



PROMETHHEUS PERFORMANCE SCIENCE IN SPORT

Home Strength &
Conditioning for Youth
Football
6 Week programme

Developed on behalf of
Lourdes Celtic FC by
Prometheus Performance
Consultancy © 2020



Coaches, Parents & Players

During this Covid-19 pandemic, it is vital that we remain focused, confident and determined to stay on top of our physical and mental health and take seriously our responsibility when it comes to social isolation.

For valid and reliable up to date information please use the HSE website listed below.

<https://www2.hse.ie/conditions/coronavirus/coronavirus.html>

My name is Alan Byrne, a qualified Sport Scientist, Strength and Conditioning coach and lecturer in Sports Performance with a masters in teaching and learning.

I am currently the Director of Coaching at Lourdes Celtic Football club in Dublin 12.

I have compiled this easy to use guide/programme in strength and conditioning to help children at your clubs remain fit and focused during these testing times.

I really hope that you find this information beneficial.

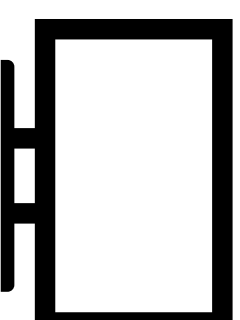
If you have any questions, please do not hesitate to contact me at alanbyrne1cfc@hotmail.co.uk

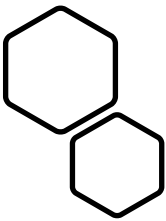
Yours in Sport

Alan Byrne

Programme content

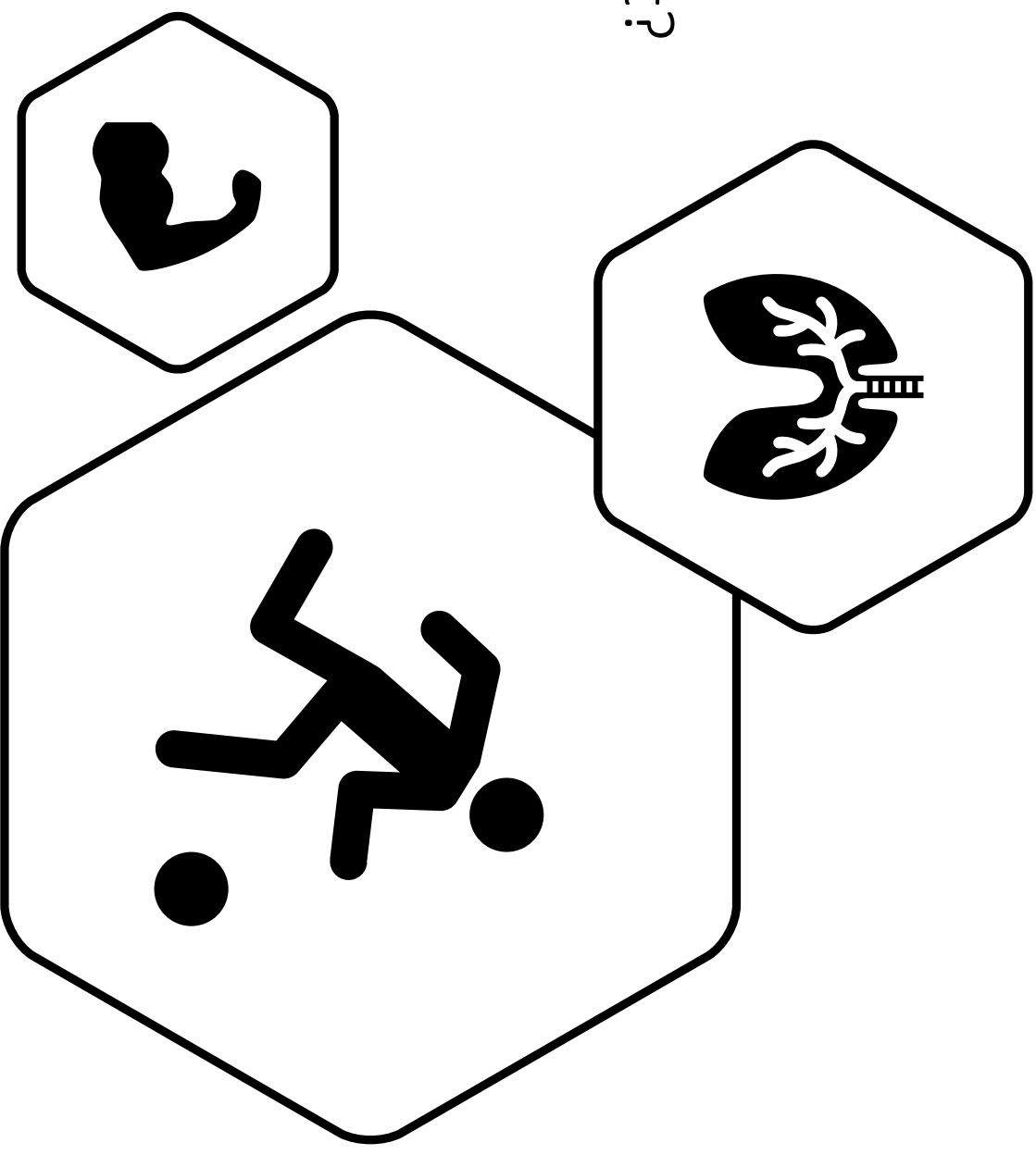
- I have, where possible, designed plans for the conditioning sessions with a football that are easy to use and follow. Please feel free to adapt these sessions and be creative.
- For the bodyweight exercises, I have provided instructions regarding how many repetitions to perform and a simple link to a video for each exercise to watch.





