



LOG BOOK – G454

SAFE & EFFECTIVE EXERCISE – CIRCUIT TRAINING – MID BAND 1 – 36

A well presented log book which covers all the aspects required. The goals of the exercise programme and progression aspects lack detail.

The timescale is met.

The goals of the exercise programme are identified but are generic and lack specificity.

The rationale for the exercise programme is fully outlined.

There is good description of the exercises involved.

Warm up and cool down are adequately covered as are Health & Safety implications of circuit training.

Record of implementation is present but the information relating to progression lacks detail.

There is a good evaluation of the programme together with an authentication statement from an instructor.

Physical Education

OCR Advanced GCE Unit G454

Log book cover sheet and authentication statement: Safe and Effective Exercise Activities – Circuit Training

Centre Number		Centre Name	
Candidate Number		Candidate Name	

Please indicate below to which exercise programme the log book and authentication statement relates.

Log book element required	Present? (please tick)
Time scale	
Goals of exercise programme	
Rationale for the design and implementation of programme	
Identification and detailed description of each exercise in programme	
Detailed description of personal warm up and cool down	
Health and safety implications for programme	
Record of implementation with evaluative comments; detail of progression	
Assessment and evaluation of goals	
Authentication statement from a qualified instructor	
Demonstration of awareness, understanding and application of principles of training in the design and/or implementation of programme with reference to: Specificity, Progression, Overload, Regression, Tedium, Adaptation	

Assessment Band Descriptor which log conforms to

Band 1: A comprehensive, detailed log book which records the candidate's participation in safe and effective exercise activities is in evidence. All the evidence required is present	
Band 2: An extensive, detailed log book which records the candidate's participation in safe and effective exercise activities is in evidence. Most of the evidence required is present	
Band 3: A detailed log book which records the candidate's participation in safe and effective exercise activities is in evidence. Most of the evidence required is present but lacks the necessary detail	
Band 4: A limited log book which records the candidate's participation in safe and effective exercise activities is in evidence. Some of the evidence required is present but lacks the necessary detail	
Band 5: The log book records little or no evidence of the candidate's participation in safe and effective exercise activities	
Mark awarded	Max 40

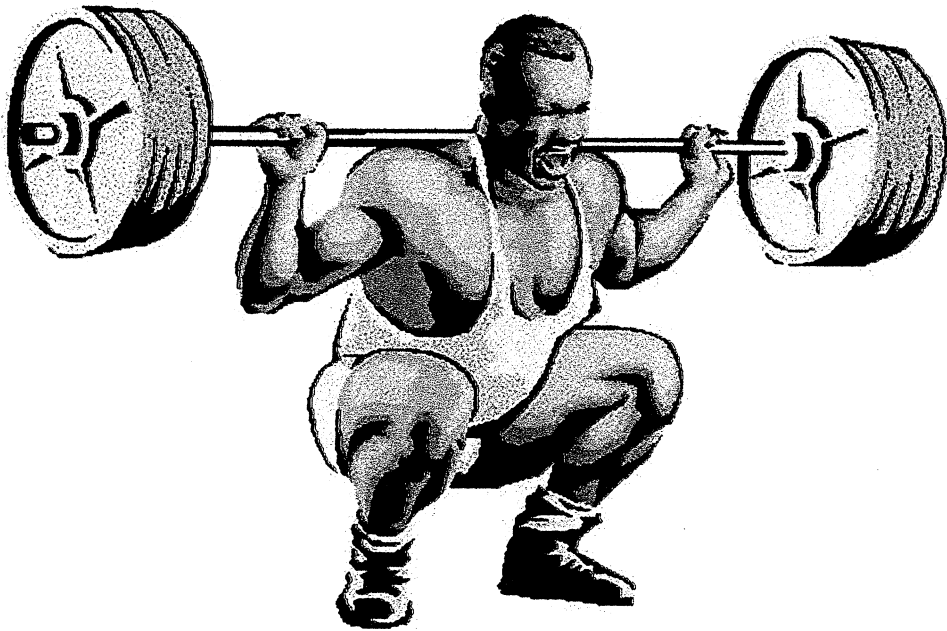
Authentication statement

I can confirm that this candidate has fully completed the activity as detailed in this log book, meeting all health and safety requirements, and that the material in this log book is the candidates own work.

Name of instructor/teacher responsible	
Signature	Date

A2 Physical Education

Circuit Training Log Book



Candidate Name: _____

Candidate Number: _____

Centre Number: _____

TO WHOM IT MAY CONCERN

I wish to confirm that candidate number _____ has devised and successfully implemented a six month exercise programme under my supervision as part of his GCE Physical Education course.

John Williams

Assistant Manager

Leisure centre.

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A-Level Circuit Training Log Book

This A-Level circuit training log book will be completed over a 24 week timescale. It is a continuation of the 12 week AS Circuit training programme, so the first 12 weeks are the 3 sessions a week AS programme and from the 13th week onwards will consist of the 4 sessions a week A-Level programme. The reasons why it is a continuation from the AS is because I am targeting to improve both my muscular endurance and my muscular strength which was the same target in the AS programme. Also I am doing both the AS and A-Level in one year so it would be stupid not to link them as it is over 24 weeks (6 months) which is a long time, so it would make things a lot easier than doing them completely separately. After the 12 week AS programme I will be adding and moving exercises along with adding an extra session. Session 1, 2 and 3 of the programme consist of the free weights and resistance machine exercises along with a few session specific bodyweight exercises. Session 4 of each week, which is the added session, consists of cardiovascular training (e.g. Treadmill) along with a few bodyweight exercises.

Goals for the programme:

Short-Term:

The short term goals are the goals in which I want to achieve in each session. They stay the same throughout the programme.

- My bigger, longer goals are to improve my strength and endurance each session, in order to achieve this, I will have to work to the best of my ability (intense sessions) and constantly take my body out of its comfort zone in every session.
- Also ensure that each and every exercise, especially the new more unfamiliar ones with the correct form and technique, therefore lowering risk of injury and increasing the chances of improving my strength and endurance.
- To relieve the stress of being an A-level student.

Long-Term:

These are the goals I'm looking to reach after the 24 week programme. These goals are a continuation of the goals from the AS programme.

- The long term goal for the bodyweight and cardiovascular circuit is to improve my muscular endurance in both my upper and lower body, including the core stability muscles (e.g. transverse abdominus). I managed to improve this aspect of my fitness dramatically during the first 12 weeks of the programme. Gaining this improved endurance is extremely important for my sport, rugby, as a whole game of rugby lasts eighty minutes which requires a high level of endurance.
- The long term goal for the free weights and resistance machines circuit is to improve my muscular strength while also gaining more muscle mass (hypertrophy). During the AS programme I managed to achieve this goal as my overall strength had almost doubled in some areas whilst also gaining more muscle mass. This is very important in rugby as it is a very physical game and is essential that you have high levels of strength and weight if you wish to progress further in the sport.
- To further improve my body shape and tone. After the first 12 weeks I can see a considerable difference in my body shape, I've developed a more muscle shape, whilst also seeing a lot more muscle tone. This will improve my self-image, because as we all know "If you look good, you feel good" and after the first part of the programme, I do feel good.

Principles of Training

The principles of training are they important to keep to throughout the duration of the training programme in order to make it a successful one.

Specificity

This is that all of the training I do is specific to my sport, which is rugby, so I'll therefore train the necessary muscle groups in the correct way in order to reach my goals. My goals for the free weights and resistance machine circuit is to improve my muscular strength and increase my muscle mass which means I'll have to work within the 80-100% of my 1 repetition max for a rep number between 1-6. For the bodyweight and cardiovascular circuit my goal is to improve my muscular endurance so I'll be aiming for a high number of repetitions (20+) for minimum of 3 sets for the bodyweight exercises, while aiming for a set number of minutes (e.g. 20 minutes) for the cardiovascular exercises.

Progression

Over the 24 week training period my muscles will get used to the weight or reps being performed, therefore throughout the programme I will be looking to increase the weight-load on each of the free weight and resistance machine exercise while also increasing the number of repetitions and time performed in the bodyweight and cardiovascular exercises. Other methods to gain progression could be to increase the number of sets or time of each exercise and also to increase the intensity of the session by decreasing the rest periods between sets. This is the application of overload, as a muscle will only strengthen when it is forced to operate beyond its usual intensity. The weight load must be progressively increased in order for the muscle to further adapt, so as training develops, the training weight is gradually raised (for the free weight and resistance circuit) and for the bodyweight exercises different body position could be used e.g. when performing sit ups keep your arms straight above your head or for press ups put your feet on a bench, these changes result in more of your bodyweight being centred around the exercise. For the cardiovascular exercises the time can be increased along with the speed

and also the incline on the treadmill for example, each of these factors will result in an increase in intensity.

Overload

In order to progress and improve our fitness we have to put our body (muscles) under additional stress. Doing this will cause long-term adaptations on our muscles such as hypertrophy and increased ATP-PC stores, enabling our body to work more efficiently and cope with a higher level of performance.

Overload can be achieved by the FITT principle of training:

Frequency – Increase the amount of times I train a week or/and increase the number of sets performed.

Intensity – Increasing the difficulty of the exercise, this can be done by increasing the resistance used e.g. using the 20kg dumbbells for bicep curls instead of the 18kg dumbbells. Another very important way to increase the intensity is by increasing the number of repetitions per set because for example, each session you perform 3 sets of 8 reps on bicep curls with 18kg, this becomes easier and easier and your biceps size will grow bigger than when you first started but they will reach a plateau and stop getting bigger. What will happen is your bicep muscles will adapt to the demands you place on them but there is no longer a need for them to try to get bigger and stronger because the demands are no longer sufficient enough so this, along with increasing the intensity is vital for strength training.

Time - Increasing the length of time that you train for each session, I can do this by increasing my sessions for 1 hour 30 minutes to 2 hours, this means I will be able to fit more exercises and sets into my sessions or maybe even a longer rest (3-4 minutes max. between sets) period between my heavier sets, thus giving more time for my ATP-PC stores to fully replenish, resulting in an improved set performance.

Type – This is the type of training I believe will have the greatest effect on my muscles in terms of muscular strength (free weight and resistance machines) and muscular endurance (bodyweight and cardiovascular exercises), e.g. as I want to improve my strength I'll be performing many exercises with a low amount of repetitions (1-6) until

failure, so taking my body way out of its comfort zone to achieve hypertrophy (enlargement) of the muscles.

Reversibility

If you stop training then the improvements you have made will be reversed. So for any reason, usually due to being ill, injured or on holiday for as little as a week then once training resumes you may not be at the same level as before. It is said that strength and fitness gradually reduces at approximately one third of the rate of acquisition, so during my 24 week programme and any time after that I'll be careful choosing when to rest and for how long while also being careful regarding injury, so training correctly will prevent gym injuries. Reversibility can be summed up with the simple phrase "Use it or lose it!"

Tedium

It is important to make sure Tedium (boredom) does not occur during my programme because if it does it results in a loss of motivation which then leads to less intense sessions. In order to prevent this from happening I've made sure that each session consists of different exercises which target different muscles groups, so that the training does not get repetitive. Making sure each session is different is not just to prevent boredom, it's also done so that my muscles don't get used to the same exercises, because if this happens then I will plateau in strength and growth, so its good to keep your body guessing in the respect of which exercises are performed and when.

Muscle Fibres and Energy Systems Targeted

In the 24 week training programme I will be targeting different muscle fibres and energy systems in each of the two circuits. In the free weights and resistance machines circuit I'll be looking to target my fast glycolytic fibres (type II b), these fibres excel at producing quick, powerful bursts of speed. They work anaerobically and have a very low fatigue resistance so the way to work them is with a high amount of weight for a low amount of repetitions. The energy system used when training these fast glycolytic fibres is the ATP-PC system, this energy system is used for only very short periods of times, usually up to 10 seconds by the use of phosphocreatine. It is referred to as "alactic anaerobic" because it does not need the use oxygen (anaerobic) and it also does not produce lactic acid (alactic).

For the bodyweight and cardiovascular exercises circuit the fibre which I will be targeting is the slow oxidative fibres (type I), these fibres are characterised by having a slow contractile speed and a low contractile strength however they have a high fatigue resistance and very high aerobic capacity. So this kind of muscle fibre is associated with muscular endurance therefore when it comes to the bodyweight and cardiovascular circuit programme I'll be aiming for a high number of sets and repetitions for bodyweight exercises (possibly 20+ repetitions) and training my cardiovascular system for long periods of time in order to target this muscle fibre. The main energy system involved during the bodyweight exercises training of these fibres will be the lactic acid system (also known as the anaerobic system). This energy system is dominant during exercises up to around the two minute mark, any exercise after this time will make the aerobic energy system the more dominant system involved. This aerobic system is the main system involved when doing my cardiovascular exercises, this is the long duration energy system so after around 5 minutes of exercise, this becomes the clear dominant system. Using examples, the aerobic system provides over half the energy during a 1km run and around 98% of the energy involved for a marathon, this gives us a great indication of when the system is involved. However during any form of exercise no energy system works solely by itself e.g. the ATP-PC system and the lactic acid system work closely together, and the lactic acid system works closely with the aerobic system.

Rationale for the Design of the Programme

The programme lasts for of 24 weeks, with 3 training sessions each week for the first 12 weeks and after this point an extra session will be added, making a total of 4 sessions per week. Over the 24 weeks there will be a total of 84 sessions. The 4 sessions per week, Monday, Wednesday, Friday and Saturday will be very effective as it will give my muscles time to rest between sessions, even including the Friday and Saturday sessions as totally different muscle groups and energy systems will be targeted. Also I believe that if I added an extra session, resulting in 5 sessions, that overtraining would occur because I also have rugby training on Tuesdays and Thursdays with a match usually on Sunday so I am already training almost every day. Overtraining is a very serious concept, without sufficient recovery time, not only will you reach a performance plateau, but you will also run the risk of injury and may even experience reduced performance e.g. less strength, less endurance etc.

In each of the two circuits I have different aims. For the bodyweight and cardiovascular exercises circuit I am aiming to improve my muscular endurance, this is the ability of a muscle to sustain repeated contractions against a resistance for an extended period of time, so for each bodyweight exercise I will be performing a minimum of 20 repetitions for at least 3 sets and a minimum of 10 minutes for the cardiovascular exercises.

For the free weights and resistance machine circuit my aim is to improve my muscular strength, this is the maximum amount of force that a muscle can exert against a resistance in a single effort, so at first I will have to find out my one repetition maximum (1RM) for each exercise, this will allow me to track progress while also knowing what exact weight to train with. As I'm looking to gain strength, I'll be training using 70-100% of my 1RM with a number of repetitions ranging from 1-6.

In the first session of each week the main muscles being targeted are the ones of the back and biceps, these are the Latissimus dorsi, the erector spinae, the trapezius and the bicep Brachii. The whole back will be worked along with the biceps, as most back exercises involve the use of the bicep Brachii it makes sense to also work the bicep further in

isolation during the same session. This first session will consist of free weights and resistance machine exercises along with bodyweight exercises. New exercises have been added in the 13th week, including deadlifts, barbell curls and dumbbell concentration curls.

In the second session I will be targeting my chest, shoulders and triceps. The certain muscles include the Pectoralis major, tricep Brachii and the anterior, posterior and lateral deltoid along with the four rotator cuff muscles. The reason I am going to train these muscles in the same session is because they work together in many exercises, so they will be trained in a more compound exercise (e.g. bench press) then individually trained (e.g. tricep extensions). Again this session will consist of free weights and resistance machine exercises and also a bodyweight exercise which is the press ups. New exercises have been added to improve the session, they were added at the end of the AS programme (the 13th week). These new exercises include dumbbell flies, shoulder raises, weighted tricep dips and skull crushes.

The third session of the week will be for the legs and abdominals. The muscles include the quadriceps group (rectus femoris, vastus lateralis, vastus medialis, and vastus intermedius), the hamstring group (biceps femoris, semitendinosus and the semimembranosus), the gastrocnemius, the gluteus maximus and the rectus abdominus. I've decided to include an abdominal exercise in this session because exercises such as the barbell squats work the abs so therefore I added the most intense abdominal exercise, the weighted inclined sit ups. Like the first and second session, this session will consist of free weights and resistance machine exercises and also a bodyweight exercise which is squats. New exercises have also been added along with variations of previous bodyweight exercises. New exercises include front barbell squats, leg extensions and leg curls. Previous bodyweight exercises which have now become a weighted exercise are both the calf raises and the lunges.

The fourth and final session of the week is the cardiovascular and bodyweight session. This session is a new addition to the programme and was added on the 13th week which

was the end of the AS circuit. The reason that I decided to add this extra session was purely to improve my stamina (endurance), doing this will help me in my rugby as it is a sport which requires very high levels of fitness. There are no free weights or resistance machines used in this session, the only machines used are a treadmill and a bike, these exercises are the only new additions, the other exercises in this session were in the previous programme but just moved into a different session e.g. abdominal crunches.

A factor which is very important is the amount of rest I have between sets. After each set, especially the heavier or higher repetition sets, I will need some energy back for the next exercise. In order to get the energy back I will need to have at least a 2 minute rest period however a 3 minute rest would be more energy effective as my ATP-PC stores will fully replenish, resulting in a better performed next set/exercise.

