

Personal Exercise Programme

Introduction

I have chosen badminton for my personal exercise programme. I will enhance my performance by improving power (both arms and legs) and speed (agility).

Principle of Training

Specificity - It refers the relevance of the choice of exercise to the activity to be improved. It does not govern just the muscles, fiber type and actions used, but also the energy systems which are predominantly stressed. The energy system used in training should replicate that predominantly used in event.

Progressive overload - It considers the intensity of the training session. If the exercise takes place on a regular basis the body's system will adapt and start to cope with these stresses, the intensity of training will need to be gradually increased in order for further improvement to occur.

Reversibility - Performance will deteriorate when training ceases or the intensity of training decreases for extended periods of time. Because you don't use it you will lose it.

Variance - The idea of variance is that training loads and skill demands should be varied with time. There are 3 sets of reasons for this.

- 1. Physiological reasons - Fatigue, depletion of energy reserves, rising of response threshold to stimulus, muscles soreness and so on, they are the effects of the repeated and prolonged stress on biological systems. Therefore, it is necessary to vary loads so that none of these factors causes regression.*
- 2. Psychological - It tends to remove the emotive stress of coping with large amounts of exhausting and painful work. It also enables learning and activity targets to be reassessed. Motivation will be improved as well*
- 3. Periodisation - It is a concept which centered on a cycle load design principle and enables to vary intensity, duration and frequency of activity in a structured plan.*

Individual needs - The factors that need to taken into account when designing a training programme are described below.

- 1. Fitness needs - Programme are set to meet the needs and abilities of an individual. Different individual has different needs and abilities. Fitness levels can be determined by a fitness testing assessment.*
- 2. Psychological needs - The personal importance of psychological needs (e.g. Motivation) varies greatly between individuals. Training also should be organized so that clear goals are set and realistic targets for attainment agreed and understood.*

3. *Maturation* - Child or immature people cannot be put into high training load, it can be dangerous as their muscles haven't grown up yet. In addition, their physical skill learning is much slower process for older individual.
4. *Male/Female* - The size and the strength of the female are usually less and therefore loads need to be adjusted accordingly.
5. *Cultural differences* - Different attitudes to exercise and its place in one's lifestyle can play an important part in the effectiveness of training.

The F.I.T.T. regime

- F = frequency of training (how many times per week)
- I = intensity of exercise (depends upon the type of training occurring)
- T = time (time or duration that the exercise is in progress)
- T = type of training (interval, continuous, Fartlek, plyometric etc)

Different training programmes have different F.I.T.T. In my case, I have chosen plyometric training for my type of training. It has long been established that muscles generate more force in contraction when they have been previously stretched. So the intensity of the exercise usually is quite high. The duration would not be considered in isolation since intensity of training often determines the duration of the training session. The programme would only be performed 3 or 4 times per week as sufficient rest days are required for the body tissues to repair themselves following the high intensity work.

Warm Up - An exercise cannot not be without any warm up and cool down. They are so important because of many reasons. A further warm-up is to raise the body temperature. It has been shown that ATP conversion; glycolytic enzyme action and muscle reaction response times are quicker at a slightly higher temperature. Blood viscosity slightly reduced at higher temperature, so that the blood flow and its ability to pass through the capillary system are improved. Light muscle stretching prepares the musculature for operation over its full range. It is also to reduce the risk of injury with effective warm-up.

Cool Down - The purpose of doing cool down is to flush the capillary system with oxygenated blood, thereby enabling oxygen debt in muscles to be fully purged and lactic products of lactic anaerobic work to be converted and removed. This limits muscle soreness and enhances recovery.

Analysis

Badminton is a very fast game. Not only speed and power maintained are crucial, but flexibility also is very essential. If I am not fast enough, I couldn't hit the shuttle back; if I don't have enough power to hit back the shuttle, opponents can return it easily. In addition, Flexibility allows me to do many kinds of smooth actions such as drop shot, backhand clear etc. Refer to my research; there is 60%-70% of the energy derived from aerobic system during the match. The other energies are derived from ATP-PC and lactic system. Skill is also one of the main important components I have to concern, but the opportunity of playing at my level of badminton is limited. Therefore, I can only focus on improving my fitness.

Test

I am going to design the programme to improve my arm power, leg power and agility as they are indispensable components of badminton. Before designing the programme, tests are required. It can be used to:

- Predict future performance
- Indicate weakness
- Measure improvement (progression)
- Motivate the performer

Overhead medicine ball throw test

Overhead Throw



Equipment:

A medicine ball and a partner.

