ensure the knees track over the toes as the athlete lowers into the side lunge
- Ensure the heel stays in contact with the ground and does not “lift” onto the toes on either foot
- Ensure feet are neutral or slightly turned out

Bilateral Jumping & Landing

Jumping and landing are commonly done with very poor technique at youth sport level. Landing from a jump incorrectly has a level of injury risk associated with it, due to ground reaction forces exceeding the bodyweight of the individual. If absorbed and dissipated by the body incorrectly, landing forces can rupture ligaments and tendons, resulting in lengthy periods away from sport. It is critical that young athletes are coached to jump and land in a biomechanically safe manner to avoid injury.

An appropriate beginner level exercise is the counter movement jump. This can be completed for 2 - 3 sets of 3 - 8 repetitions.



Counter movement jump

1. The athlete stands with feet neutral and knees slightly bent.

2. In a rapid action the athlete bends the knees, lowering their body and jumps into the air.

3. The athlete lands in a half-squat position, bending the knees to cushion the impact.

4. The athlete’s knees remain in line with the feet and avoid a “knocked knees” position.

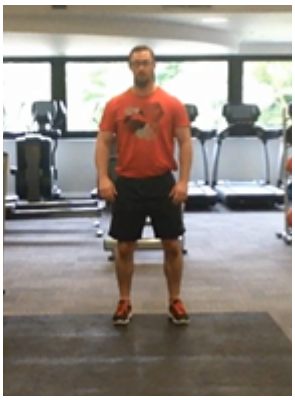
5. The athlete’s head remains forward and avoids a “nosedive”.

6. Repeat as desired

Bilateral Jumping & Landing

Progression 1 – Broad jump

1.The athlete stands with feet neutral and knees slightly bent.



2. In a rapid action the athlete bends the knees, lowering their body and jumps forward.

3. The athlete lands in a half-squat position, bending the knees to cushion the impact.

4. The athlete’s knees remain in line with the feet and avoid a “knocked knees” position.

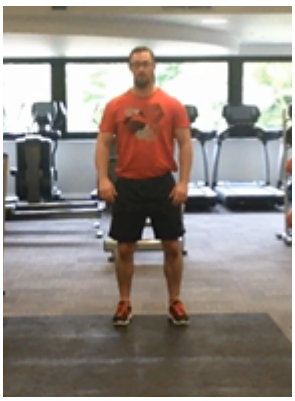
5. The athlete’s head remains forward and avoids a “nosedive”.

6. Repeat as desired

Bilateral Jumping & Landing

Progression 2 – Repeated Broad jump

1.The athlete stands with feet neutral and knees slightly bent.



2. In a rapid action the athlete bends the knees, lowering their body and jumps forward.

3. The athlete lands in a half-squat position, bending the knees to cushion the impact. The athlete immediate completes another broad jump with minimal contact time with the ground.

4. The athlete's knees remain in line with the feet and avoid a "knocked knees" position.

5. The athlete's head remains forward and avoids a "nosedive".

6. Repeat for the desired number of repetitions.

Bilateral Jumping & Landing

Key Coaching Points

- Ensure the head remains neutral throughout, avoid a “nosedive”.

- Ensure the spine remains neutral throughout.

- Ensure the chest remains facing forward in a “ready to play” position.

- Ensure the athlete lands in a half-squat position to absorb impact.

- Ensure the knees do not turn inwards to a “knocked knee” position.

- Ensure the feet do not turn inwards or outwards excessively.

Unilateral Jumping & Landing

Any sport that requires running as a key component of performance, requires athletes to be competent on one leg. In addition to running, many of these sports require the ability to be explosive off 1 leg, or to land on 1 leg. Analyse a lay up or dunk in basketball, a spike in volleyball or a header on soccer and you will see the athlete jump or land on a single leg. As discussed above in the bilateral jumping and landing, high levels of force are placed upon the limbs upon landing. This is exacerbated when landing on a single limb. As such, it is vital for athletes to be competent at jumping and landing in a biomechanically sound position to avoid injury to the knee and ankle ligaments, as well as to achieve maximum jump height performance.