Stats Table

<u>Exercise</u>	<u>1RM (kg)</u> <u>at 13</u> <u>weeks</u>	<u>Max number of</u> <u>reps at 0 weeks</u>
Lateral Pull Down	85	X
Bent Over Rows	40	X
Bicep Curls	28	X
Preacher Curls	37.5	X
Weighted Inclined Sit Ups	10	X
Total Abdominal crunches	X	100
Bench Press	95	X
Dumb-bell Press	36	X
Chest Press	100	X
Overhead Dumb-bell press	34	X
Shoulder press	95	X
Triceps extensions cable	70	X
Barbell Squat	95	X
Leg Press	195	X
Pull ups	X	15
Weighted Triceps dips	17.5	X
Back extensions	X	70
Press ups	X	90
Sit ups	X	70
Twisted sit ups	X	65
Squats	X	80
Weighted Dynamic lunges	X	65
Side lying leg lifts	X	50
Weighted Calf raises	50	X

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Deadlifts	85	X
Barbell Curls	27.5	X
Dumbbell Concentration curls	14	X
Dumbbell Flies	15	X
Shoulder Raises	15	X
Front Barbell Squats	60	X
Leg Extensions	50	X
Leg Curls	50	X

In order to see my progression, I will re-measure some of my 1RM in the free weights and resistance machine circuit and also my max number of repetitions in a few of the bodyweight circuit exercises. I've chosen to only test the exercises which I consider to be the most important (e.g. Bench press, Deadlift, Barbell Squat, Lateral pull-down, pull-ups etc.) as it will be extremely time consuming in my sessions to measure every exercise and it may also affect the rest of my training. I'll be doing this testing and also recording my bodyweight every 3 weeks as a lot of strength and endurance progression along with bodyweight changes can take place over this 3 week period. The reason I will record my bodyweight is so I know if my diet is correct because if my bodyweight decreases it means that my daily calorie intake is too low, if it stays the same then I am not putting on any muscle mass (long-term goal) and if I am gaining weight it means that the weight put on is most likely to be muscle mass.

Personal Warm-up and Cool-down

Warming up and cooling down before and after exercise is extremely important for a number of reasons. Some of these reasons include preventing injury and improving performance.

Warm-up

The main purpose of warming up is to increase the temperature of the muscles, which results in an improved speed and force of muscle contractions. Other physical effects include:

- Increased Heart rate which enables the oxygen in the blood to travel to the muscles at a greater speed.
- Increased production of synovial fluid which allows the joints to move more effectively due to a reduce in friction.
- Increased elasticity and extensibility of muscle fibres, thus an improved speed and force of contraction and also reducing the chances of injury.



General Warm-up

This part of the warm up is to increase the heart rate and get the blood flowing quickly around the body. This will be done in sessions 1, 2 and 3 as session 4 consists of these exercises. It consists of two exercises:


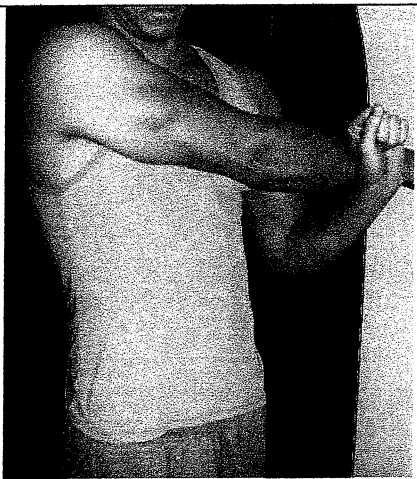
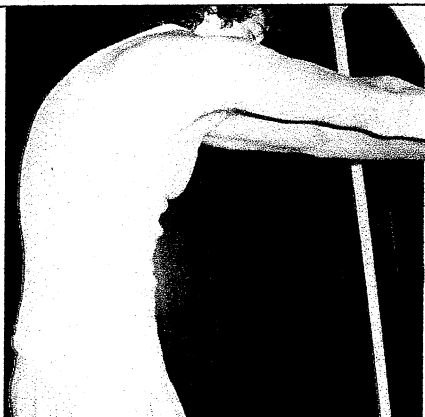
1. Treadmill – walk for 2 minutes, jog for 2 minutes and to really get the blood flowing, a 1 minute run at around 80% of maximum pace.
2. Bike – this will only be done on the day I do legs (Friday), to warm up the knee joint which is very important for when I do exercises such as barbell squats.

Static Stretching

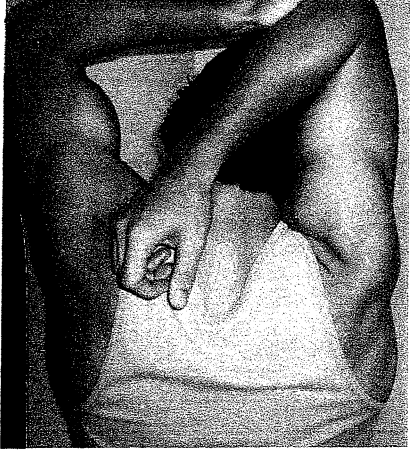
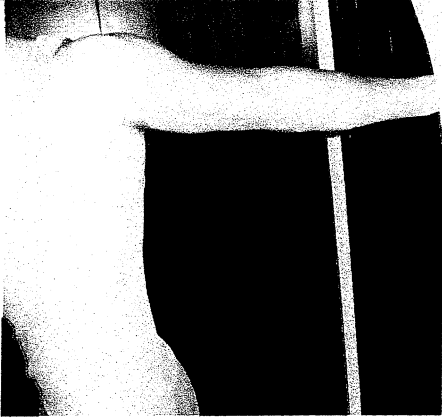
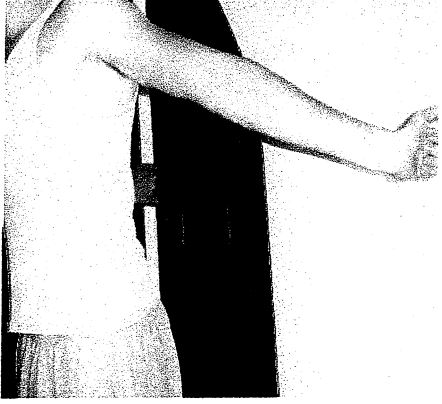
This is used to stretch the muscles and tendons while the body is not moving. The muscle is stretched to a point at which it is uncomfortable and held at that point for a minimum of 20 seconds.

Muscle being stretched	Picture	Description
Gastrocnemius		<ul style="list-style-type: none">- Standing straight with one leg in front of the other, hands flat at shoulder height against a wall.- Ease your back leg further away from the wall, keeping it straight and press your heel firmly into the floor.- Keep your hips facing the wall and the back leg and spine in a straight line.- You will feel the stretch in the gastrocnemius of the rear leg.- Repeat with the other leg.
Hamstrings		<ul style="list-style-type: none">- Sit on the ground with both your legs straight out in front of you.- Bend the left leg and place the sole of the left foot against the knee of the right leg.- Leave the left leg to lie relaxed on the ground.- Bend forward keeping the back straight.- You will feel the stretch in the hamstring of the right leg.- Repeat with the other leg

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Quadriceps		<ul style="list-style-type: none"> - Stand up straight - Bend your right leg, grab this leg with your right hand and pull it up until it is touching your buttocks. – You will feel the stretch in your quadriceps. – Repeat with other leg.
Deltoids		<ul style="list-style-type: none"> - Stand tall with your feet shoulder width apart. Place your right arm, parallel with the ground across your chest. – With your left arm, ease the right arm closer to your chest. You should feel a stretch in the shoulder. –Repeat with other arm.
Latissimus dorsi		<ul style="list-style-type: none"> - Stand tall with feet slightly wider than shoulder width. – Lock your hands together and stretch your arms straight out as far as you can from your chest with your upper back relaxed. – You should feel your back stretch.

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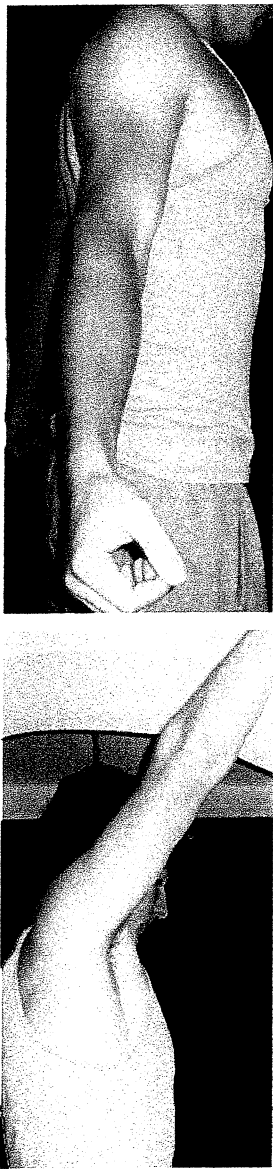
Triceps Brachii		<ul style="list-style-type: none"> - Stand tall and place your right arm while bent full behind your head. - Use the left arm to push down on the elbow of the right arm. You should feel the stretch in your tricep. - Repeat with other arm.
Pectoralis major		<ul style="list-style-type: none"> - Stand tall side on from a wall. - Place your right hand on the wall with your arm straight. Rotate your body while keeping your arm and hand in the same position. - You should feel your chest stretch. Repeat on the other side.
Biceps Brachii		<ul style="list-style-type: none"> - Stand tall with your feet shoulder width apart. Straighten both your arms out to the side parallel to the ground with your wrist bent back. - Stretch your arms as far back as you can. You should feel the stretch in your bicep.

Dynamic Stretching

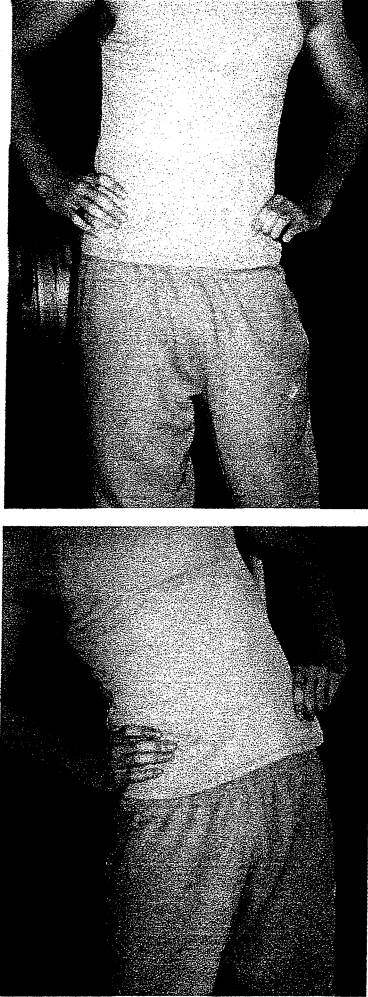
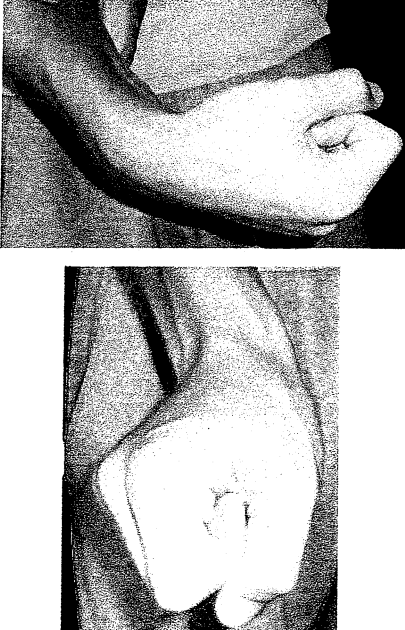
This type of stretching takes a body part gently through its full range of motion by performing controlled limb swings. This type of stretching is said to reduce muscle tightness, thus reducing the risk of a tear in the muscle during activity. Joint rotations are also a type of dynamic stretching, joint rotations lubricate the entire joint with synovial

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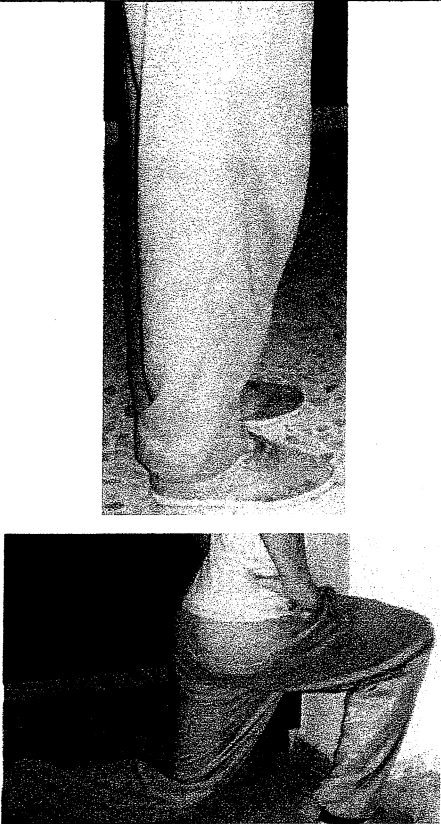
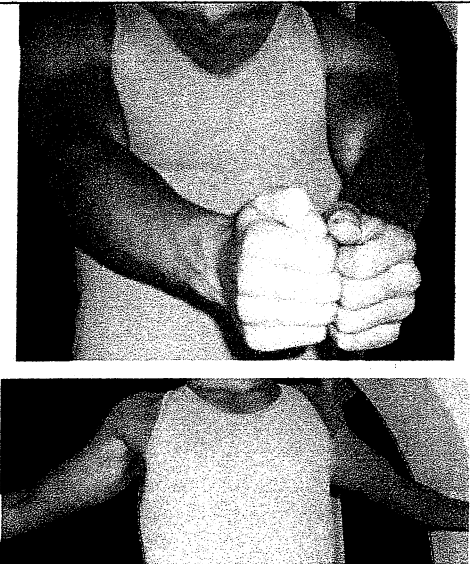
fluid, and this lubrication permits the joint to work far easier when required to during exercise.

Shoulder Rotations		<ul style="list-style-type: none">- Stand tall with legs slightly wider than shoulder width apart.- Raise your right arm straight up in the air pointing towards the ceiling. Rotate your arm in a circle motion while keeping the arm fully extended.- Repeat with other arm.
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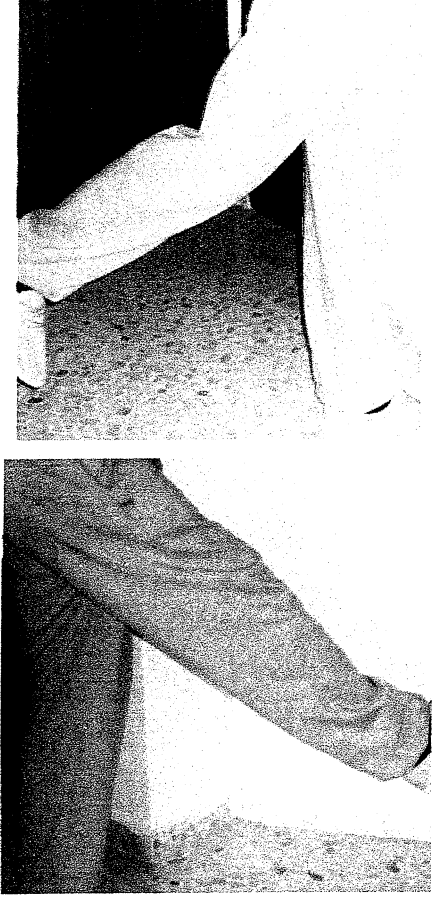
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Hip Rotations		<ul style="list-style-type: none">- Place your hands on your hips with your legs wider than shoulder width apart.- Rotate your hips in a clockwise direction for around ten seconds then repeat again but in an anti-clockwise direction.
Wrist Rotations		<ul style="list-style-type: none">- Rotate your wrists in a clockwise direction for around ten seconds.- Repeat but in an anti-clockwise direction for the same period of time.

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Lunges		<ul style="list-style-type: none"> - Stand tall with both feet together. - While keeping the back straight, lunge forward with the right leg around 1/1.5 metres in front of the other leg. - The right thigh should be parallel to the ground and the right lower leg vertical. - Come back up to the starting position and repeat with the other leg. You should perform 6-10 repetitions.
Dynamic Chest stretches		<ul style="list-style-type: none"> - Stand straight with your legs shoulder width apart. - With your arms straight, swing your arms backwards quickly, so your shoulder blades touch. - You should feel your chest stretch, if not you should swing your arms further back.

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Dynamic Leg swings		<ul style="list-style-type: none"> - Stand sideways on to a wall. - Place all of your weight onto your left leg. - With your right leg, swing it back and forward but not too quickly. You should feel the leg stretch. - Repeat with other leg.
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In each session I have an additional part to my warm up which is more specific. For example on Monday (Chest, triceps and shoulders) before I start doing my main sets on bench press I will put on a light weight e.g. 40kg and perform this very slowly and controlled for around 20 repetitions. This gets the blood flowing to my chest and I'll be used to the movement, so I'll be prepared for my heavier sets.

Cool Down

Cooling down after exercise is just as important in reducing the risk of injury as the warming up process before each session. Cooling down means gradually slowing down the level of activity. Main reasons behind cooling down are:

- Return heart and breathing rate back to resting rate.
- Prevents dizziness and needless pain
- Reduces the effects of DOMS (Delayed On-set Muscle Soreness)

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- Releases the strains of muscle fibres, tendons and ligaments
- Removes the waste products such as lactic acid from the blood by keeping the capillaries dilated so new oxygen rich blood can flush them out.

Personal Cool Down

When there is 15 minutes left of my session I'll start my cool down with some low intensity training, e.g. dropping the weight on the current exercise and do an easy controlled set, but nothing too intense. After this I'll head to the treadmill and do a very light jog, this will lower my heart rate but not fully, just so the blood can still flow fast enough to remove the lactic acid from any muscles. The next phase of my cool down will be some stretching, I'll stretch each muscle which had been worked during the session, and the stretch should last for at least 8 seconds and should be repeated again for the more sore muscles. The final phase of the cool down is the most important, this is the re-fuelling stage. After exercise the body requires nourishment for the process of building muscles so water, minerals, protein and carbohydrates are all needed.

