

Personal Exercise Program

Rugby Rehab

Word Count: 1351

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Aim

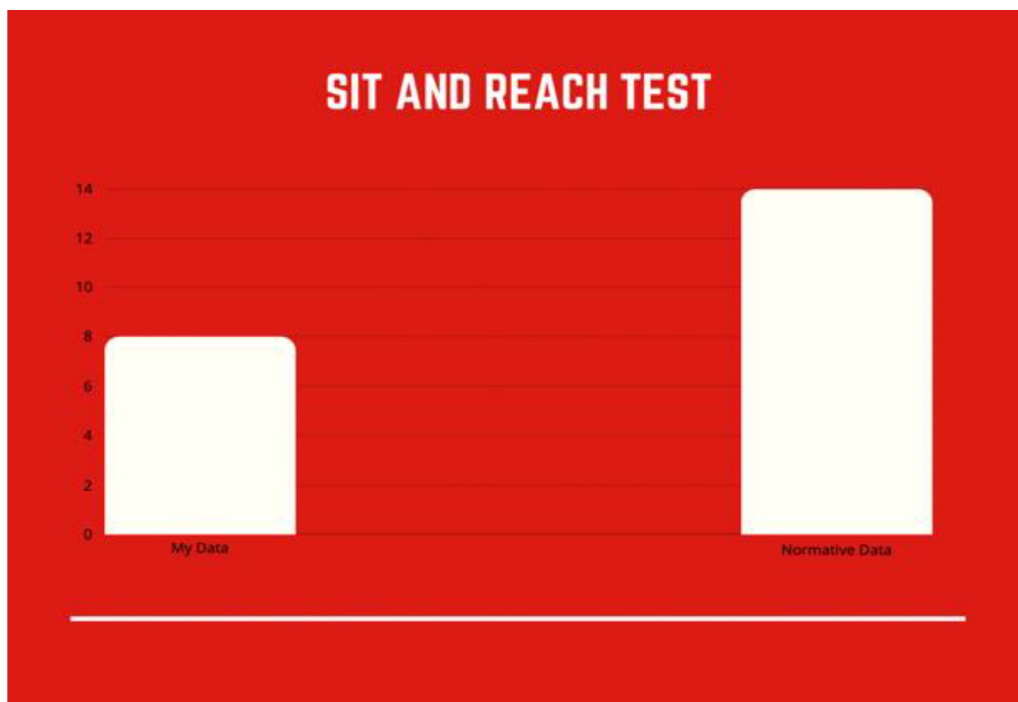
By the end of the six-week training programme, I want to improve the range of motion and strength in my knee which help me in being able to lift a prop in a line out.

PAR-Q

Before I made my PEP, I did a PAR-Q and in the PAR-Q it showed that I could complete my exercise program without any problem. And can progressive overload safely to get my knee back to normal.

Fitness testing

I did a Series of fitness tests out of these tests my strong point was power which I got excellent according to the normative data for my age and my weak points were flexibility because of my acl and meniscus tear. To improve this, I have worked on my flexibility and balance in this pep to prevent injuries from happening again.



Pre-PEP heart rate values

I am recording my heart rate over my PEP so that I know I am working during my anaerobic training and that I am making progress. If my heart rate declines that means I am working in my anaerobic training zone.

	1 st time	2 nd time
Result	4.5cm	8cm

Component of fitness

Power is very important in rugby it is used in scrums, rucks, and lineouts. For example, you need power to push in the scrums, you need power to lift the players higher in the lineouts and in the rucks to drive the opposition out and win the ball the more power you have the harder and easier you can win the ball.

Methods of training

My method of choice is rehab since I tore my acl and meniscus playing rugby and am out for the whole season, doing rehab would help get back to rugby faster and help me come back stronger and heal the knee while strengthening it. This would prevent future injuries to the same knee and would support me to play rugby at the same high level at the same pace as other players and help me play at the same pace as the top players like before my injuries. This would also remove my fear of playing rugby again and injuring myself again which improves my confidence.

Pre-pep Heart Values

Resting heart rate	Working heart rate	Immediate post exercise
67bpm	152bpm	146bpm

Smart Targets

1. To increase my range of motion of bending by knee to the perfect angle in a period of six weeks.
2. To successfully lift a 100kg prop over my head 10 times in a 6-week period.