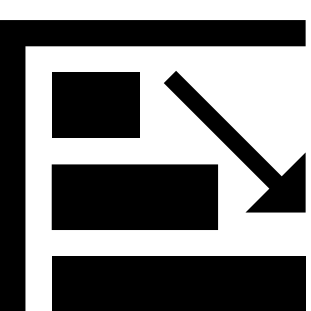
Why is Strength and Conditioning Important?

- To reduce injury risk
- To increase aerobic capacity
- To increase anaerobic capacity
- To develop strength
- To develop speed
- To develop power

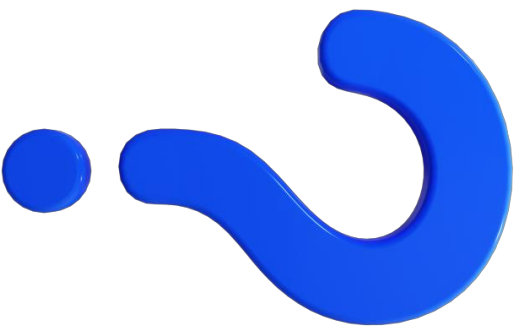


Profiling the demands of Youth Football

- 50/50 Aerobic/Anaerobic (Jog/Sprint) required
- Sprint repeatability required
- Players covering on average between 8-10km per game (11 a side)
- An ability to push/pull various bodyweights
- An ability to accelerate/decelerate
- An ability to change direction quickly
- An ability to be agile (react to a stimulus quickly e. g opposition player movement)
- An ability to generate power e.g. jump to head the ball



Programme Aims



At the end of this programme we must ask ourselves these key questions:

- Are we getting stronger ?
- Are we getting faster ?
- Can we endure various intensity games for longer?
- Are we more resilient to injuries, mainly non-contact injuries (hamstring etc)
- Do we feel physically good, mentally confident, and competent to compete?

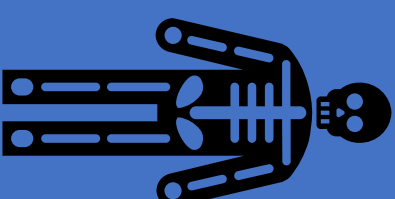
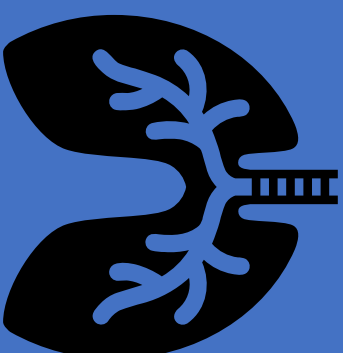
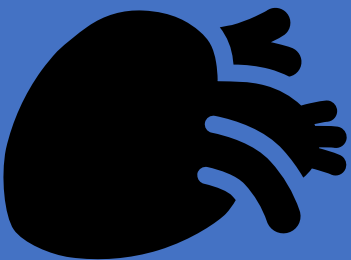
The Programme Content

