ORIGYM

Level 2 Certificate In Fitness Instructing Online

MODULE 7: PROGRAMME DESIGN

Effective Training Programs

For the body to adapt an effective training program must be followed. Effective programming involves the successful co-ordination of a number of variables in a systematic fashion that enables the body to adapt and increase performance. Understanding the basic physiological responses to different training stimuli is essential to making a program effective. When designing the **resistance based** element of a program it is best to approach one element at a time, whilst bearing in mind the primary principles of anaerobic exercise prescription.

	NAME:					Date:	
	Pre-Workout						
	Cardio Equipment 1	Duration	Interval	Level/Grade	Speed	RPE	Teaching Points
Warm Up Equipment							
	Stretch 1	reps/sets	Stretch 2	reps/sets	Stretch 3	reps/sets	
Dynamic Stretches							
	Cardio Equipment 2	Duration	Interval	Level/Grade	Speed	RPE	Teaching Points
Main CV Equipment							
	LIFTS	Exercise Order	Reps	Sets	%1RM	Rest	Teaching Points
Fixed Resistance							
Free Weight							
Body Weight							
	Post Workout						
	Cardio Equipment 3	Duration	Interval	Level/Grade	Speed	RPE	Teaching Points
Cool Down Equipment							

The Principles of Training

Designing resistance based programs the trainer must pay attention to each of the following principles of training:

1. Specificity:

The principle of specificity dictates that the adaptations in the muscles, organs and systems will be specific to the type of training performed. In the case of resistance training specificity refers to aspects such as the muscles involved, the nature of the muscle action (e.g. force of application) and the movement patterns. On Occassion the word specificity is used interchangeably with The SAID Principle – Specific Adaptions to Imposed Demands. What this essentially means is that "the type of demand placed on the body dictates the type of adaptation that will occur". For example those wanting to train to increase their power output in high-speed movements (e.g. a tennis serve) should attempt to activate the same motor units in the same way in their training program.

2. Progressive overload:

If you run a mile every time you exercise, your body will adapt to that level of stress and your fitness will plateau; you'll only ever be "one-mile fit". However, if you want to increase your fitness further, you'll have to make your workout progressively harder. This is called overload. Overload comes from the intensity of the exercise, the duration of the exercise, the frequency of the exercise and several other factors e.g. technical progression (e.g. front squat - hang power clean - power clean) that can all be manipulated to make the workout more demanding and therefore more productive.

3. Reversibility:

Fitness cannot be stored and, if an individual stops exercising, over the coming weeks and months, their fitness will decline. To maintain any aspect of fitness, be it strength, flexibility or cardiovascular fitness, exercise must be maintained.

4. Recovery:

The cells, muscles and systems of the body only adapt during periods of rest and recovery so recovery must be programmed alongside exercise for best results. While training every day might seem like a good idea, the lack of rest may actually inhibit rather than result in superior fitness gains. The key to success is doing as much exercise as the body can tolerate without becoming overtrained from lack of rest. Rest between sets, workouts and even weeks of intense training all require consideration.

5. Individuality:

Physiological factors such as age, gender and somatotype will all affect program design and the results experienced by the client. While one exercise or program type may suit some clients perfectly, they may be completely contraindicated for others. It is essential, therefore, the programs are designed on an individual basis and do not follow "cookie-cutter" templates.

Training Variables

Doing the same workout over and over will cause fitness gains to stagnate or plateau. This can lead to client frustration and even exercise drop out. To ensure the client's fitness levels continue to improve, it is essential that instructors know how to manipulate the general exercise variables which can be summarised using the acronym F.I.T.T.

The F.I.T.T. Principle

Frequency

Refers to the number of training sessions per day, week, month or year. A beginner client may start out exercising three-times a week whereas an advanced athlete might train 12-times a week (twice a day for six-days.) Exercise frequency should increase gradually over time and reflect not only the client's level of fitness but also their ability to recover and the amount of time they have available.

Time

The duration of a workout, the time between sets, the time between workouts and even the amount of time taken to perform a single repetition can all be varied to elicit a specific training response. Time is an important exercise variable so instructors should wear a watch to be able to monitor this factor.

