

**Personal Exercise Programme
(P.E.P)**

GCSE Physical Education

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2024

Candidate Number: 

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Aim and Planning

The aim of my PEP is to **improve my performance in football in Central Midfield**. I play in the Varsity football team but over the pandemic, much of my football was cancelled so my physical performance has deteriorated, especially my speed and cardiovascular fitness feel tired during matches which affects my application of skills.

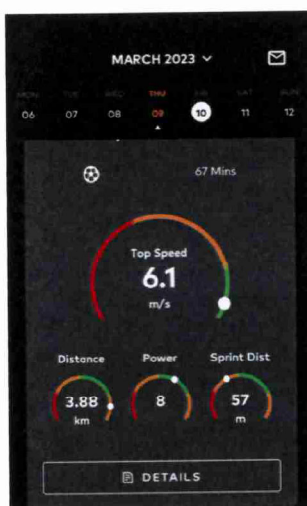
I am smaller than most U19's and lack strength, power and speed compared with teammates, so improving these in pre-season is key to being able to meet the requirements of U19 football.

I play against older and stronger players so I need to improve specific aspects of fitness to be successful at this level, despite my lack of size.

- **Cardiovascular endurance** - be able to run for longer without feeling fatigued.
- **Speed** - to perform actions faster than my opponents.
- **Power** - allow for more powerful shots, longer range of passing and improved acceleration
- **Muscular endurance** - ability to maintain repeated contractions of muscles in the leg (quadriceps, hamstrings, gastrocnemius, hip flexors and gluteals) whilst running and during the kicking action
- **Agility** - ability to change direction quickly when defending attackers.
- **Strength** - Using my body to protect the ball from opponents in 1v1 duels.
- **Flexibility** - Improved range of movement and injury prevention
-

I completed a PAR-Q (A1) and relevant fitness tests (A2) and obtained performance data using a Playrtek GPS pod in training sessions and a friendly match to analyse my current performance against normative and benchmark data. (236)

Performance Data / Elite Comparison - Pre-Season Training Data - Pre-PEP Match Data



Elite Player Data: 90mins

Premier League Averages

Position	Average Distance (90 mins)	My Match Data (45 mins)	Difference	Sprint Distance
Central Midfielders	11.2km	3.88km	7.32km	57m

(<https://sqaf.club/how-far-do-football-players-run-in-a-game>)

Pre-Programme Fitness Test Results

Fitness Test	Score	Rating
Multi Stage Fitness or Bleep Test	10.3	Good
12min Cooper Run	2580m 	Above Average
Hand Grip Dynamometer	42kg	Below Average
Vertical Jump	46cm	Average
Illinois Agility Run	17.83s	Average
30m Sprint	4.8s	Poor
1min Press-Up test	35	Above Average

When analysing my results for cardiovascular fitness via the Bleep Test and 12 minute Cooper Run I rated **'good'** and **'average average'** with a level **10.3** and distance of **2580m (A2)**. Improved cardiovascular fitness will allow me to run for longer meaning I would cover more distance and recover more quickly. **Improving this will improve my performance in football.**

When assessing my **strength** on the handgrip dynamometer, I rated '**below average**' with **42kg. (A2)**. Although this measures grip strength, top footballers would have outstanding strength, particularly in the legs and upper body as it's vital during kicking, jumping, sprinting and shielding the ball. Improved strength, as a function of power, will allow me to sprint more quickly, jump higher, be a stronger tackler and pass the ball further. **Poor strength obviously impacts performance negatively.**

I scored **46cm in the vertical jump** which gives me a power rating of '**Average**'. Premier League players would be exceptionally powerful so they can perform maximal power actions such as shooting and sprinting. **It's clear that my strength and power should be improved.**

When analysing agility using the **Illinois Agility Run**, I scored **17.83s** which is rated '**average**'. Having good agility and speed will enable me to change direction faster so I can get round defenders more easily throughout the game. **Improving speed and agility will help me to improve my performance in a football match**

When testing for speed in the 30m Sprint, I scored **4.8 seconds** which is rated '**poor**'. Improved speed allows me to move faster on and off the ball and make quicker recovery runs throughout a game. **Improving my speed will help to improve my performance in a football match**

Assessing muscular endurance I rated '**above average**' with 35 press-ups in 60s. Muscular endurance is vital in the leg muscles when running and performing the kicking action throughout a game. **Improved muscular endurance would allow me to run at higher speeds for longer and make more sprints during a match.**

To conclude, my pre-fitness test results and game data show **improvements in strength, power, speed and endurance would most benefit my performance** as it impacts all areas of performance important as a footballer. (366)

S.M.A.R.T Targets

	My Target	Performance Link
Performance Target	Increased distance covered in competitive games to >6.5km within the 6-week training program	Improved aerobic endurance - more involved in the game in defence and attacking situations
Performance Target	Increased top speed in a game from 6.1m/s to +7.5 m/s within the 6-weeks training program	Improved top speed - improved linear, multidirectional, deceleration and acceleration actions during a game
Fitness Target	Increased vertical jump by the end of the 6-week training program from 46 cm to 50cm	Increasing my explosive power - Will allow me to accelerate and sprint faster, strike the ball harder and produce more force in duels

(98)

Justification of Training

I have chosen **weight and interval training**. Weight training is the most effective method of developing muscular strength by bringing about adaptations in fast twitch muscle fibres to bring about faster, stronger muscular contractions. This helps to improve speed and strength as adaptations in the muscle fibres of the leg (Hamstring, Quadriceps, Gastrocnemius, Tibialis Anterior) will enable more force production.

I have also chosen **interval running** to bring about adaptations to my cardiovascular fitness and muscular endurance as well as speed. Intervals at higher intensities help to improve anaerobic and aerobic endurance through high intensity exercise and short rest periods. I could have performed continuous training as this also helps improve cardiovascular fitness however this can be boring and time consuming and is performed at a lower intensity compared to intervals. Football has periods of high intensity action, therefore continuous steady-state training wouldn't be as sport-specific. Plyometrics training was a good option as it helps improve power, but too many plyometrics in young people can increase the risk of injury as it applies stress on the joints. (177)

TRAINING LOGS

Resistance Training program				
Exercise	Starting Weight	Sets	Reps	How can I implement progressive overload?
Olympic Bar Bench Press	30Kg	4	8	Increase reps or kg
Banded Body weight pull ups	N/A	4	6	Decrease band resistance
Plyometric Box Jump	Level 5	4	6	Increase box height
Leg Press	75Kg	4	10	Increase reps or kg
DB Shoulder Press	10Kg x 2	4	8	Increase reps or kg
Cable Flies	12Kg x 2	4	8	Increase reps or kg
Romanian Deadlift	30Kg	4	8	Increase reps or kg
Push Ups	10	4	10	Increase reps

How I will apply the Principles of Training

F.I.T.T Principle	<p>Frequency - I will be training twice per week on my Strength and Conditioning sessions, and one interval session (as well as twice per week in football specific training sessions.) This means that during my 6 week training program. I will do 6 Interval sessions and 12 strength sessions.</p> <p>Intensity - By implementing progressive overload during my training, I will develop adaptations by increasing kg lifted, number of sets/reps or running intensity.</p> <p>Time - Sessions will last around 1 hour and 15 minutes, with my intervals lasting approximately 25 minutes.</p> <p>Type - 2 types of training - weight/interval training to bring about adaptations in fast twitch muscle (Type IIa, Type IIb) fibres to improve strength, speed and power</p>
Thresholds of Training (training zones)	For intervals I will be running in my anaerobic training zone (80-90% of my maximum HR) and for strength, I will be lifting approximately 80% of my 1RM load.