15-Minute warm up

15-Minute aerobic/anaerobic
conditioning

20+ Minute body weight strength
exercises

10-Minute cool down

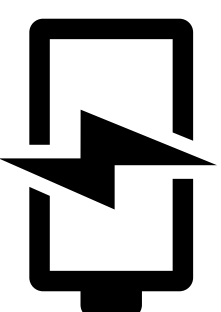
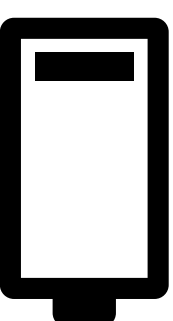


The Warm-up

Programme Part 1

Warming up

- It is important to warm up as it will allow our bodies to prepare for the exercises we are about to undertake.
- We must raise the pulse, activate the muscles to be worked and mobilise the joints in our body.
- Adequate warm up will prevent injuries by allowing blood flow to deliver oxygen and nutrients to the working muscles and prevent cold muscles and immobile joints being overworked too soon.
- Adequate warm up can contribute towards better performance and reduce injury risk.
- We must charge the battery to be ready to use efficiently!



FIFA 11+ Warm up

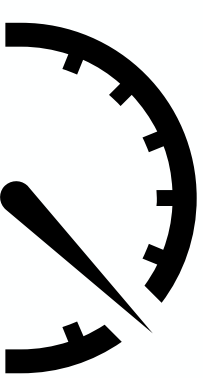
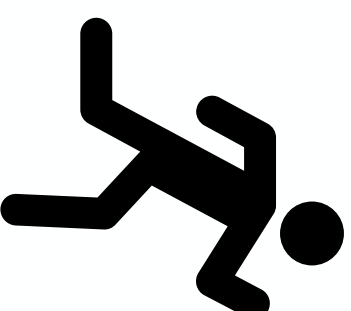
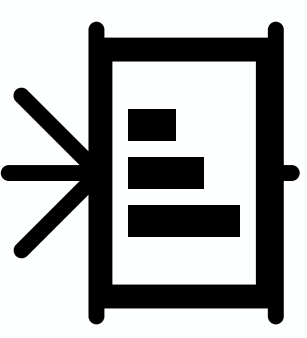
- The FIFA 11+ injury prevention programme is a widely used strength and conditioning programme and has been compiled by sport scientists as a result of extensive research in football academy's worldwide.
- I have included a link to a step by step video for you to follow. After a couple of weeks aim to learn the warm up off by heart, it will stand to you for the rest of your sporting lives!
- The warm up is designed to be done in pairs, however with the #covid19 movement restrictions in place, you can adapt and perform the warm up alone or with a parent/sibling at home (if you have space) or in a local green area if allowed to do so.

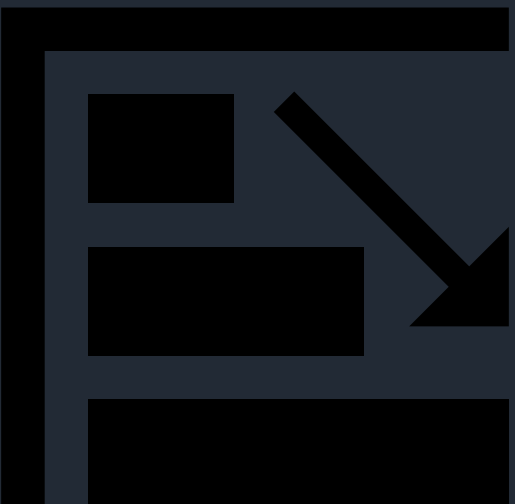
Start here > <https://youtu.be/a5o1x9Bs05c>



We are now warmed up and ready to...

- Progress to the next part of our programme, which is our aerobic/anaerobic conditioning.
- In this next section we will train the cardiovascular system to be able to meet the high and low intensity demands of our sport.
- Here we will train the main energy systems involved in the sport of football.
- I have included a graph showing the energy systems involved (this is aimed at educating coaches regarding the fitness needs)
- Players lets keep it simple, ignore the graph and follow the program!