Intensity

A workout's difficulty is properly referred to as intensity. Intensity can be measured using the rating of perceived (RPE) exertion scale, the percentage of 1RM (one repetition maximum) being used or the average exercise heart rate and is influenced by the training variables discussed elsewhere but including speed, distance, resistance, duration of recovery and lever length.

Type

Choosing the right type of exercise depends on the client's goals, physiology and their current skill level but should, in the majority of cases, be specific to what the session is designed to achieve. While both running and swimming both can positively affect the cardiovascular system, if the client's goal is to become a better runner, then running should make up the majority of their workouts. However, the type of exercise can be manipulated to elicit a specific fitness response as many exercises have broad similarities and can be used to provide program variety.

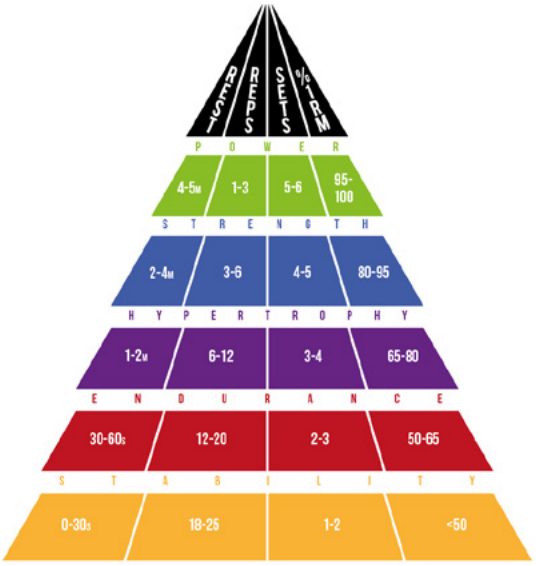
General F.I.T.T. Guidelines For Common Fitness Goals

Regarding frequency, as fitness levels increase, so too does the ability to recover from exercise and where a beginner may need several days to rest between hard workouts, a more advanced exerciser may only need 24-72 hours. Therefore workout frequency should reflect a client's training status (level of experience). However, it is also important to realise that the ability to recover from exercise is also affected by age, nutritional status, sleep, stress and gender so while the following guidelines are useful, they should not be considered to be "set in stone".

Programme Design Overview

Once the client has been screened and all relevant information gathered including results from measurements and tests, it is time for the instructor to design a gym-based exercise programme for the client. It is important to revisit the clients original S.M.A.R.T goals and tailor them to all of the other aspects of the consultation in order to plan a safe and effective programme which can be developed over time.

Consideration of the variables of exercise will play a major part in this process, therefore the Programme Objective Guidelines should be used as a blueprint for programme design. They will act as the foundation for the exercise that the client will perform.



A generic view of training guidelines are located in the table above. A more specific breakdown for resistance training is found within the power pyramid and grid download on the learning platform.

PROGRAMME OBJECTIVE GUIDELINES

	REST	REPS	SETS	LOAD %1 RM
POWER	4-5 MIN	1-3	5-6	95-100
STRENGTH	2-4 MIN	3-6	4-5	80-95
HYPERTROPHY	1-2 MIN	6-12	3-4	65-80
ENDURANCE	30s - 60s	12-20	2-3	50-65
STABILITY	0-30s	18-25	1-2	<50
		DURATION	SETS	INTENSITY
CARDIOVASCULAR HEALTH	N/A	30+ MINS	1	LOW - MODERATE
CARDIOVASCULAR FITNESS	N/A	20+ MINS	1	MODERATE - VIGOROUS

Training Status

TRAINING STATUS	FREQUENCY
BEGINNER	2-3 SESSIONS PER WEEK
INTERMEDIATE	3-4 SESSIONS PER WEEK
ADVANCED	4-7 SESSIONS PER WEEK

Once the programme guidelines have been established, the frequency of exercise can be determined. As the client gains more experience, the number of sessions may increase.

