

Personal Exercise **Programme** **(PEP)**

Steve Aston
2002/2003

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PEP

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Personal Activity Profile

The sports I am currently involved in are rugby, surfing and kayaking. I play rugby for Basingstoke, surf for the Balin UK junior team and kayak for Basingstoke and Deane Canoe Club (BADCC). I am sponsored by Perception (kayaks) and Werner (paddles). The sport I have chosen to train for in my personal exercise programme is slalom kayaking. The main components of fitness in kayaking are upper body power, balance and flexibility.

My main weakness is in upper body power. My skills in slalom kayaking are of a high standard but they are limited by my lack of upper body power. For example, I will have a stronger and faster high sculling support stroke if I am more powerful in my triceps and latissimus dorsi.

Overall Aims

One of the components of fitness I am aiming to improve through my personal exercise programme is power. If I am more powerful I will have more control over my kayak which will give me a better chance of passing through all the gates, especially the red (upstream) gates. Also, training for power will give me better muscle tone, which will aid my posture. This is very important in kayaking as it gives a greater range of motion in rotation about the torso.

The other component of fitness I am aiming to improve through my PEP is balance. Having better balance will give me a better chance of regaining normal posture when twisting and ducking to avoid poles, which make up the gates. This means that I will get penalised less and therefore have a lower time.

I aim to improve these two components of fitness through weight resistance training. I will be doing as many exercises using free weights as possible as this will make me use my stabiliser muscles, improving my balance and coordination. I will also carry out a lot of exercises on the swiss ball, as this will improve my core balance and endurance. Kayaking requires massive use of the core as there is a large amount of twisting and turning involved, therefore I will be doing as many exercises as I can that work the abdominals and obliques. All the muscles in the arms, shoulders and back are used in one or more stages of a stroke. Therefore I will most the free weights exercises I carry out will be focussing on improving my power in those body areas.

Although the lower body does very little work in kayaking, I will be doing some lower body work as well to maintain a good balance. I will mostly stick to compound leg exercises like squats. This will help my posture as it works the gluteals. I will also do

some work on my adductors as these are vitally important to the hip-flick when rolling and maintaining balance when edging.

Fitness Profile

Component of Fitness	Test	Result	Rating According to National Averages
Cardio-vascular endurance	Harvard Step Test	176.5	Excellent
Cardio-vascular endurance	Multi-stage shuttle run	12.8	Non available
Body Composition	Skin Fold	13.46	Acceptable
Flexibility	Sit and Reach	14	Excellent
Strength	Grip strength Dynamometer	L: 48 R: 50	Average Average
	Back Strength Dynamometer	134	Non available
Height	Tape measure	1.80 m	Not applicable
Weight	Scales	72 kg	Not applicable
Muscular endurance	Sit ups:	46	Non available
	Press ups:	38	
Power	Sergeant jump	126 kg/m/sec	Non available

Overall Comment of Fitness Profile

Both the Harvard step test and the Multi-stage bleep test show that my cardiovascular endurance is very good. Although you do need good cardiovascular endurance for slalom kayaking, it is not particularly important as during competition you are rarely in the water for more than about two minutes.

The test I carried out for body composition rated me as acceptable. I weigh 72 kg and my height is 180 cm.

To test my flexibility I carried out the sit and reach test. Against national averages I was rated as excellent. Flexibility is very important in slalom kayaking as if you can reach further forward and twist more; you will have a more effective stroke. Also, if you are

flexible, you will be able to get into more awkward positions, which you often need to do in order to avoid being penalised for touching gates.

To test my strength, I used a grip strength dynamometer and a back strength dynamometer. My scores on grip strength were average for both hands. Grip strength is obviously very important in canoeing as if your forearms are strong you have a better chance of holding on to the paddle.

To test my power I did the sergeant jump test. I scored 125 but this cannot be compared to national averages as there are none available. However, I do not see this test as being particularly critical anyway as I am more interested in developing my upper body power and the sergeant jump is more specific to lower body power.

To test my muscular endurance I did as many sit ups as I could in a minute and as many press-ups as I could in a minute. Respectively, these measure my core muscular endurance and my upper body (arms, shoulders, chest) muscular endurance. I did 46 sit-ups and 38 press-ups. There are no national averages for these to be compared to, but I will be able to see in the re-test at the end of my PEP whether or not I have improved in either of these areas.

Specific Aims of PEP

As I think my main weakness is upper body power, this is the aspect of fitness I will be looking to improve through my PEP. I already run three times a week to maintain my cardiovascular fitness but I will continue to do this. I believe upper body power is my main weakness as I often struggle with the green (upstream) gates. In order to make these gates, you need a very powerful stroke. Therefore, in order to train effectively and improve the power of my stroke, I need to break it down into separate components:

The Catch (The blade enters and locks onto the water at the start of the stroke)

The paddle enters the water quickly and cleanly (this requires co-ordination), close to the boat and as far forward as possible (requiring flexibility) with the blade at 90° to the direction of pull. This ensures that the paddle blade presents its maximum area to the direction of pull.

The trunk and shoulder must not unwind before the paddle is fully in the water. This ensures that the powerful muscles of the back and shoulders (latissimus dorsi and trapezius) are in their strongest position for the subsequent pull.

The Power Phase (The blade is fully immersed in the water at the start of the stroke and power is applied)

Once the paddle is in the water the trunk should rotate enabling an initial straight arm pull using the large trunk muscles (abdominals, external obliques).

As the trunk rotates, the arm closest to the immersed blade should bend at the elbow (needing power in the bicep). This means the other arm needs to straighten to accommodate this movement (needing power in the tricep). The blade should continue to be pulled until level with the hips. The leg on the side of the immersed blade should push firmly against the footrest to impart the pull from the paddle to forward movement of the kayak.

The Exit (The paddle is drawn from the water as soon as the blade reaches the hips)

The paddle is quickly and cleanly drawn from the water as the hips come level the pulling hand (to do this I will need powerful deltoids, trapezium and latissimus dorsi). Ideally a wing edge of the blade leads out of the water to prevent water from being lifted (This requires a quick snap of the wrist). A slow exit of the blade from the water will slow the boat as the forward momentum of the boat drags the blade through the water.

The Recovery (The paddle blades are clear of the water preparing for the next stroke on the other side of the boat)

This phase starts with the trunk rotated 30 – 40 degrees forward from the hips towards the side of the next paddle stroke. The back should be straight with a slight forward lean. The shoulder and forward arm are relaxed but firm and the arm is extended at eye level with

the arm, elbow, wrist and hand in a straight line. The fingers should be relaxed but still controlling the paddle shaft.

The back arm has started this phase at shoulder height, causing the paddle to be held parallel to the water, in front of the face. As this arm pushes further forward (requiring powerful pectorals and triceps), the blade being prepared for the next stroke will pivot in the forward hand and is driven into the water for the catch.

I am also aiming to improve my flexibility, as although it is good, having better flexibility would be helpful as I would be better at avoiding gate poles and therefore have a better overall time. Having better flexibility will also help in rolling as the further forward you can lean whilst under water, the more effective the roll is. It will also help my stroke as if I can lean further forward, my stroke will be longer.

Safety Considerations

If training or competition is carried out without a warm up then there is a higher risk of injury and muscle soreness. The aim of a warm up is to prepare the body for exercise. A warm up has the following physiological benefits:

- The release of adrenaline increases heart rate and causes capillaries to dilate. This means that more blood/oxygen reaches the muscles and faster.
- Muscle temperature increases and will therefore facilitate enzyme activity. This increases muscle metabolism meaning that there is a readily available supply of energy through the breakdown of glycogen.
- Increased temperatures in the muscle cause an increase in the elasticity of the muscle fibres. This leads to an increase in the speed and force of contraction.
- Warm ups make us more alert due to an increase in the speed of nerve impulse conduction.
- Increased production of synovial fluid in the joints ensures efficient movement at the joints.
- You can benefit physiologically from a warm up as it puts you in the right frame of mind for training or competition e.g. New Zealand Haka.

Warm ups should be specific to the activity that follows. They therefore need to include exercises that prepare the muscles that are to be used and activate the energy systems required for that particular activity. If the exercises are specific to the activity they will also prepare you mentally.

To gain as much as possible from a warm up, the following stages should be followed:

- 1 The first phase of a warm up has the purpose of raising the heart rate. This increases the speed of oxygen delivery to the muscles and raises body temperature e.g. jogging.
- 2 Now that muscle temperature has increased, the athlete can carry out some stretching/flexibility exercises. It is essential that both static stretches and some callisthenic type activities are performed where the muscle is working over its full range e.g. press ups and sit ups.
- 3 The final stage of the warm up should involve a sport specific or skills related component in which the neuromuscular mechanisms, which are to follow, are worked e.g. serving in tennis, passing in rugby.