Component of fitness

Power is very important in rugby it is used in scrums, rucks and lineouts. For example, you need power to push in the scrums, you need power to lift the players higher in the lineouts and in the rucks to drive the opposition out and win the ball the more power you have the harder and easier you can win the ball.

Principles of training

The following principles of training will help me design my session effectively:

Progressive overload: every session I will increase the number of reps to make the workouts harder and more challenging so I can progress in my chose component of fitness.

Rest and recovery: Each week I will complete 3-4 sessions to give time for my body to rest and recover.

Specify: every session would adapt for me to increase my power and oversell improve my range of motion as it is very important for me to get back to rugby.

Reversibility: I will continue to do the program and use progressive overload to increase my performance in rehab.

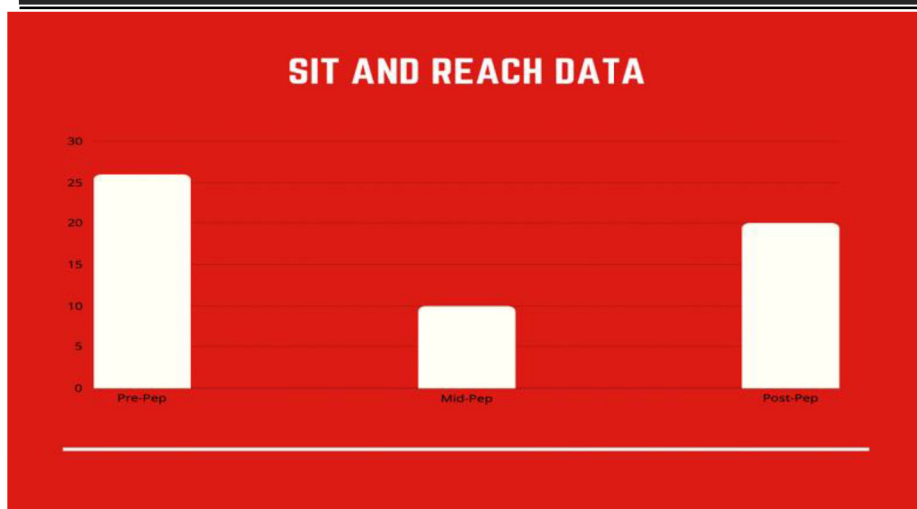
Aerobic= 132 bpm

Anaerobic= 190 bpm

During my training zone I am using anaerobic energy and would like to stay within 190 bpm.

Evaluation

<u>Time</u>	<u>Result(degrees)</u>	<u>Rating</u>
Pre-Pep	174	Poor
Mid-Pep	178	Average
Post-Pep	179	Above Average



As you can see from the graph my component of fitness which is flexibility improved and my range of motion also improved which shows that my rehab is going well, and the progressive overload is working, and I should be able to play rugby at the same level again. Over the course of three sessions, I have seen a significant improvement in my range of motion for my knee. Prior to starting these sessions, I struggled with limited mobility and discomfort, which greatly affected my daily activities.

During the first measurement, my physical therapist conducted a thorough assessment of my knee and identified specific areas of concern which was a torn acl and meniscus which I got surgery for. They explained the importance of gentle exercises and stretches to gradually increase my range of motion without causing any further strain or injury. With their guidance, I performed various movements and stretches that targeted the muscles and ligaments around my knee joint such as knee raises and learning how to walk properly.

By the second measurement, I already noticed improvement. The exercises and stretches prescribed by my physical therapist became slightly easier, as my knee adapted to the movements. I still experienced some discomfort, but it was manageable and decreased significantly compared to before the sessions began. The physical therapist also introduced additional exercises to strengthen the muscles supporting my knee, which would further contribute to improved range of motion.

In the final measurement, I could confidently say that my efforts have paid off and my range of motion reached 179 degrees from a 174 which is a 5-degree improvement.