		BEGINNER		INTERMEDIATE	ADVANCED	
	TRAINING FREQUENCY	2 DAYS	3 DAYS	4 DAYS	5 DAYS	6 DAYS
RESISTANCE AIM	STABILITY	FULL BODY	FULL BODY/ UPPER-LOWER	UPPER-LOWER/ 3-WAY SPLIT	3-WAY SPLIT/ 4-WAY SPLIT	ANY
	ENDURANCE	FULL BODY	FULL BODY/ UPPER-LOWER	UPPER-LOWER/ 3-WAY SPLIT	3-WAY SPLIT/ 4-WAY SPLIT	ANY
	HYPERTROPHY	FULL BODY	FULL BODY/ UPPER-LOWER	UPPER-LOWER/ 3-WAY SPLIT	3-WAY SPLIT/ 4-WAY SPLIT	ANY
	STRENGTH	–	UPPER-LOWER	UPPER-LOWER/ 3-WAY SPLIT	3-WAY SPLIT/ 4-WAY SPLIT	ANY
	POWER	–	FULL BODY/ UPPER-LOWER	FULL BODY/ 3-WAY SPLIT	3-WAY SPLIT/ 4-WAY SPLIT	ANY

Training Frequency Table

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Programme Design

The three elements to be covered in an exercise programme for most beginners are:

1. **Resistance training**
2. **Aerobic training**
3. **Flexibility training**

Each element must be designed to complement the others in order to create a balanced exercise programme.

Programme Design Rules

Exercise selection and order of performance will profoundly influence the effectiveness of programme design. Design rules can be manipulated but when programming for a beginner exerciser the following programme design rules apply:

Rule 1: Promote Muscular Balance

The aim is to choose exercises that will allow the body to progress as a working unit and should, therefore, work all the major muscle groups equally. Exercises which are regarded as functional, or have a resemblance to actions performed in daily life are recommended as they will take account of posture, balance and coordination as well as strength. The number of exercises involved will depend on the aims of the workout, client ability and time available, although 4-10 exercises are commonly used.

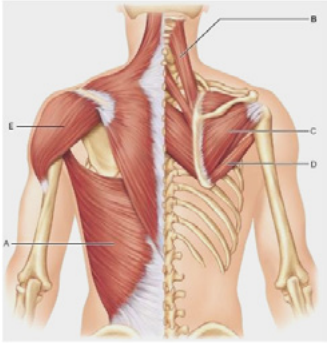
Rule 2: Train Large Muscles at the Beginning of a Workout

The largest of the muscle groups to be worked should be selected first. They require the most energy to perform and including them early in the workout will produce the greatest training benefits. Training smaller muscle groups first may deplete energy stores needed to work the larger muscles later in the programme.

Rule 3: High Skill and Complex Exercises First

Greater neuromuscular coordination is needed to perform multi-joint movements which frequently target larger muscle groups. Therefore more energy will be required in the safe and effective execution of these exercises. Fatigue will limit the ability of the beginner to perform these types of exercises.

Rule 4: Train Synergists and Fixators Last



Synergists that are trained prior to the agonists will become ineffective in performing their main role in assisting the agonists, and therefore should be trained afterwards. Fixators generally perform isometric contractions to stabilise the body while larger muscles provide movement. Fatigue of the fixators can result in poor posture which in turn will increase the risk of injury. It is usual for a beginner to try to avoid this by performing exercises for the core muscles towards the end of the workout.

Programming for Stability

All beginners to exercise should begin with the 'stability' training zone. Stability is the foundation of the power pyramid. Strong foundations are required for an effective platform to build a solid resistance training program.

The stability zone allows the client to experience:

- **Full body splits**
- **Low load percentages**
- **Minimal sets**
- **Minimal rest periods**
- **Learn new several new exercises**
- **Reduce the possibility of DOMS**

Stability training prepares the body for future increases of volume and intensity. It does so offering the following benefits:

- **Increase in Type 1 muscle fibres**
- **Increase the bodies resistance to fatigue**
- **Increase in blood supply to the muscles (capiliarisation)**
- **Strengthening of ligaments and tendons**

Example of a Full Body 2 - 3 Day Split

	Body Part	SUN	MON	TUE	WED	THUR	FRI	SAT	Training Frequency
Option 1	Full Body	REST	Full Body	REST	REST	Full Body	REST	REST	2 Days
Option 2	Full Body	Full Body	REST	Full Body	REST	Full Body	REST	REST	3 Days

Endurance

Once a client has built strong foundations an increase in volume and intensity can occur. The client will be able to progress their workout by adding additional sets for volume and increases in the weight they can lift.