The cool down involves performing some kind of light, continuous exercise that keeps the heart rate elevated. The purpose of the cool down is to maintain high metabolic activity and to keep capillaries dilated. This allows oxygen to be flushed through the muscle tissue, removing and oxidising any lactic acid that remains. This will therefore prevent blood pooling in the veins, which can cause dizziness if exercise is stopped abruptly.

A cool down can also limit the effect of DOMS (Delayed Onset of Muscle Soreness), characterised by tender and painful muscles experienced in the days following heavy and

exercise that the body is not used to. This soreness results from damage to muscle fibres and connective tissue surrounding the fibres. The soreness goes as the muscles repair themselves.

The final part of the cool down period should involve stretching exercises. This maintains and can improve flexibility as the muscles are very warm at this stage.

When I carry out my stretches I will stretch each muscle I will be working during training and its relative antagonist. I will hold each stretch for 8 – 12 seconds. I will use static stretches, as ballistic stretches are potentially harmful to connective tissue.

There are a number of ways by which I can reduce the chances of injury during each exercise session.

- When lifting weights from the floor or rack, I will do so by bending at the knees rather than the back and straightening my legs to lift.
- Before beginning each exercise I will make sure my hands are an equal distance away from the ends of the bar.
- Once I have finished using equipment I will wipe them down and put the weights back on the rack.
- If I am unsure about the technique for a particular exercise I will seek instruction rather than resort to trial and error.
- I will not use heavy weights until I have perfected a technique I am new to.
- I will perform exercises with a smooth, even rhythm.
- I will return the weights to the rack after use.

Purpose of Exercises

As I am trying to improve my power I am using high weight for 3 sets of 6 repetitions for my exercises. This is because power is the ability to exert force in a short period of time. Therefore, in order to be specific in my training I have to make sure my muscles are working hard for a short period of time. This is why I am doing 6 repetitions.

I am using free weights as much as possible in preference to resistance machines to improve my co-ordination. Improving my co-ordination will give me better control of what I am doing with the paddle and therefore improve my whole technique.

Doing exercises on the swiss ball rather than the bench will also help as it will help me to improve my balance. By improving my balance I will decrease the chances of me capsizing and therefore being penalized, which will give me a better chance of having a lower time than my opponents.

Doing bicep curls will improve the power of my biceps. This means the flexion of my arm will be more powerful and therefore the power phase of my stroke will be faster, enabling me to complete the course in a quicker time.

Carrying out narrow grip pull downs on the cable crossover machine will improve the power of my triceps. This means the extension of my arm will be more powerful so I will improve the speed of my recovery. This will also improve paddling speed and consequently my overall time.

Doing chest press on the swiss ball will improve my balance and the power of my pectorals. As with my triceps, having more powerful pectorals will enable me to move the paddle through the air more quickly, giving a quicker recovery. Also, if my pectorals are more powerful I will have a more efficient pawlata roll, a manoeuvre in which the paddle is drawn across the chest in order to right a capsized kayak.

Doing forearm curls with the EZ bar and reverse curls will improve my wrist flexors and my brachioradialis. This will improve my grip of the paddle and also aid my paddling technique. A typical kayak paddle is feathered. This means that one of the blades is at an angle to the other (on old GP kayaks the angle would normally be 90° but it now varies according to its purposed use). The idea of a feathered paddle is that when one of the blades is out of the water, it moves through the air quickly as it is facing downwards. However, in order for this to work it is necessary for the paddler to continually rotate his wrists whilst paddling. Therefore, by carrying out these exercises I will improve the speed with which I rotate my wrist and therefore again improve the speed at which I move the paddle through the air. As for this exercise I am working on strength, I will be doing 3 sets of 10 repetitions.

Using the hip adduction and abduction resistance machines as part of my training programme I will improve the power of my hips. This will help me to right the boat when I am riding on the edge of the boat (e.g. in a ferry glide), as I will have a more powerful hip flick. The only other leg exercise I will be doing is seated leg press, as although the

lower body is not particularly important in slalom kayaking, I want to maintain a good balance.

I am doing lat raise on the swiss ball and cable lat pull down to improve the power of my back. If my latissimus dorsi are more powerful, my stroke will be better as I will draw the paddle through the water more quickly. This again means that I will be able to paddle faster and therefore complete the course in a lower time. Having more powerful latissimus dorsi will also be very useful for my support strokes as many of them utilise the lats, particularly my high brace, sculling draw and telemark strokes.

I will be training on the rotary torso and abdominal crunch machines to improve my core power. Using the rotary torso machine will improve the power of my obliques. This means that I will be able to twist my body faster which will improve my speed and also my ability to avoid gates, meaning that I will have a better time. Using the abdominal crunch machine will improve the power of my abdominals. This will mean I will be able to lean forward faster and therefore lengthen my stroke. Having more powerful abdominals will also mean I will be able to duck faster, again improving my chances of avoiding gates.

Application of Theory

When devising a training programme, it is important to bear certain principles in mind. These are easily remembered as the acrostic 'POSSIFITTV':

'P' stands for **progression**. This means that in order to improve over a long period of time, and athlete has to gradually increase the intensity of the training. In the case of power training, this can be achieved by increasing the weight I lift.

'O' stands for **overload**. This means that the individual needs to train at an intensity at which they feel some discomfort in order to improve. To apply this to my programme, I need to make sure I lift weights that I find hard to lift in order to improve.

'S' stands for **specificity**. The idea of specificity means that any training undertaken should be relevant (specific) to the sport for which the athlete is training. In the case of my training programme it is sport specific as I am focussing on upper body power rather than lower body power.

'I' stands for **individual difference**. This means that a programme has to set with the needs and abilities of the athlete in mind. This means that I cannot just take someone else's training programme and expect it to work for me also. I will have to find out my 1 RM and from that work out what weight I should be lifting for each exercise (see Intensity).

'F' stands for the **frequency of training**. As I am training to improve my power should be training three or four times a week to give me time to recover in between sessions (However, I will in fact only be carrying out two sessions a week as I do not have enough spare time to do it in). This is because my body tissues need sufficient time to repair themselves in the wake of high intensity work.

'I' stands for the **intensity of the exercise**. This is hard to measure objectively, but as I am aiming to improve my power, I need to exercise with a high weight and few repetitions. I will do this by doing 3 sets of 6 repetitions lifting 70% of the maximum amount I can lift (1 RM/1 repetition max).

'T' stands for the **amount of time** the exercise is undertaken for. As I am training to improve my power this will be dictated by the intensity of exercise i.e. how many sets and repetitions I do.

'T' stands for the **type of training** that is done. It is not really applicable to power training, as it is to do with reaching your training zone (between 60 – 74 % of your maximum heart rate).

'V' stands for **variation**. It is good to change a weight-training programme regularly to continue to improve as otherwise the muscles adapt to the training and it becomes less effective. As my PEP is only 6 weeks long I will not have any variation. However, as I

will continue to train afterwards I will make some changes to my programme for the next meso-cycle.

Another important principle that should be remembered when devising is the idea of **reversibility**. This means that the standard of performance will drop when training stops or the intensity of training decreases for an extended period of time.

The training year is a way of structuring your training as a year-long process, divided into specific periods, which prepare the athlete for optimal performances. This is known as periodisation. The long term training programme would normally span over one year but can be even longer (e.g. an athlete preparing for the Olympics). It is known as a macro-cycle. The macro-cycle is subdivided into periods of 2-6 weeks known as meso-cycles. These concentrate on specific areas of fitness. Meso-cycles are subdivided again into individual or weekly training sessions called micro-cycles with even more specific aims and objectives.

The periodised training year is typically broken down into three periods:

- Preparation period
- Competition period
- Transition period

The preparation period includes the off-season and pre-season.

During the off-season, training is of a relatively low intensity but general conditioning is carried out to maintain strength, aerobic fitness and mobility.

During the pre-season the intensity of training increases significantly. This is the time when most strength work should be undertaken, lifting heavier weights at higher speeds. Towards the end of the pre-season some skills related training should start to be integrated into the training programme.

During the competition period is aimed at maintaining fitness levels achieved during the pre-season. Maximum strength training is reduced and skills/technique take over as the main aspect of training. However, endurance training continues to be fairly intensive in preparation for competition.

In order to ensure that an athlete 'peaks' for competition a process known as tapering may be undertaken. Tapering is when the volume and intensity of training is adjusted 2 or 3 weeks prior to competition to ensure that the athlete is fully recovered from any hard training (muscle glycogen stores fully replenished) undertaken without the effects of reversibility occurring. In order to do this successfully you must:

- a) Maintain the intensity of training.
- b) Decrease the volume of training by approximately one-third.

This is basically a period of rest and recuperation. Some low intensity aerobic work such as swimming or cycling is carried out. It can also motivate the athlete for training during the following periodised year.

My six weeks training is a meso-cycle. As I am going to be training to improve my power for slalom kayaking, this meso-cycle would normally be carried out during the pre-season training of the preparation period. However, there is not official season for slalom kayaking but most events are between March and November as the rivers are often too cold during the winter. Therefore I am not really doing this training at the right time in the periodised year because many slalom competitions will be happening around the time I carry out my PEP.