Session 1																									
Warm Up (5 Mins Pulse Raiser - spin bike or elliptical trainer)																									
2 Min Mobility Flow																									
10 x Birdog																									
10 x Deadbug's																									
10 x Single Leg Glute Bridge's																									
Week	Exercise	1				2				3				4				5				6			
		Set	Reps	Weight	Rest	Set	Reps	Weight	Rest	Set	Reps	Weight	Rest	Set	Reps	Weight	Rest	Set	Reps	Weight	Rest	Set	Reps	Weight	Rest
1	Olympic Bar Bench Press	Set 1	8	30kg	2 Mn	Set 1	8	32.5kg	2 Min	Set 1	8	35kg	2 Min	Set 1	8	37.5Kg	2 Min	Set 1	8	37.5Kg	2 Min	Set 1	8	40kg	2 Min
		Set 2	8	30kg	2	Set 2	8	32.5kg	2	Set 2	8	35kg	2	Set 2	8	37.5Kg	2	Set 2	8	37.5Kg	2	Set 2	8	40kg	2
		Set 3	8	30kg	2	Set 3	8	32.5kg	2	Set 3	8	35kg	2	Set 3	8	37.5Kg	2	Set 3	8	37.5Kg	2	Set 3	8	40kg	2
		Set 4	8	30kg	2	Set 4	8	32.5kg	2	Set 4	8	35kg	2	Set 4	8	37.5Kg	2	Set 4	8	37.5Kg	2	Set 4	8	40kg	2
2	Banded Body Weight Pull Ups	Set 1	6	N/A	2 Min	Set 1	6	N/A	2 Min	Set 1	8	N/A	2 Min	Set 1	8	N/A	2 Min	Set 1	8	N/A	2 Min	Set 1	10	N/A	2 Min
		Set 2	6	N/A	2	Set 2	6	N/A	2	Set 2	8	N/A	2	Set 2	8	N/A	2	Set 2	8	N/A	2	Set 2	10	N/A	2
		Set 3	6	N/A	2	Set 3	6	N/A	2	Set 3	8	N/A	2	Set 3	8	N/A	2	Set 3	8	N/A	2	Set 3	10	N/A	2
		Set 4	6	N/A	2	Set 4	6	N/A	2	Set 4	8	N/A	2	Set 4	8	N/A	2	Set 4	8	N/A	2	Set 4	10	N/A	2
3	Plyometric Box Jump	Set 1	6		1 Mn	Set 1	6		1 Min	Set 1	8		1 Min	Set 1	8		1 Min	Set 1	10		1 Min	Set 1	10		1 Min
		Set 2	6		1	Set 2	6		1	Set 2	8		1	Set 2	8		1	Set 2	10		1	Set 2	10		1
		Set 3	6		1	Set 3	6		1	Set 3	8		1	Set 3	8		1	Set 3	10		1	Set 3	10		1
		Set 4	6		1	Set 4	6		1	Set 4	8		1	Set 4	8		1	Set 4	10		1	Set 4	10		1
4	Leg Press	Set 1	10	75kg	2 Min	Set 1	10	75kg	2 Min	Set 1	10	80kg	2 Min	Set 1	10	80kg	2 Min	Set 1	10	90kg	2 Min	Set 1	10	100kg	2 Min
		Set 2	10	75kg	2	Set 2	10	75kg	2	Set 2	10	80kg	2	Set 2	10	80kg	2	Set 2	10	90kg	2	Set 2	10	100kg	2
		Set 3	10	75kg	2	Set 3	10	75kg	2	Set 3	10	80kg	2	Set 3	10	80kg	2	Set 3	10	90kg	2	Set 3	10	100kg	2
		Set 4	10	75kg	2	Set 4	10	75kg	2	Set 4	10	80kg	2	Set 4	10	80kg	2	Set 4	10	90kg	2	Set 4	10	100kg	2
5	DB Shoulder press	Set 1	8	10kg	3 Min	Set 1	8	15kg	3 Min	Set 1	10	17.5kg	3 Min	Set 1	10	17.5kg	3 Min	Set 1	10	20kg	3 Min	Set 1	10	20kg	3 Min
		Set 2	8	10kg	2	Set 2	8	15kg	2	Set 2	10	17.5kg	2	Set 2	10	17.5kg	2	Set 2	10	20kg	2	Set 2	10	20kg	2
		Set 3	8	10kg	2	Set 3	8	15kg	2	Set 3	10	17.5kg	2	Set 3	10	17.5kg	2	Set 3	10	20kg	2	Set 3	10	20kg	2
		Set 4	8	10kg	2	Set 4	8	15kg	2	Set 4	10	17.5kg	2	Set 4	10	17.5kg	2	Set 4	10	20kg	2	Set 4	10	20kg	2
6	Cable Flies	Set 1	8	12kg	2 Min	Set 1	8	15kg	2 Min	Set 1	10	15kg	2 Min	Set 1	10	17.5kg	2 Min	Set 1	10	17.5kg	2 Min	Set 1	10	17.5kg	2 Min
		Set 2	8	12kg	2	Set 2	8	15kg	2	Set 2	10	15kg	2	Set 2	10	17.5kg	2	Set 2	10	17.5kg	2	Set 2	10	17.5kg	2
		Set 3	8	12kg	2	Set 3	8	15kg	2	Set 3	10	15kg	2	Set 3	10	17.5kg	2	Set 3	10	17.5kg	2	Set 3	10	17.5kg	2
		Set 4	8	12kg	2	Set 4	8	15kg	2	Set 4	10	15kg	2	Set 4	10	17.5kg	2	Set 4	10	17.5kg	2	Set 4	10	17.5kg	2
7	Romanian Deadlift	Set 1	8	30kg	3 Min	Set 1	8	30kg	3 Min	Set 1	8	40kg	3 Min	Set 1	8	45kg	3 Min	Set 1	8	50kg	3 Min	Set 1	8	50kg	3 Min
		Set 2	8	30kg	3	Set 2	8	30kg	3	Set 2	8	40kg	3	Set 2	8	45kg	3	Set 2	8	50kg	3	Set 2	8	50kg	3
		Set 3	8	30kg	3	Set 3	8	30kg	3	Set 3	8	40kg	3	Set 3	8	45kg	3	Set 3	8	50kg	3	Set 3	8	50kg	3
		Set 4	8	30kg	3	Set 4	8	30kg	3	Set 4	8	40kg	3	Set 4	8	45kg	3	Set 4	8	50kg	3	Set 4	8	50kg	3
8	Push Ups	Set 1	10	N/A	30s	Set 1	12	N/A	30s	Set 1	15	N/A	30s	Set 1	15	N/A	30s	Set 1	15	N/A	30s	Set 1	20	N/A	30s
		Set 2	10	N/A	30s	Set 2	12	N/A	30s	Set 2	15	N/A	30s	Set 2	15	N/A	30s	Set 2	15	N/A	30s	Set 2	20	N/A	30s
		Set 3	10	N/A	30s	Set 3	12	N/A	30s	Set 3	15	N/A	30s	Set 3	15	N/A	30s	Set 3	15	N/A	30s	Set 3	20	N/A	30s
		Set 4	10	N/A	30s	Set 4	12	N/A	30s	Set 4	15	N/A	30s	Set 4	15	N/A	30s	Set 4	15	N/A	30s	Set 4	20	N/A	30s