	Week1 Session 1	Week1 Session 2	Week 2 Session 1	Week 2 Session 2	Week 3 Session 1	Week 3 Session 2
Resting heart rate	63bpm	63bpm	60bpm	66bpm	62bpm	60bpm
Working heart rate	148bpm	142bpm	132bpm	134bpm	130bpm	128bpm

Method of training

Movement training was the most suitable method of training as it helped me develop my range of motion compared to such as continuous and fartlek, which would have focused on my range of motion and flexibility. This means I am able to reach full extension on my knee and achieve full range of motion. And start running and start doing simple leg exercises again such as squats and leg curls. In session 6 I reached my anaerobic threshold and was able to exercise for longer periods and more intensely and staying within my anaerobic threshold. Pre-pep I reached 174 degrees and now I reached 179 degrees which shows an improvement.

PEP Performance data

	<u>Pre</u>	<u>2nd Session</u>	<u>3rd Session</u>	<u>Post</u>
<u>Angle of extension</u>	8 degrees	7 degrees	6 degrees	5 degrees
<u>Angle of Flexion</u>	116 degrees	124 degrees	130 degrees	136 degrees

Smart targets

I did not reach my smart target as I did not achieve full range of motion, which is 180 degrees, I reached 179 degrees which is 1 degree off, and it kept me in the normative data of below average. This may have been caused by the lack of sessions I was doing, and my muscles were not getting pushed to their limits and improving their range of motion.

Principles

The training sessions were suited for my specific type of training which was rehab and physiotherapy. The number of weights increased each session to progressively overload the muscles and get them stronger however after finishing my training plan my knee is used to the exercises and isn't progressing anymore. So, I changed my training program implementing hamstring curls and static quad holds. But made sure I was not putting more strain on my knee and injuring it further and still made sure my leg was getting stronger.

Recommendations

After completing my 4-week training plan following a torn ACL, I have seen progress in both my physical strength and overall rehabilitation.

One of my main goals moving forward is to regain full range of motion in my injured knee. Although I have made significant improvements during the past 4 weeks, there is still some tightness and limited flexibility. To achieve this, I plan to incorporate more stretching and mobility exercises into my program.

In addition to regaining range of motion, I am determined to rebuild the strength in my injured leg. I will focus on implementing strength training exercises that target these specific muscles such as squats, lunges, and leg presses. I will gradually increase the weight and resistance as my strength improves.

As my physical strength and range of motion continue to improve, I will gradually reintroduce sports-specific activities into my training. This will involve more dynamic movements such as lateral movements, agility drills, and plyometrics. I will start with low-intensity drills and gradually increase the complexity and intensity.

In summary, I am thrilled with the progress I have made after completing my 4-week training plan following a torn ACL. My next targets include regaining full range of motion, rebuilding strength, and reintroducing sports-specific activities.

Appendix

Appendix 1

Physical Activity Readiness Questionnaire (PAR-Q)

Name: _____ Date of Birth: _____

Before you start any training programme, you need to assess your readiness for training - this is the same for the PEP. The completion of a PAR-Q is the first step to take if you are planning on increasing your amount of physical activity.

You should read each question carefully and check YES or NO. If yes, please provide an explanation.

Question	YES	NO
1. Has your doctor ever diagnosed you with heart trouble? If yes, please explain:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Do you frequently have pains in your heart and chest? If yes, please explain:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Do you often feel faint or have spells of severe dizziness? If yes, please explain:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Has a doctor ever diagnosed you with high blood pressure? If yes, please explain:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Has a doctor ever told you that you have a bone or joint problem (such as arthritis) that has been made worse with exercise? If yes, please explain:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Is there a reason why you should not follow an activity programme? If yes, please explain:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Do you suffer from any problems in your lower back? If yes, please explain:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Are you currently taking any medication? If yes, please explain:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Do you currently have a disability? If yes, please explain:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Has a doctor or medical professional ever advised you to stop taking part in physical activity? If yes, please explain:	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If you answered NO to all the questions, it gives a general indication that you may participate in exercise without restrictions. If you answered YES to any of the questions, please speak with a qualified person before taking part in physical fitness activities.