PEP Outline

Microcycle (week)	Sessions
1	<p><u>Wednesday 6.11.02 (1130 – 1240)</u> <u>Friday 8.11.02 (1100 – 1210)</u></p> <p>Warm up Pre-stretch Main content – free weights and resistance machines Cool down Stretches</p>
2	<p><u>Monday 11.11.02 (1200 – 1310)</u> <u>Wednesday 13.11.02 (1130 – 1240)</u></p> <p>Warm up Pre-stretch Main content – free weights and resistance machines Cool down Stretches</p>
3	<p><u>Monday 18.11.02 (1200 – 1310)</u> <u>Friday 22.11.02 (1100 – 1210)</u></p> <p>Warm up Pre-stretch Main content – free weights and resistance machines Cool down Stretches</p>
4	<p><u>Wednesday 27.11.02 (1130 – 1230)</u> <u>Friday 29.11.02 (1100 – 1210)</u></p> <p>Warm up Pre-stretch Main content – free weights and resistance machines Cool down Stretches</p>

5	<p><u>Monday 2.12.02 (1200 – 1310)</u> <u>Wednesday 4.12.02 (1130 – 1240)</u></p> <p>Warm up Pre-stretch Main content – free weights and resistance machines Cool down Stretches</p>
6	<p><u>Monday 11.12.02 (1200 – 1310)</u> <u>Wednesday 13.12.02 (1130 – 1240)</u></p> <p>Warm up Pre-stretch Main content – free weights and resistance machines Cool down Stretches</p>

PEP

I will be using the below session as a starting point for my PEP. Hopefully I will progress throughout the PEP as my power improves. The only things that will remain the same will be my warm up and cool down.

Warm up:

Activity/Stretch	Time	Technique/ Safety Aspect	Aim
Rowing	4 minutes	<ul style="list-style-type: none"> - Strap feet on to foot rests - Always hold on the handle with both hands 	To raise pulse rate
Trapezius	12 secs	<ul style="list-style-type: none"> - Keep elbows slightly bent - Keep abdominals pulled tight 	To reduce the chances of sustaining an injury in the shoulders
Triceps	12 secs	<ul style="list-style-type: none"> - Keep abdominals tensed - Feet shoulder width apart 	To reduce chances of injuring the back of the upper arms
Pectorals	12 secs	<ul style="list-style-type: none"> - Squeeze shoulder blades together - Keep elbows slightly bent 	To reduce the chances of injuring the chest
External Obliques	12 secs	<ul style="list-style-type: none"> - Don't lean forward - Keep abdominals pulled tight 	To reduce chances of injuring the side of the body
Hamstring	12 secs	<ul style="list-style-type: none"> - Keep back straight - Keep abdominals pulled tight - Keep knee aligned with spine 	To reduce the chances of injury in the back of the upper leg.

Gastrocnemius	12 secs	<ul style="list-style-type: none">- Check that both feet are facing forwards- Keep spine aligned with back leg	To reduce the chances of injuring the back of the lower leg.
Quadriceps	12 secs	<ul style="list-style-type: none">- Keep supporting knee slightly bent- Keep thighs together	To reduce the chances of injuring the front of the upper leg
Adductors	12 secs	<ul style="list-style-type: none">- Keep the knee of the straight leg slightly soft- Check hips and shoulders are facing forwards	To reduce chances of injury in the groin.
Gluteus - Maximums	12 secs	<ul style="list-style-type: none">- Keep head, lower back and bottom on the floor- Relax neck and shoulders	To reduce chances of injuring the buttocks

Main Content:

Activity	Sets	Reps	Weight	Rest	Technique/ Safety Aspect	Aim
Swiss ball chest press	3	6	12 kg (per arm)	60 s	<ul style="list-style-type: none"> - Lie with swiss ball supporting the thoracic region of the back - Push hips upwards - Start with arms at right angles to body and with a 90° angle at the elbow - Push up and bring dumbbells together - Breathe out on exertion - Return weights to rack after use 	This will improve power in my chest so the recovery stage of my stroke will be faster.
Swiss ball pec fly	3	6	10 kg (per arm)	60 s	<ul style="list-style-type: none"> - Lie with the ball supporting the thoracic region of the back - Push hips upwards - Start with arms at right angles to body and keep them slightly flexed at the elbow - Bring arms in across chest until dumbbells touch - Breathe out on exertion - Return weights to rack after use 	This will also improve the power of my chest and is also specific training for the pawlata roll.
Cable lat pull down	3	6	40 kg	60 s	<ul style="list-style-type: none"> - Keep knees under pads - Two shoulder widths grip on bar - Keep wrists straight - Pull bar down in line with collar bone - Breathe out on exertion - Wipe down machinery after use 	This will increase the speed at which I draw the paddle towards me during the power phase of the stroke.
Swiss ball shoulder press	3	6	8 kg (per arm)	60 s	<ul style="list-style-type: none"> - Sit on the ball with feet shoulder width apart - Keep back straight - Start with arms bent 90° and level with shoulders - Push upwards and twist arms to bring dumbbells together - Breathe out on exertion - Return weights to rack after use 	This will increase the speed at which I push paddle up and through the air during the recovery phase of the stroke.
Swiss ball lat raise	3	6	6 kg (per arm)	60 s	<ul style="list-style-type: none"> - Sit on the ball with feet shoulder width apart - Keep back straight - Start with arms by sides and slightly flexed at the elbow - Raise arms up to shoulder height - Breathe out on exertion - Return weights to rack after use 	This will help me to pull the paddle out of the water more quickly in the exit phase of the stroke.
Swiss ball Alternate Hammer curl	3	6	12 kg (per arm)	60 s	<ul style="list-style-type: none"> - Sit on ball with feet shoulder width apart - Keep back straight - Start with arms by sides and lift the weight up towards the shoulder - Breathe out on exertion - Return weights to rack after use 	This will mean I can pull the paddle through the water more quickly during the power phase of my stroke.
NG pull downs (cable)	3	6	40 kg	60 s	<ul style="list-style-type: none"> - Stand with feet shoulder width apart - Hold bar with hands shoulder width apart - Do not lean over the bar - Keep wrists straight - Start with bar at just below chest height and pull down until it is an inch from the thighs - Breathe out on exertion - Wipe down machinery after use 	This will improve the power with which I bring the paddle blade down into the water in the catch phase of my stroke.
Seated leg press	3	6	120 kg	60 s	<ul style="list-style-type: none"> - Feet shoulder width apart - Toes pointing towards ceiling - 90° angle at the knee when in starting position and push out until legs are nearly straight - Do not lock out legs on exertion - Breathe out on exertion - Wipe machinery down after use 	The main aim of this exercise is to maintain a good balance between my upper and lower body. However, it will also help me push against the footrest during the power phase

						of my stroke.
Shoulder shrugs	3	6	20kg (per arm)	60 s	<ul style="list-style-type: none"> - Stand with feet shoulder width apart - Start with dumbbells held by sides and raise shoulders - Breathe out on exertion - Return weights to rack after use 	This will help pull the paddle out of the water more quickly during the exit phase and also aid the power phase.
Forearm curl (EZ bar)	3	10	12.5 kg	60 s	<ul style="list-style-type: none"> - Kneel on the floor with forearms resting on the bench - Bring wrists up and towards the body - Breathe out on exertion 	This will help me to get the blade in the right position for the catch phase at the end of the recovery phase. It will also give me a strong grip on the paddle
Reverse grip EZ bar curl	3	10	12.5 kg	60 s	<ul style="list-style-type: none"> - Stand with feet shoulder width apart - Grip with hands above the bar - Raise the bar up and towards the body - Breathe out on exertion - Return weights to rack after use 	This will help me change the angle of the paddle to make my exit phase more efficient and also help me pull the blade out of the water. It will also give me a strong grip on the paddle.
Ab crunch	3	6	30 kg	60 s	<ul style="list-style-type: none"> - Make sure hips are in line with red dot - Feet behind lower pads - Pull upper pads down against shoulders - Bring head down and knees up toward each other - Breathe out on exertion - Wipe down machinery after use 	This will help me lean forward quickly during the recovery phase in time for the catch phase of the stroke.
Torso twist	3	6	30 kg	60 s	<ul style="list-style-type: none"> - Squeeze knees in against lower pads - Hold handles and pull shoulders in against upper pads - Breathe out on exertion - Wipe down machinery after use 	This will increase the power with which I can twist my trunk during the catch phase. It will also help in the power phase when I 'unwind' my trunk.
Hip Abduction	3	6	50 kg	60 s	<ul style="list-style-type: none"> - Rest feet on footrests - Push outside of knees against pads - Push knees out - Breathe out on exertion - Wipe down machinery after use 	This will help me roll to right the kayak and also help me to maintain my balance
Hip Adduction	3	6	50 kg	60 s	<ul style="list-style-type: none"> - Rest feet on footrests - Push inside of knees against pads - Pull knees in towards each other - Breathe out on exertion - Wipe down machinery after use 	This will help me roll to right the kayak and also help me maintain my balance.