Nutrition

Having the correct diet is just as important as the actual training when it comes to putting on muscle mass. Food is the fuel which gets me through each session and is also what makes me recover and build after each session. Each day I should intake carbohydrates, proteins, fats, minerals and vitamins. The amount of carbohydrates, proteins and fats a person requires depends on the individual person and their needs but the general guideline is: 10-15% Protein, 20-25% Fats (unsaturated), 60-75% carbohydrates. However for me, as my aim is to add lean muscle mass, I am looking to reduce the amount of fats I eat so the percentage may drop to around 15%, and as I have an intense workout programme my muscles will be in need of repair so my protein intake will have to increase to at least 25% of my daily food intake, the carbohydrates will have to stay very high as they are my main source of energy. The general calorie intake for an male

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adult is around 2500 calories, however my daily target will be around 3500 because as I mentioned earlier my aim is to put on muscle mass and for this to be achieved I'll need for my daily energy input (food) to be greater than my daily energy output (training).

Supplementation



Supplements can help a great deal when following a weight training programme. This is the list of supplements I will be taking over the 12 week programme:

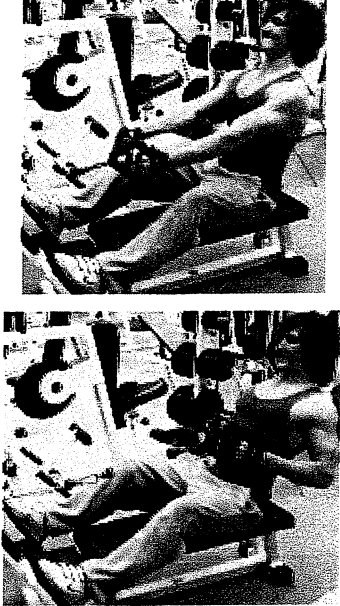

- **Impact Whey Protein shakes** – this is a great easy way to add extra protein to my diet as I am aiming for around 1.8g of protein per kilo of bodyweight (72kg), so roughly 130g per day. Dose: 1 scoop (40g) every morning and 1 scoop after each session.
- **Creatine** – this is a naturally occurring source of energy in the body, adding more into my body will give me an added boost of energy when training. Dose: A teaspoon (5g) every morning.
- **BCAAs (Branched Chain Amino Acids)** – Three essential amino acids (leucine, isoleucine and valine), used for muscle repair and growth. Consuming a higher percentage of BCAAs will help gain lean muscle mass. Dose: 2-3 tablets 3 times a day, everyday.
- **Glutamine** – Not an essential Amino Acid, however it is considered essential during intense training. It helps with protein synthesis. Dose: Teaspoon (5g) added to each protein shake.
- **Multi-Vitamins** – This is just to make sure I take all of my daily vitamins so my body stays healthy. Dose: 1 tablet with breakfast everyday.

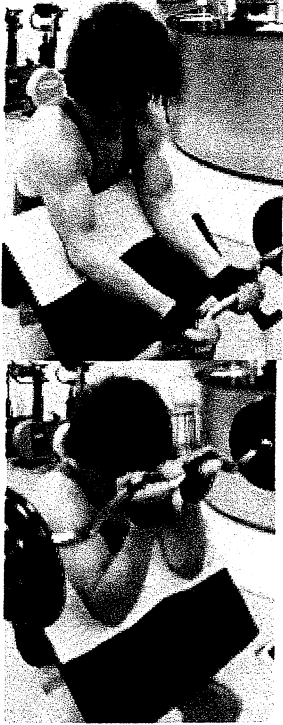
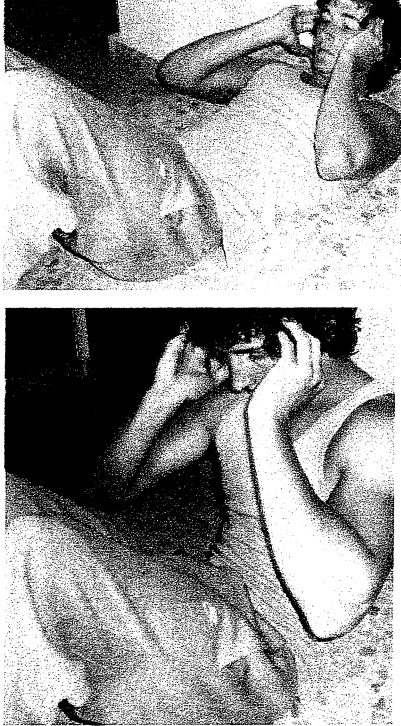
Health and Safety Implications

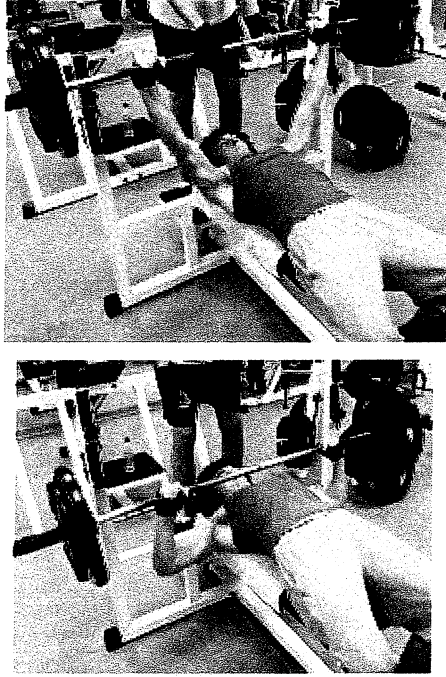
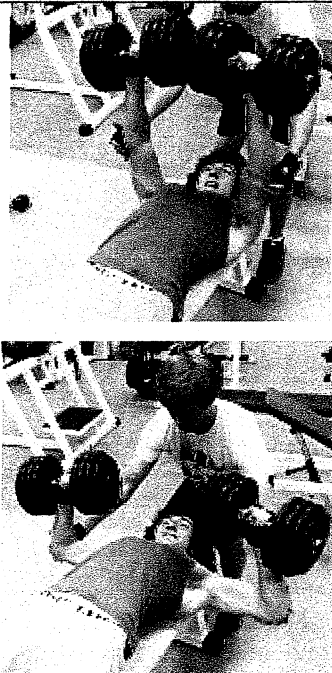
- When I train with free weights, I need to always make sure that I have someone 'Spotting' me just in case I have a sudden loss of energy and drop the weights on myself which can potentially be very dangerous. A spotter can also provide a placebo effect; where by touching underneath the bar (e.g. bench press) is enough to make the person believe that they are lifting the weight with the help from their training partner. This may allow them to push one or two more repetitions than what they normally can, and of course you feel safer with a spotter so it gives you the confidence try new heavier weights
- Another important thing to remember is to not get too excited then make a rash decision and try to lift weights which are far too heavy. This can cause injuries such as tendonitis, joint problems and torn ligaments. Also when going too heavy, it sacrifices the form which should never happen.
- During each session I should always have a bottle of water with me. I don't want to be dehydrated, as this can lead to headaches, dizziness and possibly even fainting in the gym. In order to keep hydrated I'll be regularly taking in water between sets.
- In each of my two circuits, especially the free weights exercises, I need to make sure that I have a sufficient amount of room for each exercise. Because if I accidentally hit something which is close to me during a set it may put me off balance, this can lead to me dropping the weights etc. which can be dangerous depending on what exercise I am doing.
- Before using any equipment in the gym I need to check to see if everything is as it should be e.g. pin is in the weights when using machines, the benches are sturdy, the pins are on the end of the barbells so the weight doesn't fall off etc. Just making these small checks before each exercise can potentially avoid any injury for me and others around me.




Detailed Description of each Exercise in the Circuit



Exercise	Picture	Description
Lateral Pull Down		<ul style="list-style-type: none"> ▪ Grab the bar slightly wider than shoulder width apart. ▪ Sit down into the seat whilst still holding onto the bar. Slip your legs underneath the rests to prevent yourself from being lifted up by the weight. ▪ Arch your back and lean backwards slightly. ▪ Bring the bar down to your chest in one controlled motion. ▪ Once the bar has touched or is close to your chest, then slowly let the bar go upwards.
Dumb-bell Bent Over Rows		<ul style="list-style-type: none"> ▪ Get your desired dumbbell for the exercise and place it on the left side of your bench. ▪ Now place your right knee and right hand on the bench. ▪ While keeping your back straight, grab the dumbbell with your left hand and pull the weight up towards your chest in one controlled motion. ▪ Once you're at the top of the motion, slowly lower the weight then repeat with other side.


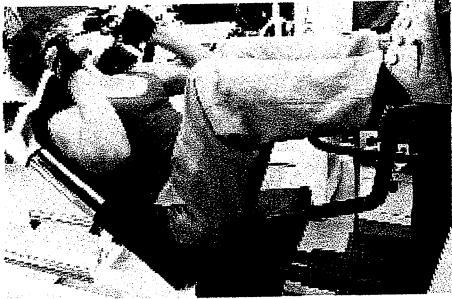


Seated Rows		<ul style="list-style-type: none">▪ Once seated on the bench, place your feet on the two platforms.▪ Grab the handle with both hands, and whilst keeping your back straight, pull the handle towards your abdominals.▪ Once arms are bent, return slowly to the starting position.
Bicep Curls		<ul style="list-style-type: none">▪ Stand straight with your legs around shoulder width apart with a slight bend at the knees.▪ Pick up a dumbbell with each hand, and then put your arms straight along the side of your body.▪ While keeping your elbow at a fixed position, flex at the elbow joint with also twisting your wrist around so your palm is facing upwards (supination).▪ Once the arm has been flexed, lower the weight slowly to the starting position and repeat with other arm.

Preacher Curls		<ul style="list-style-type: none">▪ Sit on the seat with your arms resting on the cushion.▪ Pick up the E-Z bar by gripping it in the middle. Your elbows should be around shoulder width apart on the cushion.▪ Flex the arm so that the bar comes up towards your head.▪ Once you have reached the end of the upwards phase, slowly lower the bar until your arms are straight or almost straight and repeat for more repetitions.
Abdominal Crunches		<ul style="list-style-type: none">▪ Lie down on the floor (preferably on a mat), bend your legs with your feet flat on the floor.▪ Touch the sides of your head with your hands.▪ Lift up your upper body while keeping your legs still, until your head almost touches your knees.

Bench Press		<ul style="list-style-type: none">▪ Lie down on your back on the bench with your head being directly underneath the bar and your feet flat on the floor. Your back should be slightly arched.▪ Grab the bar with both hands, wider the shoulder width apart.▪ Pick the bar up off of the rack, and hold it with your arms straight directly above your chest.▪ Lower the bar until it touches or is just above your chest and then push up against the resistance until the arms are straight again and above your chest.
Dumb-bell press		<ul style="list-style-type: none">▪ Grab the desired dumbbells with each hand and sit down on the edge on a flat bench.▪ Slowly lay down on the bench while bringing the dumbbell to your chest.▪ Once you're flat on the bench, push the dumbbells up until your arms are straight and so the dumbbells are almost touching.▪ Slowly lower the dumbbells until your arms are bent at around 90 degrees, then push back up again.

Chest Press		<ul style="list-style-type: none"> ▪ Change the height of the seat and the weight which is going to be lifted to what is wanted. ▪ Sit down on the seat with your head and shoulders back touching the cushion. ▪ Grip the handles in the desired position and push the handles forward until your arms are straight. ▪ Bend your arms until around a 90 degree bend then push again.
Overhead Dumb-bell press		<ul style="list-style-type: none"> ▪ Adjust a bench so the rest is almost vertically straight. ▪ Grab the dumbbells and sit down on the bench with the weights rested just above the knee. ▪ Raise your knees upwards to help you lift the weight up just above your shoulders. ▪ Now push upwards until arms are straight and that the dumbbells are almost touching. ▪ Slowly lower the dumbbells until your arms are bent around 90 degrees, then push back up again to complete another repetition.
Shoulder press (machine)		<ul style="list-style-type: none"> ▪ Change the height of the seat so the handles are around shoulder height. ▪ Sit down and rest your head and shoulders against the rest. ▪ Grip the handles at equal positions on both sides. ▪ Now doing a controlled movement, extend your arms upwards until they are almost

		<p>straight.</p> <ul style="list-style-type: none"> Now slowly bend your arms until they are bent at around 90 degrees, then push upwards to complete another repetition.
Tricep extensions cable		<ul style="list-style-type: none"> Stand with your feet around shoulder width apart. Grab the handle equally with both hands. Lean forward slightly with your back arched and your elbows in a fixed position just in front of you. Now push downwards until your arms are fully extended. Slowly allow the handle to return to its original position to complete the repetition.
Barbell Box squat		<ul style="list-style-type: none"> Using a squat rack, rest the barbell just behind the shoulders on the trapezius and grip the bar as wide as possible to help balance. Stand with your legs slightly wider than shoulder width apart with your feet facing forward. Have someone put a box of the desired height (or a bench) just behind you. While keeping your back straight and slightly arched, bend your legs and push your gluteus maximus backwards until your bottom touches the box. Your knees should not go past your feet. Now as soon as you feel the box touch you, extend to your legs back to the starting

		<p>position</p> <ul style="list-style-type: none"> While doing this exercise it is important to keep your back straight and to not let your knees go past your feet.
Leg Press	 	<ul style="list-style-type: none"> Sit down on the seat and adjust the shoulder rest so it is comfortable. Place your feet around shoulder width apart on the top platform, your feet should be pointing straight. Extend your legs until they are almost straight in a controlled motion. Slowly bend your legs until the machine won't allow you to go any lower then push against the platform to start another repetition.
Pull ups	 	<ul style="list-style-type: none"> Grip the bar slightly wider than shoulder width apart, around where the bar bends. Once you have a comfortable grip, lift your legs up from off the ground so you're hanging. Now pull yourself upwards as far as you can go, preferably so your chin is above the bar. Now slowly return to the hanging position to complete the repetition.

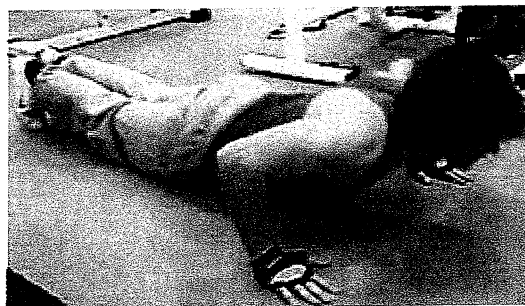
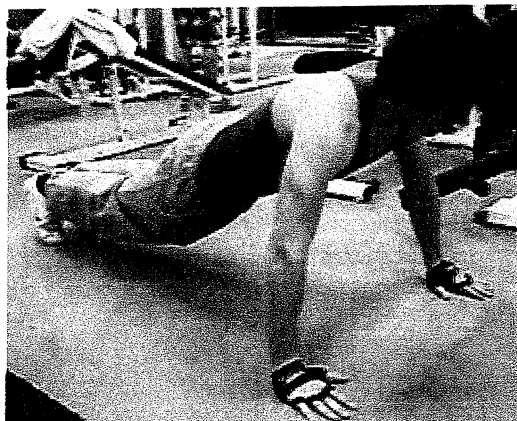
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Tricep dips

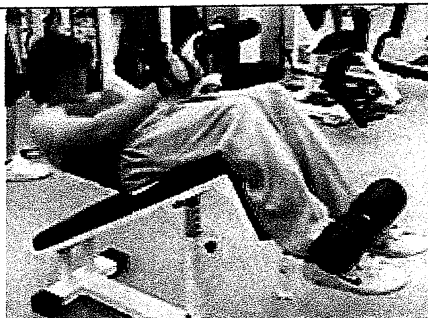
- Grip the handles equally with both hands.
- Now jump up off of the ground to get into the starting position, so your arms are straight.
- Bend your legs so they will not touch the ground.
- Lower yourself by bending your arms, your elbow must remain in a fixed position, until they are bent to around 90 degrees.
- Keeping your chin tucked into your chest (unlike in the picture), straighten your arms so you return to the starting position to complete the repetition.

Back extensions

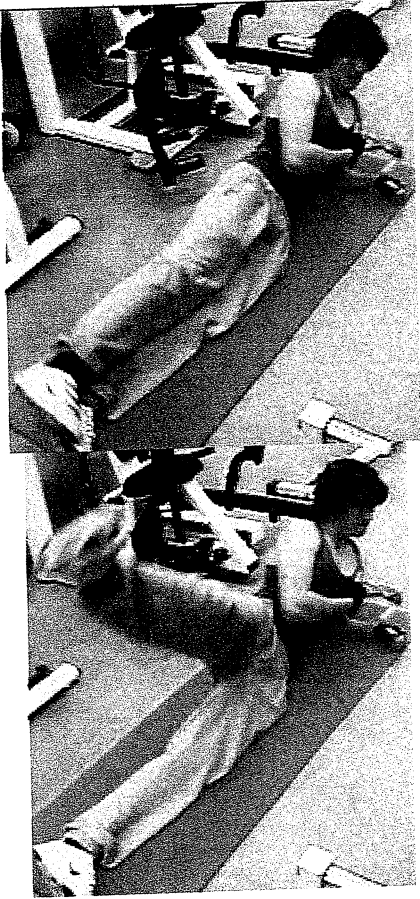
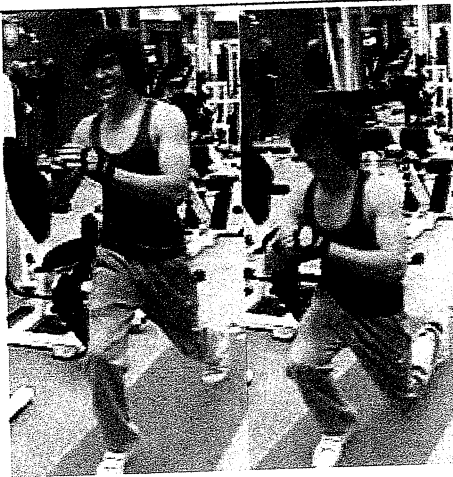
- Adjust the height of the apparatus so that the padding is just below your hips.
- Get onto the bench on your front with your legs locked into the foot hold.
- Put your hands on your chest or head, bend forward until your upper body is bent to around 90 degrees at the hips.
- Then come back up to the starting position to finish the repetition.