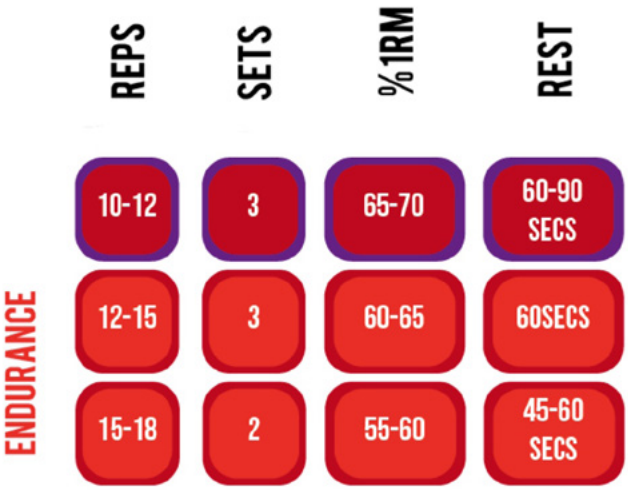
The endurance zone allows the client to experience:

- **Full body movements as well as training splits for upper and lower body workouts**
- **Low-moderate load percentages**

Endurance training prepares the body for future increases of volume and intensity. It does so offering the following benefits:

- **Increase in Type 1 muscle fibres**
- **Increase the bodies resistance to fatigue**
- **Increase in blood supply to the muscles (capillarisation)**
- **Strengthening of ligaments and tendons**
- **Psychologically prepares the body for additional load increases**

Stability > *Endurance*



Example of an Upper and Lower Body 2 - 3 Day Split

	Training Week	Body Part	SUN	MON	TUE	WED	THUR	FRI	SAT	Training Frequency
Option 1	1	Upper Body	REST	Upper	REST	Lower	REST	Upper	REST	3 Days
	2	Lower Body		Lower		Upper		Lower		
Option 2	1	Upper Body	REST	Upper Body	REST	REST	Lower Body	REST	REST	2 Days
	2	Lower Body								

Hypertrophy

Hypertrophy, or the increase in muscle size, requires planning for a long term exercise strategy. The client must demonstrate a readiness to progress to this more advanced type of training. It is not only the strength of the muscles which need to be able to overcome greater load intensity, but the skeleton, soft tissue structures and mental attitude of the client must be able to cope with this more demanding training method. Therefore clients who are new to training should always start at the bottom of the power pyramid.

Stability > *Endurance* > *Hypertrophy*

The change in stimulus will demand that the body reacts to overcome the challenges and result in muscular hypertrophy. The programme should be modified periodically to maintain client motivation and to prevent the risk of a plateau, where the client fails to experience positive results. It is a characteristic of hypertrophy workouts to train only certain muscle groups during any one session. This is because there are more sets of each exercise to perform in order to gain the required training effects. As a result, the muscles worked need more time to rest in terms of recovery periods and more time before the next workout is performed. In addition, the amount of energy used during this method would leave insufficient energy left to train other body parts effectively.

The demands of hypertrophy workload mean that there will simply not be enough time during a session to train the whole body. This means that a different approach is required to other forms of training. The split routine is a well-used format whereby muscle groups are trained on different days in a cyclical way. A 2-way split will divide the muscles to be trained into two groups, each of which will be trained on different days.

A 3-way or 4-way split will divide the muscle groups to be trained into more concise groups. It can be a feature of split routines to add additional workouts on rest days not associated with hypertrophy workload. These include workouts for core muscles or cardiovascular training.

Example of a 3 - 4 Way Split

	Training Day	Body Part	SUN	MON	TUE	WED	THUR	FRI	SAT	Training Frequency
Option 1	1	Chest, Shoulders & Triceps	REST	Chest, Shoulders & Triceps	REST	Lower Body	REST	REST	Back & Biceps	3 days
	2	Lower Body								
	3	Back & Biceps								
Option 2	1	Chest & Back	Chest & Back	REST	Glutes and Hamstrings	REST	Shoulders & Arms	Quadriceps & Gastrocs	REST	4 days
	2	Glutes and Hamstrings								
	3	Shoulders & Arms								
	4	Quadriceps & Gastrocs								