Print name: _____ Date of birth: _____

Signature: _____ Date: _____

Appendix 2

Pre-PEP Fitness Test Results

Test:	Components of fitness	Score	Normative rating
Wall ball	Skill-coordination	60	Excellent
Wall sit R/L	Health-muscular endurance	1 minute 45 sec/ 1 minute 7 sec	Above average
Sit and Reach	Health-flexion	30cm	Excellent
Ruler drop test	Skill-reaction	6	Excellent
Wall jump	Health-muscular power	56	Excellent

Stork R/L		Skill- balance	22 sec/ 13 sec	Above average
30 meter acceleration		Skill- speed	3.90 sec	Excellent
12 min cooper run	Skill agility	2928 m	Excellent	

Appendix 3

Session: 1	Date: 09/10/23	Method of Training: Plyometrics
Aim: To improve power		Activity/Sport: Rugby
Warm-up: Pulse raise- 3 minute jog High knees Side steps Dynamic stretches: Walking lunges Same walking squats Static stretches: Side lunges Ankle rotation Standing quadricep stretch Overhead triceps stretch		Session Plan: Jump squat 4x6 Split squat jump 4x8 Jump lunge 4x6 Tuck jump 4x10 Box jump 3x10 Broad Jump 4x8
Cool-Down: 1 minute jog-off Reclining butterfly Lying crossovers Cross over rotation Lunges with elbow to floor		

Pre-exercise heart rate:	Working heart rate:	Immediate post-exercise heart rate:
<u>64</u>	<u>102</u>	<u>148</u>

Recovery heart rate at the following intervals:	1 minute:	2 minutes:	3 minutes:	4 minutes:	5 minutes:

Evaluation: The training plan was good because I stayed in my aerobic training zone and increased my range of movement.

Session: 2	Date: 09/10/23	Method of Training: Plyometrics
Aim: To improve power	Activity/Sport: Rugby	
Warm-up: Pulse raise- 3 minute jog High knees Side steps Dynamic stretches: Walking lunges Same walking squats Static stretches: Side lunges Ankle rotation Standing quadricep stretch Overhead triceps stretch	Session Plan: LONG SITTING TOWEL CALF STRETCH 3x10 SUPINE HAMSTRING STRETCH 3x10 QUAD SETS 3x8 ANKLE PUMPS 4x12 HEEL SLIDES 3x10 PRONE HIP EXTENSION 3x8 b	
Cool-Down: 1 minute jog-off Reclining butterfly Lying crossovers Cross over rotation Lunges with elbow to floor		

Pre-exercise heart rate:	Working heart rate:	Immediate post-exercise heart rate:
<u>63</u>	<u>92</u>	<u>144</u>

Recovery heart rate at the following intervals:	1 minute:	2 minutes:	3 minutes:	4 minutes:	5 minutes:

Evaluation: The training plan was good because I stayed in my aerobic training zone and increased my range of movement.
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Session: 3	Date: 09/10/23	Method of Training: Plyometrics
Aim: To improve power	Activity/Sport: Rugby	
Warm-up: Pulse raise- 3 minute jog High knees Side steps Dynamic stretches:	Session Plan:	

Walking lunges Same walking squats Static stretches: Side lunges Ankle rotation Standing quadricep stretch Overhead triceps stretch	LONG SITTING TOWEL CALF STRETCH 3x10 SUPINE HAMSTRING STRETCH 3x10 QUAD SETS 3x8 ANKLE PUMPS 4x12 HEEL SLIDES 3x10 PRONE HIP EXTENSION 3x8
Cool-Down: 1 minute jog-off Reclining butterfly Lying crossovers Cross over rotation Lunges with elbow to floor	b

Pre-exercise heart rate:	Working heart rate:	Immediate post-exercise heart rate:
<u>60</u>	<u>132</u>	<u>146</u>

Recovery heart rate at the following intervals:	1 minute:	2 minutes:	3minutes:	4 minutes:	5 minutes:

Evaluation: The training plan was good because I stayed in my aerobic training zone and increased my range of movement.
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Session: 4	Date: 09/10/23	Method of Training: Plyometrics
Aim: To improve power	Activity/Sport: Rugby	
Warm-up: Pulse raise- 3 minute jog High knees Side steps Dynamic stretches: Walking lunges Same walking squats Static stretches: Side lunges Ankle rotation Standing quadricep stretch Overhead triceps stretch	b	Session Plan: LONG SITTING TOWEL CALF STRETCH 3x10 SUPINE HAMSTRING STRETCH 3x10 QUAD SETS 3x8 ANKLE PUMPS 4x12 HEEL SLIDES 3x10 PRONE HIP EXTENSION 3x8