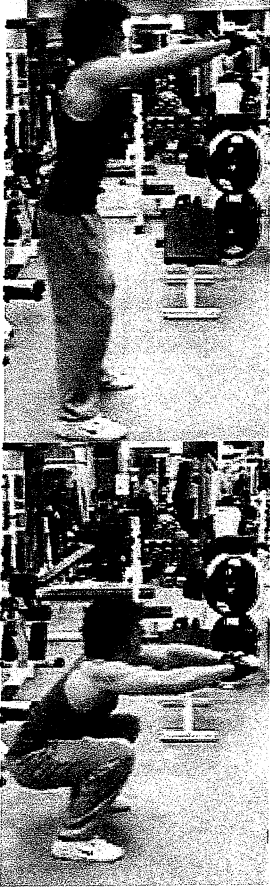
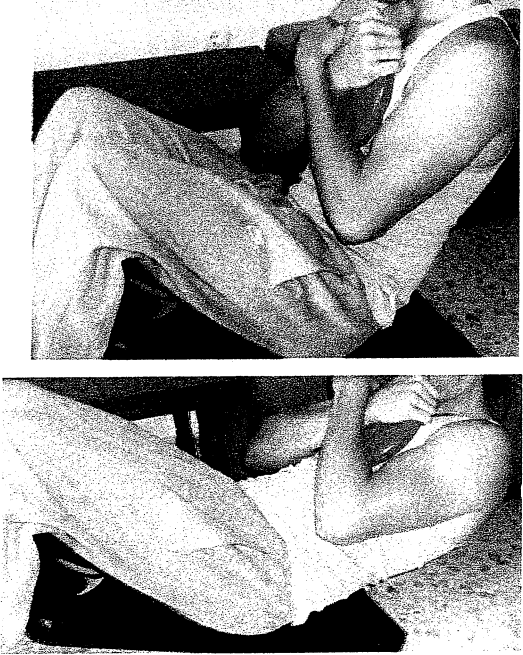
Press ups

- Lie face down on the floor with your hands shoulder width apart and flat on the floor.
- Push yourself off of the floor keeping your back straight with your bum up in an equal line until your arms are straight.
- Go back down by bending your arms until you almost touch the floor with your chest/abdominals, and then push back up to complete the repetition.

Twisted sit ups

- For this exercise you can use either a Sit-Up bench or just use a bit of furniture to lock your feet under.
- Using either of the two options lock your feet so they cannot lift up during the exercise, and have your legs bent to around 90 degrees.
- Place your hands behind or on the side of your head and from a lying down position lift yourself upward, as you do this twist your torso to the left and touch your left knee with your right elbow.
- Then go back down to the starting position by twisting backwards in a controlled motion.
- Repeat this movement however twisting the opposite way and touching the opposite knee.

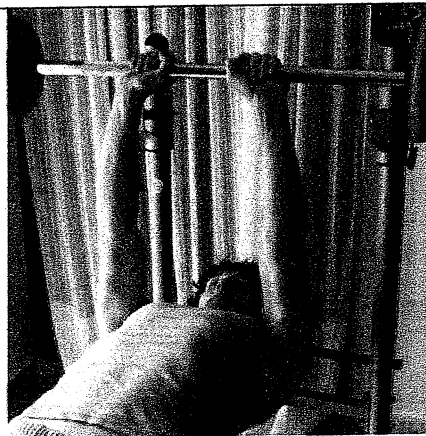
Side lying leg lifts		<ul style="list-style-type: none"> ▪ Get a floor mat. Lie down on your left side with the left arm supporting you and the right arm relaxing across your chest. ▪ Keep your body straight with your legs extended. ▪ Now by keeping your body straight lift your right leg upwards to the end of its range of movement. ▪ Then slowly lower the leg back to the starting position. ▪ Repeat for as many repetitions as wanted then repeat the exercise but for your left leg.
Weighted Dynamic Lunges		<ul style="list-style-type: none"> ▪ Stand tall with both feet together and a dumbbell of the desired weight in both hands ▪ While keeping the back straight, lunge forward with the right leg around 1/1.5 metres in front of the other leg. And your arms straight down by your side. ▪ The right thigh should be parallel to the ground and the right lower leg vertical. ▪ Come back up to the starting position and repeat with the other leg.

Squats		<ul style="list-style-type: none"> ▪ Stand straight with your legs slightly wider than shoulder width apart, with your feet pointing forwards. ▪ By keeping your back straight and yours arms straight out in front of you (or on your head), flex your legs until your thigh is parallel to the floor. ▪ Then in a slow controlled motion, extend your legs until you reach the starting position. ▪ During this exercise, try not to let your knees past your toes and don't let your back round over.
Inclined Sit ups		<ul style="list-style-type: none"> ▪ Lie down on the floor on your back, have your legs bent to around 90 degrees with your feet firmly planted on the floor. ▪ Place your hands on your chest with the weight in your hand, then slowly lower your body until you feel your back touch the floor. ▪ Then lift yourself back upwards to the starting position.

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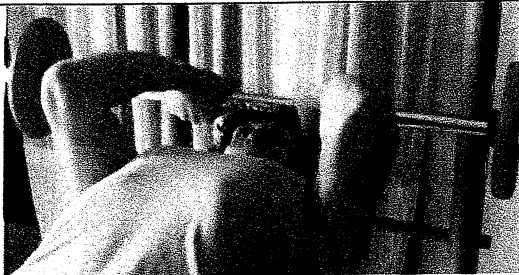


Deadlift


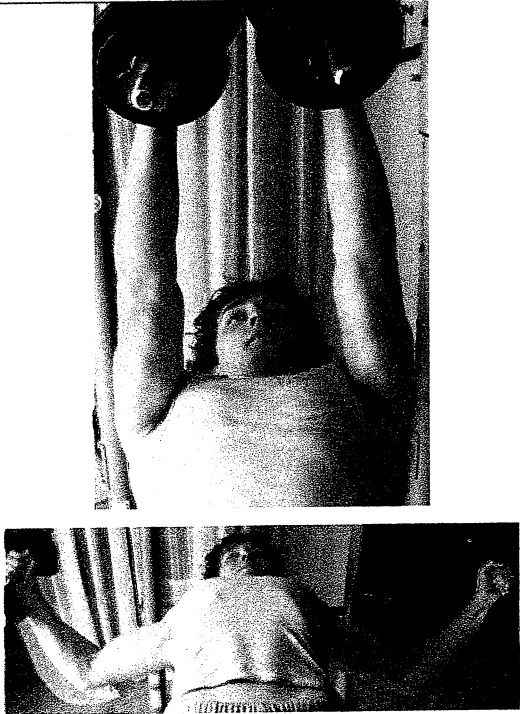
- Set up a barbell on the floor with the desired amount of weight.
- With your feet underneath the bar, bend down and grip the bar at around shoulder width apart. One hand should have an over-grip and the other with an under-grip.
- With your legs flexed, back straight and your bottom push backwards, pick up the bar using both your legs and back.
- As you pick it up, look up and keep your back straight.
- Once the bar is lifted up off of the floor, extend your legs and lift you back up to a standing position to complete the repetition.

**Skull
Crushes**

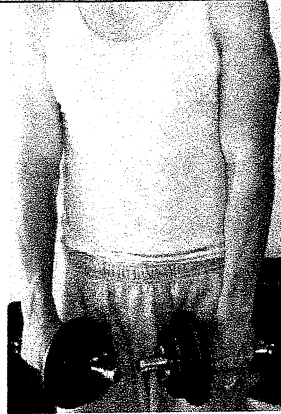
- Have a flat bench and a barbell or E-Z bar ready.
- With the weight, lie down on the bench on your back and push the weight up above your chest.
- Your grip on the bar should be closer in than shoulder width apart but the hands should not be touching.
- Now by keeping your elbows in a fixed vertical position, now bend your arms until your hands almost touch your forehead.

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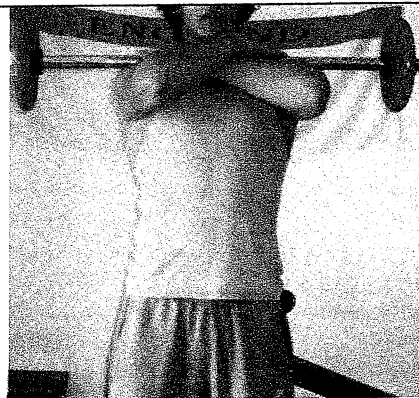
		<ul style="list-style-type: none">▪ Now in a controlled motion, extend your arms back to an extended position.
Barbell Curls	 	<ul style="list-style-type: none">▪ Have a barbell with the desired weight ready.▪ Grip the barbell with your hands slightly wider than shoulder width apart.▪ Stand straight with your knees slightly bent and your elbows in a fixed position by your side.▪ Now flex your arms in a controlled motion while keeping your elbows still.▪ Then slowly lower the bar into the starting position to complete the repetition.

Dumbbell Concentration Curls		<ul style="list-style-type: none">▪ Grab one dumbbell of the desired weight, then sit down on a bench with your legs spread fairly wide and your feet flat on the floor.▪ Now starting with your left arm, grip the dumbbell, hang your arm down between your legs and rest your left elbow on the inside of your left thigh.▪ Now flex your arm in a controlled motion until the end of its range of movement then slowly lower your arm to the starting position to complete the repetition.
Dumbbell Flies		<ul style="list-style-type: none">▪ Grab a dumbbell with both hands and lie down on a flat bench.▪ Having your feet flat on the floor and your back slightly arched push the weights directly upwards above your chest.▪ Lower the weights to your sides with your arms slightly bent. Keep your arms in this position during the whole movement.▪ Once you feel a strong stretch on your chest, raise your arms back to the starting position.

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**Shoulder
Raises**


- Grab a dumbbell in each hand.
- Stand straight with your feet shoulder width apart, knees slightly bent and your arms almost fully extended.
- With the dumbbells by your side, raise them upwards in front of your body to around head height in a controlled motion
- Now slowly lower the weights back to the starting position to complete the repetition.

**Front Barbell
Squats**


- Using a squat rack, rest the barbell in front of your shoulders just tucked under your chin and grip the bar as wide as possible to help balance.
- Stand with your legs slightly wider than shoulder width apart with your feet facing forward.
- While keeping your back straight and slightly arched, bend your legs and push your gluteus maximus backwards until your thighs are parallel to the floor. Your knees should not go past your feet.
- As soon as you reach the end of the downwards movement, extend your legs back to the starting position.
- While doing this exercise it is important to keep your back straight and to not let your knees go past your feet.

24 Week Log Book

Week 1				Session 2				Session 3				
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)	
Pull Ups	1	5	bw	Bench Press	1	10	40	Squats	1	15	bw	
	2	5	bw		2	10	50		2	20	bw	
	3	4	bw		3	7	70		3	20	bw	
	4	4	bw		4	3	75	1	10	40		
Back Extensions	1	20	bw	Dumb-Bell Press	1	10	18	Barbell Squats	2	7	50	
	2	20	bw		2	8	20		3	5	60	
	3	20	bw		3	5	22	1	10	80		
	4	20	bw		4	3	24	2	10	90		
Lateral Pull-down	1	10	30	Chest Press	1	10	50	Leg Press	3	10	100	
	2	10	40		2	8	60		1	20	bw	
	3	7	50		3	5	70	2	20	bw		
	4	3	60		4	3	75	3	20	bw		
Bent over Dumb-bell row	1	10	18	Press Ups	1	20	bw	Side lying leg lifts	1	15	bw	
	2	8	22		2	20	bw		2	15	bw	
	3	5	24		3	20	bw		3	15	bw	
	4	3	26		4	20	bw	1	20	bw		
Seated Row	1	10	40	Overhead Dumb-bell Press	1	10	15	Standing calf raises	2	20	bw	
	2	8	50		2	8	18		3	20	bw	
	3	5	60		3	4	20		1	25	bw	
	4	3	65		4	4	20	2	25	bw		
Preacher Curls	1	10	15	Shoulder Press	1	10	40	Sit-Ups	3	25	bw	
	2	8	20		2	8	50		1	15	bw	
	3	4	25		3	4	60		2	15	bw	
	4	4	25		4	4	60	3	15	bw		
Bicep Curl	1	10	15	Tricep Extension Cables	1	10	30	Twisted Sit-Ups	1	20	bw	
	2	8	18		2	10	35		2	20	bw	
	3	3	20		3	8	40		3	20	bw	
	4	3	20	Tricep Dips	1	7	bw	Abdominal Crunches	1	20	bw	
Comment: It was a great first session to the programme with no problems. However I did struggle on my last sets on Lateral Pull-down and bicep curls.					2	7	bw		2	20	bw	
					3	6	bw		3	20	bw	
				Comment: I was experiencing DOMS from the first session but I was fine after the warm-up. I enjoyed bench press but found the last set very tiring. Overall no problems.				Comment: Very painful DOMS on the chest but didn't affect the session. Didn't go too heavy on barbell squats and leg press due to it being my first leg session. Overall no problems				

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Week 2				Session 2				Session 3			
Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)
Pull Ups	1	7	bw	Bench Press	1	10	50	Squats	1	15	bw
	2	7	bw		2	10	60		2	20	bw
	3	5	bw		3	8	70		3	20	bw
	4	4	bw		4	4	75		1	10	40
Back Extensions	1	25	bw	Dumb-Bell Press	1	10	18	Barbell Squats	2	8	50
	2	25	bw		2	8	20		3	6	60
	3	25	bw		3	6	22		1	10	80
	4	25	bw		4	4	24		2	10	90
Lateral Pull-down	1	10	30	Chest Press	1	10	50	Leg Press	3	10	110
	2	10	40		2	9	60		1	20	bw
	3	8	50		3	6	70		2	20	bw
	4	4	60		4	4	75		3	20	bw
Bent over Dumb-bell row	1	10	20	Press Ups	1	20	bw	Side lying leg lifts	1	15	bw
	2	8	24		2	20	bw		2	15	bw
	3	5	26		3	20	bw		3	15	bw
	4	3	28		4	20	bw		1	20	bw
Seated Row	1	10	40	Overhead Dumb-bell Press	1	10	15	Standing calf raises	2	20	bw
	2	9	50		2	8	18		3	20	bw
	3	6	60		3	5	20		1	25	bw
	4	4	65		4	2	22		2	25	bw
Preacher Curls	1	10	15	Shoulder Press	1	10	40	Inclined Sit-Ups	3	25	bw
	2	8	20		2	8	50		1	15	bw
	3	5	25		3	5	60		2	15	bw
	4	5	25		4	2	65		3	15	bw
Bicep Curl	1	10	15	Tricep Extension Cables	1	10	35	Twisted Sit-Ups	1	20	bw
	2	8	18		2	10	40		2	20	bw
	3	4	20		3	8	45		3	20	bw
	4	4	20		1	7	bw		1	20	bw
Comment: Still feeling the pain from the previous week. Increased the weight and reps on most exercises. Overall no problems.				Tricep Dips	2	7	bw	Abdominal Crunches	2	20	bw
					3	6	bw		3	20	bw
					Comment: Went heavier on most exercises, struggled on the last set of overhead dumbbell press and shoulder press. Extremely tired at the end of the session.				Comment: Increased the weight but kept the reps the same for bodyweight exercises. Could feel DDMS around the abs from last week but the pain was ok after one sets of sit-ups. Overall no		

Week 3				Session 2				Session 3			
Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)
Pull Ups	1	8	bw	Bench Press	1	10	50	Squats	1	20	bw
	2	8	bw		2	10	60		2	20	bw
	3	8	bw		3	8	70		3	20	bw
	4	7	bw		4	2	80		1	10	40
Back Extensions	1	25	bw	Dumb-Bell Press	1	10	18	Barbell Squats	2	8	50
	2	25	bw		2	10	20		3	3	70
	3	25	bw		3	7	22		1	10	80
	4	25	bw		4	2	26		2	10	100
Lateral Pull-down	1	10	40	Chest Press	1	10	50	Leg Press	3	8	120
	2	10	50		2	10	60		1	20	bw
	3	7	60		3	6	70		2	20	bw
	4	4	65		4	4	75		3	20	bw
Bent over Dumb-bell row	1	10	20	Press Ups	1	20	bw	Side lying leg lifts	1	20	bw
	2	8	24		2	20	bw		2	20	bw
	3	6	26		3	20	bw		3	20	bw
	4	4	28		4	20	bw		1	30	bw
Seated Row	1	10	40	Overhead Dumb-bell Press	1	10	15	Standing calf raises	2	30	bw
	2	10	50		2	8	18		3	30	bw
	3	7	60		3	5	20		1	35	bw
	4	4	65		4	3	22		2	35	bw
Preacher Curls	1	10	15	Shoulder Press	1	10	40	Sit-Ups	3	35	bw
	2	9	20		2	9	50		1	20	bw
	3	6	25		3	6	60		2	20	bw
	4	7	25		4	1	70		3	20	bw
Bicep Curl	1	10	15	Tricep Extension Cables	1	10	35	Twisted Sit-Ups	1	30	bw
	2	9	18		2	10	40		2	30	bw
	3	6	20		3	9	45		3	30	bw
	4	6	20		1	8	bw		1	30	bw
Comment: Felt fully charged after the weekend rest. Improvements from Week 2 in the number of reps and the weight. Good session. Overall no problems.				Tricep Dips	2	8	bw	Abdominal Crunches	2	30	bw
					3	8	bw		3	30	bw
					Comment: Great session, very noticeable improvements from previous week. Particularly pleased with bench press and my 1RM on shoulder press. Overall no problems.				Comment: Decided to go quite heavy on barbell squats and went slightly heavier on leg press which felt good. Increased the reps on most of the bodyweight exercises. Overall no problems.		