Session 2

Warm Up (5 Mins Pulse Raiser - spin bike or elliptical trainer)

2 Min Mobility Flow

10 x Birdog

10 x Deadbug's

10 x Single Leg Glute Bridges

Week	1				2				3				4				5				6			
	Set	Reps	Weight	Rest	Set	Reps	Weight	Rest	Set	Reps	Weight	Rest	Set	Reps	Weight	Rest	Set	Reps	Weight	Rest	Set	Reps	Weight	Rest
1	Set 1	8	30Kg	2 Min	Set 1	8	32.5kg	2 Min	Set 1	8	35kg	2 Min	Set 1	8	37.5Kg	2 Min	Set 1	8	37.5Kg	2 Min	Set 1	8	40kg	2 Min
	Set 2	8	30Kg	2	Set 2	8	32.5kg	2	Set 2	8	35kg	2	Set 2	8	37.5Kg	2	Set 2	8	37.5Kg	2	Set 2	8	40kg	2
	Set 3	8	30Kg	2	Set 3	8	32.5kg	2	Set 3	8	35kg	2	Set 3	8	37.5Kg	2	Set 3	8	37.5Kg	2	Set 3	8	40kg	2
	Set 4	8	30Kg	2	Set 4	8	32.5kg	2	Set 4	8	35kg	2	Set 4	8	37.5Kg	2	Set 4	8	37.5Kg	2	Set 4	8	40kg	2
2	Set 1	6	N/A	2 Min	Set 1	6	N/A	2 Min	Set 1	8	N/A	2 Min	Set 1	8	N/A	2 Min	Set 1	8	N/A	2 Min	Set 1	10	N/A	2 Min
	Set 2	6	N/A	2	Set 2	6	N/A	2	Set 2	8	N/A	2	Set 2	8	N/A	2	Set 2	8	N/A	2	Set 2	10	N/A	2
	Set 3	6	N/A	2	Set 3	6	N/A	2	Set 3	8	N/A	2	Set 3	8	N/A	2	Set 3	8	N/A	2	Set 3	10	N/A	2
	Set 4	6	N/A	2	Set 4	6	N/A	2	Set 4	8	N/A	2	Set 4	8	N/A	2	Set 4	8	N/A	2	Set 4	10	N/A	2
3	Set 1	6		1 Min	Set 1	6		1 Min	Set 1	8		1 Min	Set 1	8		1 Min	Set 1	10		1 Min	Set 1	10		1 Min
	Set 2	6		1	Set 2	6		1	Set 2	8		1	Set 2	8		1	Set 2	10		1	Set 2	10		1
	Set 3	6		1	Set 3	6		1	Set 3	8		1	Set 3	8		1	Set 3	10		1	Set 3	10		1
	Set 4	6		1	Set 4	6		1	Set 4	8		1	Set 4	8		1	Set 4	10		1	Set 4	10		1
4	Set 1	10	75Kg	2 Min	Set 1	10	75Kg	2 Min	Set 1	10	80kg	2 Min	Set 1	10	80kg	2 Min	Set 1	10	90kg	2 Min	Set 1	10	100kg	2 Min
	Set 2	10	75Kg	2	Set 2	10	75Kg	2	Set 2	10	80kg	2	Set 2	10	80kg	2	Set 2	10	90kg	2	Set 2	10	100kg	2
	Set 3	10	75Kg	2	Set 3	10	75Kg	2	Set 3	10	80kg	2	Set 3	10	80kg	2	Set 3	10	90kg	2	Set 3	10	100kg	2
	Set 4	10	75Kg	2	Set 4	10	75Kg	2	Set 4	10	80kg	2	Set 4	10	80kg	2	Set 4	10	90kg	2	Set 4	10	100kg	2
5	Set 1	8	10kg	3 Min	Set 1	8	15kg	3 Min	Set 1	10	17.5kg	3 Min	Set 1	10	17.5kg	3 Min	Set 1	10	20kg	3 Min	Set 1	10	20kg	3 Min
	Set 2	8	10kg	2	Set 2	8	15kg	2	Set 2	10	17.5kg	2	Set 2	10	17.5kg	2	Set 2	10	20kg	2	Set 2	10	20kg	2
	Set 3	8	10kg	2	Set 3	8	15kg	2	Set 3	10	17.5kg	2	Set 3	10	17.5kg	2	Set 3	10	20kg	2	Set 3	10	20kg	2
	Set 4	8	10kg	2	Set 4	8	15kg	2	Set 4	10	17.5kg	2	Set 4	10	17.5kg	2	Set 4	10	20kg	2	Set 4	10	20kg	2
6	Set 1	8	12kg	2 Min	Set 1	8	15kg	2 Min	Set 1	10	15kg	2 Min	Set 1	10	17.5kg	2 Min	Set 1	10	17.5kg	2 Min	Set 1	10	17.5kg	2 Min
	Set 2	8	12kg	2	Set 2	8	15kg	2	Set 2	10	15kg	2	Set 2	10	17.5kg	2	Set 2	10	17.5kg	2	Set 2	10	17.5kg	2
	Set 3	8	12kg	2	Set 3	8	15kg	2	Set 3	10	15kg	2	Set 3	10	17.5kg	2	Set 3	10	17.5kg	2	Set 3	10	17.5kg	2
	Set 4	8	12kg	2	Set 4	8	15kg	2	Set 4	10	15kg	2	Set 4	10	17.5kg	2	Set 4	10	17.5kg	2	Set 4	10	17.5kg	2
7	Set 1	8	30Kg	3 Min	Set 1	8	30Kg	3 Min	Set 1	8	40kg	3 Min	Set 1	8	45kg	3 Min	Set 1	8	50kg	3 Min	Set 1	8	50kg	3 Min
	Set 2	8	30Kg	3	Set 2	8	30Kg	3	Set 2	8	40kg	3	Set 2	8	45kg	3	Set 2	8	50kg	3	Set 2	8	50kg	3
	Set 3	8	30Kg	3	Set 3	8	30Kg	3	Set 3	8	40kg	3	Set 3	8	45kg	3	Set 3	8	50kg	3	Set 3	8	50kg	3
	Set 4	8	30Kg	3	Set 4	8	30Kg	3	Set 4	8	40kg	3	Set 4	8	45kg	3	Set 4	8	50kg	3	Set 4	8	50kg	3
8	Set 1	10	N/A	30s	Set 1	12	N/A	30s	Set 1	15	N/A	30s	Set 1	15	N/A	30s	Set 1	20	N/A	30s	Set 1	20	N/A	30s
	Set 2	10	N/A	30s	Set 2	12	N/A	30s	Set 2	15	N/A	30s	Set 2	15	N/A	30s	Set 2	20	N/A	30s	Set 2	20	N/A	30s
	Set 3	10	N/A	30s	Set 3	12	N/A	30s	Set 3	15	N/A	30s	Set 3	15	N/A	30s	Set 3	20	N/A	30s	Set 3	20	N/A	30s
	Set 4	10	N/A	30s	Set 4	12	N/A	30s	Set 4	15	N/A	30s	Set 4	15	N/A	30s	Set 4	20	N/A	30s	Set 4	20	N/A	30s