Start:

Stand with a medicine ball overhead.

Action:

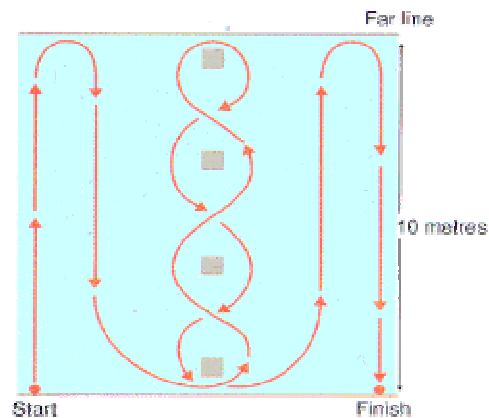
Step forward and bring the ball sharply forward with both arms throwing it to a partner, or over a specific distance.

Illinois Agility Run Test

To undertake this test you will require:

- Flat surface
- 8 cones
- A stop watch
- An assistant

The length of the course is 10 metres and the width (distance between the start and finish points) is 5 metres. On the track you could use 5 lanes. 4 cones can be used to mark the start, finish and the two turning points. Each cone in the centre is spaced 3.3 metres apart.



The Illinois Agility Run Test is conducted as follows:

1. The athlete lies face down on the floor at the start point
2. On the assistant's command the athlete jumps to his/her feet and negotiates the course around the cones to the finish
3. The assistant records the total time taken from his command to the athlete completing the course.

Analysis

The following table is for adult athletes.

Gender	Excellent	Above Average	Average	Below Average	Poor
Male	<15.2 secs	15.2 - 16.1 secs	16.2 - 18.1 secs	18.2 - 18.3 secs	>18.3 secs
Female	<17.0 secs	17.0 - 17.9 secs	18.0 - 21.7 secs	21.8 - 23.0 secs	>23.0 secs

Sergeant Jump

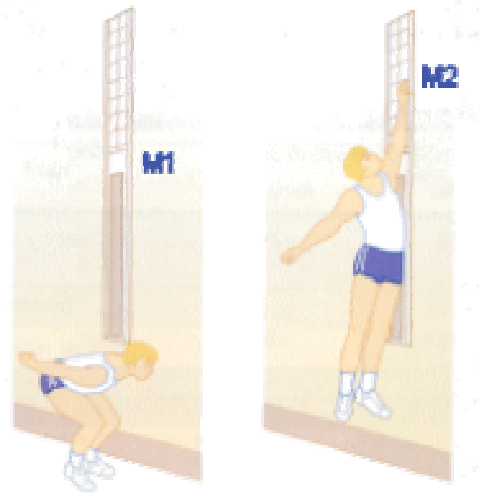
To undertake this test you will require:

- A wall
- 1 metre Tape Measure
- Chalk

How it works

The athlete:

- chucks the end of his finger tips
- stands side onto the wall, keeping both feet remaining on the ground, reaches up as high as possible with one hand and marks the wall with the tips of the fingers (M1)
- from a static position jumps as high as possible and marks the wall with the chalk on his finger tips (M2)



The coach then measures the distance from M1 to M2. The test can be performed as many times as the athlete wishes.

Analysis

Analysis of the results is by comparing them with the results of previous tests. It is expected that, with appropriate training between each test, the analysis would indicate an improvement in the athlete's leg strength. The following data has been obtained from the

results of tests conducted with world class athletes. The programme will last for 12 weeks. I will test myself every 3 weeks and then the programme will be overloaded progressively.

% Rank	Females	Males
91-100	76.20 - 81.30 cm	86.35 - 91.45 cm
81 - 90	71.11 - 76.19 cm	81.30 - 86.34 cm
71 - 80	66.05 - 71.10 cm	76.20 - 81.29 cm
61 - 70	60.95 - 66.04 cm	71.10 - 76.19 cm
51 - 60	55.90 - 60.94 cm	66.05 - 71.09 cm
41 - 50	50.80 - 55.89 cm	60.95 - 66.04 cm
31 - 40	45.71 - 50.79 cm	55.90 - 60.94 cm
21 - 30	40.65 - 45.70 cm	50.80 - 55.89 cm
11 - 20	35.55 - 40.64 cm	45.70 - 50.79 cm
1 - 10	30.50 - 35.54 cm	40.65 - 45.69 cm

Test results

Test	Fitness area	Current	Ideal
Overhead medicine ball throw	Arm power	7.20m	>9.50m
Vertical jump	Leg power	55cm	70cm
The Illinois agility run	Speed/agility	16.51s	<15.50s

Method of training

Plyometric training

It is forcibly pre-stretching the muscle in the eccentric phase to produce a more powerful concentric contraction. It improves either strength or speed of shortening, power may be improved. One methods of training which may improve the speed at which a muscle shorten is plyometrics. This stimulates adaptation within the neuromuscular system and produces a more powerful concentric contraction of the muscle group. The disadvantages of this training are so much stress on the joints and increased potential for DOMS.