Book

Week 4											
Session 1				Session 2				Session 3			
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)
Pull Ups	1	9	bw	Bench Press	1	10	50	Squats	1	25	bw
	2	8	bw		2	10	60		2	25	bw
	3	9	bw		3	9	70		3	25	bw
	4	8	bw		4	3	80	1	10	45	
Back Extensions	1	25	bw	Dumb-Bell Press	1	10	18	Barbell Squats	2	8	55
	2	25	bw		2	10	20		3	2	75
	3	25	bw		3	8	22		1	10	100
	4	30	bw		4	3	26	2	9	120	
Lateral Pull-down	1	10	40	Chest Press	1	10	50	Leg Press	3	6	140
	2	10	50		2	10	60		1	25	bw
	3	7	60		3	8	70		2	25	bw
	4	3	70		4	5	75	3	25	bw	
Bent over Dumb-bell row	1	10	22	Press Ups	1	20	bw	Side lying leg lifts	1	20	bw
	2	8	24		2	20	bw		2	20	bw
	3	6	26		3	20	bw		3	20	bw
	4	3	30		4	30	bw	1	30	bw	
Seated Row	1	10	40	Overhead Dumb-bell Press	1	10	15	Standing calf raises	2	30	bw
	2	10	50		2	10	18		3	30	bw
	3	7	60		3	6	20		Sit-Ups	1	35
	4	3	70		4	4	22	2		35	bw
Preacher Curls	1	10	15	Shoulder Press	1	10	40	3		35	bw
	2	9	20		2	10	50	Inclined Sit-Ups	1	25	bw
	3	7	25		3	6	60		2	25	bw
	4	3	30		4	3	70		3	25	bw
Bicep Curl	1	10	15	Tricep Extension Cables	1	10	35	Twisted Sit-Ups	1	30	bw
	2	10	18		2	10	40		2	30	bw
	3	7	20		3	10	45		3	30	bw
	4	6	22	Tricep Dips	1	9	bw	Abdominal Crunches	1	35	bw
Comment: Good start to the week by going heavier on most exercises on my last set. I found the seated row last set very hard, but no overall problems.			2		10	bw	2		35	bw	
			3		9	bw	3		35	bw	
				Comment: Another good session, didn't raise the weight on any exercise however I increased the reps, and I finally reached a set of 10 on tricep dips. No overall problems.				Comment: I didn't feel too well at the beginning of the session but after the warm-up I was fine and I went on to do a personal best on barbell squats. An overall successful session.			
Week 5											
Session 1				Session 2				Session 3			
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)
Pull Ups	1	9	bw	Bench Press	1	10	50	Squats	1	30	bw
	2	10	bw		2	10	60		2	30	bw
	3	9	bw		3	9	70		3	30	bw
	4	9	bw		4	x	85	1	10	45	
Back Extensions	1	30	bw	Dumb-Bell Press	1	10	18	Barbell Squats	2	8	60
	2	30	bw		2	10	20		3	3	75
	3	30	bw		3	8	22		1	10	100
	4	30	bw		4	4	26	2	8	130	
Lateral Pull-down	1	10	40	Chest Press	1	10	50	Leg Press	3	4	150
	2	10	50		2	10	60		1	25	bw
	3	7	60		3	8	70		2	25	bw
	4	4	70		4	1	80	3	25	bw	
Bent over Dumb-bell row	1	10	22	Press Ups	1	25	bw	Side lying leg lifts	1	25	bw
	2	8	24		2	25	bw		2	25	bw
	3	7	26		3	25	bw		3	25	bw
	4	4	30		4	30	bw	1	30	bw	
Seated Row	1	10	40	Overhead Dumb-bell Press	1	10	15	Standing calf raises	2	30	bw
	2	10	50		2	10	18		3	30	bw
	3	7	60		3	7	20		Sit-Ups	1	40
	4	4	70		4	5	22	2		40	bw
Preacher Curls	1	10	15	Shoulder Press	1	10	40	3		40	bw
	2	10	20		2	10	50	Inclined Sit-Ups	1	25	bw
	3	7	25		3	6	60		2	25	bw
	4	4	30		4	4	70		3	25	bw
Bicep Curl	1	10	15	Tricep Extension Cables	1	10	35	Twisted Sit-Ups	1	30	bw
	2	10	18		2	10	40		2	30	bw
	3	7	20		3	3	50		3	30	bw
	4	6	22	Tricep Dips	1	10	bw	Abdominal Crunches	1	35	bw
Comment: Kept the weight the same on all exercises, but number of reps increased on many sets. Performed my first set of 10 on pull ups. No problems.			2		10	bw	2		35	bw	
			3		9	bw	3		35	bw	
				Comment: Attempted 85kg on bench press, i couldn't quite get it up. Reps and weight went up on most exercises. No problems apart from the failed set on bench press.				Comment: Very good session, improved on leg press and sit-ups the most but increased the reps and weight on some other exercises. No problems.			

Book

Week 6				Session 2				Session 3			
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)
Pull Ups	1	10	bw	Bench Press	1	10	50	Squats	1	30	bw
	2	10	bw		2	10	60		2	30	bw
	3	10	bw		3	9	70		3	35	bw
	4	9	bw		4	3	80		1	10	50
Back Extensions	1	30	bw	Dumb-Bell Press	1	10	18	Barbell Squats	2	9	60
	2	30	bw		2	10	20		3	4	75
	3	30	bw		3	9	22		1	10	110
	4	30	bw		4	5	26		2	9	130
Lateral Pull-down	1	10	50	Chest Press	1	10	50	Leg Press	3	5	150
	2	8	60		2	10	60		1	30	bw
	3	6	65		3	9	70		2	30	bw
	4	4	70		4	2	80		3	30	bw
Bent over Dumb-bell row	1	10	22	Press Ups	1	30	bw	Side lying leg lifts	1	30	bw
	2	8	24		2	30	bw		2	30	bw
	3	7	26		3	30	bw		3	30	bw
	4	5	30		4	30	bw		1	35	bw
Seated Row	1	10	50	Overhead Dumb-bell Press	1	10	15	Standing calf raises	2	35	bw
	2	8	60		2	10	18		3	35	bw
	3	6	65		3	8	20		1	40	bw
	4	4	70		4	6	22		2	40	bw
Preacher Curls	1	10	17.5	Shoulder Press	1	10	40	Sit-Ups	3	45	bw
	2	10	20		2	10	50		1	30	bw
	3	9	22.5		3	7	60		2	30	bw
	4	7	25		4	5	70		3	30	bw
Bicep Curl	1	10	15	Tricep Extension Cables	1	10	35	Twisted Sit-Ups	1	35	bw
	2	10	18		2	10	40		2	35	bw
	3	8	20		3	5	50		3	35	bw
	4	6	22		1	10	bw		1	40	bw
Comment: Pull ups were the highlight of the session with 3 sets of 10. Increased weight and reps on many exercises. No problems.				Tricep Dips	2	10	bw	Abdominal Crunches	2	40	bw
					3	10	bw		3	40	bw
					Comment: Put the weight down on bench press to make sure I completed the set. Press-ups went well and the 3 sets of 10 reps on tricep dips was a good achievement. No problems.				Comment: Best session 3 so far. Improved on every exercise. Extremely tired at the end which felt good. No problems. Very successful session.		
Week 7											
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)
Pull Ups	1	11	bw	Bench Press	1	10	50	Squats	1	35	bw
	2	10	bw		2	10	60		2	35	bw
	3	10	bw		3	9	70		3	35	bw
	4	10	bw		4	1	85		1	10	60
Back Extensions	1	35	bw	Dumb-Bell Press	1	10	18	Barbell Squats	2	6	70
	2	35	bw		2	10	20		3	1	80
	3	35	bw		3	9	22		1	10	110
	4	35	bw		4	6	26		2	10	130
Lateral Pull-down	1	10	50	Chest Press	1	10	60	Leg Press	3	5	150
	2	9	60		2	9	70		1	30	bw
	3	7	65		3	6	75		2	30	bw
	4	5	70		4	3	80		3	30	bw
Bent over Dumb-bell row	1	10	22	Press Ups	1	35	bw	Side lying leg lifts	1	30	bw
	2	9	24		2	35	bw		2	30	bw
	3	8	26		3	35	bw		3	30	bw
	4	6	30		4	35	bw		1	35	bw
Seated Row	1	10	50	Overhead Dumb-bell Press	1	10	18	Standing calf raises	2	35	bw
	2	9	60		2	9	20		3	35	bw
	3	7	65		3	9	20		1	40	bw
	4	4	70		4	6	22		2	40	bw
Preacher Curls	1	10	20	Shoulder Press	1	10	50	Sit-Ups	3	45	bw
	2	10	22.5		2	8	60		1	30	bw
	3	8	25		3	7	65		2	30	bw
	4	7	25		4	5	70		3	30	bw
Bicep Curl	1	10	15	Tricep Extension Cables	1	10	40	Twisted Sit-Ups	1	35	bw
	2	10	18		2	9	45		2	35	bw
	3	8	20		3	6	50		3	35	bw
	4	3	24		1	12	bw		1	40	bw
Comment: Experiencing some DOMS in my abs which was uncomfortable but it soon went. Increased reps and weight on most exercises. No problems				Tricep Dips	2	11	bw	Abdominal Crunches	2	40	bw
					3	10	bw		3	40	bw
					Comment: Very good session. Finally did 85kg on bench press with no help. Went heavier on some exercises. No problems.				Comment: All bodyweight exercises stayed the same due to the barbell squats taking almost all my energy out of me. Personal best on barbell squat, however it was not the best of sessions		

Book

Week 8				Session 1				Session 2							
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)				
Pull Ups	1	11	bw	Bench Press	1	10	60	Squats	1	35	bw				
	2	11	bw		2	10	70		2	35	bw				
	3	11	bw		3	6	75		3	35	bw				
	4	10	bw		4	1.5	85		1	7	70				
Back Extensions	1	35	bw	Dumb-Bell Press	1	10	20	Barbell Squats	2	4	75				
	2	35	bw		2	10	22		3	2	80				
	3	35	bw		3	6	26		1	10	130				
	4	35	bw		4	6	26		2	6	150				
Lateral Pull-down	1	10	50	Chest Press	1	10	60	Leg Press	3	4	160				
	2	9	60		2	10	70		1	30	bw				
	3	6	70		3	6	75		2	30	bw				
	4	3	75		4	4	80		3	30	bw				
Bent over Dumb-bell row	1	10	22	Press Ups	1	40	bw	Side lying leg lifts	1	30	bw				
	2	9	24		2	40	bw		2	30	bw				
	3	7	28		3	40	bw		3	30	bw				
	4	5	32		4	40	bw		1	40	bw				
Seated Row	1	10	60	Overhead Dumb-bell Press	1	10	18	Standing calf raises	2	40	bw				
	2	8	65		2	10	20		3	40	bw				
	3	6	70		3	7	22		1	45	bw				
	4	3	75		4	7	22		2	45	bw				
Preacher Curls	1	10	20	Shoulder Press	1	10	50	Sit-Ups	3	45	bw				
	2	9	25		2	9	60		1	35	bw				
	3	x	35		3	6	70		2	35	bw				
	4	6	25		4	6	70		3	35	bw				
Bicep Curl	1	9	18	Tricep Extension Cables	1	10	40	Twisted Sit-Ups	1	40	bw				
	2	10	18		2	10	45		2	40	bw				
	3	8	20		3	7	50		3	40	bw				
	4	5	22		1	12	bw		1	40	bw				
Comment: Really pumped during this session and enjoyed it. Went heavier and increased reps on most exercises. Only problem was set 3 on preacher				Comment: Another very good session 2. Improved on every exercise. 1.5 reps on set 4 on bench press as I only needed the slightest bit of help. Great stuff, no problems.				Comment: Increased reps and weight on most exercises. Highlight of the session was the 2 reps on 80kg for barbell squats. Good session, no problems.							
												2	12	bw	2
				3				10	bw	3				40	bw
Week 9															
Session 1				Session 2				Session 3							
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)				
Pull Ups	1	12	bw	Bench Press	1	10	60	Squats	1	40	bw				
	2	12	bw		2	10	70		2	40	bw				
	3	11	bw		3	4	80		3	40	bw				
	4	11	bw		4	2	85		1	9	70				
Back Extensions	1	35	bw	Dumb-Bell Press	1	10	22	Barbell Squats	2	3	80				
	2	35	bw		2	9	26		3	1	85				
	3	40	bw		3	6	28		1	10	130				
	4	40	bw		4	6	28		2	5	160				
Lateral Pull-down	1	10	60	Chest Press	1	10	70	Leg Press	3	2	170				
	2	9	65		2	7	75		1	35	bw				
	3	6	70		3	5	80		2	35	bw				
	4	4	75		4	5	80		3	35	bw				
Bent over Dumb-bell row	1	10	24	Press Ups	1	40	bw	Side lying leg lifts	1	35	bw				
	2	10	26		2	40	bw		2	35	bw				
	3	8	28		3	40	bw		3	35	bw				
	4	5	32		4	40	bw		1	40	bw				
Seated Row	1	10	60	Overhead Dumb-bell Press	1	10	20	Standing calf raises	2	40	bw				
	2	8	70		2	10	22		3	40	bw				
	3	5	75		3	7	24		1	45	bw				
	4	5	75		4	3	26		2	45	bw				
Preacher Curls	1	10	20	Shoulder Press	1	10	60	Sit-Ups	3	45	bw				
	2	8	25		2	9	70		1	40	bw				
	3	5	27.5		3	5	75		2	40	bw				
	4	2	30		4	4	75		3	40	bw				
Bicep Curl	1	10	18	Tricep Extension Cables	1	10	45	Twisted Sit-Ups	1	45	bw				
	2	9	20		2	9	50		2	45	bw				
	3	6	22		3	5	55		3	45	bw				
	4	6	22		1	13	bw		1	40	bw				
Comment: Good session with some slight improvements made. Happiest with Lateral pull-down and disappointed with preacher curls. However no				Comment: Some big improvements made. Very happy with my chest and shoulder press advancement. Good session with no problems.				Comment: Continued improvements made on most exercises. Personal best of 85kg on barbell squats. Very good and successful session. No problems.							
												2	12	bw	2
				3				13	bw	3				40	bw

Book

Week 10				Session 2				Session 1			
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)
Pull Ups	1	12	bw	Bench Press	1	10	60	Squats	1	40	bw
	2	12	bw		2	8	75		2	45	bw
	3	12	bw		3	5	80		3	50	bw
	4	12	bw		4	2	85		1	10	70
Back Extensions	1	40	bw	Dumb-Bell Press	1	10	22	Barbell Squats	2	5	80
	2	40	bw		2	10	26		3	2	85
	3	40	bw		3	7	28		1	10	140
	4	40	bw		4	3	30		2	7	160
Lateral Pull-down	1	10	60	Chest Press	1	10	70	Leg Press	3	4	170
	2	10	65		2	8	75		1	35	bw
	3	6	70		3	5	80		2	35	bw
	4	4	75		4	3	85		3	35	bw
Bent over Dumb-bell row	1	10	24	Press Ups	1	45	bw	Side lying leg lifts	1	40	bw
	2	10	26		2	45	bw		2	40	bw
	3	7	30		3	40	bw		3	40	bw
	4	5	32		4	40	bw		1	50	bw
Seated Row	1	10	60	Overhead Dumb-bell Press	1	10	22	Standing calf raises	2	50	bw
	2	8	70		2	9	24		3	50	bw
	3	5	75		3	4	26		1	45	bw
	4	2	80		4	4	26		2	45	bw
Preacher Curls	1	10	20	Shoulder Press	1	10	70	Sit-Ups	3	45	bw
	2	8	25		2	7	75		1	40	bw
	3	3	30		3	3	80		2	40	bw
	4	3	30		4	3	80		3	40	bw
Bicep Curl	1	10	18	Tricep Extension Cables	1	10	45	Twisted Sit-Ups	1	45	bw
	2	10	20		2	10	50		2	45	bw
	3	6	22		3	6	55		3	45	bw
	4	6	22		1	15	bw		1	45	bw
Comment: Some progression, with increased reps and increased weight on some exercises. Ok session with no problems.				Tricep Dips	2	13	bw	Abdominal Crunches	2	45	bw
					3	13	bw		3	45	bw
				Comment: Further improvements made. Very happy with the 3 reps on 30kg on dumbbell press and the 85kg on chest press. Great session with no problems.				Comment: Reps and weight increased on most exercises. Some great improvements on leg press and standing calf raises. Another good leg and ab session. No problems.			