Weekly Evaluations / reflections					
I will now briefly summarise/evaluate my workout for each week.	For my week 1 workout I felt that I wasn't ready for the session as I felt as though my warmup wasn't effective enough. To improve this I will extend the time for my pulse raiser from 5 minutes to 7 minutes and I will also use jump ropes for 3 minutes, to ensure I am ready for my workout to prevent the chance of injury during the workout. During my session I felt my Dumbbell Bench press was too light in terms of intensity so in the next training session I will increase the weight from 30kg to 32.5kg by increasing the weight by 2.5kg and also add a slight increase in the number of press ups per set from 10 to 12. In terms of RPE I felt this was at a 6 so needs to increase next week with an increase in kg or reps as highlighted below. Also for my next session I will aim to increase the amount of push ups I complete by 2.	For my week 2 workout I felt that I was ready for the session after my 7 minute pulse raiser which helps me to prevent injury. During the session I felt that my Leg press wasn't meeting the threshold of my 1 repetition max, therefore I will increase the weight from 75kg- 80kg which helps meet 70-80% this increase the intensity of training to bring about adaptations to the quadriceps, hamstrings and gluteals (muscle hypertrophy) which, as a function of power, will increase the power when I strike a football. To bring about further adaptations in the leg muscles I will increase the box height by 10 centimetres in the next session for my Plyometric box jumps. My motivation is high at the moment and I am sleeping well, enjoying my training and seeing small signs of improvement with reduced soreness (DOMS), particularly in the pectorals, the day after my sessions.	This weeks sessions felt much more demanding in terms of intensity (RPE of 8) with progressive overload implemented on a number of exercises. The session now lasts longer and I feel that the time under tension of my muscles is now much longer which should help to bring about further adaptations to the fast twitch muscle fibres, thus increasing the force and speed of contraction, a vital component of strength and power. With the addition of my interval running I feel very tired by the end of the week. To ensure my recovery is good I have been proactive and purchased some chocolate protein powder which I can mix with milk to help with recovery and repair muscle tissue. I also find I am seemingly eating more due to the increased workload so I must be careful to ensure my diet remains balanced with a high proportion of protein and carbohydrates in my meals. This will ensure my energy balance is maintained as I don't want to be losing or gaining weight quickly with an increase in my calorie outlay from the training sessions.	I felt comfortable at the the increased load and feel my session RPE for upper body is 8 whereas for my lower body is slightly lower at a 7. To help with this I ensure my rest periods between sets are slightly longer to ensure I can recover enough to be able to complete each rep and set. Continued amendments to the weight lifted will ensure adaptations occur through gradual progressive overload and my choice of exercises are specific to my sport, such as focusing on the muscles in the legs involved in the kicking action. I continue to enjoy each session and working alongside or with members of my PE group or the S & C students helps to maintain my motivation levels throughout each session and the week. I further felt as though my Romanian deadlifts were not meeting my threshold of wanting to improve power, therefore, for my next weights session I will increase the weight of RDL's from 45 to 50 kg. I also felt like my Olympic Bar bench press wasn't hard enough and I felt as though I wasn't pushing myself, therefore for next session I will increase the weight by 2.5kg. With these increases in weight it will help me to maintain	
	32.5kg 15kg Increase push ups from 10 to 12 10 to 15kg	Increase press ups from 12 to 15 from 32.5kg to 35kg 80kg to 17.5kg Increase box height by 10cm	Increase RDL from 40 to 45kg 17.5kg from 35 to 37.5kg	Increase RDL from 45 to 50kg Increase push ups from 15 to 20 20kg Increase leg press to 90kg	from 37.5kg to 40kg Increase leg press to 100kg
In Programme Testing Data					
Testing			Wk 1	Wk 3	Wk 6
10m Acceleration			1.98s	1.94s	1.88s
CMJ Jump			52cm	53.5cm	58cm
Hand Grip			35	37	41

Interval Training

This type of training will help improve my cardiovascular, muscular and speed endurance - I will complete an interval session once per week, progressively increasing the total distance throughout the 6 weeks, which will allow me to finish in a short space of time and give me relevant feedback to help me assess progress through the Strava app. Strava records lots of data through GPS to give me an accurate indicator of how quickly I run each interval/km etc. I will cover a distance of 2km-4km throughout my programme through progressive overload (increasing the number of laps per week) . Throughout my training I could also reduce the amount of recovery time to ensure progressive overload using the FITT principle.

Training Data

Laps	Session 1 5 x 400m (Strava)	Session 2 6 x 400m (Strava)	Session 3 7 x 400m (Strava)																		
	<div><div>Morning Run</div><div></div><div><div>Congrats! You just set your 2nd fastest time in the 1 mile!</div><div><div>Distance</div><div>1.90 km</div><div>Avg Pace</div><div>3:46 /km</div><div>Moving Time</div><div>7:10</div><div>Elevation Gain</div><div>31 m</div><div>Calories</div><div>100 Cal</div><div>Max Elevation</div><div>9 m</div></div></div></div> <div><div>6x400m interval training</div><div></div><div><div>Distance</div><div>2.41 km</div><div>Avg Pace</div><div>3:30 /km</div><div>Moving Time</div><div>8:25</div><div>Elevation Gain</div><div>37 m</div><div>Calories</div><div>127 Cal</div><div>Max Elevation</div><div>10 m</div></div></div> <div><div>Afternoon Run</div><div></div><div><div>Distance</div><div>2.79 km</div><div>Avg Pace</div><div>3:47 /km</div><div>Moving Time</div><div>10:32</div><div>Elevation Gain</div><div>44 m</div><div>Calories</div><div>148 Cal</div><div>Max Elevation</div><div>8 m</div></div></div> <tr><td>Total Distance</td><td>1.90km/ 7.10 mins</td><td>2.41km / 8.32 mins</td><td>2.79km / 10.32 mins</td></tr> <tr><td>Average Speed</td><td>3.46 / km</td><td>3.30 /km</td><td>3.47 / km</td></tr> <tr><td>1km Split</td><td>3.44 / km</td><td>3.39/km</td><td>3.51 / km</td></tr> <tr><td>2km split</td><td>3.49 / km</td><td>3.31/km</td><td>3.50 / km</td></tr> <tr><td>3km Split</td><td></td><td>3.01/km</td><td>3.37 / km</td></tr>	Total Distance	1.90km/ 7.10 mins	2.41km / 8.32 mins	2.79km / 10.32 mins	Average Speed	3.46 / km	3.30 /km	3.47 / km	1km Split	3.44 / km	3.39/km	3.51 / km	2km split	3.49 / km	3.31/km	3.50 / km	3km Split		3.01/km	3.37 / km
Total Distance	1.90km/ 7.10 mins	2.41km / 8.32 mins	2.79km / 10.32 mins																		
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3km Split		3.01/km	3.37 / km																		