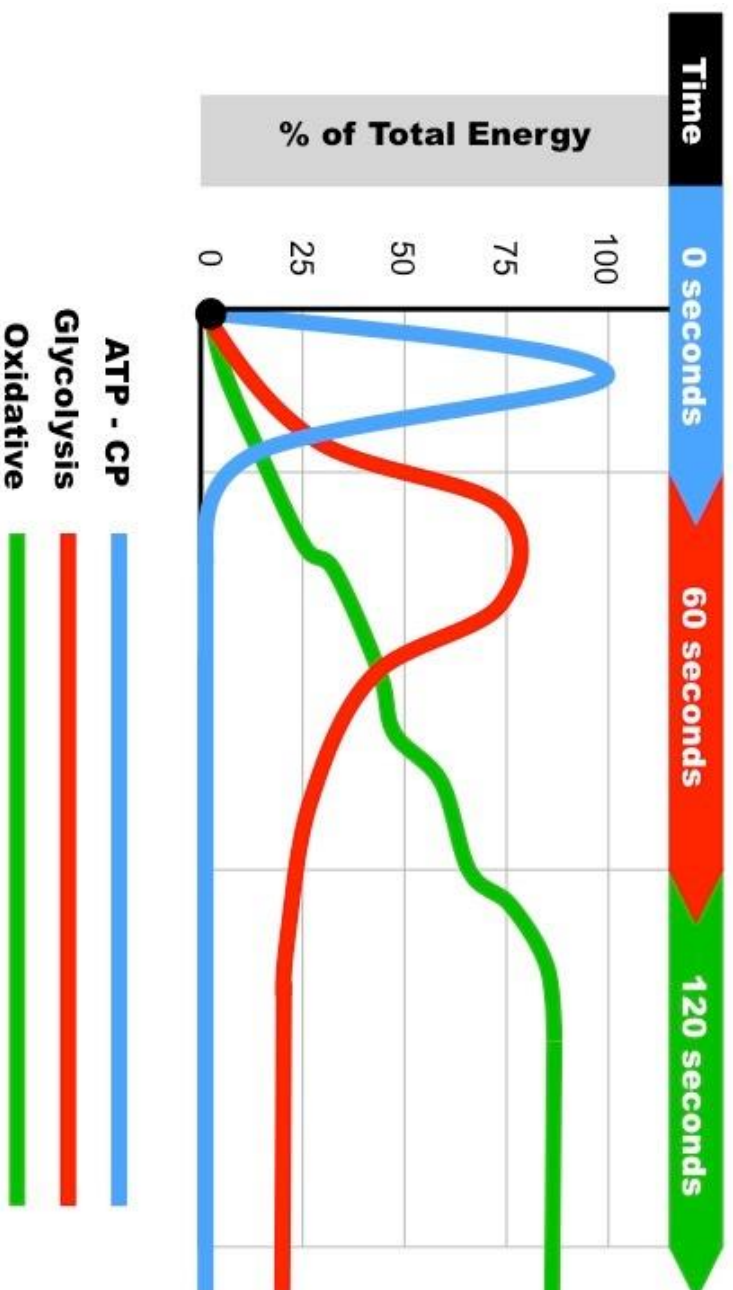




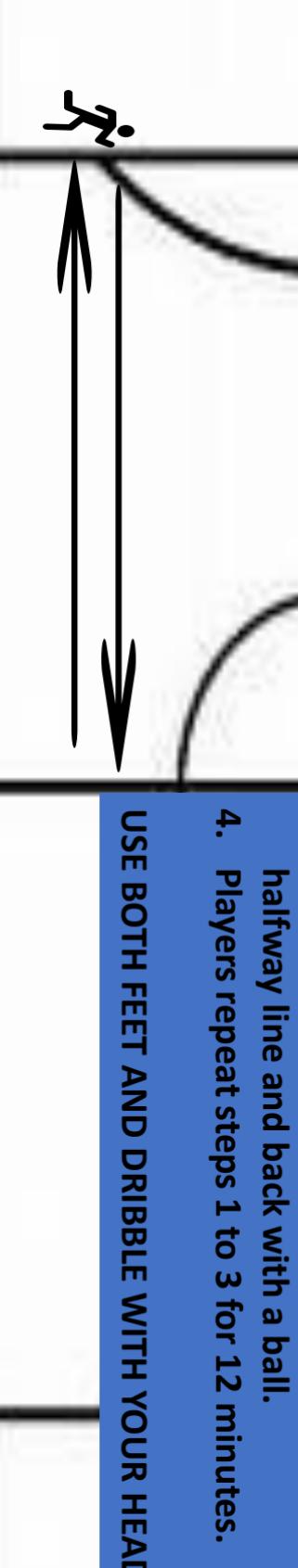
Energy systems simplified!