Week 11				Session 2				Session 1			
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)
Pull Ups	1	12	bw	Bench Press	1	10	65	Squats	1	50	bw
	2	12	bw		2	10	70		2	50	bw
	3	12	bw		3	6	80		3	50	bw
	4	11	bw		4	1	90		1	7	80
Back Extensions	1	40	bw	Dumb-Bell Press	1	10	24	Barbell Squats	2	3	85
	2	40	bw		2	10	26		3	x	90
	3	40	bw		3	8	28		1	10	150
	4	40	bw		4	4	30		2	5	170
Lateral Pull-down	1	10	60	Chest Press	1	9	75	Leg Press	3	2	180
	2	6	70		2	7	80		1	35	bw
	3	7	70		3	5	85		2	35	bw
	4	4	75		4	2	90		3	40	bw
Bent over Dumb-bell row	1	10	26	Press Ups	1	45	bw	Side lying leg lifts	1	45	bw
	2	8	30		2	45	bw		2	45	bw
	3	5	32		3	45	bw		3	45	bw
	4	5	32		4	45	bw		1	55	bw
Seated Row	1	10	60	Overhead Dumb-bell Press	1	10	24	Standing calf raises	2	55	bw
	2	9	70		2	6	26		3	55	bw
	3	5	75		3	6	26		1	50	bw
	4	2	80		4	3	28		2	50	bw
Preacher Curls	1	10	20	Shoulder Press	1	10	70	Sit-Ups	3	50	bw
	2	8	25		2	5	80		1	40	bw
	3	4	30		3	2	85		2	40	bw
	4	3	30		4	5	80		3	40	bw
Bicep Curl	1	10	18	Tricep Extension Cables	1	10	50	Twisted Sit-Ups	1	45	bw
	2	10	20		2	7	55		2	45	bw
	3	6	22		3	3	60		3	45	bw
	4	6	22		1	16	bw		1	50	bw
Comment: I wasn't very motivated during this session. Minimal improvements made. Not the best of sessions.				Tricep Dips	2	15	bw	Abdominal Crunches	2	50	bw
					3	15	bw		3	50	bw
				Comment: Even more improvements as usual on session 2. Another personal best on bench press with 90kg and shoulder press with 85kg. Extremely pleased with myself. Good session.				Comment: Was very motivated and full of energy for this session. Attempted 90kg barbell squat but couldn't quite get it, maybe next week. Very good session with a lot of improvements.			

Book

Week 12											
Session 1				Session 2				Session 3			
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)
Pull Ups	1	13	bw	Bench Press	1	10	70	Squats	1	60	bw
	2	12	bw		2	7	80		2	60	bw
	3	12	bw		3	4	85		3	60	bw
	4	12	bw		4	2	90		1	9	80
Back Extensions	1	45	bw	Dumb-Bell Press	1	10	28	Barbell Squats	2	5	85
	2	45	bw		2	6	30		3	1	90
	3	45	bw		3	3	32		1	10	160
	4	45	bw		4	3	32		2	7	170
Lateral Pull-down	1	10	65	Chest Press	1	10	75	Leg Press	3	3	180
	2	7	70		2	8	80		1	40	bw
	3	5	75		3	6	85		2	40	bw
	4	2	80		4	3	90		3	40	bw
Bent over Dumb-bell row	1	10	30	Press Ups	1	50	bw	Side lying leg lifts	1	50	bw
	2	7	32		2	50	bw		2	50	bw
	3	4	34		3	50	bw		3	50	bw
	4	4	34		4	50	bw		1	60	bw
Seated Row	1	10	70	Overhead Dumb-bell Press	1	10	24	Standing calf raises	2	60	bw
	2	6	75		2	7	26		3	60	bw
	3	3	80		3	7	26		1	55	bw
	4	3	80		4	4	28		2	55	bw
Preacher Curls	1	10	20	Shoulder Press	1	9	75	Sit-Ups	3	55	bw
	2	9	25		2	6	80		1	45	bw
	3	5	30		3	3	85		2	45	bw
	4	4	30		4	3	85		3	45	bw
Bicep Curl	1	10	20	Tricep Extension Cables	1	10	50	Inclined Sit-Ups	1	50	bw
	2	8	22		2	9	55		2	50	bw
	3	4	24		3	5	60		3	50	bw
	4	4	24		1	17	bw		1	55	bw
Comment: Finally a great Session 1 with improvements on every exercise. Personal best on Lateral Pull-down. Great session, with no problems.				Tricep Dips	2	17	bw	Abdominal Crunches	2	55	bw
					3	16	bw		3	55	bw
				Comment: Like most of the previous Session 2s I've made a lot of improvements. This session im most pleased with my last set on chest press. Great session with no problems.				Comment: I was looking to increase the reps this session, and I did that. I completed the 90kg on barbell squat which is a great achievement. Very tiring and great session.			

End of AS Programme – Continuation of A2

Book

Week 13												
Session 1 - Chest, Shoulders and Triceps												
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)	
Pull Ups	1	13	bw	Press Ups	1	50	bw	Squats	1	50	bw	
	2	13	bw		2	50	bw		2	50	bw	
	3	13	bw		1	10	70		1	10	80	
	4	13	bw		2	7	80		2	6	85	
Deadlifts	1	10	40	Bench Press	3	8	80	Barbell Squats	3	2	90	
	2	10	50		4	2	90		4	5	85	
	3	9	60		1	10	28		1	10	30	
	4	7	70		2	7	30		2	10	35	
Lateral Pull-down	1	10	65	Dumb-Bell Press	3	4	32	Front Barbell Squats	3	10	40	
	2	8	70		1	9	80		1	10	160	
	3	6	75		2	9	80		2	8	170	
	4	5	75		3	7	85		3	4	180	
Bent over Dumb-bell row	1	10	30	Chest Press	1	10	6	Leg Press	1	10	20	
	2	7	32		2	10	8		2	10	30	
	3	5	34		3	6	10		3	8	40	
Barbell Curls	1	10	10	Dumb-Bell Flies	1	10	25	Leg Extensions	1	10	20	
	2	10	15		2	6	28		2	10	30	
	3	8	20		3	6	28		3	6	40	
Preacher Curls	1	10	20	Overhead Dumb-bell Press	1	10	75	Leg Curls	1	10	20	
	2	10	25		2	7	80		2	9	30	
	3	5	30		3	7	80		3	6	40	
Bicep Curl	1	10	20	Shoulder Press	1	10	4	Weighted calf raises	1	20	10	
	2	8	22		2	10	6		2	20	15	
	3	8	22		3	10	8		3	20	20	
Dumb-bell Concentration Curls	1	10	6	Shoulder Raises	1	10	50	Weighted Lunges	1	20	5	
	2	10	8		2	10	55		2	20	8	
	3	10	8		3	7	60		3	20	10	
Comment: Very enjoyable session as I liked the three added exercises. I got the hang of deadlifts quickly as I already knew how they should be performed, I found them by far the most energy consuming exercise I had ever done. Good session with no problems.				Tricep Extension Cables	1	10	50	Weighted Inclined Sit-Ups	1	20	2	
					2	10	55		2	15	4	
					3	7	60		3	15	4	
				Weighted Tricep Dips	1	10	bw + 5	Comment: By far the best leg session I have ever done. The added set on barbell squats was a great addition to the programme along with all the added exercises. My legs felt like jelly by the end of the session which is great as I knew they must have been worked properly. Great session with no problems.				
					2	8	bw + 10					
					3	8	bw + 10					
				Skull Crushers	1	10	10					
					2	10	15					
					3	6	20					
				Comment: Like session one I enjoyed the four added exercises. I found the dumbbell flies very effective as it gave the chest a nice stretch at the bottom and a squeeze at the top of the rep. The weighted tricep dips and the skull crushers were great exercises to end the workout. Good session with no problems.								

Session 4 - Cardio and Bodyweight			
Exercise	Sets	Reps	Weight (kg)
Treadmill	1	15mins	65% MHR
Bike	1	10mins	65% MHR
Sit-Ups	1	50	bw
	2	50	bw
	3	50	bw
Twisted Sit-Ups	1	50	bw
	2	50	bw
	3	50	bw
Abdominal Crunches	1	50	bw
	2	50	bw
	3	50	bw
Back Extensions	1	50	bw
	2	50	bw
	3	50	bw
Comment: Was feeling the effects (DOMS) of the Legs and Abs session but after the warm up I was ready to go. I found the 15 minutes of treadmill and 10 minutes of bike surprisingly very tiring as I am usually very good at endurance exercises. However my body isn't used to it so it is understandable. Good, tiring session with no problems.			

Book

Week 14				Session 3 - Chest, Shoulders and Triceps							
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)
Pull Ups	1	13	bw	Press Ups	1	50	bw	Squats	1	50	bw
	2	13	bw		2	50	bw		2	50	bw
	3	13	bw	Bench Press	1	10	70	Barbell Squats	1	10	80
	4	13	bw		2	10	75		2	7	85
Deadlifts	1	10	50		3	8	80		3	3	90
	2	10	60		4	3	90		4	3	90
	3	8	70	Dumb-Bell Press	1	10	28	Front Barbell Squats	1	10	40
	4	6	75		2	9	30		2	10	45
Lateral Pull-down	1	10	85		3	6	32		3	7	50
	2	9	70		Chest Press	1	10		80	Leg Press	1
	3	6	75	2		8	85	2	5		180
	4	6	75	3		7	85	3	2		190
Bent over Dumb-bell row	1	10	30	Dumb-Bell Flies		1	10	8	Leg Extensions		1
	2	9	32		2	9	10	2		10	35
	3	6	34		3	6	12	3		6	45
Barbell Curls	1	10	12.5	Overhead Dumb-bell Press	1	10	25	Leg Curls	1	10	20
	2	10	15		2	8	28		2	10	30
	3	9	20		3	4	30		3	7	40
Preacher Curls	1	10	25	Shoulder Press	1	10	75	Weighted calf raises	1	20	20
	2	9	27.5		2	8	80		2	20	25
	3	6	30		3	4	85		3	20	25
Bicep Curl	1	10	20	Shoulder Raises	1	10	6	Weighted Lunges	1	20	8
	2	9	22		2	10	8		2	20	10
	3	6	24		3	7	10		3	20	10
Dumb-bell Concentration Curls	1	10	8	Tricep Extension Cables	1	10	50	Weighted Inclined Sit-Ups	1	20	2
	2	8	10		2	10	55		2	15	4
	3	8	10		3	8	60		3	15	4
Comment: Good start to the week by going heavier and increasing the repetitions on most exercises. Very happy with my progress on preacher curls and I felt a great pump in my biceps after the Dumbbell concentration curls. Good session with no problems.				Weighted Tricep Dips	1	10	bw + 5	Comment: Further improvements made on most exercises. Finding these sessions far more intense since the addition of the new exercises, especially the front barbell squats. Struggled on the last set on leg press which didn't feel very good so I will probably lower the weight next week. However it was a good session.			
					2	10	bw + 10				
					3	3	bw + 15				
				Skull Crushers	1	10	10				
					2	10	15				
					3	8	20				
Comment: Another good session, slight improvements made regarding an increase in weight and repetitions on most exercises. Pleased with my current bench press lifts and enjoying the muscle strain while doing the weighted tricep dips. Successful session with no problems.											

Session 4 - Cardio and Bodyweight			
Exercise	Sets	Reps	Weight (kg)
Treadmill	1	15mins	65% MHR
Bike	1	10mins	65% MHR
Sit-Ups	1	50	bw
	2	50	bw
	3	50	bw
Twisted Sit-Ups	1	50	bw
	2	50	bw
	3	50	bw
Abdominal Crunches	1	50	bw
	2	50	bw
	3	50	bw
Back Extensions	1	50	bw
	2	50	bw
	3	50	bw
Comment: All time and reps stayed the same as the previous week as it is already a very hard session. Very tired by the end of the workout. An overall successful session with no problems.			

Book

Week 15															
Session 4 - Chest, Shoulders and Triceps															
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)				
Pull Ups	1	13	bw	Press Ups	1	50	bw	Squats	1	50	bw				
	2	13	bw		2	50	bw		2	50	bw				
	3	13	bw		1	10	70		1	10	80				
	4	13	bw		2	10	75		2	8	85				
Deadlifts	1	10	60	Bench Press	3	8	80	Barbell Squats	3	5	90				
	2	10	70		4	2	90		4	5	90				
	3	7	75		1	10	28		1	10	40				
	4	2	85		2	9	30		2	10	45				
Lateral Pull-down	1	10	65	Dumb-Bell Press	3	5	32	Front Barbell Squats	3	8	50				
	2	10	70		1	10	80		1	10	170				
	3	7	75		2	8	85		2	6	180				
	4	4	80		3	8	85		3	6	180				
Bent over Dumb-bell row	1	10	30	Chest Press	1	10	8	Leg Press	1	10	30				
	2	10	32		2	9	10		2	8	40				
	3	6	34		3	8	10		3	6	45				
	1	10	15		1	10	25		1	10	20				
Barbell Curls	2	10	20	Overhead Dumb-bell Press	2	8	28	Leg Curls	2	10	30				
	3	9	20		3	5	30		3	8	40				
	1	10	25		1	10	75		1	17	30				
Preacher Curls	2	10	27.5	Shoulder Press	2	9	80	Weighted calf raises	2	20	25				
	3	6	30		3	5	85		3	20	25				
	1	10	20		1	10	6		1	20	10				
Bicep Curl	2	10	22	Shoulder Raises	2	10	8	Weighted Lunges	2	20	12				
	3	7	24		3	8	10		3	18	12				
	1	10	8		1	10	50		1	20	2				
Dumb-bell Concentration Curls	2	10	10	Tricep Extension Cables	2	10	55	Weighted Inclined Sit-Ups	2	15	4				
	3	5	12		3	9	60		3	15	4				
	Comment: Progressed even more with the increase of weight and reps. Enjoyed the deadlifts, however I did use the help of a weightlifting belt on my last set just for some extra back support as I don't want to lose my form. Another good back and biceps session. No problems.					1	10		bw + 5	Comment: Great session, used a weightlifting belt on my heavy sets on barbell squats which I found supported me more which allowed me to push out more reps. A high intensity was kept throughout the session. Looking forward to the next Legs and Abs workout. Successful session with no problems.					
2						10	bw + 10								
3						4	bw + 15								
1						10	10								
					2	10	15								
					3	10	20								
					Comment: It was a successful workout in some respects. No improvements were made in the chest exercises however there were improvements in both the shoulder and tricep exercises. I felt the best progression was in the skull crushes exercise. Good session with no major problems.										

Session 4 - Cardio and Bodyweight			
Exercise	Sets	Reps	Weight (kg)
Treadmill	1	20mins	65% MHR
Bike	1	15mins	65% MHR
Sit-Ups	1	60	bw
	2	60	bw
	3	60	bw
Twisted Sit-Ups	1	50	bw
	2	50	bw
	3	50	bw
Abdominal Crunches	1	50	bw
	2	50	bw
	3	50	bw
Back Extensions	1	60	bw
	2	60	bw
	3	60	bw
Comment: Thought I would not be able to handle an added five minutes on the bike and treadmill however I did manage it. I also increased the repetitions on both the Sit-ups and the back extensions which I felt a great deal. Very tiring but good session with no problems.			

Book

Week 16											
Session 3 - Chest, Shoulders and Triceps											
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)
Pull Ups	1	14	bw	Press Ups	1	50	bw	Squats	1	50	bw
	2	14	bw		2	50	bw		2	50	bw
	3	14	bw		1	10	70		1	10	80
	4	14	bw		2	10	75		2	9	85
Deadlifts	1	10	60	Bench Press	3	9	80	Barbell Squats	3	6	90
	2	10	70		4	3	90		4	2	95
	3	6	80		1	10	28		1	10	45
	4	3	85		2	10	30	Front Barbell Squats	2	10	50
Lateral Pull-down	1	10	70	Dumb-Bell Press	3	6	32		3	3	60
	2	8	75		1	10	80		1	10	170
	3	4	80		2	9	85		2	7	180
	4	4	80		3	5	90		3	4	190
Bent over Dumb-bell row	1	10	30	Chest Press	1	10	8	Leg Extensions	1	10	30
	2	10	32		2	10	10		2	9	40
	3	7	34		3	7	12		3	4	50
					1	10	25	Leg Curls	1	10	30
Barbell Curls	1	10	15	Overhead Dumb-bell Press	2	8	28		2	9	40
	2	10	20		3	5	30		3	8	40
	3	10	20		1	10	75	Weighted calf raises	1	20	30
					2	10	80		2	20	30
Preacher Curls	1	10	25	Shoulder Press	3	6	85		3	18	30
	2	10	27.5		1	10	6	Weighted Lunges	1	20	10
	3	6	30		2	10	8		2	20	12
					3	10	10		3	20	12
Bicep Curl	1	10	20	Shoulder Raises	1	10	50	Weighted Inclined Sit-Ups	1	20	2
	2	10	22		2	10	55		2	20	4
	3	7	24		3	10	60		3	20	4
Dumb-bell Concentration Curls	1	10	8	Tricep Extension Cables	1	10	bw + 10	Comment: Even more improvement in every exercise. So pleased with my both my front and back barbell squats. Closing in on a three figure barbell squat. I'm also very happy with my progress on leg extensions by raising the weight to 50kg. Feeling more comfortable on leg press. Great session with no problems.			
	2	9	10		2	5	bw + 15				
	3	5	12		3	5	bw + 15				
					1	10	15				
Comment: A great back session with again the best improvements made on deadlifts. However it was not the most successful bicep session with only a slight improvement on barbell curls but no improvements in the other bicep exercises. An overall ok session.				Weighted Tricep Dips	2	10	20	Comment: A much better session for chest as there was progression in all chest exercises along with progression in many of the other shoulder and tricep exercises. Highlight of the workout was the 5 reps on 90kg on chest press. Happy with the improvements made. Good session with no problems.			
					3	7	22.5				
				Skull Crushers	1	10	15				
					2	10	20				

Session 4 - Cardio and Bodyweight			
Exercise	Sets	Reps	Weight (kg)
Treadmill	1	20mins	65% MHR
Bike	1	20mins	65% MHR
Sit-Ups	1	60	bw
	2	60	bw
	3	60	bw
Twisted Sit-Ups	1	55	bw
	2	55	bw
	3	55	bw
Abdominal Crunches	1	55	bw
	2	55	bw
	3	55	bw
Back Extensions	1	60	bw
	2	60	bw
	3	60	bw
Comment: Increased the time on the bike so it matches the time on the treadmill. Performed more reps on both the twisted sit-ups and abdominal crunches. Another intense and tiring last session of the week. No problems.			