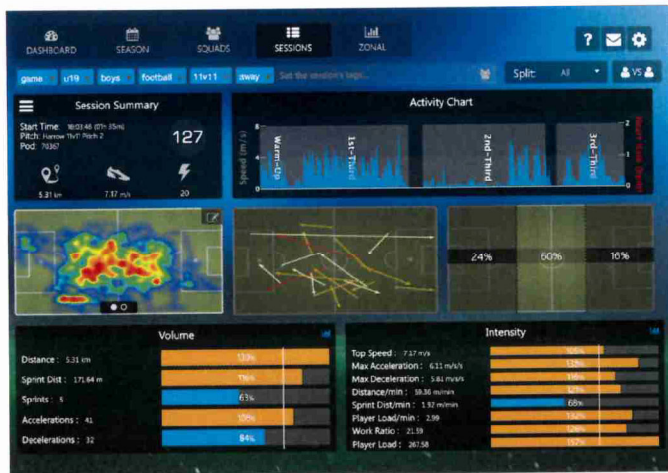
Comment	<p>The first session of interval training was quite tough as I started quite fast which was reflected in my heart rate being at the high end of my aerobic training zone by lap 2 (155 bpm). I felt comfortable running at 3.46 / Km over 5x400m so for the next session I will aim to achieve progressive overload by running 6x400m with the same 1 minute rest time and will aim to achieve a similar pace over the longer distance. The heat also makes it difficult and I must ensure I remain hydrated by sipping on water in between each interval as dehydration can decrease performance. I felt my warm up was OK with some low intensity jogging for 1x400m and also some dynamic stretching, focusing on my gluteal , quadriceps, hamstring and gastrocnemius. After I finished my session, I ran a further cool-down lap at a lower intensity (not included in the data - total distance ran = 2000m)) to help reduce the time to repay my oxygen debt. However I felt that my gastrocnemius was beginning to tighten therefore next session I will focus more on stretching my gastrocnemius and do some ankle mobility exercises before starting.</p>	<p>Prior to this session, I warmed up by doing a warm up lap and some stretching. During my last session my gastrocnemius began to tighten near the end of my session, therefore I also did ankle mobility exercises. With the ankle mobility exercises, I was able to comfortably complete 6 laps of the track at a consistent pace. However I felt as though my pace of 3.30/km was not in my 80-90% threshold. Therefore, I increased my pace for the final laps. With the use of a water bottle, I was able to sip on cold water between laps, which ensured that I was hydrated and ready to run more. As I felt comfortable running 6x400m with a fast pace, I will continue to progressively overload, and I will increase the number of laps run by 1 as in this session my rate of perceived exhaustion was a 5 as it was moderately challenging. Also in my session, With my increase in pace for the final few laps, it shows I have increased my cardiovascular endurance. For the next session I will also implement hamstring stretching after the session to allow for me to drop my heartrate at a steady rate.</p>	<p>In this session of interval training I started too slowly which was reflected in my heart rate being at the mid-range of my aerobic training zone (145-150 bpm) so I knew I had to increase my speed/intensity of the final laps, shown in the change in km split times from 3.51 to 3.37 per km. This shows that I am able to add additional laps next session to ensure progressive overload is maintained. It also shows an improvement from my first interval training session in terms of average speed, as it is over a longer distance. Before the session I did a pulse raiser in the form of some strides by doing 4x60m with a 90s recovery which helped raise my heart rate and allowed me to focus on my running tempo/cadence. I also focused on dynamic stretching of the leg muscles (Gluteals, Quadriceps, Hamstrings, Gastrocnemius). After I finished my 7x400m session, I did cool-down stretching focusing on my hamstring as it felt tight. Next session I will aim to increase the total distance I run while also aiming to decrease my resting time to 50 seconds. This will help maintain progressive overload. In my next session I will do an extra warm up lap for my next session to get prepared for my session.</p>
Amendments	<ul style="list-style-type: none"> ● Increase number of laps by 1 ● Perform more stretching exercises (ankle mobility) ● Ensure I have a water bottle 	<ul style="list-style-type: none"> ● Increase number of laps by 1 	<ul style="list-style-type: none"> ● Increase number of laps by 3 ● Perform more hamstring stretching exercises ● Maintain rest period at 60s ● Increased warm up lap by 1

Laps	Session 4 10 x 400m (Strava)	Session 5 10 x 400m (Strava)	Session 6 10 x 400m (Strava)
	<p>10 x 400m intervals on 60s rest</p> <p>Distance: 4.00 km Pace: 3:44 /km Time: 14m 55s</p> 	<p>Afternoon 10 x 400m intervals</p> <p>That was tough today!</p> <p>Distance: 4.00 km Pace: 3:38 /km Achievements: 1</p> <p>You're the Local Legend on New 3 loops (1km) SHR Most segment efforts in the last 90 days</p> 	<p>Distance: 4.08 km Pace: 3:38 /km Achievements: 2</p> <p>You're the Local Legend on Shrews Loop Most segment efforts in the last 90 days</p> 
Total Distance	4.00km / 14mins 55s	4.00km / 14mins 28s	4.08km / 14mins 33s
Average Speed	3.44 / km	3.38 / km	3.38 / km
1km split	3.39 / km	3.39 / km	3.40 / km
2km split	3.39 / km	3.38 / km	3.37 / km
3km split	3.50 / km	3.36 / km	3.34 / km
4km split	3.44 / km	3.37 / km	3.39 / km
	<p>In this session I felt really good with my warmup and I felt ready for my session after performing a slow lap as a pulse raiser, a few shorter 80% 40m sprints and a series of dynamic stretches. The data shows I had an average pace of 3:44/km which is better than my last session. Also by increasing the amount of sets (by 3) it implements progressive overload into my training. I started probably a bit too quickly and by the 3km my pace had dropped from 3.39 to 3.50 per km which showed I was fatiguing. However, a final push so my final laps ran at 3.44 per km pace which I am really pleased with, showing only a slight decrease from my first 2 km split times, highlighting my improved endurance.</p>	<p>Local legend status!</p> <p>Strava has awarded me their local legend status due to running the most number of laps/segments over the last 90 days! My times for each split were very consistent and 6 seconds quicker overall across the 10 laps which is really pleasing and showing I am undergoing adaptations to my cardiovascular and muscular system, meaning I can maintain a faster pace, for longer across the 10 laps. Over the final kilometre there is only a 2 second difference between the first and last, showing good endurance and little if any fatigue. Strava is really helping me to remain motivated and provides accurate data using wearable technology to provide me with evidence of my training intensities.</p>	<p>Local legend status!</p> <p>In this session, I maintained a consistent pace throughout my 10 laps. This shows that I have gone through adaptations to my cardiovascular and muscle systems. My times for each km split were very consistent with only 1 second separating my first and final lap pace. This shows that I am fatiguing less and that I have achieved my goal of wanting to improve my cardiovascular endurance. Due to the fact that I was no longer fatiguing as much, it enabled me to do 2 cool-down laps at 4.00 / km. This was very helpful as it slowly lowered my heart rate and because of these cool-down laps, I was able to recover faster.</p>
Amendments	<ul style="list-style-type: none"> No increase in laps Maintain rest period of 60s Try to maintain consistent pacing 		