I have chosen Medicine ball throw, 3 shuttle run exercises, incremental vertical hop and double leg hop. The quality of the plyometric exercises is more important than the quantity. I won't perform this exercise more than twice without 48 hours rest. Since I have to make sure that my muscles have sufficient time to recover themselves. Now I am going to describe them and explain why I choose them.

Shuttle run

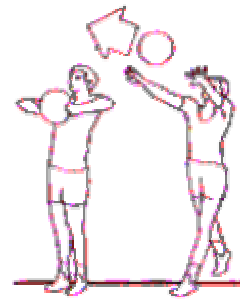
I use the half of the badminton court for my training. And not I am going to describe how I perform the exercise. I will do three exercise of shuttle with different routes of each. The route is supposed to be like that: I will start from the center (O) and run to either point A or point B. After that I return to center and run to other point.

	A	B	
	C	D	

Medicine ball throw

Chest push

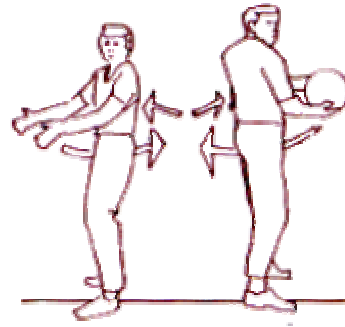
- Feet together
- Hands behind ball and elbows out
- Step forward and push ball upwards and towards your partner



Because I don't have any partner on this exercise, so do it alone and pass it to the wall. In the chest push, the triceps, pectorals, latissimus, deltoids, and wrist and forearm muscle are engaged in this exercise. Apart from skilful work, I can only choose the right exercise to improve my working muscle in badminton. And this exercise includes almost all main part of working upper body muscle of badminton. Moreover, it doesn't take a long time to complete do it won't de-motivate me so easily.

Standing torso twist

- Stand back to back 1 meter apart
- Keep your hips facing forward and legs slightly relaxed
- Pass the ball to one another by only twisting the torso



Again I don't have partner of this exercise, so I could only perform alone and pass the ball to the wall. This exercise is also very useful for my working muscle of upper body.

Shuttle run exercise

Incremental vertical hop

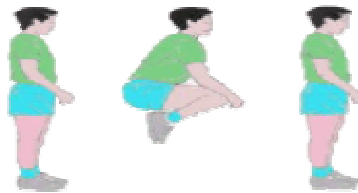
This exercise is combines agility and power. Used for vertical jumps and takeoffs. Jump using a style similar to that of the tuck jump, from side to side of the rope, aiming to go further up the rope.

And I will remember to use the arms, and to tuck the knees into the chest on the lift phase, as well as spending minimal time on the floor in the jump phase.





Tuck jump



How to perform the drill

- Begin in a standing position
- Jump up, grabbing both knees as they come up your chest
- Return to the starting position landing on the balls of the feet
- Try to anticipate the landing and spring up as quickly as you can
- Keep the feet touch down time on the ground to the shortest time possible

I have chosen this exercise as my part of the PEP since this drill is performed as a series of rapid explosive jumps that exercise the hip and leg flexors, gastrocnemius, gluteals, quadriceps and hamstrings. They are all what I need in performing badminton. In addition, this exercise doesn't take a long time which will not de-motivate me so easily. The skill of this exercise is not difficult as well, the only problem is I will easy to get injury if I perform wrongly.

Interval training

Interval training is characterized by repetitions with an interval of time between; these are organized in sets, with a longer period of time between sets (the rest period between sets is called rest relief).

It can improve both anaerobic and aerobic capacities and enables the performer to exercise at the specific intensity necessary to train the relevant energy system for that activity. Types of training incorporating the interval concept include:

- weight training
- circuit training
- stage training
- sprint training
- endurance training
- training for a game utilizing game skills but composed of sets and repetitions.