Cool Down:

Activity	Time	Safety/Technique	Aim
Running machine	4 minutes	<ul style="list-style-type: none"> - Attach safety clip to avoid injury - Look straight ahead, not down 	Slowly lower pulse and to oxidise any lactic acid in the muscles
Stretches	30 seconds per stretch	Same technique as in warm up stretches.	To avoid DOMS and to improve flexibility

Session Evaluations

Week 1

Wednesday 6/11/02:

Session aims:

- To complete all the components of my devised PEP. However, I do not expect to complete all three sets for each exercise as I am overloading.

Warm up: Although this was successful in warming me up, I felt quite tired afterwards so I think I need to set a rate at which I work. Next session I will try to build up to, and maintain 35 strokes per minute. I will do this in gear 8.

I carried out all the stretches and held them for 12 seconds each.

- **Swiss ball chest press:** As I am new to using a swiss ball, I decided to use low weight with a high amount reps to help me perfect my technique. I compensated for this by doing 3 sets of 6 reps with 14 kg on the bench.
- **Swiss ball pec fly:** I again used a lower weight to help me learn my technique and then did 3 sets of 6 reps with 12 kg on the bench.
- **Cable lat pull down:** I found that 40 kg was too easy so I put the weight up to 45 kg. I may find next session that this is still not enough as I did four sets: 1 with 40 kg and 3 with 40 kg.
- **Swiss ball shoulder press:** I found this fairly straightforward despite having never done shoulder press on a swiss ball before. I completed 2 sets with 8 kg but had to use 6 kg to do the third set as I was no longer able to lift 8 kg.
- **Swiss ball lat raise:** As with the shoulder press, I did not find this exercise much, if at all harder on the swiss ball (I have done both of these exercises before on a bench). I carried out the first two sets successfully, using 6 kg, but I only managed four repetitions of the final set.
- **Ab crunch:** I completed the first two sets with 30 kg without any problems. However, I could not even manage to carry out one repetition of the third set, so I dropped the weight right down to 15 kg. I did a further set (6 repetitions) with this weight.
- **Rotary Torso:** I have discovered that my obliques on my right hand side are a lot stronger than those on my left. This is probably because I normally roll up on my right hand side and perform high brace manoeuvres on my right hand side, whereas I would normally just use a slap support on my left side. I decided that it would be best to use the same amount of weight for both sides to keep a balanced routine.
- **Shoulder Shrugs:** I am using 20 kg for this exercise. I completed the first two sets but found the third set very hard and only managed to do two repetitions.

Overall evaluation:

I ran out of time and was therefore unable to complete any of my arm or leg exercises. I also missed out my cool down. I therefore failed to meet my session aim. Hopefully, this

is just because I was new to some exercises and needed to spend a while learning the technique required so it should not be a recurring problem.

I did some skills training in the pool this evening and felt very stiff particularly in my shoulders. This is most likely due to the fact that I did not carry out my cool down at the end of the session and illustrates how important it is to cool down properly.

Friday 8/11/02:

Session aims:

- To start using planned weight for chest press (12 kg) and pec fly (10 kg) on the swiss ball
- To complete all parts of my devised programme within the time I have

Warm up: Today I rowed for four minutes in gear 8, building up to 35 strokes per minute. I felt as though I had warmed up properly but I was not tired so I think this is an effective warm up that I will continue to use.

- **Alternate hammer curl (on the swiss ball):** I was finding this fairly easy until, when I was about to start my third and final set, I was advised by one of the gym instructors that my technique was wrong as I was not controlling the second phase of each repetition. I made the suggested change and found the third set a lot harder. As a result of this, I was only able to complete three repetitions of the third set.
- **NG pull downs:** Although I managed to complete all three sets using 40 kg, I do not feel I am yet ready to increase the weight as I was really struggling in the final set and I do not think my technique was correct as I was leaning over the bar.
- **Seated leg press:** I completed all three sets using 120 kg and I will overload to 130 kg next session.
- **Hip abduction machine:** I completed two sets using 50kg but I only managed to do another two repetitions of the third set.
- **Hip adduction machine:** Surprisingly, I found this exercise easier than the abduction machine. However, this is probably because the adductors are used more than the abductors in day-to-day life. I managed to complete all three sets using 50 kg so I will overload next session. I will only progress to 51.25 kg rather than 55 kg as I found the last two repetitions of the third set very hard so I think 51.25 kg is a more realistic target.
- **Swiss ball chest press:** Today I did this with 14kg. I managed to complete 2 sets and then fell off. I tried to complete the third set on the bench. However, I don't think I had fully recovered from Wednesday's session anyway and only managed to carry out 3 reps of this third set.
- **Swiss ball pec fly:** I was too tired from doing chest press to do this exercise. I tried again at the end of the session but I was unable to carry out even one repetition.
- **Cable lat pull down:** I completed all three sets using 45 kg and I will progress to 50 kg in my next session.

- **Swiss ball lat raise:** I did not make any progress from last session as I only managed to complete two sets plus a further four repetitions of the third set.
- **Ab crunch:** I again completed the first two sets successfully. I also managed to complete a further three repetitions of the final set using 30 kg.
- **Rotary Torso:** I again found this far easier on the right hand side than the left. I completed all three sets on my right hand side but only managed to complete two sets plus 3 repetitions on my left hand side. I am using 30 kg on both sides.
- **EZ bar forearm curls:** I completed two full sets using 12.5 kg. I could not carry out even one repetition of the third set, so I dropped the weight down to 10 kg and did another set (6 repetitions) with this weight.
- **EZ bar reverse curls:** For this exercise I managed to complete two full sets using 12.5 kg and a further 2 reps of the third set.

Unfortunately, I again ran out of time and was unable to do any of my shoulder exercises. I do not think I had fully recovered from Wednesday's session anyway. I think I will recover more quickly as my body gets used to me exercising in this way.

Cool down: I ran for four minutes, decreasing the intensity to a walk. I then carried out the appropriate stretches for all the muscles I had worked during the session. I held the stretches for 30 seconds in order to improve flexibility.

Overall evaluation:

I was disappointed with today's session as I again failed to complete all the exercises I planned to do and therefore again failed to meet one of my session aims. However, I did manage to start using heavier weights for my chest exercises on the swiss ball.

Week 2

Monday 11/11/02

Session aims:

- To complete all the exercises of my devised programme within the available time.
- To progress to 130 kg for seated leg press.
- To progress to 50 kg for cable lat pull down.
- To progress to 51.25 kg for hip adduction.

Warm up: I rowed for four minutes in gear 8, increasing to and then maintaining 35 strokes per minute. I carried out all my stretches and held them for 12 seconds each.

Swiss ball chest press: I found the first set very easy so I decided to progress to using 16 kg to maintain overload. I used 16 kg for the second set but I was unable to complete the third set with 16 kg.

Swiss ball pec fly: Today I managed to complete all three sets using 10 kg but my last three repetitions were not at all well controlled so I do not think I am yet ready to progress to 12 kg.

Cable lat pull down: Today I tried to progress to 50 kg. I managed to complete two sets using this weight but I was too tired to even start doing a third set.

Swiss ball lat raise: I was very pleased with how this exercise went today as I managed to complete all three sets using 6 kg. I will progress to 8 kg next session.

Swiss ball shoulder press: Although I managed to carry out the first two sets but I was too exhausted to carry out the third.

Ab crunch: I made a little progress today as I again managed to complete the first couple of sets and also managed four repetitions of the final set using 30 kg.

Rotary Torso: I completed two sets but I didn't carry out the third due to pains in my back. This may be due to incorrect technique so next session I will talk to one of the instructors in the gym to make sure I carry out the exercise properly and safely.

Hammer curls: I completed all three sets using 12 kg. Although I found the last couple of repetitions very hard I will progress to 14 kg next session to maintain overload..

NG pull down: Today I tried to focus on making sure my technique was correct. This meant the exercise was more effective so I found it a lot harder. I completed 2 sets using 40 kg and dropped the weight down to 35 kg for the third set.

Seated leg press: I completed two sets using 130 kg and managed to carry out 3 reps of the third set.

Hip adduction: In today's session I started using 51.25 kg. I used this weight for 1 set but I felt that it was too light so I increased the weight again to 52.5 kg. I felt that I had to work hard with this weight but it was manageable. I completed another set and 2 more repetitions with this weight.

Hip abduction: I made some progress in this exercise as I managed to do two sets plus four repetitions of the third – an improvement of two repetitions from last session.

Shoulder Shrugs: I made an improvement of one repetition from the last time I did this exercise – this session I managed to do two sets plus 3 reps of the third set using 20 kg.

EZ bar forearm curls: I completed two and a half sets using 12.5 kg.