Results and Evaluation

	My Target	Target Met
Performance Target	Increased distance covered in competitive games to >6.5km within the 6-week training program	Yes
Performance Target	Increased top speed in a game from 6.1m/s to +7.5 m/s within the 6-weeks training program	Yes
Fitness Target	Increased vertical jump by the end of the 6-week training program from 46 cm to 50 cm	Yes

Week 1 fixture to Week 6 fixture comparison



Week 1	Week 6
Summary - Total distance = 5.31km Top speed = 7.17m/s Sprint distance = 171.64m	Total Distance across 2 fixtures = 10.53km Top Speed = 8.08ms Sprint distance = 781.66m Accelerations = 85 Decelerations = 120

Fitness Test	Pre-PEP Score	Post PEP Score	Pre-PEP Rating	Post PEP Rating
Multi Stage Fitness or Bleep Test	10.3	11.6	Good	Very Good
12min Cooper Run	2580m 	2970m 	Above Average	Excellent
Hand Grip Dynamometer	42kg	52kg	Below Average	Average
Vertical Jump	46cm	52cm	Average	Above Average
Illinois Agility Run	17.83s	16.15s	Average	Above Average
30m Sprint	4.80s	4.23s	Poor	Above Average
1min Press-Up test	35	48	Above Average	Good

My PEP has been successful as I have achieved my S.M.A.R.T targets and my performance data has significantly improved over 6 weeks. My distance covered in a game **increased from 3.88km to 7.86km** by week 4, and my top speed has **increased by 1.98m/s to 8.08m/s** by week 6, therefore achieving both of my performance S.M.A.R.T targets. Due to my increase in speed (**0.67s improvement in 30m sprint test**) and distance covered, it suggests that I have undergone positive adaptations to my cardiovascular and muscular systems, which is also seen in my 12 minute Cooper run increasing by 390 metres. I improved my power and strength, (**6cm increase in vertical jump and 10 kg increase on the handgrip dynamometer**) and total load lifted (kg) in training, which is seen by my increase in weight for several of my strength exercises. This helped me to improve my **30m sprint time by 11.9%**. These improvements will aid the performance of many actions during a game and prove my choice of training was correct.

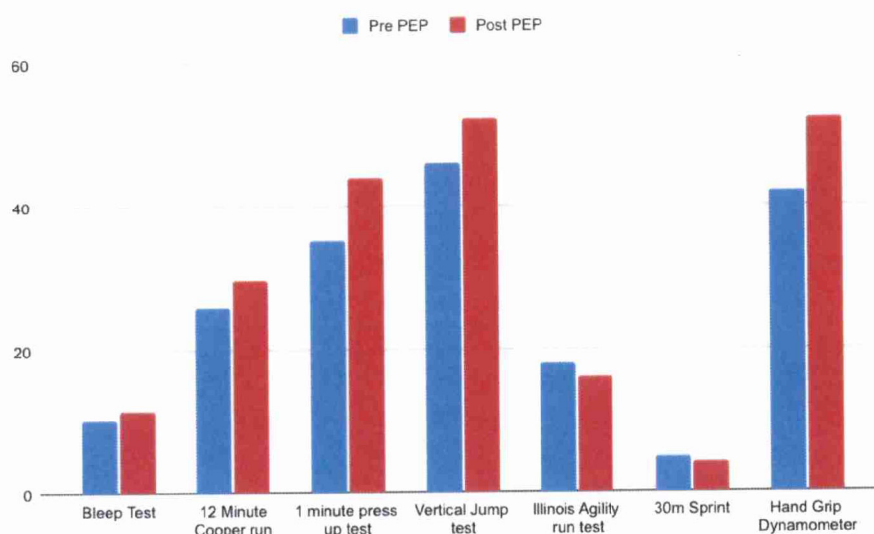
Adaptations in my muscular and cardiovascular systems are proven by my GPS data, showing **I am covering more distance on the pitch, making more sprints and**

at a faster rate and sprinting further (266m in week 5 compared to 57m in week 1). This can be attributed to cardiac hypertrophy occurring, increasing stroke volume and increasing my aerobic capacity.

My training was effective due to correctly applying the principles of training by increasing the intensity of the sessions (kg lifted or running speed increasing) when appropriate and ensuring I was in the correct training threshold by using the RPE scale.

These adaptations benefit performance as I now cover more areas of the pitch and attack with more speed. This ensures that I am more involved with all aspects of the game. After my 6 week training period, I now contribute to more attacking scenarios, such as shots on target and assists, defensive tackles and recoveries and can sustain a more aggressive press.

By applying progressive overload via the F.I.T.T principle, it has brought about **positive adaptations such as increased red blood cells, capillarisation, hypertrophy of fast twitch muscle fibres (Type IIa and Type IIb)** and also an



increased stroke volume which accounts for my improvements in my data and fitness test results.

Improvements in my hand-grip dynamometer score, highlight the effectiveness

of the strength exercises chosen and the correct application of the principles of training.

With improvements seen in strength and power after only 6 weeks, it shows how continuing this program, whilst maintaining progressive overload, will continue to bring about adaptations and continue to improve my overall performance in football. I also believe I benefitted psychologically, such as improved confidence and

resilience. Being physically better, I approach matches with greater confidence and determination, leading to improved performance. (488)

Future Recommendations

Adding additional exercises focusing on my leg muscles, (quadriceps/hamstrings) such as Bulgarian split squats or calf raises, may result in further improvements to performance over exercises such as the push-ups which I found limited. Adapting my program with additional exercises or drills to mimic the demands of football, such as agility runs and strides, additional plyometric jumps and functional movements could further improve my performance on the field and further strengthen muscles around my knees, ankles, and hips, possibly leading to fewer injuries and performance benefits. Adding plyometrics, as I get older, will develop my explosiveness further by improving the speed and force of contraction in fast twitch muscle groups, improving power actions (sprinting/kicking/jumping).

In addition I would also include more eccentric exercises to further develop hypertrophy such as medball hamstring rollouts which places greater load on muscles as they lengthen under tension, making it more challenging. (150)

Appendix 1 - PARQ

Personal Details

Title	Forename	Surname	
Date of Birth	Age / $\frac{\text{S}}$	Male/Female	*delete as appropriate
Address			
Town	County	Postcode	
Email			
Tel Home		Tel Mobile	
Emergency Contact	Tel		

Medical Questions

Answer the following questions as honestly as you can and provide as much relevant additional information. Answer the following questions by placing a tick in either the **Yes** or **No** boxes (if you should answer **Yes** to any of the questions please provide further information in the space provided)

Do you currently or have you ever suffered from any of the following conditions?

- | | | |
|--|---|--|
| 1) Heart problems? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | If yes , please provide details below |
| 2) Circulatory problems? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| 3) Blood pressure problems? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| 4) Joint, movement problems? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| 5) Feel dizzy or imbalance during exercise? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| 6) Currently pregnant or recently given birth? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |

Health History

Do you currently receive medical care or do any of the following affect you?

- | | | |
|---|---|--|
| 7) Back/spinal pain? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | If yes , please provide details below |
| 8) Headaches or migraines? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| 9) Have you recently had surgery? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| 10) Currently being prescribed medication? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| 11) Recently finished a course of medication? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| 12) Diabetes? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| 13) Asthma or breathing problems? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |

Is there is any other reason that you believe may prevent you from taking part in any regular activity?