Measuring the interval between repetitions and sets is to access the pulse rate of the sportsperson immediately after a repetition. The next repetition is then begun when the pulse rate falls to a predetermined percentage of its value at the end of the effort or to a value set beforehand (say, 120bpm). But it only for aerobic training used. Because the work interval of the ATP-PC system is relatively short, so this would be expressed as a work:relief ratio of 1:3

In my case, I use interval to improve my speed/agility. It works as ATP-PC anaerobic energy system and fast-twitch muscle fibers. Therefore, this session of programme will be designed from 3 to 5 sets of up to 8 or 10 repetitions per set - between 90% and 100% load with full (1 minute) recovery intervals between sets. However, I will perform 1 time a week only as there are so many plyometric exercises in my PEP and some of them can improve my speed/agility as well (Double leg speed hop). I will progress it every 3 weeks.

My interval training prescription is 5 x 10 x 15m W:R 1:3 between repetition. This training improve my speed and agility

Evaluation

Throughout the 12 weeks program, I can feel that my fitness have been improved and the test results have showed that I have improvement. And here are my evaluations for these 12 weeks:

Week 1 (12/9 - 16/9)

It is the start of my PEP; some of exercises are set a bit too high that I can't do. In the shuttle run, the resting time between each repetition may not be plenty enough (30secs), I found that it was hard to finish it. Finally, the quality of the last few actions during the bout is worse. So next time I will set the resting time between the repetition

longer (45secs), which I still feel hard before start of the next repetition of the exercise.

Incremental vertical hop and tuck jump were quite easy to be competed. After the exercise, I didn't hurt and it may be the result of plenty of warm up. They both are efficiency since I felt very tired and a lot of stresses are put on my muscle. They are saved time as well, it gives more spare time for me to do warm or overloads the exercise after each 3 weeks.

In the medicine ball throw, I really enjoyed doing them since it only spent around 10 minutes but it worked efficient. My energy was almost exerted all after every repetition. Most of my muscles in arm were included. It was really helpful for building up my arm power for badminton.

I did the worse in interval training, because it was so bored to sprint so many times and it de-motivated me. In addition, I felt quite tired when I was doing set 3. Therefore, I gave up after I did part of the set 4.

In conclusion, the training was going alright but I can pay more effort to compete. Except the rugby training on Monday, I should compete all of the exercise on Thursday and Saturday. I will try to motivate myself to finish the exercise which I couldn't finish before.

Week 2 (19/9 - 23/9)

After evaluation and resetting the intensity and the resting time of the PEP, I almost did all of them because little injury. In addition, I have chosen to play for rugby first team and it really motivated me to keep myself in good fitness morale.

In the shuttle run, I still found hard in the last of each set (except the first 2 sets). The quality has been improved but still has space to do better. I almost competed all as I reset the resting time longer between each repetition. My tight and soleus were really stressed after these exercises.

In incremental vertical hop and tuck jump were still going well and I didn't hurt in this exercise. They can be continued but cannot be overloaded too much since I have to

avoid suffering injury. Moreover, I found a serious problem in my balance of body; my left side body is much weaker than the other side. After the exercise, my left knee feel a bit painful.

This problem is also found when I was doing the exercise of medicine ball even I did it in good quality. At the last set of exercise, my left biceps felt painful and lack of energy. So I decided to do more in left side in the future exercise.

I also found the same problem when I was doing the interval training. My left knee was injured during the exercise (set 3). In order to avoid getting injury, I decided to cease and stopped doing any sports entertainments on the rest of the day.

In conclusion, the training of this week was better in both quality and quantity. It was mainly because of the motivation of being chosen in first rugby team and the training of first week. However, I have to concern my injury even it may not be serious. Protein and carbohydrate are supposed to take more since the former one repairs muscle tissues and the latter provides the main source of energy.

Week 3 (26/9 - 30/9)

After the 2 week training, I could cope with the training on this week. Especially the shuttle run, I did it much better in quality and quantity and my heart rate has risen to more than 180 which meant that the intensity of the exercise was high.

The same problem last week found in incremental vertical hop and tuck jump again. My left knee felt a bit painful but I didn't stop this time since I don't want to find any excuses to stop training. Actually the different between left leg and right leg is not very obvious. So I will keep the same intensity of the exercise on both legs.

I have started doing more by the left arm in the medicine ball throw exercise. It aims to reduce the different between left and right arm. Hopefully, left arm will progress

rapidly which can balance the body.

The problem of my left knee was going serious this time when I was doing the interval training. After I did half of the exercise, I couldn't sprint as my left knee was really hurt. Therefore, I ran 20 minutes with 50% - 60% effort instead since there is around 35% energy are provided by aerobic pathways.