Cool-Down: 1 minute jog-off Reclining butterfly Lying crossovers Cross over rotation Lunges with elbow to floor	
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Pre-exercise heart rate:	Working heart rate:	Immediate post-exercise heart rate:
<u>63</u>	<u>86</u>	<u>148</u>

Recovery heart rate at the following intervals:	1 minute:	2 minutes:	3 minutes:	4 minutes:	5 minutes:

Evaluation: The training plan was good because I stayed in my aerobic training zone and increased my range of movement.
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Session: 5	Date: 09/10/23	Method of Training: Plyometrics
Aim: To improve power	Activity/Sport: Rugby	
Warm-up: Pulse raise- 3 minute jog High knees Side steps Dynamic stretches: Walking lunges Same walking squats Static stretches: Side lunges Ankle rotation Standing quadricep stretch Overhead triceps stretch	Session Plan: LONG SITTING TOWEL CALF STRETCH 3x10 SUPINE HAMSTRING STRETCH 3x10 QUAD SETS 3x8 ANKLE PUMPS 4x12 HEEL SLIDES 3x10 PRONE HIP EXTENSION 3x8	
Cool-Down: 1 minute jog-off Reclining butterfly Lying crossovers Cross over rotation Lunges with elbow to floor	b	

Pre-exercise heart rate:	Working heart rate:	Immediate post-exercise heart rate:

<u>64</u>	<u>88</u>	<u>152</u>
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Recovery heart rate at the following intervals:	1 minute:	2 minutes:	3 minutes:	4 minutes:	5 minutes:
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Evaluation: The training plan was good because I stayed in my aerobic training zone and increased my range of movement.

Session: 6	Date: 09/10/23	Method of Training: Plyometrics
Aim: To improve power	Activity/Sport: Rugby	
Warm-up: Pulse raise- 3 minute jog High knees Side steps Dynamic stretches: Walking lunges Same walking squats Static stretches: Side lunges Ankle rotation Standing quadricep stretch Overhead triceps stretch	Session Plan: LONG SITTING TOWEL CALF STRETCH 3x10 SUPINE HAMSTRING STRETCH 3x10 QUAD SETS 3x8 ANKLE PUMPS 4x12 HEEL SLIDES 3x10 PRONE HIP EXTENSION 3x8	
Cool-Down: 1 minute jog-off Reclining butterfly Lying crossovers Cross over rotation Lunges with elbow to floor	b	

Pre-exercise heart rate:	Working heart rate:	Immediate post-exercise heart rate:
<u>60</u>	<u>78</u>	<u>140</u>

Recovery heart rate at the following intervals:	1 minute:	2 minutes:	3 minutes:	4 minutes:	5 minutes:
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Evaluation: The training plan was good because I stayed in my aerobic training zone and increased my range of movement.

Session: 7	Date: 09/10/23	Method of Training: Plyometrics
Aim: To improve power	Activity/Sport: Rugby	
Warm-up: Pulse raise- 3 minute jog High knees Side steps Dynamic stretches: Walking lunges Same walking squats Static stretches: Side lunges Ankle rotation Standing quadricep stretch Overhead triceps stretch	Session Plan: LONG SITTING TOWEL CALF STRETCH 3x10 SUPINE HAMSTRING STRETCH 3x10 QUAD SETS 3x8 ANKLE PUMPS 4x12 HEEL SLIDES 3x10 PRONE HIP EXTENSION 3x8 b	
Cool-Down: 1 minute jog-off Reclining butterfly Lying crossovers Cross over rotation Lunges with elbow to floor		

Pre-exercise heart rate:	Working heart rate:	Immediate post-exercise heart rate:
<u>62</u>	<u>80</u>	<u>136</u>

Recovery heart rate at the following intervals:	1 minute:	2 minutes:	3 minutes:	4 minutes:	5 minutes:

Evaluation: The training plan was good because I stayed in my aerobic training zone and increased my range of movement.