Declaration

I have answered all question in this form honestly and I am aware that if I have answered **yes** to any of the questions I will need to consult my GP before commencing an exercise program if I am affected by any of the questions mentioned in this form or at a later date I agree to inform my personal trainer or instructor on any changes in health or fitness.

Signed:	Print Name:	Date:
Instructor:	Print Name:	Date: __/__/20__

Appendix 2 - Fitness Tests Results

Bleep Test - Cardiovascular Endurance

Gender	Excellent	Very Good	Good	Average	Fair	Poor
Male	13.7	11.4	9.10	8.3	6.9	<5.1
My Score			10.3			
Post PEP		11.6				

12min Cooper run - Cardiovascular Endurance Normative Data for 15-16 year olds PE Book (brianmac.co.uk)

Gender	Excellent	Above average	Average	Below average	Poor
Male	>2800	2500-2800	2300-2499	2200-2399	<2200
My Score		2580m			
Post PEP	2970m				

One-minute Press-up Test – Muscular Endurance Normative Data for 17-19 year olds PE Book (Golding, L.A. et al, The Y's Way to Physical Fitness, 3rd Edition, 1986)

Gender	Excellent	Good	Above Average	Average	Below Average	Poor	Very Poor
Male	>56	47-56	35-46	19-34	11-18	4-10	<4
My Score			35				
Post PEP			44				

Vertical Jump Test (cm) - Power - Normative Data for 16-19 year olds. PE Book (Davis, B. et al, Physical Education and the Study of Sport, 4th edition, Harcourt, 2000)

Gender	Excellent	Above average	Average	Below average	Poor
Male	>65cm	50-65cm	40-49cm	30-39cm	<30cm
My Score			46cm		
Post PEP		52cm			

Illinois Agility Test - Agility - Normative Data for 16-19 year olds - Pe book - (Davis, B, et al, Physical Education and the Study of Sport, 4th Edition, Harcourt, 2000)

Gender	Excellent	Above average	Average	Below average	Poor
Male	<15.2	16.1 - 15.2	18.1 - 16.2	18.3 - 18.2	>18.3
My Score			17.83s		
Post PEP		16.05s			

30m Sprint Test (s) - Speed - Normative Data for 16-19 year olds - PE book - (Davis, B, et al, Physical Education and the Study of Sport, 4th Edition, Harcourt, 2000)

Gender	Excellent	Above average	Average	Below average	Poor
Male	< 4	4.2-4	4.4-4.3	4.6-4.5	> 4.6
My Score					4.80s
Post PEP		4.23s			

Hand-Grip Dynamometer Test (kg) - Strength. Normative Data for 16-19 year olds, PE Book (Davis, B, et al, Physical Education and the Study of Sport, 4th Edition, Harcourt, 2000)

Gender	Excellent	Above average	Average	Below average	Poor
Male	>56	51-56	45-50	39-44	<39
My Score				42kg	
Post PEP		52kg			


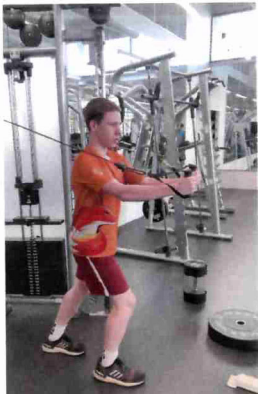

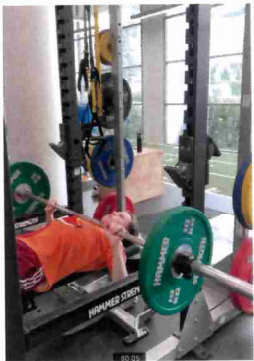




Appendix 3 - Muscle Groups in my specified sport









Muscle	Action	Importance in Football
Gluteals	Hip extension	Strengthening my gluteals will help improve my acceleration and jumping ability during a game as they provide explosiveness during hip extension.
Hamstrings	Knee flexion	Stabilises the knee and is important in the sprinting action when both accelerating and decelerating and preparation phase of the kicking action
Quadriceps	Knee extension	Strengthening my Quadriceps will help improve my shot power, as extending the knee with more force helps to generate more power in the kicking action.
Tibialis Anterior	Dorsiflex the Ankle	Strengthening my Tibialis anterior, will help me to improve my speed and acceleration and deceleration in the sprinting action.
Gastrocnemius	Plantarflexion at the ankle	This is important in the kicking action, as plantarflexing the ankle provides a better foot placement when striking a football, which helps generate more power behind your shot
Hip Flexors	Hip flexion	The hip flexors contribute to explosive movements such as sprinting and accelerating from a stationary position during a game. The hip flexors driving the knee upwards in the running action
Pectorals	Shoulder adduction	Play a role in improving overall upper body strength which would be required when shielding the ball from opponents and in physical duels

Appendix 4 - Training Programme

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	Football Training	5x400m Interval running on 60s rest	Rest Day	Football Training	Strength Training	Rest Day	Strength Training
2	Football Training	6x400m Interval running on 60s rest	Rest Day	Football Training	Strength Training	Rest Day	Strength Training
3	Football Training	7x400m interval running on 60s rest	Rest Day	Football Training	Strength Training	Rest Day	Strength Training
4	Football Training	10x400 interval running on 60s rest	Rest Day	Football Training	Strength Training	Rest Day	Strength Training
5	Football Training	10x400 interval running on 60s rest	Rest Day	Football Training	Strength Training	Rest Day	Strength Training
6	Football Training	10x400 interval running on 60s rest	Rest Day	Football Training	Strength Training	Rest Day	Strength Training
7	Fitness Test - Re-testing						
	<p>Each football session usually involves a 4 part structure, firstly a warm up lasting between 15-20 minutes, including light pulse raising exercises and/or dynamic stretching movements to increase heart rate and prepare my muscles for activity. This is followed by the technical skills section involving activities such as individual ball mastery or passing drills. We then do some tactical training lasting 25-35 minutes in small sided games focusing on maintaining possession, patterns of play or defensive shape. We usually end with a full 7v7 or 9v9 game involving a conditioning/fitness element such as the 'multi-ball system' where there are no stoppages in play due to the ball being immediately rolled in all the time. This is often done in 4 to 6 minute intervals.</p>						

Appendix 5 - Choice of exercises

Exercise	Preparation	Execution	Description	Muscles Involved
Cable flies			Grip the cable handles and bring both arms down in front of your body while keeping your elbows extended. Use your chest muscles to bring your arms forward to the midline of your chest while keeping your arms slightly bent. Let your arms slowly return back to the starting point of the exercise while controlling the weight.	Pectorals
Olympic Bar Bench press			Lie back flat on a bench holding a barbell in the rack above. Holding a shoulder width grip. Contract your glutes and quads while driving your feet into the floor. Slowly lower the bar toward the chest. Then push the bar back up through extending the elbows.	Pectorals, Triceps
Plyometric Box Jump			Set the box down in front of you with a shoulder width stance, flex your knees by lowering your body to prepare to jump. Quickly extend your knees to jump on top of the box, landing with feet shoulder width apart.	Quadriceps, Hamstrings, gastrocnemius, Tibialis anterior
Leg Press			Sit in front of the machine and place your legs on the platform. Push the platform forward and unlock the weight and lower your knees towards your chest. Push through the platform with both feet to raise the weight by extending your knees.	Quads, Glutes, Hamstrings