In conclusion, except the interval training, I could manage this level of the exercise. So I am ready to overload the exercise to improve myself.

Week 4 (3/10 - 7/10)

Before the day starting the week of training, I did a test to see whether I have improvement. As a result, all my tests have gone up, especially the leg power and agility, the progress were quite clear. It really motivated me even the exercise has been overloaded. I overload each exercise by adding one more set. Therefore, I found a bit harder on the first session of the plyometric exercise in shuttle run. But I still bear in mind to keep the quality as good as I can.

On the other leg plyometric - incremental vertical hop and tuck jump, I found extremely tired at the end of both exercise. I have thought of giving up at the last, however, when I achieved improvement from the first 3 weeks, it motivated me again and so I completed it in good quality.

About the medicine ball throw, my left arm still kept on doing more than right. At last, my both arms not only ran out of energy, but my left arm also felt a bit painful. Hopefully, the different between left and right arm will be reduced closely in the next few week.

Again, the interval training couldn't complete since my left knee felt painful again after the 4 sets of training. I will try to find the problem of my left knee. The problem may be my posture is not right or my warm up was not enough. If I could complete the interval training before, my improvement should not only be gone up at that level.

Generally, the intensity of the overall exercise was overloaded correctly since there were a lot of stresses which imposed on my muscle. In addition, my muscle felt painful after the day of training, it showed that the intensity of exercise was good. However, it might also reflect my warm down was not enough.

Week 5 (10/10 - 14/10)

The training on this week have been uploaded which is same as last week. The time was taken a bit longer but at least I completed them in standard quality. At the same, much of stresses have been imposed on my muscle and I feel pain on my muscle.

In the shuttle run, I found that this is the most hard-worked and long exercise which is always de-motivated. But I couldn't give up since I haven't done 4 weeks already and I don't want to loss what I gained from the first 3 weeks training programme. So the performances of the training have been getting better. Next time I will try to do it without the cone to see whether my position will loss or not.

After finished the shuttle run, incremental vertical hop and tuck jump are followed.

They are my most favour exercise not because they saved much time and the excellent outcomes will be provided. It should not de-motivate me anymore because it's not difficult to complete even if I found tired in the last of the exercise.

The exercise of medicine ball throw are going well and I will see whether the different between left arm and the right arm is closer or not after a few weeks.

I knew why my left knee felt pain before previous weeks, it's because my posture of landing was wrong and therefore I couldn't keep on doing. Since I was forced to give up in the previous weeks because of the injury, this week I found that it was extremely hard to complete. So the quality was not good enough at last of the sets.

Having been found the problem interval training, I knew how to run probably which will not hurt my left knee again. I expected the performance will get better since I will not stick in the interval training again except I got injury.

Week 6 (17/10 - 21/10)

I found that it's a bit easier to finish the shuttle run exercise even if my heart rate has been gone up to around 180 b/m. The recovery rate has been faster than before. It means I probably can cope with the next level of exercise which is showed in the PEP timetable week 7 - week 9.

And there was no problem in the incremental vertical hop and tuck jump. I found that both exercises were much easier to complete so the uploaded of the exercise are necessary.

In the medicine ball throw, the different between left and right doesn't improve very much. Although my purpose in this set of exercise is to improve the power of my strong

arm, it will affect my body balance if my right arm is much stronger than the left. But the frequency of the exercise of each week is not very much so hopefully the improvement of left arm can be seen after 2 or 3 weeks. If not, other methods are needed to solve this problem.

This time I completed interval training better than last week. The last repetition of the last set of exercise may not be good enough, but overall, it has improved so much already.

The other 3 weeks have gone already, I will overload the intensity of exercise on the next week which depends on the test results.

Week 7 (24/10 - 28/10)

I worked so hard this week although the duration and the intensity of exercise have been increased in all exercise. Because all my test results have gone up clearly except the Illinois agility tests, it hasn't gone up very much it should be the results of lacking of interval training. But at least the improvement can be seen.

As all my intensity of training has been overloaded, I found that it's extremely hard to finish in shuttle run even if the intensity of exercise has just been upgraded a bit. However, I finished all of them because the test results motivated me very much. The quality of last part of the exercise may not be very good, but I will perform better next week.

The other plyometric training, incremental vertical hop and tuck jump, I found that it was easier than shuttle run, and I finished it in good quality. I found it a bit harder than before actually, but I think I can do it in more high intensity. So I will lessen the resting time between each set to make my body feeling harder.