- Our 1st system is the ATP-CP system – we train this by sprinting at maximum effort for up to approx. 13 seconds. (Think sprinting onto a pass, sprinting to intercept a pass or to tackle, sprinting into the opposition box to join the attack)
- Our 2nd system is the glycolysis system – we train this system by running at near maximum effort for anything above 13 seconds and below approx. 2 mins (Think tracking back, or runs into space without the ball, recovering in our own half with the ball in possession)
- Our 3rd system is the Oxidative system, mainly seen in long aerobic events at low intensity such as medium to long distance runs.

ALL ENERGY SYSTEMS ARE IN USE AT ONCE, HOWEVER.....



...THE INTENSITY OF EFFORT WILL DECIDE WHICH ONE IS USED MOSTLY E.G MAX SPRINT = ATP-CP (up to 13 secs)



1. Players dribble at low intensity to the 6-yard box and back with a ball.
2. Players then dribble from the 6-yard box to the 18-yard box with a ball.
3. Players then dribble from the 18-yard box to the halfway line and back with a ball.
4. Players repeat steps 1 to 3 for 12 minutes.

USE BOTH FEET AND DRIBBLE WITH YOUR HEAD UP!

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USE BOTH FEET AND DRIBBLE WITH YOUR HEAD UP!

Anaerobic/Aerobic Conditioning workout – Part 1



13 meters



1. Players will sprint maximally 13 meters and finish with a strike on goal!

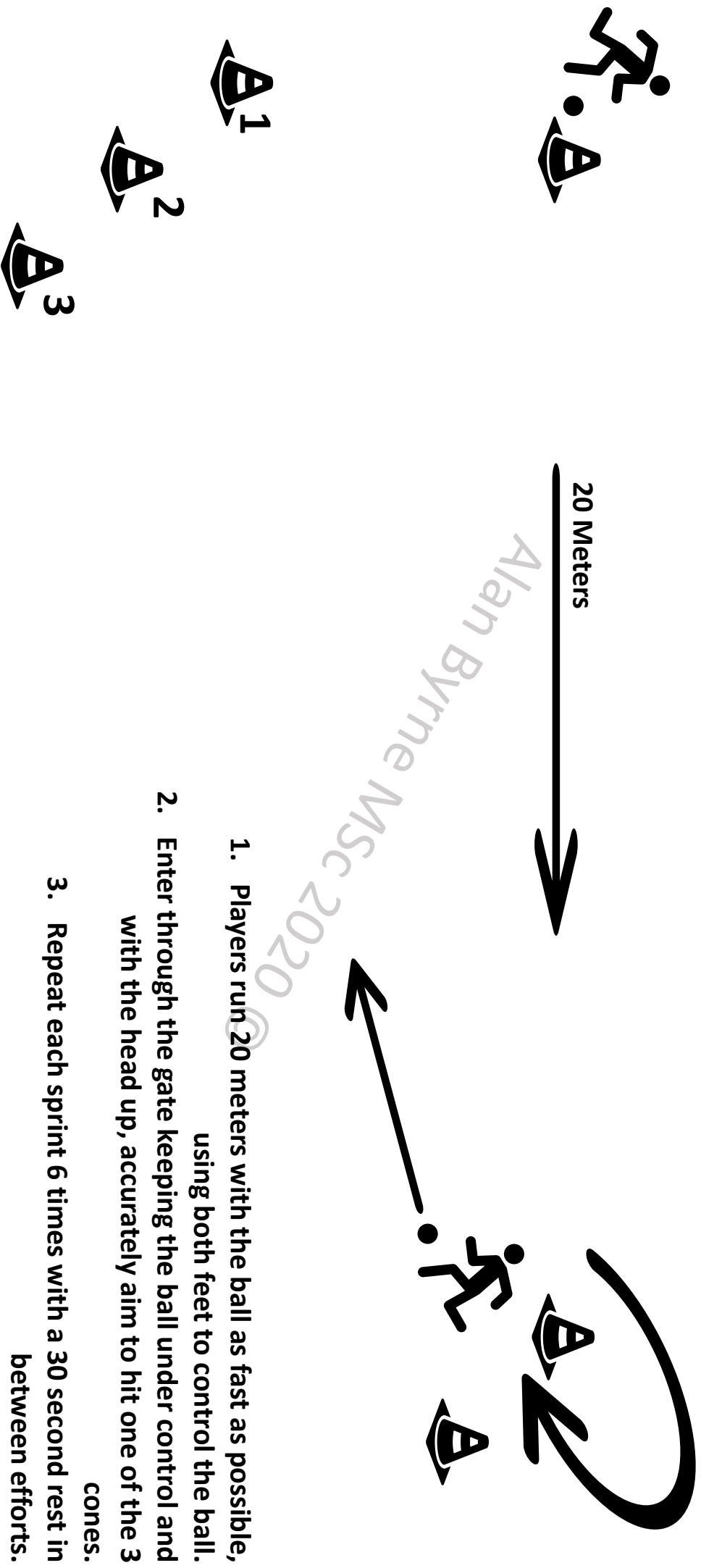
2. In between each sprint take a 60 second recovery jog around the four cones at a slow pace before starting your next sprint.