Book

Week 17				Session 2 - Chest, Shoulders and Triceps				Session 3 - Legs			
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)
Pull Ups	1	15	bw	Press Ups	1	50	bw	Squats	1	50	bw
	2	14	bw		2	50	bw		2	50	bw
	3	14	bw		1	10	70		1	10	80
	4	14	bw		2	10	75		2	10	85
Deadlifts	1	10	60	Bench Press	3	10	80	Barbell Squats	3	7	90
	2	10	70		4	3	90		4	3	95
	3	7	80		1	10	30		1	10	45
	4	3	85		2	7	32		2	10	50
Lateral Pull-down	1	10	70	Dumb-Bell Press	3	6	32	Front Barbell Squats	3	5	60
	2	8	75		1	10	80		1	10	170
	3	8	75		2	10	85		2	8	180
	4	4	80		3	4	90		3	4	190
Bent over Dumb-bell row	1	10	32	Chest Press	1	10	8	Leg Press	1	10	30
	2	8	34		2	10	10		2	10	40
	3	7	34		3	8	12		3	6	50
	3	7	34		1	10	25		1	10	30
Barbell Curls	1	10	15	Dumb-Bell Flies	2	9	28	Leg Extensions	2	9	40
	2	10	20		3	5	30		3	9	40
	3	7	22.5		1	10	75		1	20	30
	1	10	25		2	9	80		2	20	30
Preacher Curls	2	10	27.5	Shoulder Press	3	6	85	Weighted calf raises	3	20	30
	3	6	30		1	10	8		1	20	10
	1	10	20		2	10	10		2	20	12
	2	10	22		3	6	12		3	15	14
Bicep Curl	3	8	24	Shoulder Raises	1	10	50	Weighted Lunges	1	20	2
	1	10	8		2	10	55		2	20	4
	2	10	10		3	10	60		3	15	6
	3	5	12		1	10	bw + 10				
Dumb-bell Concentration Curls	1	10	8	Tricep Extension Cables	2	5	bw + 15	Weighted Inclined Sit-Ups			
	2	10	10		3	4	bw + 15				
	3	5	12		1	10	15				
					2	10	20				
Comment: An average start to the week with minimal or no improvements made however there was no decrease in performance. Was still a very intense session but I was just disappointed in the lack of progression. Ok session with no major problems.				Weighted Tricep Dips	3	7	22.5	Comment: I may have slowed down with the upper body progression however my lower body is still improving like usual. I kept the weight the same as the previous leg session but the amount of repetitions increased on almost every exercise. Happiest with my leg curls and extensions. Good session with no problems.			
				Skull Crushers	1	10	15	Comment: Again just an average session with almost no improvements. I'm starting to think that I may have reached a plateau, but its hard to believe as I am only 5 weeks into a changed programme which I consider to be an intense one. Mainly disappointed with the lack of progress on bench press.			
					2	10	20				
					3	7	22.5				

Session 4 - Cardio and Bodyweight			
Exercise	Sets	Reps	Weight (kg)
Treadmill	1	20mins	65% MHR
Bike	1	20mins	65% MHR
Sit-Ups	1	50	bw
	2	50	bw
	3	50	bw
Twisted Sit-Ups	1	50	bw
	2	50	bw
	3	50	bw
Abdominal Crunches	1	50	bw
	2	50	bw
	3	50	bw
Back Extensions	1	50	bw
	2	50	bw
	3	50	bw
Comment: Fairly painful DOMS from the previous Legs and Abs session. Even after the warm up, I still felt that it held me back when performing all of the exercises. So I decided to reduce the number of reps on all the bodyweight exercises but I kept the cardio time the same. Not a bad session as it was still very intense, the muscle soreness just affected parts.			

Week 16											
Session 2 - Chest, Shoulders and Triceps											
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)
Pull Ups	1	15	bw	Press Ups	1	50	bw	Squats	1	50	bw
	2	14	bw		2	50	bw		2	50	bw
	3	14	bw		1	10	70		1	10	80
	4	14	bw		2	5	90		2	8	90
Deadlifts	1	10	70	Bench Press	3	5	90	Barbell Squats	3	4	95
	2	6	80		4	9	80		4	3	95
	3	2	90		1	10	30		1	10	50
	4	1	90		2	9	32		2	6	60
Lateral Pull-down	1	10	70	Dumb-Bell Press	3	3	35	Front Barbell Squats	3	2	65
	2	9	75		1	10	80		1	10	170
	3	5	80		2	10	85		2	8	180
	4	5	80		3	6	90		3	5	190
Bent over Dumb-bell row	1	10	32	Dumb-Bell Flies	1	10	10	Leg Press	1	10	30
	2	10	34		2	9	12		2	10	40
	3	9	34		3	3	15		3	7	50
	1	10	15		1	10	25		1	10	30
Barbell Curls	2	10	20	Overhead Dumb-bell Press	2	6	30	Leg Curls	2	10	40
	3	9	22.5		3	6	30		3	9	40
	1	10	25		1	10	75		1	20	30
	2	10	27.5		2	10	80		2	20	30
Preacher Curls	3	7	30	Shoulder Press	3	3	90	Weighted calf raises	3	20	30
	1	10	20		1	10	10		1	20	10
	2	10	22		2	7	12		2	20	12
	3	9	24		3	6	12		3	16	14
Bicep Curl	1	10	8	Shoulder Raises	1	10	55	Weighted Lunges	1	20	2
	2	10	10		2	10	60		2	20	4
	3	7	12		3	8	65		3	20	6
	1	10	8		1	10	10		1	20	10
Dumb-bell Concentration Curls	2	10	10	Tricep Extension Cables	2	10	60	Weighted Inclined Sit-Ups	2	20	4
	3	7	12		3	8	65		3	20	6
	1	10	8		1	10	10		1	20	10
	2	10	10		2	10	60		2	20	4
Comment: Completely opposite to the previous week. Great progress on every exercise with increased repetitions and increased weight. Especially happy with my personal best of 90kg on deadlifts and my 5 reps on 80kg on Lateral Pull-down. Great session with no problems.				Weighted Tricep Dips	3	8	65	Comment: An overall good session. Quite a few exercises were kept with the same amount of reps and weight as last Legs and Abs session, however there were some improvements such as a personal best on front barbell squats. Another successful session with no problems.			
					1	10	bw + 10				
					2	6	bw + 15				
					3	3	bw + 20				
				Skull Crushers	1	10	15	Comment: Like session 1 this week, it is a complete change to last week, with improvements on every exercise. I took a different approach to bench press with a warm up set then straight to a heavy set. This proved successful with me performing 5 reps on 90kg. Good session with no problems.			
					2	10	20				
					3	8	22.5				
					1	10	10				

Session 4 - Cardio and Bodyweight			
Exercise	Sets	Reps	Weight (kg)
Treadmill	1	25mins	65% MHR
Bike	1	20mins	65% MHR
Sit-Ups	1	60	bw
	2	60	bw
	3	60	bw
Twisted Sit-Ups	1	60	bw
	2	60	bw
	3	60	bw
Abdominal Crunches	1	60	bw
	2	60	bw
	3	60	bw
Back Extensions	1	60	bw
	2	60	bw
	3	60	bw
Comment: Felt good at the beginning of the session so I decided to add an extra 5 minutes to the treadmill run while also increasing the reps on all the bodyweight exercises by 10 reps. It was a surprisingly enjoyable, as I usual find Cardio work as quite boring. Good end to the weeks workout, with no problems.			

Book

Week 19												
				Session 1 / Chest, Shoulders and Triceps								
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)	
Pull Ups	1	14	bw	Press Ups	1	50	bw	Squats	1	50	bw	Comment: Great start to the week with improvements made on every exercise regarding both repetitions and weight. Personal best weights on deadlifts, barbell curls, preacher curls and the concentration curls. Good, enjoyable session with no problems.
	2	14	bw		2	60	bw		2	50	bw	
	3	14	bw		1	10	70		1	10	80	
	4	14	bw		2	10	80		2	8	90	
Deadlifts	1	10	70	Bench Press	3	6	90	Barbell Squats	3	4	95	
	2	6	85		4	2	95		4	1	100	
	3	3	90		1	10	30		1	7	60	
	4	1	95		2	10	32		2	2	70	
Lateral Pull-down	1	10	70	Dumb-Bell Press	3	3	37	Front Barbell Squats	3	x	75	
	2	6	80		1	10	85		1	10	170	
	3	2	85		2	7	90		2	9	180	
	4	9	70		3	4	95		3	6	190	
Bent over Dumb-bell row	1	10	34	Chest Press	1	10	10	Leg Press	1	10	30	
	2	10	34		2	10	12		2	10	40	
	3	6	36		3	5	15		3	8	50	
Barbell Curls	1	10	20	Dumb-Bell Flies	1	10	25	Leg Extensions	1	10	30	
	2	9	22.5		2	7	30		2	10	40	
	3	5	25		3	6	30		3	5	45	
Preacher Curls	1	10	20	Overhead Dumb-bell Press	1	10	80	Leg Curls	1	16	40	
	2	9	30		2	6	85		2	20	35	
	3	4	35		3	3	90		3	20	35	
Bicep Curl	1	10	20	Shoulder Press	1	10	10	Weighted calf raises	1	20	10	
	2	10	22		2	7	12		2	20	12	
	3	10	24		3	7	12		3	17	14	
Dumb-bell Concentration Curls	1	10	10	Shoulder Raises	1	10	55	Weighted Lunges	1	20	2	
	2	8	12		2	10	60		2	20	4	
	3	3	15		3	9	65		3	20	6	
Comment: Great start to the week with improvements made on every exercise regarding both repetitions and weight. Personal best weights on deadlifts, barbell curls, preacher curls and the concentration curls. Good, enjoyable session with no problems.				Tricep Extension Cables	1	10	bw + 10	Weighted Inclined Sit-Ups	Comment: Yet again, another successful workout this week. Very happy with my 3 figure barbell back squat, I just pulled it off with no help at all. I tried to carry my success onto the front squats with a 75kg attempt but couldn't quite get it up by myself so my spotter assisted me. Never mind though as it still was a great session.			
					2	10	bw + 15					
					3	3	bw + 20					
	Skull Crushers				1	10	15					
					2	10	20					
				Comment: Similar to the first session of week by having improved on every exercise. I'm pleased with my last set on bench press as recently I haven't improved much in this area. Personal best on dumbbell press and shoulder press. Another good session this week with no problems.								

Session 4 - Cardio and Bodyweight			
Exercise	Sets	Reps	Weight (kg)
Treadmill	1	25mins	65% MHR
Bike	1	25mins	65% MHR
Sit-Ups	1	65	bw
	2	65	bw
	3	60	bw
Twisted Sit-Ups	1	60	bw
	2	60	bw
	3	60	bw
Abdominal Crunches	1	60	bw
	2	60	bw
	3	60	bw
Back Extensions	1	60	bw
	2	60	bw
	3	60	bw
<p>Comment: Good last session to a very successful week. This week has probably been the best week so far in the respect of improvements and progression. I decided to increase the bike time so it matches my treadmill time and I also added a few more reps to the sit ups. Good session with no problems.</p>			

Book

Week 20											
				Session 2 - Chest, Shoulders and Triceps							
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)
Pull Ups	1	14	bw	Press Ups	1	60	bw	Squats	1	60	bw
	2	14	bw		2	60	bw		2	60	bw
	3	14	bw		1	10	70		1	10	70
	4	14	bw		2	8	85		2	8	90
Deadlifts	1	10	70	Bench Press	3	6	90	Barbell Squats	3	2	100
	2	9	80		4	3	95		4	2	100
	3	4	90		1	10	32		1	8	60
	4	2	95		2	8	34		2	3	70
Lateral Pull-down	1	10	70	Dumb-Bell Press	3	4	37	Front Barbell Squats	3	1	75
	2	8	75		1	8	90		1	10	170
	3	6	80		2	5	95		2	10	180
	4	3	85		3	10	80		3	3	200
Bent over Dumb-bell row	1	10	34	Chest Press	1	10	12	Leg Press	1	10	40
	2	7	36		2	6	15		2	9	50
	3	3	38		3	2	18		3	5	55
	1	10	20		1	10	26		1	10	40
Barbell Curls	2	10	22.5	Dumb-Bell Flies	2	8	30	Leg Extensions	2	6	45
	3	6	25		3	7	30		3	6	45
	1	10	25		1	10	80		1	18	40
	2	10	30		2	4	90		2	18	40
Preacher Curls	3	5	35	Shoulder Press	3	7	85	Weighted calf raises	3	20	35
	1	10	22		1	10	10		1	20	10
	2	10	24		2	8	12		2	20	12
	3	6	26		3	3	15		3	19	14
Dumb-bell Concentration Curls	1	9	12	Shoulder Raises	1	10	60	Weighted Inclined Sit-Ups	1	20	4
	2	4	15		2	9	65		2	20	6
	3	4	15		3	4	70		3	20	6
					1	10	bw + 10				
Comment: A good session with increased reps on almost every exercise and increased weight on Bent over dumbbell rows and bicep curls. I'm enjoying the barbell curls as I get a great pump after doing them and I am noticing visual change in my biceps since adding them to the programme				Weighted Tricep Dips	2	8	bw + 15	Comment: Improvements made on pretty much every exercise. A personal best on front barbell squats with 75kg and an added rep to my 100kg back squat and I also did a very impressive 3 reps on 200kg on leg press. Great session which by the end of it I was just about walking. No problems.			
					3	4	bw + 20				
					1	10	20				
					2	8	25				
				Skull Crushers	3	4	27.5				
					Comment: I really enjoyed this session due mainly to improving on almost every exercise but also due to just enjoying the newer exercises e.g. dumbbell flies and skull crushers. I'm happy with my progress on tricep extensions and dumbbell flies. Another good Chest, Shoulders and triceps session with no problems.						

Session 4 - Cardio and Bodyweight			
Exercise	Sets	Reps	Weight (kg)
Treadmill	1	25mins	65% MHR
Bike	1	30mins	65% MHR
Sit-Ups	1	65	bw
	2	65	bw
	3	60	bw
Twisted Sit-Ups	1	60	bw
	2	60	bw
	3	60	bw
Abdominal Crunches	1	60	bw
	2	60	bw
	3	60	bw
Back Extensions	1	60	bw
	2	60	bw
	3	60	bw
Comment: I kept almost everything the same regarding repetitions and time due to last weeks being extremely difficult. However I did add an extra 5 minutes to the bike. I wasn't planning on adding it but once I hit 25 minutes I felt I still had some energy left in the tank. Good session to end the week, with no problems.			

Book

Week 21															
				Session 2 - Chest, Shoulders and Triceps											
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)				
Pull Ups	1	14	bw	Press Ups	1	60	bw	Squats	1	60	bw				
	2	14	bw		2	60	bw		2	60	bw				
	3	14	bw		1	10	70		1	15	70				
	4	14	bw		2	10	80		2	10	90				
Deadlifts	1	10	70	Bench Press	3	7	90	Barbell Squats	3	4	100				
	2	10	80		4	x	100		4	1	105				
	3	4	90		1	10	32		1	10	60				
	4	2	95		2	9	34		2	5	70				
Lateral Pull-down	1	10	70	Dumb-Bell Press	3	5	37	Front Barbell Squats	3	2	75				
	2	8	75		1	9	90		1	10	180				
	3	6	80		2	5	95		2	8	190				
	4	6	80		3	2	100		3	4	200				
Bent over Dumb-bell row	1	10	34	Chest Press	1	10	12	Leg Press	1	10	40				
	2	7	36		2	6	15		2	10	50				
	3	3	38		3	3	18		3	6	55				
					1	10	26		1	10	40				
Barbell Curls	1	10	20	Dumb-Bell Flies	2	8	30	Leg Extensions	2	8	45				
	2	6	25		3	8	30		3	4	50				
	3	6	25		1	10	80		1	20	40				
	1	10	25		2	5	90		2	20	40				
Preacher Curls	2	10	30	Shoulder Press	3	5	90	Weighted calf raises	3	20	40				
	3	6	35		1	10	10		1	20	10				
	1	10	22		2	8	12		2	20	12				
	2	10	24		3	4	15		3	20	14				
Bicep Curl	3	6	26	Shoulder Raises	1	10	60	Weighted Lunges	1	20	4				
	1	10	12		2	10	65		2	20	6				
	2	4	15		3	4	70		3	15	8				
	3	4	15		1	10	bw + 10								
Dumb-bell Concentration Curls	1	10	12	Tricep Extension Cables	2	9	bw + 15	Weighted Inclined Sit-Ups							
	2	4	15		3	4	bw + 20								
	3	4	15		1	10	20								
					2	9	25								
Comment: Only a few improvements made, these of which being an added 1 or 2 repetitions. Despite a lack in progress it was still a very good, tiring session and every exercise felt good and effective. So not a bad start to the week, with no problems.				Weighted Tricep Dips	3	5	27.5	Comment: Great session with progress made on every exercise. A personal best of 105kg on back barbell squat and 50kg on leg curls contributed to this successful workout. There was also an increase of repetitions on all exercises such the front squats, leg press and others. A good session with no problems.							
				Skull Crushers	1	10	20								
					2	9	25								
					3	5	27.5								
				Comment: Not the biggest of improvements made this session, never the less there were improvements in both weight and repetitions. My biggest improvement was on chest press with 2 reps on 100kg. I attempted a personal best of 100kg on bench press, but I needed my spotter to help get it up. However it was a good session.											

Session 4 - Cardio and Bodyweight			
Exercise	Sets	Reps	Weight (kg)
Treadmill	1	30mins	65% MHR
Bike	1	30mins	65% MHR
Sit-Ups	1	65	bw
	2	65	bw
	3	65	bw
Twisted Sit-Ups	1	65	bw
	2	65	bw
	3	65	bw
Abdominal Crunches	1	65	bw
	2	65	bw
	3	65	bw
Back Extensions	1	65	bw
	2	65	bw
	3	65	bw
Comment: Great end to the week with progression on every exercise in the session apart from the bike. I matched the 30 minutes on the bike with 30 minutes on the treadmill and I increased the repetitions on all of the bodyweight exercises by 5. I felt these changes quite a lot but it was all worth it when it came to the end of the session and I felt the burn. No problems.			