It's my first time to find very difficult to finish in medicine ball throw, it probably because the rugby training 2 hours before. My left arm keep doing more than the right, and finally both arm felt extremely tired and the quality was not very good in the last repetition although I finished it so-called.

It really de-motivated me when I did interval training, it was not only boring but also the intensity has been overloaded. I didn't finish it well in the last again even I found that I got enough ability to finish it. But it extremely de-motivated me, I could only think this exercise is very useful for my other favour sport such as basketball, football, rugby etc. So I told myself complete it. But as I said, the quality of the last 1 or 2 repetition was not good enough.

After 7 week exercise, I started finding that it extremely cumbersome. Partly the intensity and the duration of the exercise is high and long, partly my exercise is done individually, no one will support me and I use to be introverted and thinking the negative things.

Week 8 (31/10 - 4/11)

Because I got bad knee during the rugby training, I didn't train on Monday (4/11), but I did train on 31/10 and my teacher trained for me in shuttle run. So it motivated me and I couldn't stop even if I felt extremely tired because I have to show my true improvement to him.

In incremental vertical hop and tuck jump, I breathed so hard in the last set of both exercise. It was the result of shortening the resting time.

In the interval training, this time one of my friend said he wanted to train with me so it a bit motivated me even we did different exercise. It was better if I could do with someone as I will not show my de-motivation of doing the training to other. So I will force

myself to complete. Finally I completed all sets of this exercise, the quality was not the best, but at least it was much better than before. In order to keep my motivation on this exercise, I will ask my friend to train with me and hopefully he doesn't mind.

In order to keep my body balance, it is important to lessen the different between left arm and right arm. Even if my left arm did more than the right the exercise of medicine ball throw, it seems not work very well. So I will try to do some high intensity weight training (left arm only) on every Saturday after interval training. Hope that the balance of body will be improved.

Week 9 (7/11 - 11/11)

This week I did nothing since I got a bruised on my left knee again on Wednesday (7/11) and it hasn't fully recovered until 12/11. This week of training has been cancelled and I will extend the training one more week to cover this week.

But I did start concentrating on my left arm weight training on Saturday. It didn't have to take a long time for me to complete 5 different arm weight training exercises. My left hand felt very tired, hopefully the different between the right arm and left arm can be closer.

Week 10 (14/11 - 17/11)

This week I expected that I would find quite hard to catch up as I ate too much without doing any exercise in last week. However, when I did the exercise, it was not as hard as I think. Of course the quality was not as good as 2 weeks before, but I only did worse at the last few repetitions of exercise.

In shuttle run, I felt extremely bored this week since I stopped for a week therefore it de-motivated me as I didn't want to catch up again. But when I thought there were only 3 weeks left after this week, and then I told myself to finish it as much as I can. My position was well when I was doing the training. However, it would be much better if I

could finish the last bit in high quality.

In incremental vertical hop and tuck jump, it didn't challenge me very much, but I also felt tired in the last part of exercise. It wouldn't de-motivate me so I always finished them in high quality.

When I did the interval training, at first I did it in excellent quality and made a good effort. However, after a few sets, I was de-motivated again as I felt extremely bored and I felt tired. As my friend didn't want to come this week so I did it not in the best quality. On the same day, I kept doing the left arm weight training exercise which is same as last week. It didn't motivate me as it's not hard to complete even I felt very tired after the exercise.

This week was not very good as I can't concentrate on my training. It's because of my personal problem, not only physically but also mentally. But I will also do the test and upload the intensity of exercise which depends on how much my performance has improved.

Week 11 (21/11 - 25/11)

I am so surprised that my performance has still kept improving, especially sergeant jump and medicine ball throw, and they both have kept progressing regularly. While the Illinois run test has improved clearly, it should be the result of lacking of interval training. And now it was the last 3 weeks training so I hope that I could finish the best before I train.

I have uploaded the training which has been showed on the training timetable 11 weeks - 13 weeks. In shuttle run, of course I felt extremely hard to complete, but when I thought that the performance have improved so much from the start, so I forced myself to complete it with good quality. It only 2 more weeks for me to finish, so I finish it quite well.

In incremental vertical hop and tuck jump, they were no problems for me even I felt tired on my calf. My sergeant has kept improved regularly partly because I did well every time of these both exercise. In addition it didn't motivate me, so again I finished it in high quality.

In medicine ball, it is also one of the exercises I always finished the best. Even the intensity of training has been uploaded, I didn't give up no matter how hard my both arm felt.