An appropriate beginner level exercise is the Hop and Stick exercise. This can be completed for 2 - 3 sets of 3 - 8 repetitions for each leg.

Hop and Stick Forward

1. The athlete stands with feet neutral and knees slightly bent.

2. The athlete lowers the body and hops forward onto the right foot.

3. The athlete lands in a half-squat position with bent knees to cushion the impact.

4. The athlete's knees remain in line with the feet and avoid coming in to a "knocked knees" position.

5. The athlete holds landing position for 2-3 seconds.

6. The athlete's head remains forward and avoid any "nosedive".

7. Repeat hopping onto opposite foot

Unilateral Jumping & Landing

Progression 1 - Hop and stick zigzag

1. The athlete stands with feet neutral and knees slightly bent.

2. The athlete lowers the body and hops diagonally forward onto the right foot.

3. The athlete lands in a half-squat position with bent knees to cushion the impact.

4. The athlete’s knees remain in line with the feet and avoid coming in to a “knocked knees” position.

5. The athlete holds landing position for 2-3 seconds.

6. The athlete’s head remains forward and avoid any “nosedive”.

7. Repeat hopping onto opposite foot

Unilateral Jumping & Landing

Progression 2 - Repeated single leg hop

1. The athlete stands with feet neutral and knees slightly bent.

2. The athlete lowers the body and hops repeatedly on right foo for the desired number of repetitions.

4. The athlete's knee remain in line with the feet and avoid coming in to a "knocked knees" position.

5. The athlete should think of the ground as "hot coals" to minimise the time spent in contact with the ground.

6. The athlete's head remains forward and avoid any "nosedive".

7. When the repetitions are complete, the athlete swaps feet and repeats.

Unilateral Jumping & Landing

Key Coaching Points

- Ensure the head remains neutral throughout, avoid a “nosedive”.

- Ensure the spine remains neutral throughout.

- Ensure the chest remains facing forward in a “ready to play” position.

- Ensure the athlete lands in a half-squat position to absorb impact.

- Ensure the knees do not turn inwards to a “knocked knee” position.

- Ensure the feet do not turn inwards or outwards excessively.

- Progression 2: emphasise a quick contact time with the ground e.g.“hot coals”.

Bilateral Press Up

Press-ups have been the cornerstone of many bodyweight strength programs and punishment since anyone can remember. However, press-ups are rarely done correctly and can often lead to should injury due to poor technique. When done correctly, press-ups provide a great upper body strength exercise and challenge to trunk stability.

An appropriate beginner level exercise is the press-up from knees. This can be completed for 2-3 sets of 6 – 15 repetitions.

Kneeling Press Up

1. The athlete lies face down on the ground with hands under armpits and knees bent at 90 degrees.

2. The athlete engages the abdominals, focussing on squeezing the buttocks and clenching the abdominals as if preparing for a punch, or cough.

3. The athlete pushes into the ground, raising the body until the arms are straight.

4. Tthe athlete keeps the spine neutral and does not “worm” while raising.

5. The athlete should lowers the body down to touch the ground.

6. Tthe athlete’s elbows stay at 45 degrees to the torso and do not flare up towards the face

7. The athlete’s head remains forward and avoids any “nosedive”.

8. Repeat as desired

Bilateral Press Up

Progression 1- Full Press Up

1. The athlete lies face down on the ground with hands under armpits, legs straight and toes pushing into the ground.

2. The athlete engages the abdominals, focussing on squeezing the buttocks and clenching the abdominals as if preparing for a punch, or cough.

3. The athlete pushes into the ground, raising the body until the arms are straight.

4. The athlete keeps the spine neutral and does not “worm” while raising.

5. The athlete should lowers the body down to touch the ground.

6. Tthe athlete’s elbows stay at 45 degrees to the torso and do not flare up towards the face

7. The athlete’s head remains forward and avoids any “nosedive”.

8. Repeat as desired

Bilateral Press Up

Progression 2 Concentric Press Up

1. The athlete lies face down on the ground with hands under armpits, legs straight and toes pushing into the ground.

2. The athlete engages the abdominals, focussing on squeezing the buttocks and clenching the abdominals as if preparing for a punch, or cough.