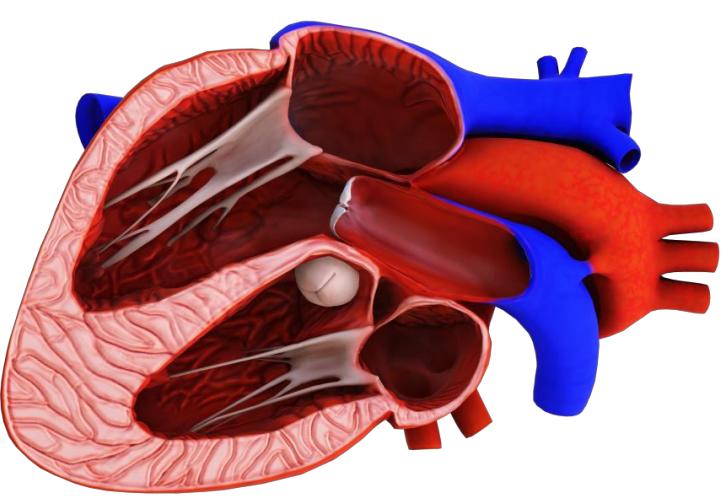
3. Do 4 sprints and recovery jogs per side using both feet to finish per session.



Anaerobic/Aerobic Conditioning Workout –

Part 2





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Programme Part 2 – Strength & Power

AT HOME BODYWEIGHT PROGRAM

Strength & Power

Bodyweight Exercises

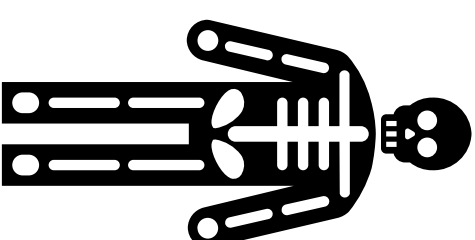
At this point of the programme we normally begin to talk about exercises that will help to develop the strength and power needed for football, such as the ability to push and pull various bodyweights.

We see this when we shield the ball or tackle to dispossess an opposition player.

I am not going go into detail regards the science of muscle development or strength and power work, but instead simplify things so that any player at any level of fitness can develop by beginning with a simple process called AMRAP (As many reps as possible) . Basically doing the amount of exercises we are currently capable of and increasing the amount of reps we do as we develop strength and power over time.

To develop strength and power we must progressively overload our exercises in order to cause muscle and body adaptation to the stress imposed, but enough of the science talk!!!!

Let me introduce you to MILO from ancient Greece.....