In interval training, I did try to motivate myself to do before the training. I have told myself how good my performance have been improved, I have also told myself that I don't want to be a fat guy. And I think many positive things to motivate myself. At first, it quite useful, I performed brilliant and seem not felt very tired. However, I couldn't stop thinking the negative things which de-motivate me and affect my concentration as I couldn't think what I was training for. I didn't have badminton match in short period and there was no one training with me. In addition, I couldn't know whether my performance has been improved or not as I don't have any match. Even all my tests have showed me my physically performance is growing, but I don't know whether it is the same when I perform in badminton court.

I did my left arm in the same day of interval training. I did the same what I did in week 9 and I will upload the intensity of the exercise. Again it was no problem and it didn't de-motivate me even I trained alone as it didn't take a long time.

I did try many methods to motivate myself such as thinking of positive things. Actually the main problem is only on interval training. I feel sorry that I couldn't improve it well until the last couple of weeks. Luckily, the other exercises I completed well and in good effort so my performance has grown so well.

Week 12 (28/11 - 2/12)

In general, performers are always de-motivated in the last 1 or 2 weeks of the training programme as they think it doesn't affect their performance so much. But I don't know why I seem full of energy and completed almost all the exercise perfect. It may highly depend on what I feel during the day. In shuttle run, before the training I told myself to motivate myself. For example, our rugby team has reached the cup final, although I use to play substitute, I hope that I will be fit enough when I sub on and play the best for the team. I found very tired on my both legs but I did feel happy as I finished in very good quality.

In incremental vertical hop, tuck jump and medicine ball throw, no more problems with those exercises and the only thing is to keep it as good as possible until the end of the

training programme.

In the interval training, when I think of the final cup match on coming Wednesday, it did motivate me and I may be in good emotion so I surprised that I completed quite well. After that I did left arm training, and the intensity has been uploaded by one more repetition. I felt very tired of left hand but I was happy as I did well even the intensity of exercise has been progressed.

This week was quite good, I hope that I will be fit enough to play the cup final.

Week 13 (5/12 - 8/12)

This week I didn't do any plyometric training on Thursday as I have suffered injury on Wednesday after the final cup match of rugby. I didn't do it on Monday as well since the sport hall has been used for preparing the Christmas event. Therefore, I only did interval training and left hand weight training on Saturday.

In interval training, I did better this time as one of friend was willing to do exercise with me. It a bit motivated me or it'd better said it forced me to complete this boring exercise as I didn't want to show my useless and inability of completing the exercise. So I performed as better as I can. There were only very few repetitions which not performed in good quality. I felt very tired after that since I haven't completed it so well and fully for a long time.

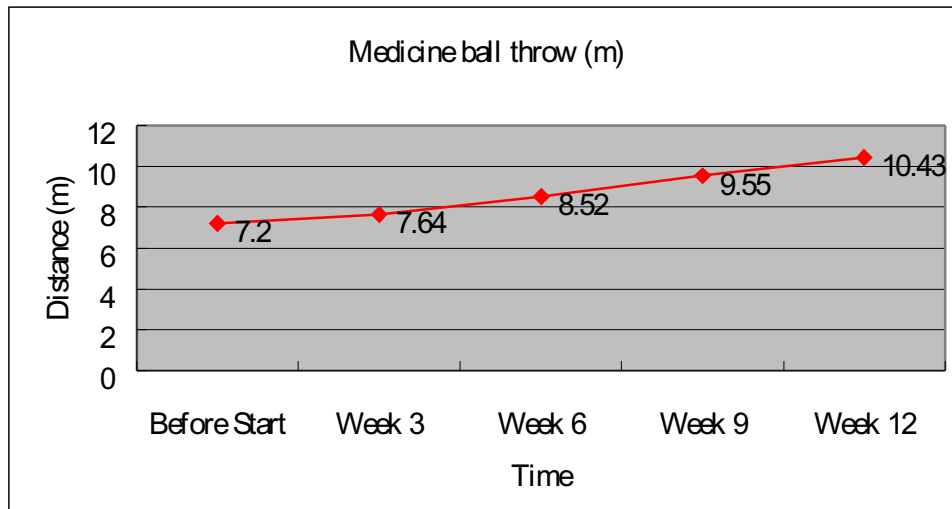
In the same day I kept continuing to do my left arm weighting, I am afraid that the difference between both arms is too big. I don't think I cannot lessen the gap in the short period. But I could feel that my left arm has more power than before. Even the training will be ended after this week, but it has motivated me to keep training on my left arm