EZ bar reverse curls: As with the normal forearm curls, I managed two and a half sets using 12.5 kg with a reverse grip.

Cool down: I ran for four minutes, decreasing the intensity to a walk. I then carried out the appropriate stretches for all the muscles I had worked during the session. I held the stretches for 30 seconds to improve my flexibility.

Overall evaluation:

I was very pleased with today's session as for the first time, I managed to complete all the exercises planned for the main content of my PEP. I also managed to successfully progress in three exercises so I have already begun to meet the aims of my PEP as the power in my back and legs is increasing. I also progressed in swiss ball chest press even though this was not one of my session aims. This shows that the power of my chest is also improved.

Wednesday 13/11/02:

Session aims:

- To carry out all the planned components of my devised session.
- To progress to 8 kg for swiss ball lat raise.
- To progress to 130 kg for seated leg press.
- To progress to 14 kg for alternate bicep curl.

Warm up: I again rowed for 4 minutes but I decided to use gear 9 as I was finding it too easy. I carried on rowing at a rate of 35 strokes per minute. I did all my stretches and held them for 12 seconds each.

Swiss ball chest press: I did the first two sets using 16 kg but I could not lift this weight at the start of the third set so I instead used 14 kg to complete the third set.

Swiss ball pec fly: Today I again managed to complete all three sets using 10 kg but this time I managed to control both phases of each repetition for the whole of each set. I will therefore progress to using 12 kg next session.

Cable lat pull down: For this exercise I continued to use 50 kg. I completed the first two sets and 3 repetitions of the third.

Swiss ball lat raise: Today I tried to progress to using 8 kg but I only managed to complete one set and 2 repetitions of the second set.

Swiss ball shoulder press: I completed two sets using 8 kg and also completed 3 repetitions of the third set.

Ab crunch: I managed to complete all three sets today and I will progress to 35 kg next session.

Rotary Torso: Today I managed to complete all three sets on both sides using 30 kg. I will try to overload to 35 kg but I think I may struggle to lift this weight on my left side so I may have to be forced to use a lower weight than this.

Alternate Hammer curls: Today I tried to progress to 14 kg but was only able to complete one and a half sets. I completed the remaining 1 and a half sets with 12 kg.

Narrow grip pull down: As in last session, I again focussed on maintaining a proper technique. I completed the first two sets and 3 reps of the third set using 40 kg.

Seated leg press: I progressed to 130 kg today. I did two sets with this weight but could not do any of the third set.

Hip abduction: Today I managed to complete all three sets using 50 kg. I will try and progress to 52.5 kg next session as this is the weight I am using on the hip adduction machine.

Hip adduction: For this exercise I carried on using 52.5 kg and I completed two full sets using this weight. I only managed to do one repetition of the third set.

Shoulder shrugs: I again made an improvement of one repetition on last session. I completed the first two sets plus 4 reps of the third. I hurt my shoulders as I let the weight drop too quickly following the fourth rep of the final set.

EZ bar forearm curl: I did not make any progress from last session in this exercise – I completed two and a half sets with 12.5 kg.

EZ bar reverse grip forearm curl: I completed all three sets using 12.5 kg and I will progress to 15 kg next session.

Cool down: I ran for four minutes, decreasing the intensity to a walk. I then carried out the appropriate stretches for all the muscles I had worked during the session. I held the stretches for 30 seconds to improve my flexibility.

Overall Evaluation: This session was very satisfying as I managed to meet all the aims of today's session as I completed all the components of the session and progressed in my lat raise, leg press and bicep curl exercises. This also means that I am fulfilling the aims of my PEP as the fact that I am progressing in these exercises shows that my power is improving.

I did some skills training in the pool this evening. I was mostly working on support strokes and Eskimo rolls on my left hand side as this is the side I am least confident on. I felt tired very quickly as a result of today's training in the gym. My shoulders were causing a bit of pain when I was practicing my slap supports. Hopefully they will have recovered from my accident earlier by my next training session on Monday.

Week 3

Monday 18/11/02:

Session aims:

- To complete all components of my devised session
- To progress to 12 kg for pec fly on the swiss ball
- To progress to 35 kg on the ab crunch machine
- To progress to 35 kg on the rotary torso machine
- To progress to 52.5 kg on the hip abduction machine
- To progress to 15 kg for reverse grip EZ bar curl.

Warm up: I rowed for 4 minutes in gear 9 at a rate of 35 strokes per minute. I did all my stretches and held them for 12 seconds each.

Swiss ball chest press: I completed the first two sets using 16 kg and for the first time managed to carry out part of the third set – I managed to do two repetitions.

Swiss ball pec fly: Today I progressed to using 12 kg. I found this weight very hard to use and only completed 1 full set and another four reps. I did another set using 10 kg.

Cable lat pull down: Although I completed all three sets using 50, I do not feel that I am yet ready to progress as I had to stop in the middle of the second set to wipe down the bar because I was losing my grip on the bar.

Swiss ball lat raise: I continued to use 8 kg and managed to complete one and a half sets using this weight. I did the other one and a half sets using 6 kg.

Swiss ball shoulder press: I completed all three sets using 8 kg and I will progress to using 10 kg next session.

Ab crunch: Today I tried to progress to 35 kg in this exercise. I did one set with this weight but at the start of the second set I could not even do one rep. I decided to put the weight down to 32.5 kg and completed one and a half more sets with this weight.

Rotary Torso: As with ab crunch, I tried to progress to 35 kg but was forced to instead use 32.5 kg as I could not lift 35 kg on my left side at all. I did two sets but was too tired from trying to lift 35 kg to do a third.

Hammer curls: I completed two sets with 14 kg and did the third set with 12 kg.

Narrow grip pull down: I completed all three sets using 40 kg and I will progress to 45 kg next session.

Seated leg press: I made no progress from last session as I only managed to complete two sets using 130 kg.

Hip abduction: I progressed to using 52.5 kg in today's session. I completed two full sets but I could not manage to do any of the third set.

Hip adduction: I made a little progress from last session as I managed to complete two sets and three repetitions of the third.

Shoulder shrugs: I was surprised to find that I did not have any problems with this exercise despite my accident last week. I completed all three sets using 20 kg and will progress to 22 kg next session.

EZ bar forearm curl: I completed all three sets using 12.5 kg and will progress to using 15 kg next session.

EZ bar reverse grip forearm curl: I today progressed to using 15 kg for this exercise. I completed two sets but was unable to do any of the third set.

Cool down: I ran for four minutes, decreasing the intensity to a walk. I then carried out the appropriate stretches for all the muscles I had worked during the session. I held the stretches for 30 seconds to improve my flexibility.

Overall Evaluation: I managed to complete all the exercises in my programme. I managed to progress as planned for my pec fly and hip abduction exercises. Although I did not manage to lift the weight I aimed to lift as part of my session aims, I still progressed on the ab crunch and rotary torso machines. I am therefore still fulfilling my PEP aims, if not my session aims, as I have improved my power.

Friday 22/11/02:

Session aims:

- To complete all components of my devised session
- To progress to using 10 kg for shoulder press
- To progress to using 45 kg for narrow grip pull down
- To progress to 22 kg for shoulder shrugs
- To progress to 15 kg for EZ bar forearm curl

Warm up: I rowed for 4 minutes in gear 9 at a rate of 35 strokes per minute. I did all my stretches and held them for 12 seconds each.

Swiss ball chest press: I did not make any progress from last session in this set as I only managed to complete two sets and three reps using 16 kg.

Swiss ball pec fly: I today managed to complete two full sets using 12 kg and did another set using 10 kg.

Cable lat pull down: I completed all three sets using 50 kg and I will progress to 55 kg next session.

Swiss ball lat raise: I today completed 2 full sets using 8 kg. I did the third set using 6 kg.

Swiss ball shoulder press: Today I progressed to using 10 kg for this exercise. I completed one and a half sets with this weight and did the other one and a half sets using 8 kg.

Ab crunch: As in last session I found I could only manage one set using 35 kg, I continued to use 32.5 kg in this session. I completed two sets with this weight and did the third set using 30 kg.

Rotary Torso: I continued to use 32.5 kg for this exercise. I managed to complete two and a half sets on my right side and two sets on my left side.

Alternate Hammer curls: I was quite disappointed with this exercise as I seem to have gone downhill from last session. I only managed to complete one and a half sets using 14 kg and had to use 12 kg for the remaining one and a half sets.

Narrow grip pull down: I progressed to 45 kg but could only do two sets with this weight. I went back down to 40 kg for the third set.

Seated leg press: I was very pleased with how this exercise went as I went from completing two sets last session to completing all three using 130 kg. I will progress to using 140 kg next session.

Hip adductors: I did two sets and three reps using 52.5 kg.

Hip abductors: I made an improvement of one rep on last session - I did two and a half sets using 52.5 kg.

Shoulder shrugs: I managed to do 1 set and three reps using the new weight, 22 kg. I did the remaining one and a half sets using 20 kg again.