Session: 8	Date: 09/10/23	Method of Training: Plyometrics
Aim: To improve power	Activity/Sport: Rugby	
Warm-up: Pulse raise- 3 minute jog	Session Plan:	

High knees Side steps Dynamic stretches: Walking lunges Same walking squats Static stretches: Side lunges Ankle rotation Standing quadricep stretch Overhead triceps stretch	b	LONG SITTING TOWEL CALF STRETCH 3x10 SUPINE HAMSTRING STRETCH 3x10 QUAD SETS 3x8 ANKLE PUMPS 4x12 HEEL SLIDES 3x10 PRONE HIP EXTENSION 3x8
Cool-Down: 1 minute jog-off Reclining butterfly Lying crossovers Cross over rotation Lunges with elbow to floor		

Pre-exercise heart rate:	Working heart rate:	Immediate post-exercise heart rate:
<u>63</u>	<u>82</u>	<u>136</u>

Recovery heart rate at the following intervals:	1 minute:	2 minutes:	3 minutes:	4 minutes:	5 minutes:

Evaluation: The training plan was good because I stayed in my aerobic training zone and increased my range of movement.

GCSE PE 1PE0/04 – Rugby Rehab PEP Commentary

Strand 1: Interpretation and Analysis of pre-PEP fitness tests and sporting/activity performance.

The candidate offered an aim prior to any interpretation and analysis of data. There was also no introduction to add context. It can be deduced that the candidate has suffered a severe knee injury. They suggest they completed a series of fitness tests but there was no evidence in the write up. These were in the appendix. They presented a sit and reach result in a graph and compared to their score to normative data. On strength and one weakness was stated for their tests. The candidate also alluded to heart rate values; this seemed confused. No performance data was offered.

The work provided in this strand is some attempts and is marked at Level 2: 6 marks

Strand 2: Evaluation and justification for method(s) of training, SMART targets and principles of training.

The candidate has mentioned developing the range of movement I their knee, they also mention balance and then go on to suggest power is important, with good justification for their position in rugby. It was clear that the PEP was about overcoming injury and coming back stronger. The method of training was stated as rehab, however, plyometrics were mentioned in their training record forms.

Two SMART targets were presented one related to the range of movement in their knee and one related to strength/power. There was no suggestion as to how they would apply their SMART targets. Principles of training were stated rather than being applied, there was no evidence of initial training levels except HR data.

The work provided in this strand is some attempts and is marked at Level 2: 8 marks

Strand 3: Fitness test results are compared and interpreted.

The required PARQ was included in the appendix. As this does not count against the word count it could have been placed in the PEP write up. The candidate included eight centre devised training record forms. This amounted to two sessions per week for four weeks. All contained the same date. All evaluations said the same.

A graph was presented to represent the pre, mid and post-PEP sit and reach data. They also presented some performance data in a table. It would have been good to have seen this at the start of the PEP. The data is good and shows improvement in their rehabilitation. Reasons offered were around specific exercises they had been directed towards by a therapist. The candidate compared their sit and reach results. It would have been good to have discussed anatomical reasons for the improvement. A table of HR data was presented without context.

The work provided in this strand is good and is marked at Level 3: 11 marks

Strand 4: Evaluation of the application of the method(s) of training, SMART targets and principles of training with justified future recommendations.

The candidate evaluated one of their SMART targets. The rehab training method of stretches and joint movement with strength exercises applied late had improved the range of movement at the knee and flexibility of muscles. This was an opportunity to add in data from their training sessions to support their statements. Principles of training were evaluated but this was very generic and again, data from sessions would have enhanced the work. Some adaptations made were stated.

Recommendations were appropriate to continue their rehabilitation back to full fitness.

The work provided in this strand is good and is marked at Level 3: 11 marks

Strand 5: Coherence and structure, use of appropriate terminology.

The PEP was within the word count of 1500 words. The PEP included all components; however, the order of presentation could be better to allow it to be more coherent. Overall, it read well but to attain higher marks more detail is required across the strands.

There were some errors. All information including training record forms, should be presented in the main write up as the appendix is not marked. Training record forms do not count against the word count neither do tables of data such as fitness test results.

The candidate is to be commended on completing a Pep based around rehabilitation.

The work provided in this strand is good and is marked at Level 3: 12 marks

Centre mark: Level 3 – Moderated mark: Level 3

S1: 6

S2: 8

S3: 11

S4: 11

S5: 12

Total: $48/5 = 9.6$

Level 10 – 10 marks