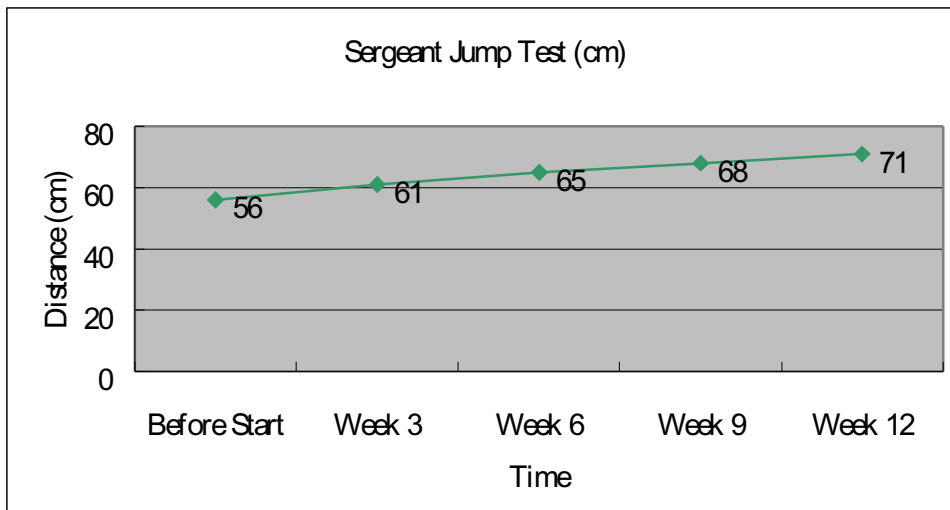
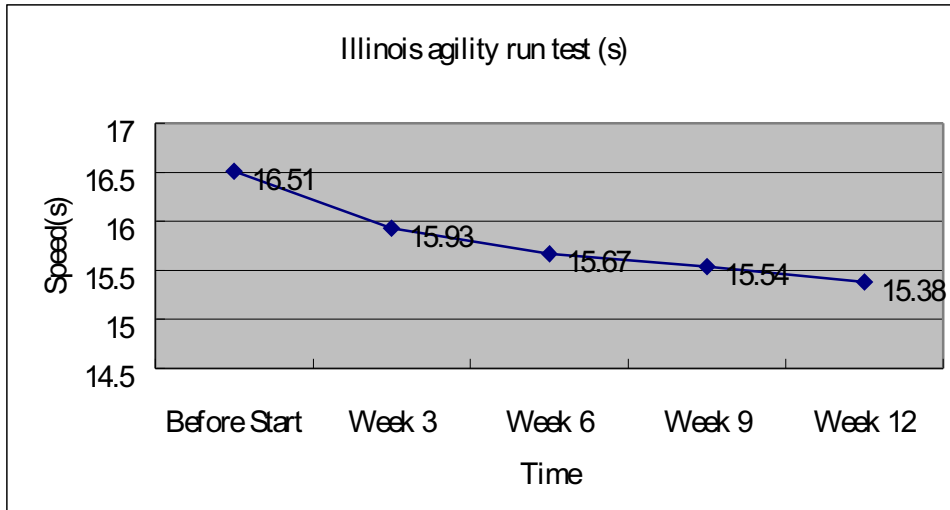
Without doing any plyometric exercise, I did have a run for 30 minutes with 55% - 60% effort. I knew that it didn't help to improve my power very much, but at least it must improve my efficiency of the utilising different type of energy system. And I don't have time to design what exercise I should do for that day as I didn't know the sport hall have been close for preparing Christmas events until I arrived there. And this is not the excuse for me to stop training so I ran for 30 minutes.

Test Results

My tests results have also showed my improvement. Sometimes even I found that it was really hard to motivate myself, I could still achieve satisfactory performance partly because of the rugby training. Therefore I have done 4 exercises a week actually within these 12 weeks. And the results of those tests are showing below:

Tests	Before Start	Week 3	Week 6	Week 9	Week 12
Medicine ball throw (m)	7.2	7.64	8.52	9.55	10.43
Illinois agility run test (s)	16.51	15.93	15.67	15.54	15.38
Sergeant Jump Test (cm)	56	61	65	68	71





Reference

- Physical Education and the study of Sport by *Bob Davis, Ros Bull, Jan Roscoe and Dennis Roscoe*, fourth edition
- Plyometrics Explosive Power Training by *James C. Radcliffe and Robert C. Farentinos*, second edition
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