EZ bar forearm curl: I today progressed to using 15 kg. I completed two sets with this weight and did a third with 10 kg.

EZ bar reverse grip forearm curl: I made no progress from last session as I only managed to complete two sets using 15 kg.

Cool down: I ran for four minutes, decreasing the intensity to a walk. I then carried out the appropriate stretches for all the muscles I had worked during the session. I held the stretches for 30 seconds to improve my flexibility.

Overall evaluation: I successfully completed all of my session aims. I have progressed in my shoulder press, shoulder shrug and narrow grip pull down exercises, showing that the power in my trapezius, deltoids and triceps is improving and therefore I am fulfilling the aims of my PEP.

Week 4

Wednesday 27/11/02:

Session aims:

- To complete all components of my devised session
- To progress to 55 kg for cable lat pull down
- To progress to 140 kg for seated leg press

Warm up: Today I increased the intensity of my warm up to gear 10 as I was finding gear 9 too easy. I rowed for four minutes building up to a rate of 35 strokes per minute. I carried out all my stretches and held them for 12 seconds each.

Swiss ball chest press: I was disappointed with this exercise as I did not manage to do as much as last session – I only managed to complete two sets.

Swiss ball pec fly: Despite the fact I performed relatively poorly in my chest press exercise, I improved in this exercise as I did two and a half sets using 12 kg.

Cable lat pull down: Today I tried to progress to 55 kg. I completed the first set but only got up to the fifth repetition in the second set. I then did the third set with 45 kg.

Swiss ball lat raise: For this exercise I managed to complete two and a half sets using 8 kg.

Swiss ball shoulder press: I have improved a lot from last session as I today managed to do two full sets with 10 kg. I did the third set using 8 kg.

Ab crunch: I today managed to complete two and a half sets using 32.5. I am hoping to be able to complete all three sets next session.

Rotary Torso: I managed to complete all three sets using 32.5 kg on my right hand side but I will not progress to using 35 kg until I can do this on my left hand side also, as I want to maintain a good balance. I completed two and a half sets on my left hand side.

Alternate hammer curls: I seem to be back on track with this exercise as I completed two and a half sets using 14 kg.

Narrow grip pull down: I made no progress from last session in this exercise - I did the first two sets with 45 kg but went back down to 40 kg for the third set.

Seated leg press: Today I tried to progress to using 140 kg for this exercise. However, I was only able to complete one set with this weight. I had to drop the weight down to 133.75 kg and completed another set with this weight.

Hip adductors: I made an improvement of one repetition on last session – I completed two sets and four reps using 52.5 kg.

Hip abductors: As with my hip adduction exercise, I improved by one rep this session, complete two sets and four reps with 52.5 kg.

Shoulder shrugs: I today managed to complete to sets using 22 kg. I did the third set with 20 kg.

EZ bar forearm curl: I did two and a half sets with 15 kg.

EZ bar reverse forearm curl: I did two and a half sets with 15 kg for this exercise also.

Cool down: I ran for four minutes, decreasing the intensity to a walk. I then carried out the appropriate stretches for all the muscles I had worked during the session. I held the stretches for 30 seconds to improve my flexibility.

Overall Evaluation: Today was a fairly good session. I met two of my session aims as I completed all the components of my devised session and progressed to using 55 kg for my cable lat pull down exercise. I did not manage to successfully progress to using 140 kg for seated leg press but I still increased the weight I will use (to 133.75 kg) so the power of my legs is improving. Because I have progressed in to exercises today I fulfilled my PEP aims as I improved the power of my back and legs is improving.

I again did some skill training in the pool today. I did not feel any stiffness, which shows that my cool down is effective and I am doing all my stretches effectively.

Friday 29/11/02:

Session aims:

- To complete all components of my devised session
- To complete all three sets using 32.5 kg on the ab crunch machine
- To complete all three sets using 32.5 kg on the rotary torso machine on my left hand side

Warm up: I rowed for four minutes in gear 10 at an increasing speed up to 35 strokes per minute. I then did all my stretches and held them for 12 seconds each.

Swiss ball chest press: I completed one and a half sets using 16 kg. I did one more full set using 14 kg.

Swiss ball pec fly: I did the first two sets using 12 kg but was unable to carry out the third.

Cable lat pull down: I completed one more rep than last session so I did two sets with 55 kg and a third with 50 kg.

Swiss ball lat raise: I made no progress from last session. I did the first two sets but went back down to 6 kg for the last set.

Swiss ball shoulder press: I didn't make any progress from last session in this either – I did two sets with 10 kg and a third with 8 kg.

Ab crunch: I was very pleased with this exercise as I managed to achieve one of my session aims and completed all three sets using 32.5 kg. I will progress to using 35 kg next session.

Rotary Torso: I again completed all three sets on my right hand side using 32.5 kg. I did not make any progress from last session on my left side as I only managed to do two and a half sets.

Alternate hammer curls: I completed the first two sets and got halfway through the third using 14 kg so I made no progress from last session.

Narrow grip pull down: I completed two and a half sets using 45 kg.

Seated leg press: I completed two full sets using 133.75 kg. I managed to do a further 2 reps of the third set.

Hip abduction: Today I successfully completed all three sets using 52.5 kg. I will progress to 55 kg next session.

Hip adduction: As above.

Shoulder shrugs: I made an improvement of two reps on last session. I completed two sets and 2 reps of the third set using 22 kg.

EZ bar forearm curls: I today completed all three sets using 15 kg. I will progress to 17.5 kg next session.

EZ bar reverse forearm curls: As above.

Cool down: I ran for four minutes, decreasing the intensity to a walk. I then carried out the appropriate stretches for all the muscles I had worked during the session. I held the stretches for 30 seconds to improve my flexibility.

Overall Evaluation: I met two of my session aims as I completed all components of my training session and successfully completed all three sets on the ab crunch machine. I did not manage to meet my third session aim of completing all 3 sets on both sides on the rotary torso machine as I was again let down by my weaker left side.

Week 5

Monday 2/12/2002:

Session aims:

- To complete all components of the session
- To progress to using 55 kg for hip adduction and abduction
- To progress to using 35 kg for ab crunch
- To complete all three sets using 32.5 kg on the rotary torso machine on my left hand side as well as my right hand side
- To progress to 17.5 kg for my forearm exercises with the EZ bar.

Warm up: I rowed for four minutes in gear 10 at an increasing speed up to 35 strokes per minute. I then did all my stretches and held them for 12 seconds each.

Swiss ball chest press: I made no progress from last session in this exercise. I completed the first set without any problems but only managed to carry out 4 repetitions in the second set. I again carried out another set using 14 kg.

Swiss ball pec fly: I didn't make any progress in this exercise either. I completed the first two sets using 12 kg but had to go back down to 10 kg for the last set.

Cable lat pull down: I managed to complete two sets and two more reps using 55 kg.

Swiss ball lat raise: Today I again managed to lift 8 kg for two and a half sets.

Swiss ball shoulder press: I made some progress from last session as I completed the first two sets and got halfway through the third using 10 kg.

Ab crunch: I found progressing to 35 kg a lot harder than I thought it would be but I still managed to complete one and a half sets with this weight. I dropped the weight right down to 25 kg for the remaining 9 reps.

Rotary Torso: I was very pleased with my progress today as I finally managed to do all three sets with 32.5 kg on both my left and right sides. I will progress to 35 kg next session.

Alternate hammer curls: In today's session I managed to complete all three sets using 14 kg. I will progress to 16 kg next session.

Narrow grip pull down: I made a lot of progress today – I managed to complete all three sets using 45 kg. I will try to overload to 50 kg next session.

Seated leg press: I did two and a half sets using 133.75 kg.

Hip abduction: In today's session I progressed to using 55 kg for this exercise. I found it very hard and only managed to do one and a half sets. I did another set using 50 kg.

Hip adduction: I did not find this as hard as the abduction machine and I managed to complete to full sets with 55 kg. I did another set with 50 kg.

Shoulder shrugs: I managed to complete all three sets today using 22 kg. I will progress to 24 kg next session.

EZ bar forearm curls: I today progressed to using 17.5 kg for this exercise. I completed one and a half sets with this weight. I did the remaining 9 reps with 15 kg.

EZ bar reverse grip forearm curls: I today progressed to using 17.5 kg for this exercise. I completed two sets using this weight and did another set with 15 kg.

Cool down: I ran for four minutes, decreasing the intensity to a walk. I then carried out the appropriate stretches for all the muscles I had worked during the session. I held the stretches for 30 seconds to improve my flexibility.

Overall evaluation: I was very pleased with today's session as I succeeded in meeting all of my session aims. I completed all my exercises and progressed in my hip adduction, hip abduction, ab crunch and forearm exercises. I also managed to complete all three sets on the rotary torso machine so I will be able to progress next session.