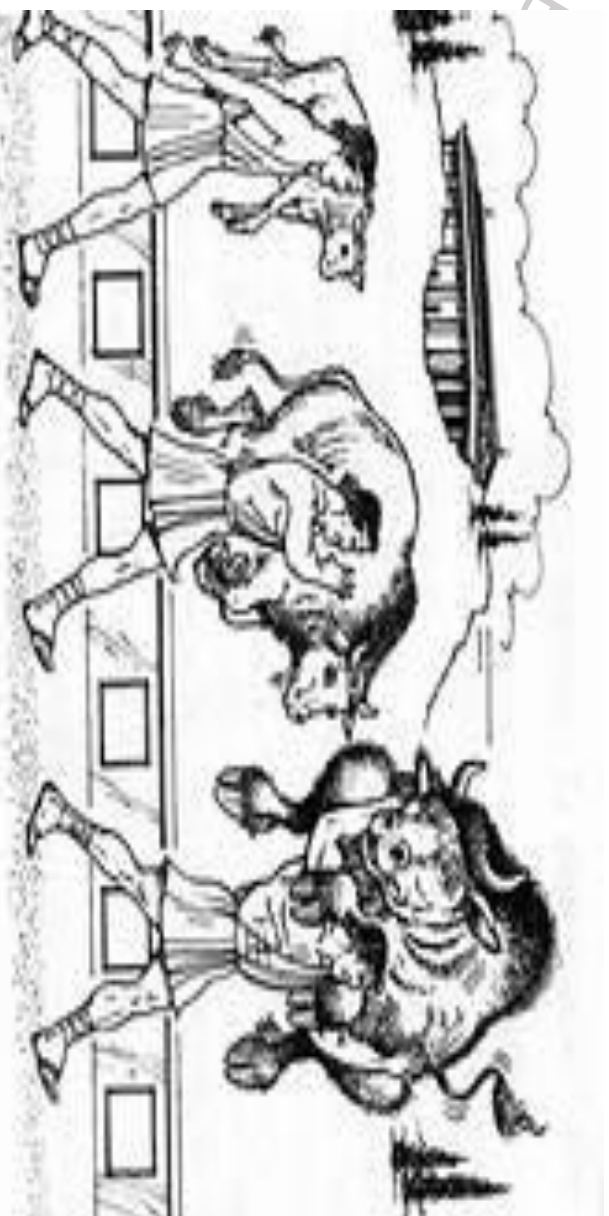
Milo started off by lifting a calf from village to village

As the calf grew bigger, Milo began to become more powerful and stronger ...

This is progressive overload in practice.

As we develop the strength to lift more bodyweight, we progress and adapt.

As many reps as possible (AMRAP)

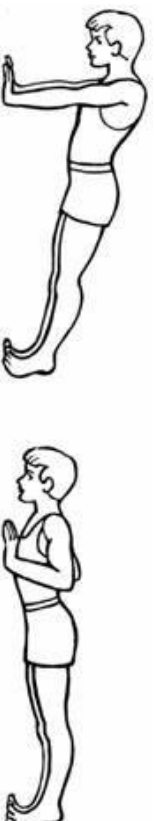




BODYWEIGHT EXERCISES

10 Simple and effective exercises

1. Push up Narrow



How the narrow push up helps?

To develop strength & power in the triceps, biceps and pectoralis major/minor (chest)

This exercise helps to develop the strength and power needed for shielding and throw ins. It is also used to develop arm swing strength for sprinting.

How many reps? (AMRAP)

As many as possible until failure.

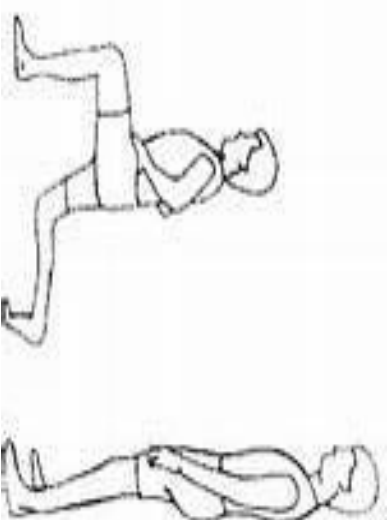
Rest for 1 minute.

Repeat x 3 times

<https://www.youtube.com/watch?v=40LMvYHkUKw>

2. Alternate Lunge

How Alternate Lunge helps?



To develop balance, coordination and strength in both legs

This exercise helps to develop the strength and power needed for sprinting, acceleration/deceleration as when we sprint, we are transferring power from one leg at a time into the ground!

How many reps? (AMRAP)

As many as possible until failure using both legs alternatively.

Rest for 1 minute.

Repeat x 3 times

<https://www.youtube.com/watch?v=7SMIzPn4LGjQ>

3. Glut bridge march

How Glute Bridge helps?

To develop the Glute maximus, minimus and Medius

This exercise helps to develop the strength and power in our glute muscles, allowing us to improve our ability to generate force sprinting forward.

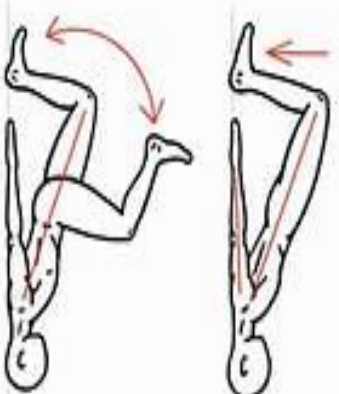
How many reps? (AMRAP)

As many as possible until failure using both legs alternatively.