BOOK

Week 22											
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)
Pull Ups	1	15	bw	Press Ups	1	60	bw	Squats	1	60	bw
	2	15	bw		2	60	bw		2	60	bw
	3	15	bw		1	10	70		1	10	80
	4	15	bw		2	10	80		2	10	90
Deadlifts	1	10	70	Bench Press	3	7	90	Barbell Squats	3	5	100
	2	10	80		4	2	100		4	2	105
	3	5	90		1	10	32		1	10	60
	4	1	100		2	10	34		2	7	70
Lateral Pull-down	1	10	60	Dumb-Bell Press	3	5	37	Front Barbell Squats	3	4	75
	2	10	70		1	10	90		1	10	180
	3	7	80		2	5	95		2	9	190
	4	4	85		3	2	100		3	4	200
Bent over Dumb-bell row	1	10	34	Chest Press	1	10	12	Leg Press	1	10	40
	2	8	36		2	7	15		2	10	50
	3	4	38		3	4	18		3	6	55
	1	10	20		1	10	26		1	10	40
Barbell Curls	2	7	25	Dumb-Bell Flies	2	8	30	Leg Curls	2	9	45
	3	6	25		3	8	30		3	5	50
	1	10	25		1	10	80		1	20	40
	2	10	30		2	6	90		2	20	40
Preacher Curls	3	7	35	Shoulder Press	3	5	90	Weighted calf raises	3	20	40
	1	10	24		1	10	10		1	20	10
	2	7	26		2	9	12		2	20	12
	3	6	26		3	4	15		3	20	14
Bicep Curl	1	10	12	Shoulder Raises	1	10	60	Weighted Lunges	1	20	4
	2	5	15		2	10	65		2	20	6
	3	4	15		3	6	70		3	20	8
	1	10	12		1	10	bw + 10		1	20	4
Dumb-bell Concentration Curls	2	5	15	Tricep Extension Cables	2	10	65	Weighted Inclined Sit-Ups	2	20	6
	3	4	15		3	6	70		3	20	8
	1	10	12		1	10	bw + 10		1	20	4
	2	5	15		2	10	bw + 15		2	20	6
Comment: Good session with improvements made on almost every exercise in the workout. A personal best on deadlifts with a one rep on 100kg. Even though it was a heavy lift, I still maintained the correct form. A good session with no problems.				Weighted Tricep Dips	3	4	bw + 20	Comment: Another successful Legs and Abs session. Great improvements on both the back and front barbell squats. I'm most pleased with my 4 reps on 75kg on the front squat. It was a very enjoyable session which by the end left me extremely tired. Good session with no problems.			
					1	10	20				
					2	10	25				
					3	6	27.5				
				Skull Crushers	1	10	20	Comment: Very successful session with improvements on every exercises regarding repetitions and weight. Some of these improvements being quite surprising. Last week I attempted 100kg on bench press and couldn't quite lift it however this week I performed 2 repetitions. Good session with no problems.			
					2	10	25				
					3	6	27.5				
					1	10	20				

Session 4 - Cardio and Bodyweight			
Exercise	Sets	Reps	Weight (kg)
Treadmill	1	33mins	65% MHR
Bike	1	30mins	65% MHR
Sit-Ups	1	65	bw
	2	65	bw
	3	65	bw
Twisted Sit-Ups	1	70	bw
	2	70	bw
	3	70	bw
Abdominal Crunches	1	65	bw
	2	65	bw
	3	65	bw
Back Extensions	1	70	bw
	2	70	bw
	3	70	bw
Comment: A good end to the week, but I am looking forward to a relaxing two days rest to recover from this very intense week. Progressed on a few exercises. I was planning on doing a 35 minute run on the treadmill however I reached my limit at 33 minutes. Completely worn out by the end of the workout. Good session with no problems.			

Week 23											
				Biceps, Chest, Shoulders and Triceps							
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)
Pull Ups	1	15	bw	Press Ups	1	60	bw	Squats	1	70	bw
	2	15	bw		2	60	bw		2	70	bw
	3	15	bw		1	10	80		1	10	80
	4	15	bw		2	8	90		2	10	90
Deadlifts	1	10	80	Bench Press	3	3	100	Barbell Squats	3	6	100
	2	6	90		4	1	105		4	3	105
	3	3	100		1	10	34		1	10	60
	4	1	110		2	6	37		2	8	70
Lateral Pull-down	1	10	60	Dumb-Bell Press	3	2	40	Front Barbell Squats	3	3	80
	2	10	70		1	10	90		1	10	190
	3	8	80		2	6	95		2	5	200
	4	5	85		3	3	100		3	2	210
Bent over Dumb-bell row	1	10	34	Chest Press	1	10	12	Leg Press	1	10	50
	2	9	36		2	7	15		2	7	55
	3	4	38		3	5	18		3	4	60
					1	10	26		1	10	40
Barbell Curls	1	10	20	Dumb-Bell Flies	2	9	30	Leg Extensions	2	6	50
	2	8	25		3	5	32		3	3	55
	3	8	25		1	10	80		1	14	60
	1	10	25		2	6	90		2	18	55
Preacher Curls	2	10	30	Shoulder Press	3	6	90	Weighted calf raises	3	20	50
	3	8	35		1	10	10		1	20	14
	1	10	24		2	9	12		2	17	16
	2	7	26		3	5	15		3	20	14
Bicep Curl	1	10	12	Shoulder Raises	1	10	65	Weighted Lunges	1	20	8
	2	5	15		2	7	70		2	15	10
	3	5	15		3	3	75		3	20	8
					1	10	bw + 15				
Dumb-bell Concentration Curls	1	10	12	Tricep Extension Cables	2	6	bw + 20	Weighted Inclined Sit-Ups	2	70	bw
	2	5	15		3	2	bw + 25		2	70	bw
	3	5	15		1	10	25		3	70	bw
					2	7	27.5		1	70	bw
Comment: Improvements made on most exercises, mostly just the increase of repetitions. However the one improvement of weight is on the deadlifts exercise, a personal best of 110kg for one repetition was the highlight of the session. Good workout, no problems.				Weighted Tricep Dips	3	3	30	Comment: I tried to carry on from session 2 with progression on all exercises. I did this by increasing the weight and repetitions on all exercises. Personal best weights were made on front squat, leg press, leg extensions, leg curls and calf raises. Very successful session with no problems.			
					1	10	25				
					2	7	27.5				
					3	3	30				
				Skull Crushers				Comment: Very good session. With a lot of improvements regarding an increase in mainly weight but repetitions as well. A personal best of 105kg on bench press along with personal bests on dumbbell press, overhead press, tricep extension, tricep dips and skull crushers. Very successful session with no problems.			

Session 4 - Cardio and Bodyweight			
Exercise	Sets	Reps	Weight (kg)
Treadmill	1	35mins	65% MHR
Bike	1	35mins	65% MHR
Sit-Ups	1	70	bw
	2	70	bw
	3	70	bw
Twisted Sit-Ups	1	70	bw
	2	70	bw
	3	70	bw
Abdominal Crunches	1	70	bw
	2	70	bw
	3	70	bw
Back Extensions	1	70	bw
	2	70	bw
	3	70	bw
Comment: Increased the time on both the Cardio exercises, which I found very difficult and could only just about do it. I also increased the repetitions on two of the bodyweight exercises. It was a very intense session, with no problems.			

Book

Week 24															
Session 2: Chest, Shoulders and Triceps															
Exercise	Sets	Reps	Weight(kg)	Exercise	Sets	Reps	Weight (kg)	Exercise	Sets	Reps	Weight (kg)				
Pull Ups	1	17	bw	Press Ups	1	70	bw	Squats	1	70	bw				
	2	16	bw		2	70	bw		2	70	bw				
	3	16	bw		1	10	80		1	10	90				
	4	15	bw		2	9	90		2	7	100				
Deadlifts	1	10	80	Bench Press	3	5	100	Barbell Squats	3	3	105				
	2	5	100		4	1	107.5		4	1	110				
	3	2	110		1	10	34		1	10	60				
	4	1	115		2	7	37		2	9	70				
Lateral Pull-down	1	10	70	Dumb-Bell Press	3	3	40	Front Barbell Squats	3	2	85				
	2	9	80		1	10	90		1	10	190				
	3	6	85		2	7	95		2	7	200				
	4	5	85		3	4	100		3	4	210				
Bent over Dumb-bell row	1	10	34	Chest Press	1	8	15	Leg Press	1	10	50				
	2	10	36		2	5	18		2	8	55				
	3	5	38		3	3	20		3	5	60				
	1	10	20		1	10	30		1	10	40				
Barbell Curls	2	9	25	Dumb-Bell Files	2	6	32	Leg Extensions	2	7	50				
	3	4	30		3	2	34		3	4	55				
	1	10	30		1	10	80		1	16	60				
	2	9	35		2	7	90		2	20	55				
Preacher Curls	3	4	40	Shoulder Press	3	2	100	Weighted calf raises	3	20	55				
	1	10	24		1	10	12		1	20	14				
	2	8	26		2	6	15		2	20	16				
	3	3	28		3	6	15		3	20	16				
Bicep Curl	1	10	12	Shoulder Raises	1	10	65	Weighted Lunges	1	20	8				
	2	7	15		2	8	70		2	18	10				
	3	4	18		3	5	75		3	18	10				
	1	10	12		1	7	bw + 20		1	10	12				
Dumb-bell Concentration Curls	2	7	15	Tricep Extension Cables	2	3	bw + 25	Weighted Inclined Sit-Ups	2	7	15				
	3	4	18		3	6	bw + 20		3	4	20				
	1	10	12		1	10	25		1	10	25				
	2	7	15		2	4	30		2	4	30				
Comment: Into the last week of the programme so I tried to end on a high with quite a few personal bests. These include the 115kg on deadlifts, barbell curls, preacher curls, bicep curls and concentration curls. Another good Back and Biceps session. No problems.				Skull Crushers	3	4	30		Comment: I tried to make it a good one, which I did. Not as much improvements regarding an increase in weight however I did do 110kg on back squat and 85kg on front squat, but I mainly focused on doing more reps on the weights on which I was already finding very hard. A really good session with no problems.						
					1	7	bw + 20								
					2	3	bw + 25								
					3	6	bw + 20								
Comment: I again tried to make it a good last Chest, shoulders and triceps session with personal bests on bench press, dumbbell files, overhead dumbbell press and shoulder press. These all contributed to a very successful session. I'm very happy with my progress in the new programme. No problems.				Skull Crushers											

Session 4 - Cardio and Bodyweight			
Exercise	Sets	Reps	Weight (kg)
Treadmill	1	42mins	65% MHR
Bike	1	49mins	65% MHR
Sit-Ups	1	70	bw
	2	70	bw
	3	124	bw
Twisted Sit-Ups	1	70	bw
	2	70	bw
	3	110	bw
Abdominal Crunches	1	70	bw
	2	70	bw
	3	85	bw
Back Extensions	1	70	bw
	2	70	bw
	3	96	bw
Comment: I took myself to my limits this session. On the treadmill and bike I performed them until I physically couldn't and on my last sets on all the bodyweight exercises I did as many repetitions as possible. I surprised myself on some of them with a very high amount of reps. A great end to a great programme. I improved far more than expected over the total of 24 weeks.			

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Evaluation

To show my progress in muscular strength, muscular endurance and my bodyweight, I made recordings every 3 weeks to test my progress. I have included the beginning weeks from the AS programme so I can evaluate my progress on the exercises over the whole 24 weeks, however it is not possible to do this with the deadlift exercise as it was only added on the 13th week (start of A2 programme).

One repetition maximum tests (kg)

Weeks	0	3	6	9	12	15	18	21	24
Bench Press	77.5	82	85	88	90	95	95	100	107.5
Barbell Back Squat	70	75	80	85	90	100	102	105	110
Lateral Pull-Down	65	70	75	77	85	90	90	90	90
Deadlift	x	x	x	x	x	87.5	95	105	115

As seen in the above table it is evident that I have made considerable improvements in all of the tested exercises. One of my main long term goals was to further improve my muscular strength, I'm now going to evaluate to what extent I have achieved this goal.

In the bench press I made an improvement of 17.5kg in the last 12 weeks (A2) but a total of 30kg over the whole 24 week programme. This is a considerable improvement which I am very happy with. As I mentioned in the AS log book, on an online bench press evaluator I was classed as an 'Excellent' bench presser for my age and bodyweight and this was at the 12th week. Since the 12th week I have further improved on my bench press by around 15kg which is a considerable amount when taking into account that I have constantly improved, when usually most people hit a plateau.

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Next is the barbell back squat, which is one of the most important exercises as it is one of the only compound exercises. In the last 12 weeks of the programme my squat only improved by 10kg compared to an improvement of 20kg in the first 12 weeks. Even though the improvements did slow down, it is still progress which lead to a very heavy 110kg squat. So overall my muscular strength did improve considerably.

Moving on to lateral pull down, this exercise wasn't very successful in the sense of one repetition maximum due to the max weight on the machine being 90kg and I reached this weight around the 15th week. This prevented me from further improving in terms of muscular endurance.

Lastly the deadlift, this was a new exercise to me and was added into the programme on the 13th week. I started off by only being able to lift around 70kg but once I got the hang of it, I just improved dramatically which lead to a final week lift of 115kg. Having an improvement change of around 45kg in a space of just 12 weeks is huge and of which I am very pleased with.

By evaluating each of the one repetition maximum tests, it is evident that my muscular strength has improved a great deal thus achieving one of my long term goals.

Maximum number of reps tests

Weeks	0	3	6	9	12	15	18	21	24
Press Ups	45	53	61	69	77	80	82	87	87
Sit Ups	72	80	82	90	96	98	105	110	120
Pull Ups	5	8	10	12	13	13	15	16	17

By looking at the table, you can see that I have improved quite a lot on some exercises but only a little on another. Despite the amount of improvement it is still progress which is better than nothing. The goal for these exercises was to improve my muscular endurance.

On the press ups there was good improvement until around the 12th week, and then it slowed down so in the final 12 weeks there was only a disappointing improvement of 10 repetitions.

Next onto the sit ups, I was very pleased with the progression on this exercise as the levels of improvement didn't change throughout the whole 24 weeks. So again this exercise met my long term goals in the sense of improving my muscular endurance.

Finally the pull ups, I found these the most challenging exercise however I still managed to make an improvement of 5 repetitions in the last 12 weeks. So all in all I was very pleased with my progress on this exercise as the improvements made in the last 12 weeks added up to a percentage of 30%.

By looking at each of these exercises, I successfully achieved my goal of improving my muscular endurance,

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Bodyweight**Initial Bodyweight = 69.2 kg**

Weeks	0	3	6	9	12	15	18	21	24
Weight (Kg)	69.2	71.4	73.0	75.3	76.1	76.4	77.0	79.2	82.4

The reason behind recording my bodyweight was to give myself an idea of how much muscle mass I had gained over the course of the programme, as gaining muscle mass is one of my long term goals. So I made the recordings every 3 weeks just like the other tests made.

In the first 12 weeks the amount of bodyweight added was 6.9kg, this I was very pleased with. After this stage I thought my progress would slow down as it was already passing my expectations. I was right in a way, as it did slow down but only to a very miniscule scale as in the last 12 weeks I further added 6.3kg onto my bodyweight. This left me with a total bodyweight of 82.4kg. An added 13.2kg to my original weight at 0 weeks.

My goal was to add muscle mass, I believe I did this however I know not all the weight added was lean muscle mass due to the fact that I did put on a lot of weight in such a small amount of time. However I still added muscle mass which results in me achieving another one of my goals.

Another goal of mine was to improve my self-image and muscle tone. I definitely achieved this, as I can see myself that my body's shape, size and tone has improved significantly over the 24 week programme.

My last goal was to improve my cardiovascular endurance through the two exercises which were added on the 13th week, the treadmill run and the bike. I started off by only being able to handle a 15 minute run and a 10 minute biking session. Over the 12 week

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course I improved considerably by ending on the 24th week with a 42 minute run and a 49 minute bike. I was very pleased with my progress, mainly due to the facts that I achieved my final goal and that it helped me a great deal with my rugby as my endurance was one of my worst fitness aspects.

Conclusion

In order to complete my conclusion, I will need to ask myself the same questions as I did for the AS programme:

- Did I accomplish my goals?
- Were there any problems over the 24 weeks?
- Would I have done anything different?

I can answer the first question with great confidence as I accomplished all of my goals to a great extent. These goals include the improvement in my muscular strength and endurance, the improvement of my cardiovascular endurance and finally to improve my self-image and muscle tone.

Secondly, just like the first 12 weeks there were no major problems in the last 12 weeks. There were only minor issues such as little niggles such as shoulder pain, a sprained ankle and a few sessions where I wasn't feeling too good with a headache etc. This was one of the reasons the programme was so successful as if I did have a major problem such as a torn ligament, it could keep me out of training for a very long time.

Lastly if I were to repeat the programme, the only thing which I would change would be the rearrangement of the sessions. The reason for this is that due to the first session of the week (back and biceps) being very long and intense, I usually found the second session (chest, shoulders and triceps) of the week very hard as I would still be feeling the effects of back and biceps. So if I rearranged it so I wouldn't be targeting the upper body two

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times in a row so it could be session 1 as back and biceps, session 2 as legs and abs, session 3 as chest shoulders and triceps and the last session as the cardiovascular one.

I believe that if I did this, my chest, shoulders and triceps session would improve in both enjoyment and efficiency.

In conclusion to the whole 24 week programme, it was very successful and far passed my expectations regarding improvement in all the targeted areas.