Wednesday 6/12/02:

Session aims:

- To complete all components of my devised session
- To progress to using 35 kg for the rotary torso machine
- To progress to using 16 kg for alternate hammer curl on the sews ball
- To progress to using 50 kg for narrow grip pull down
- To progress to using 24 kg for shoulder shrugs

Warm up: I rowed for four minutes in gear 10 at an increasing speed up to 35 strokes per minute. I then did all my stretches and held them for 12 seconds each.

Swiss ball chest press: I was surprised with how easy I found it to progress to 16 kg. I managed to complete two sets and did a third with 14 kg.

Swiss ball pec fly: Today I managed to complete all three sets using 12 kg – an improvement of one set (6 reps) on last session. I will progress to 14 kg next session.

Cable lat pull down: I was quite disappointed with this exercise as I made no progress from last session. I completed two sets with 55 kg but had to use 40 kg to complete the last set.

Swiss ball lat raise: Despite the fact I didn't do very well at cable lat pull down, this went surprisingly well. I managed to complete all three sets using 8 kg and I will try and progress to 10 kg next session.

Swiss ball shoulder press: I was very pleased with this exercise as I managed to complete all three sets using 10 kg. I will try and progress to 12 kg but I think I will find this quite hard as I found it very hard to complete the third set using 10 kg.

Ab crunch: I completed two sets using 35 kg and did the third set with 30 kg.

Rotary Torso: I today progressed to 35 kg. I completed two sets on my right hand side but as usual, found it a lot harder on my left hand side and only managed one and a half sets. I did a further set on both sides with 30 kg.

Alternate hammer curls: Today I progressed to using 16 kg. I managed to complete two sets with this weight but I could not manage to do another set even with 14 kg so I did not do a third set.

Narrow grip pull down: I progressed to using 55 kg and found it a lot easier than I expected. I managed to complete two and a half sets.

Seated leg press: I managed to complete all three sets using 133.75 kg so I will try once more to progress to using 140 kg next session.

Hip adduction: I completed two and a half sets using 55 kg.

Hip abduction: I managed to complete two sets with 55 kg. I did another set with 50 kg.

Shoulder shrugs: I progressed to using 24 kg but I only managed to complete one set with this weight. I did another two sets using 22 kg.

EZ bar forearm curls: I completed two sets using 17.5 kg. I tried to do a third with 15 kg but I could not even do one rep.

EZ bar reverse grip forearm curl: I again managed to sets with 17.5 kg and did a third with 15 kg.

Cool down: I did not have enough time to do my cool down properly so I just did all my stretches for 15 seconds instead.

Overall Evaluation: Today's session went well and I managed to meet all my session aims. I progressed in four exercises, which shows that my power is improving and I am therefore fulfilling the aims of my PEP.

I did some more skills training in the pool this evening. I was working on my cartwheeling (a manoeuvre that is normally specific to rodeo kayaking, which I also compete in) and felt a lot of stiffness about my obliques and abdominals. I also felt very stiff in my triceps and deltoids when practicing my high telemark (support and turn) strokes. This is because I did not warm down properly earlier today.

Week 6

Monday 11/12/02:

Session aims:

- To complete all components of my devised session
- To progress to 14 kg for pec fly on the swiss ball
- To progress to 10 kg for lat raise on the swiss ball
- To progress to 12 kg for shoulder press on the swiss ball
- To progress to 140 kg for seated leg press

Warm up: I rowed for four minutes in gear 10 at an increasing speed up to 35 strokes per minute. I then did all my stretches and held them for 12 seconds each.

Swiss ball chest press: I did not make any progress from last session - I did two sets with 16 kg and a third with 14 kg.

Swiss ball pec fly: Today I tried to progress to 14 kg but I was only able to carry out one set. I did another two sets with 12 kg.

Cable lat pull down: I was very pleased with this exercise as I managed to complete two sets plus 4 repetitions of the third set. Again, I am hoping to be able to complete all three sets using 60 kg by the end of this macro – cycle.

Swiss ball lat raise: I found using 10 kg for this very hard and only managed to complete one set with this weight. I did another 2 sets using 8 kg.

Swiss ball shoulder press: I found this very hard also. I managed to do one and a half sets using 12 kg and did the other 9 reps with 10 kg.

Ab crunch: I completed all three sets with 35 kg and I will progress to using 40 kg next session.

Rotary Torso: I completed two and a half sets on my right side and two sets on my left using 35 kg.

Alternate hammer curls: I made some progress from last session as I managed to complete two sets using 16 kg and then did a third set using 14 kg.

Narrow grip pull down: I managed to complete all three sets using 55 kg and I will progress to 60 kg next session.

Seated leg press: I managed to do two sets using the new weight of 140 kg. I dropped the weight right down to 130 kg to do the third set.

Hip adduction: I completed all three sets using 55 kg. I will progress to 60 kg next session.

Hip abduction: I completed two and a half sets with 55 kg.

Shoulder shrugs: I completed one and a half sets using 24 kg. I did the remaining 9 reps using 22 kg.

Forearm curl: I completed all three sets using 17.5 kg. I will progress to using 20 kg next session.

Reverse grip forearm curl: As above.

Cool down: I ran for four minutes, decreasing the intensity to a walk. I then carried out the appropriate stretches for all the muscles I had worked during the session. I held the stretches for 30 seconds to improve my flexibility.

Overall Evaluation: I was satisfied with today's session as I achieved all my session aims even though I found it particularly hard to progress in pec fly. I progressed in four exercises, which shows my power is improving and I am fulfilling the aims of my PEP.

Wednesday 13/12/02:

Session aims:

- To complete all components of my devised session
- To complete all three sets using 60 kg on cable lat pull down
- To progress to 60 kg for narrow grip pull down
- To progress to 60 kg on hip adduction
- To complete all three sets using 55 kg for hip abduction
- To progress to using 20 kg for my forearm exercises
- To progress to using 40 kg for ab crunch

Warm up: I rowed for four minutes in gear 10 at an increasing speed up to 35 strokes per minute. I then did all my stretches and held them for 12 seconds each.

Swiss ball chest press: I was very pleased with this exercise as I managed to do two sets and four reps of the third set using 16 kg.

Swiss ball pec fly: I made a little progress this session as I managed to do one and a half sets with 14 kg. I did the other one and a half sets with 12 kg.

Cable lat pull down: I achieved my goal of completing all three sets using 60 kg on cable lat pull down. As I plan to continue training after my PEP is finished, I will progress to 65 kg next session.

Swiss ball lat raise: I made a lot of progress from last session as I managed to complete to full sets using 10 kg. I did the third set with 8 kg.

Swiss ball shoulder press: I completed two sets with 12 kg and did the third set with 10 kg.

Ab crunch: I did two sets with 40 kg. I did a third set with 35 kg.

Rotary Torso: I completed all three sets on both sides using 35 kg. I will progress to using 40 kg next session.

Alternate hammer curls: I completed all three sets using 16 kg. I will progress to 18 kg next session.

Narrow grip pull down: I today progressed to using 60 kg. I completed two sets with this weight and did a third with 55 kg.

Seated leg press: I completed all three sets using 140 kg and I will progress to 150 kg next session.

Hip adduction: I progressed to 60 kg and managed to do two sets with this weight. I then did a third with 55 kg.

Hip abduction: I achieved my goal of completing all three sets with 55 kg and I will progress to 60 kg next session.

Shoulder shrugs: I completed two sets using 24 kg. I did the third set with 22 kg.

Forearm curl: I today progressed to using 20 kg. I only managed to do one set with this weight and had to go back to using 17.5 kg for the other two sets.

Reverse grip forearm curl: I completed one and a half sets using 20 kg. I was too tired to do any more even with a lower weight.

Cool down: I ran for four minutes, decreasing the intensity to a walk. I then carried out the appropriate stretches for all the muscles I had worked during the session. I held the stretches for 30 seconds to improve my flexibility.

Overall evaluation: I was very pleased with today's session as I met all my session aims by completing all the components of my session and I successfully progressed in 2 exercises – showing that my power is improving so I am fulfilling the aim of my PEP.

Re- Test Results

Component of Fitness	Test	1 st Test Result	Re -Test Result	Comments
Muscular endurance	Sit ups	46	52	The muscular endurance of both my upper body and my core has improved.
	Press ups	38	46	
Power	Sergeant Jump	126 kg/m/sec	130 kg/m/sec	This shows the power of my legs has improved.
Strength	Grip strength dynamometer	L: 48 R: 50	L: 56 R: 56	Both my grip strength and back strength have improved.
	Back strength dynamometer	128	138	
Flexibility	Sit and reach	14	15	I am more flexible now than I was before my PEP.

Summative Evaluation

My re-test results show that I have improved each component of fitness relevant to my PEP.