3. The athlete pushes into the ground, raising the body until the arms are straight.

4. Tthe athlete keeps the spine neutral and does not “worm” while raising.

5. The athlete should lowers the body down to touch the ground.

6. Upon reaching the bottom position, the athlete lifts the hands off the ground, then replaces them again.

7. Tthe athlete’s elbows stay at 45 degrees to the torso and do not flare up towards the face

8. The athlete’s head remains forward and avoids any “nosedive”.

9. Repeat as desired.

Bilateral Press Up

Key Coaching Points

- Ensure the head remains neutral throughout, avoid a “nosedive”.

- Ensure the spine remains neutral throughout.

- Ensure the athlete squeezes the buttocks and engages the abdominals.

- Ensure the elbows stay at a 45 degree position to the torso and do not flare out away from the body.

- Ensure the hands are place in line with the armpit.

Putting it together

You should now feel confident in coaching the required exercises. But you may now be thinking “How do I incorporate these into my sessions?”. I would advise you follow 2 options:

1. Utilise them as a dynamic warm up
2. Dedicate a specific portion of the session to the program

In the case of using them as a dynamic warm, this is best achieved by using them in a circuit fashion, with one exercise performed straight after the previous one. This can be a very time efficient way of integrating strength training. You can repeat this as a warm up before each training session and match prior to a technical warm up.

For example:
Inchworm 1 x 6 repetitions
Arm raise 1 x 12 repetitions alternating arm
Goblet squat 1 x 6 repetitions
Static lunge 1 x 12 repetitions alternating leg
Static side lunge 1 x 12 repetitions alternating leg
Counter-movement jump 1 x 6 repetitions
Hop and stick 1 x 12 repetitions alternating leg
Kneeling press-up 1 x 6 repetitions

This is a great way to educate the athletes on the importance of a proper warm up and how to conduct one properly. Once they are competent in completing the exercises, considering appointing a leader or captain to lead the warm up. This gives some responsibility over to the team and gives them greater ownership.

In the case of dedicating a portion of the session to the program, consider gradually progressing the difficulty of the exercise by slowly increasing the repetitions required each week. The program can be completed in a circuit fashion, with one exercise performed straight after the previous one and a recover period of 1-2 minutes before repeating a 2nd or 3rd set. Alternatively, the athletes could complete the full number of sets for each exercise, with 1-2 minutes recovery between sets, before moving on to completing the next exercise.

Putting it together

Every 4-6 weeks you should use a reduced number of repetitions. This is what is referred to as a “deload week”. This allows the body to recuperate and compensate to become stronger in response to the training stimulus so far. This is an important to consideration to make in a training program as it allows for proper adaptation. Planning weeks of a reduced training load/intensity allows players to recover appropriately and will allow for greater improvements in the subsequent program. You should then progress the program in intensity or volume of sets and repetitions.

After completing one phase of the program, you may wish to progress the athlete further by increasing the difficulty of the exercise itself. This is achieved by using the progressions given for each exercise.

In subsequent programs the athletes can be progressed appropriately by continuing to increased the required repetitions, before moving onto harder progression in future programs.

This form of progressing is referred to as “linear”. This is due to the consistent increase in repetitions and therefore workload of the program. Linear periodisation is an appropriate method of organising training programs for athletes beginning their journey into strength training.

References

I hope you have found this resource useful for your coaching practice. In case you still have doubts regarding the validity of the argument to include strength training for youth athletes, please the references below which will provide greater evidence. To investigate these further, please copy and paste the links into your internet browser.

http://bjsm.bmj.com/content/early/2013/09/20/bjsports-2013-092952.short
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Conclusion

Congratulations on reaching this stage of the book. Now you should have the necessary knowledge to coach some of the basic bodyweight exercises, as well as the understanding of how to implement them in to your sessions. In doing this effectively you will give your athletes an advantage in the development of their athleticism and in reducing their injury risk.

I hope you have enjoyed reading this book and have found it beneficial to your coaching practice. In addition to this ebook, there are many other resources on athletic development for youth athletes available at www.athleticevolution.com Thankyou for investing your time in reading this resource and in improving yourself as a coach of youth athletes.

Yours in sport,

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