Dumbbell Shoulder press			Sit on a bench upright and place the dumbbells near your shoulders. Push the dumbbell above your head until your arms are straight and then slowly return with the weights near your shoulders.	Triceps, Deltoids,
Banded Bodyweight pull ups			Place both hands on the pull up bar. Hang for a few seconds to elongate your body. Then bring your chin above the bar by flexing your elbows. Then slowly lower your body making your body straight in order to complete the next rep.	Latissimus Dorsi, Biceps, Triceps
Push Ups			Get down on all fours and place your hands just over shoulder-width apart and straighten your arms and legs. Once in position lower your body till your chest nearly touches the floor. Then push your body back up ready for the next repetition.	Triceps, Pectorals, Deltoids
Romanian Deadlift			When performing a Romanian deadlift, you will need a barbell and you should stand with your feet hip distance apart and have a slight bend in your knees. Lower your body by flexing your knees and keeping your back straight. Grip the bar and lift the bar whilst driving your feet into the ground. Lift the bar towards your upper Quadriceps. Then lower the weight to the ground whilst maintaining the straight back throughout the exercise.	Glutes, Hamstrings, Abdominals

Appendix - 6 RPE chart scale to monitor intensity of training sessions

RPE SCALE	RATE OF PERCEIVED EXERTION
10 /	MAX EFFORT ACTIVITY Feels almost impossible to keep going. Completely out of breath, unable to talk. Cannot maintain for more than a very short time
9 /	VERY HARD ACTIVITY Very difficult to maintain exercise intensity. Can barely breathe and speak only a few words
7-8 /	VIGOROUS ACTIVITY Borderline uncomfortable. Short of breath, can speak a sentence
4-6 /	MODERATE ACTIVITY Breathing heavily, can hold a short conversation. Still somewhat comfortable, but becoming noticeably more challenging
2-3 /	LIGHT ACTIVITY Feels like you can maintain for hours. Easy to breathe and carry a conversation
1 /	VERY LIGHT ACTIVITY Hardly any exertion, but more than sleeping, watching TV, etc

Appendix 7 - GPS Data - In Season fixtures

Week 1 - U19 v's Harrow, Bangkok



Summary - Total distance = 5.31km / Sprint distance = 171.64m / Top speed = 7.17m/s

The GPS data gives me a great insight into physical aspects of my performance during a game. This data through a pod in my vest shows my distance covered, speed, acceleration, deceleration, high-intensity efforts, and positional heat maps. By analysing this data I can evaluate my personal metrics and movement patterns, alongside workload distribution in each half during matches. Today's data showed a reduction in total sprint distance although I covered more distance overall, making 41 individual accelerations,

Week 2 - U19 v's ISB



Summary - Total distance = 5.54km / Sprint distance = 38.26m / Top speed = 5.38m/s

Although my total distance has increased which is pleasing, my high intensity metrics have decreased with a reduction in my sprinting distance and top speed. This could be due to the difference in level of both teams as we won comfortably (4-0) and as a defensively minded midfielder I was very rarely required to sprint at high speed in defensive situations. As can be seen in my heat map, my position was much more advanced than last weeks game and I spent much more time in the opponents half trying to dictate play and find openings.

Week 3 - U19 v's BPS



Summary - Total distance = 5.67km / Sprint distance = 387.44m / Top speed = 7.39m/s

All of my stats increased so I was very pleased with my game. My high intensity metrics have increased from my previous week in all aspects. This could have been due to the fact that the game was harder and more competitive. This is evident in the fact that we drew with the opposing team 2-2 and as a defensive midfielder it was very challenging and was often required to be on the ball and as seen by the heat map, I was required to make various high intensity sprints across the entire game.

Week 4 - U19's v BKKPREP



Summary - Total distance = 7.86km / Sprint distance = 189.56m / Top speed = 7.06m/s

I was very pleased with my total distance, as it was over a 2km increase from my previous weeks. However I was not so pleased with my sprint distance as it was less than my previous weeks. Although this could have been evident through our 3-1 win, and as a defensive midfielder I felt as though I was very rarely required to make a lot of sprints compared to last week. This is seen through my percentage of playing in the middle of the pitch as I spent 48% of the time in the middle third of the field.

Week 5 - U19's v BISP



Summary - Total distance = 8.59km / Sprint distance = 266.39m / Top speed = 7.06m/s

I was pleased with my performance as I ran a higher total distance whilst also increasing my sprint distance. This could mean that I have undergone positive adaptations in my cardiovascular fitness. I have also been feeling less fatigued after games. In this game I was on the ball a lot and I created a lot of opportunities for my team as I assisted both goals in our 2-1 win. I also was on the ball in a lot of the areas on the pitch which is evident through my 53% of the game spent in the middle of the field.

Week 6 - BISA finals (2 x fixtures)



Summary - Total distance = 10.53km / Sprint distance = 781.66m / Top speed = 8.08m/s

At a weekend tournament for the u19 varsity squad I met and achieved both my performance targets, greatly exceeding my top speed in m/s and running a total of 10.53km combined in both fixtures which was really pleasing and showed that my match metrics are reaping the rewards of my training programme. I am feeling less fatigue, running further, covering more of the pitch (shown in the heat map) and achieving greater sprint distances, showing my speed endurance is also better, probably as a result of my interval training on the track. This improvement is also noted by my coach who has praised my performances on the pitch and has used me as an example to others regarding work rate, something that did not happen previously.

Appendix 8 - Benchmark Data

Position	Average Distance Covered (KM)
Goalkeeper	4.3
Central Defenders	9.4
Full-Backs	10.5
Central Midfielders	11.2
Wingers	10.1
Strikers	9.5

ref: <https://sqaf.club/how-far-do-football-players-run-in-a-game/>

Appendix 9 - SMART Targets

	SMART Target	Specific	Measurable	Achievable Agreed	Realistic	Time
Performance	Increased distance covered in competitive games to >6.5km within the 6-week training program	Improving CV fitness, speed and strength will have a positive effect on my performance in the CDM role. Targets have been devised to be specific to my general aim and each exercise was selected to focus on muscle groups specific to my football performance	I will use the Playrtek GPS pods/vests to monitor distance covered in my matches.	This is a recognised data statistic that can be measured in line with other players	Applying the correct principles of training and working at the relevant training thresholds and RPE's I can achieve these realistic targets by the end of the 6 week training period as they are minor/marginal improvements	My targets are set over a 6 week period. I will undergo regular testing in the gym (CMJ for example) followed by a repeat of the same fitness tests completed at the start of the PEP after the 6 week program to assess if I have met these targets
Performance	Increased top speed in a game from 6.1m/s to +7.5 m/s within the 6-weeks training program		The Playrtek pod measures the top speed achieved and is an accurate piece of technology used in elite football so can be easily compared to assess if targets have been achieved	My speed has been highlighted as an area of concern by the school coaches as a focus for me to improve		
Fitness	Increased vertical jump by the end of the 6-week training program from 46 cm to 50 cm					

References

Premier League running data -

<https://sqaf.club/how-far-do-football-players-run-in-a-game>

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