Although I wasn't training to improve my muscular endurance, my power training has obviously helped improve my endurance also. The fact that I can do 52 sit-ups in a minute compared to 46 at the start of my PEP shows that the muscular endurance of my core has improved. At the start of my PEP, I could only do 38 press ups in a minutes, I can now do 46. This shows that the endurance of my arms, chest, back and shoulders has improved also. Had I been training specifically to improve the muscular endurance it would have been more ideal to do exercises with lower weights and more repetitions

My results in the sergeant jump test show that the power of my legs has improved as a result of my PEP. I scored 130 kg/m/sec at the end of my PEP compared to 126 kg/m/sec at the start of my PEP. This shows that working out on the seated leg press machine has been successful in improving the power of my legs.

My strength has improved as a result of my PEP. I improved my score on the grip strength dynamometer on my left hand by 8 and on my right side by 6. This shows that my power training for my forearms using the EZ bar has also served to improve the strength of my forearms. Before my PEP, I scored different amounts on each hand but in the re-test I scored 56 on both. This shows that my training has been balanced.

I improved my score on the back strength dynamometer by 10. This shows that the strength of my back has improved as a result of my training for power.

My score for the sit and reach test improved by two, showing that my flexibility has improved as a result of my 30 second stretches at the end of each session. This test may not be completely reliable, as I may have warmed up more thoroughly for the second test than I did for the first.

However, none of these tests are specific to upper body power – the main component of fitness that I was aiming to improve through my PEP. Therefore I am going to make a table showing the weight I was training with at the start of my PEP and the weight I am training with now, at the end of my PEP, to help me to evaluate how effective my training programme has been:

Exercise	Weight used at start of PEP	Weight used at end of PEP
Swiss ball chest press	12 kg (per arm)	16 kg
Swiss ball pec fly	10 kg (per arm)	14 kg
Cable lat pull down	45 kg	60 kg
Swiss ball lat raise	6 kg (per arm)	10 kg
Swiss ball shoulder press	8 kg (per arm)	12 kg
Ab crunch machine	30 kg	40 kg

Rotary torso machine	30 kg	35 kg
Alternate hammer curls	12 kg (per arm)	16 kg
Narrow grip pull down	40 kg	60 kg
Seated leg press	120 kg	140 kg
Hip abduction machine	50 kg	55 kg
Hip adduction machine	50 kg	60 kg
Shoulder shrugs	20 kg (per arm)	24 kg
Forearm curls (EZ Bar)	12.5 kg	20 kg
Reverse grip forearm curls	12.5 kg	20 kg

This table shows that I am now lifting higher weights than I was at the start of my training programme for each exercise. My upper body power has therefore improved, as has the power of my legs (this was shown by my re-test in the sergeant test).

I am now training with 16 kg (per arm) for chest press on the swiss ball. This is 4 kg more than I was using at the start of my PEP. This shows that the power of my pectorals and triceps has improved so this exercise was effective. As my triceps and pectorals are now more powerful, the recovery phase of my stroke will be quicker.

At the start of my PEP I was using 10 kg (per arm) for pec fly on the swiss ball. I am now using 14 kg, a weight with which I could not even do one rep with at the start of my PEP. The power of my pectorals has therefore improved and I have again met my aims. The movement used in pec fly is specific to the action used in a pawlata roll so the aforementioned will now be more effective.

I am lifting 15 kg more on lat pull down than I was at the start of my PEP. This is a huge improvement and clearly shows that the power of my latissimus dorsi has improved a lot. This will mean that I will complete the power phase of my stroke more quickly. My score on the back dynamometer shows that my training for power has also improved my back strength. I am now training with 10 kg (per arm) for lat raise on the swiss ball compared to 6 kg at the start of my PEP. This again shows an obvious improvement in the power of my lats. However, this exercise is more specific to the exit phase of my stroke as it will help me raise the paddle out of the water quickly.

I now lift 4 kg more (per arm) on shoulder press on the swiss ball than at the start of my pep. The power of my shoulders has therefore improved, meaning that this exercise has been effective in achieving the aims of my PEP. As my deltoids are now more powerful, the speed at which I move the paddle up and through the air in the recovery phase of my stroke should be quicker.

I now use 40 kg on the ab crunch machine – an improvement of 10 kg on the weight I was using at the start of my PEP. This means I have improved the power of my abdominals so the speed at which I lean forward for the catch phase of my stroke will have increased. I have progressed by 5 kg on the rotary torso machine. This shows that I have improved the power of my obliques. This will mean I will be able to twist more

quickly for the catch phase of my stroke and unwind with more power in the power phase of my stroke.

I am now training with 16 kg (per arm) an improvement of 4 kg on the weight I was using at the start of my PEP for alternate bicep curl on the swiss ball. This exercise has therefore obviously been effective as it has achieved my aim - to improve the power of my biceps. As my biceps are now more powerful, I will be able to exert a greater force on the paddle and my stroke will therefore be quicker, giving me a quicker time overall.

I have progressed to 60 kg in narrow grip pull down – 20 kg more than the weight I was training with at the start of my PEP. This means that I have improved the power of my triceps so the speed at which I move the paddle through the air in the recovery phase will be quicker and I will pull the paddle down into the water with more speed for the catch phase.

I have also progressed by 20 kg to 140 kg on seated leg press. The main aim of doing this exercise was to maintain a good balance between my upper and lower body. However, it will also help in the power phase of my stroke as it is important that the leg on the side of the immersed blade pushes firmly against the footrest to impart the pull from the paddle to the forward movement of the kayak. As I now have more powerful legs, I will be able to do this better. The exercise has been effective but I will soon be lifting the full stack so I may have to start using the smith machine to carry out my leg press exercises.

I have progressed by 5 kg on the hip abduction machine and 10 kg on the adduction machine. This means I will have more power about the groin and I will therefore have a faster roll as my hip flick will be more powerful. This will also mean I will be more likely to have the ability to balance the boat without the use of major support strokes, enabling me to focus on paddling – enabling me to complete the course in a lower time.

I am now training with 24 kg for shoulder shrugs, compared to 20 kg at the start of my PEP. This means that the power of my trapezius is better so I will be able to pull the paddle out of the water more quickly during the exit phase of my stroke. This will mean that I will not lose so much forward momentum and therefore I will complete the course more quickly.

At the start of my PEP I was using 12.5 kg for my forearm exercises on the EZ bar. I am now using 20 kg, which shows my forearms are now almost twice as powerful as they used to be. This will mean that I can flex my wrist more quickly during the recovery stage of my stroke so I will be able to get the paddle into a more aerodynamic position – improving the overall speed of my stroke. My scores on the grip dynamometer test showed that I had improved so my power training for my forearms has also benefited the strength of my grip. This means I am less likely to lose my paddle and therefore boosts my chances of completing the course.

Appraisal

I believe that throughout my PEP I have effectively applied the principles of training (POSSIFITTV).

I have worked the principle of progression into my PEP by increasing the amount of weight I lift. For example, at the start of my programme I was training with 40 kg for narrow grip pull down; now I am using 60 kg for this exercise.

I have applied the principle of overload by increasing the weight I lift as soon as I am capable of completing 3 sets of 6 reps. If I were to find an exercise easy (or was not in any discomfort whilst doing it) I would increase the weight as it is important to lift weights that you find hard to lift in order to improve.

I have used the training principle of specificity by focussing on improving my upper body power rather than my lower body power. Also, I have tried where possible to use exercises which either replicate, or are similar to movements used in kayaking.

I applied the idea of individual difference to my programme as I devised a programme that I could cope with and was specific to what I wanted to achieve.

I did not manage to apply the principle of frequency into my PEP as I only trained twice a week. Ideally, I would have trained three or four times a week but I did not have enough spare time in my timetable to do this. The amount of progress I made well my have been hindered by this.

I applied the principle of intensity into my programme as I worked out what intensity I should be training at to improve my power by working out what 70 % of my one repetition max (1 RM) was and did 3 sets of 6 reps for each exercise, with 60 seconds rest between each set.

The principle of time was dictated by the intensity at which I was training.

The idea of the type of training is not applicable to my programme as I was training for power.

I did not use any variation in the 6 weeks of my PEP as my muscles did not have enough time to adapt to the training. However, for my next meso-cycle I will make a few changes to ensure I do not reach a plateau in my training.

There are a few changes I will make to my programme for the next meso-cycle:

- It may be ideal to do some endurance training for my abdominals along with my power training work as I have realised this is as important as power. I could do this by doing crunches and jack-knives on the swiss ball as this would improve my balance also.

- Although cable lat pull down has been effective in improving the power of my latissimus dorsi, in the future I will use the seated row machine as it is more specific to the action used in kayaking.
- I will use forearm wind ups instead of curls on the EZ bar as this is more specific to the actions used in kayaking.

I may have to make changes to my programme if I find that I am no longer progressing. This will normally be fairly easy as there are many exercises that achieve the similar things. For example, if I reached a plateau in my training on narrow grip pull down, I could start doing tricep extension with the EZ bar instead.

I think my PEP has been very successful, as I have improved the power of my body so my kayaking will now be much better as I will be faster and be more capable of carrying out specific skills within my sport. This training will have also benefited my surfing and rugby which are also sports that require power.