Rest for 1 minute.

Repeat x 3 times

<https://www.youtube.com/watch?v=-3dYf4vbqXk>



4. Plank



How the Plank helps?

To develop core stability

This exercise helps to develop core stability and strengthen the core muscles involved in balance and coordination during movement (Transverse abdominus, internal and external obliques)

How many reps?

30 second holds

Rest for 1 minute.

Repeat x 3 times

<https://www.youtube.com/watch?v=YuVr-YPGRUI>

5. Counter-movement Jump (CMJ)

How the Counter-movement Jump helps?

To develop Lower limb explosive anaerobic power

This exercise helps to the lower limb power needed when jumping to head the ball or accelerate.

How many reps? (AMRAP)

As many as possible until failure.

Rest for 1 minute.

Repeat x 3 times



https://www.youtube.com/watch?v=rSaR_Aq38SQ

6. Bear Crawl/forward + sideways



How the Bear Crawl helps?

To develop overall body strength.

This exercise helps to strengthen your core. The main muscles worked are the glutes, shoulders and arms.

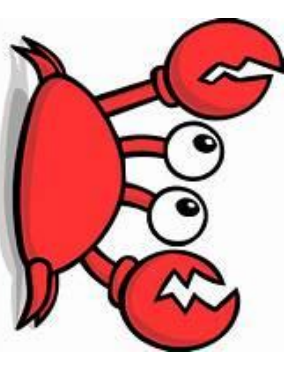
How many crawls/ reps? (AMRAP)

As many as possible until failure using both legs alternatively.

Rest for 1 minute.

Repeat x 3 times

<https://www.youtube.com/watch?v=DIEU9gh8FWs>



7. Crab walk

How the Crab walk helps?

To develop upper and lower body strength and coordination.

This exercise helps to strengthen your upper body core whilst the quadriceps, hamstrings and glutes develop strength whilst moving.

How many walks/ reps? (AMRAP)

As many as possible until failure using both legs alternatively.

Rest for 1 minute.

Repeat x 3 times

<https://www.youtube.com/watch?v=Xwcbm93mM-o>

8. Side Lunge

How the side lunge helps?



To develop the muscles responsible for lateral movement during sports when we change direction and sprint (Adductors, Abductors, Glutes)

This exercise helps to develop balance, coordination when changing direction quickly and sprinting.

How many reps? (AMRAP)

As many as possible until failure using both legs alternatively.

Rest for 1 minute.

Repeat x 3 times

<https://www.youtube.com/watch?v=4PknCVjSaqY>

9. Single leg Deadlift (SDL)

How the Single leg deadlift helps?

To develop the muscles responsible for core stability and balance.

This exercise helps to develop coordination and balance when transferring force from one leg to another e.g. when running and jumping.

How many reps? (AMRAP)

As many as possible until failure using both legs alternatively.

Rest for 1 minute.

Repeat x 3 times



<https://www.youtube.com/watch?v=rXrJhqgSXDs>

10. Medicine Ball throws/slams



How Medicine Ball slams/throws helps?

To develop coordination between the upper and lower body and develop power and strength.

There are many variations and progressions to this exercise, do some research and be creative but don't wreck your garden!

How many reps? (AMRAP)

As many as possible until failure.

Rest for 1 minute.

Repeat x 3 times

<https://www.youtube.com/watch?v=OAasm7EFr9U>

Tracking Progress

After completing a week of workouts, we should aim to increase one of the following areas every week;

- ❑ Number of exercise repetitions e.g. week 1 (15 press ups per set) Week 2 (18 press ups per set)
- ❑ Frequency of sessions – Week 1 = 1 session per week , progressing to 3 per week at week 6.
- ❑ Intensity – how much effort we put into each exercise- can we jump higher, run faster as the weeks go by?

Progress Sheet – Use this sheet to track your progress

No. Reps in Total	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
Push up						
Alt Lunge						
Glute Bridge						
Plank						
CMJ						
Bear Crawl						
Crab Walk						
Side Lunge						
SDL						
Med Ball						

Cool Down 15 mins

Walk Slowly until your heart rate drops below 100 BPM and when you feel that you have adequately slowed down your heart rate to prevent blood pooling.

Perform the dynamic stretches as shown in the link below.

<https://www.youtube.com/watch?v=iodG6mkbcz4>

I hope you have enjoyed this programme. Thank you and best of luck!