Strength and Power

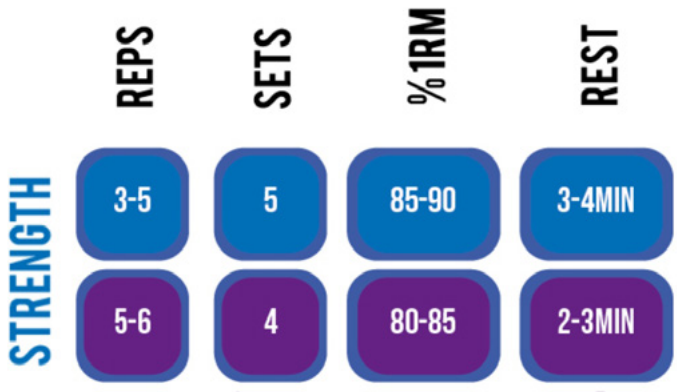
Strength, is the increase in the amount of force a muscle can generate. Power is the muscles ability to generate force and quickly. Both strength and power training requires long term exercise strategy that starts from stability and transitions through the pyramid. The client must demonstrate a readiness to progress to these more advanced training zones as well as an aptitude, mental preparedness and technical ability to do so.

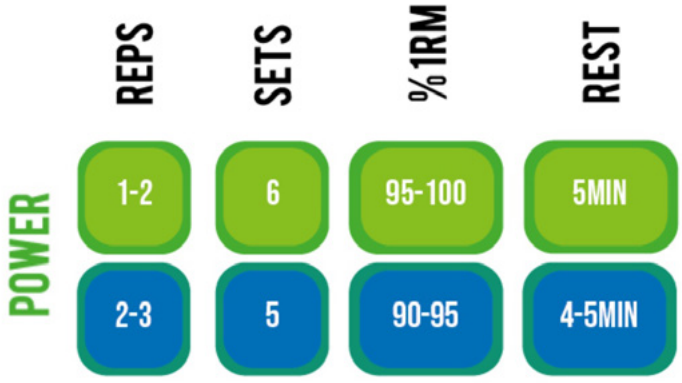
Therefore clients who are new to training should always start at the bottom of the power pyramid and transition through:

Stability **>** ***Endurance*** **>** ***Hypertrophy*** **>** ***Strength*** **>** ***Power***

Training splits for strength and power are usually 2 way splits:

- **Heavy days**
- **Light days**





Considerations When Programming Resistance Training for Beginners

The beginner will often demonstrate issues which will affect their ability to train safely and effectively. The instructor must consider these issues and programme exercises that will allow the beginner to progress. It is often argued that a beginner should not attempt free weights exercises as there is an increased risk of injury due to the de-conditioned state of the body. These often complex exercises can be disregarded initially, in favour of fixed path resistance machines which it is also argued will aid in support of the body and postural alignment during exercise.

The opposing view is that under the instruction of the fitness professional, such complex movements demanded by many free weight exercises can be taught at a level of intensity suitable to the ability of the beginner. Reduced range of movement and lower intensity are options to consider when adopting this approach. Introduction to such exercises from the outset may also reduce any apprehension the client may have in relation to these exercises. There are no hard and fast rules and the instructor should weigh up both sides of this dilemma.

The decision making process should take account of the following issues that may be presented by a beginner:

- **Lack of muscular strength and endurance**
- **Poor posture**
- **Poor core strength**
- **Poor technique**
- **Lack of proprioception (sense of positional awareness)**
- **Low tissue tolerance**
- **Weak connective tissue**
- **Poor aerobic conditioning**

The instructor should aim to provide exercises which promote free-standing, multi-joint movement using larger muscle groups that imitate functional everyday movement patterns to address the issues listed above.

This approach will improve daily function and as the client recognises their own improvement will provide a sense of achievement.

A beginner may not fully understand the reasoning behind balanced programming and may not appreciate the need to perform compound multi- joint exercises. Therefore in addition to the exercises which will improve the general issues presented by the beginner, it is important to add some isolation exercises to the programme. The single joint actions of such exercises will make them easier to perform and give the client more variety within the programme.

Programme Variables

The variables of resistance exercise must be manipulated in order for exercisers to attain their fitness goals and maintain progress. Unfortunately it is very common for individuals to stick with the same programme long after it has ceased to be effective.

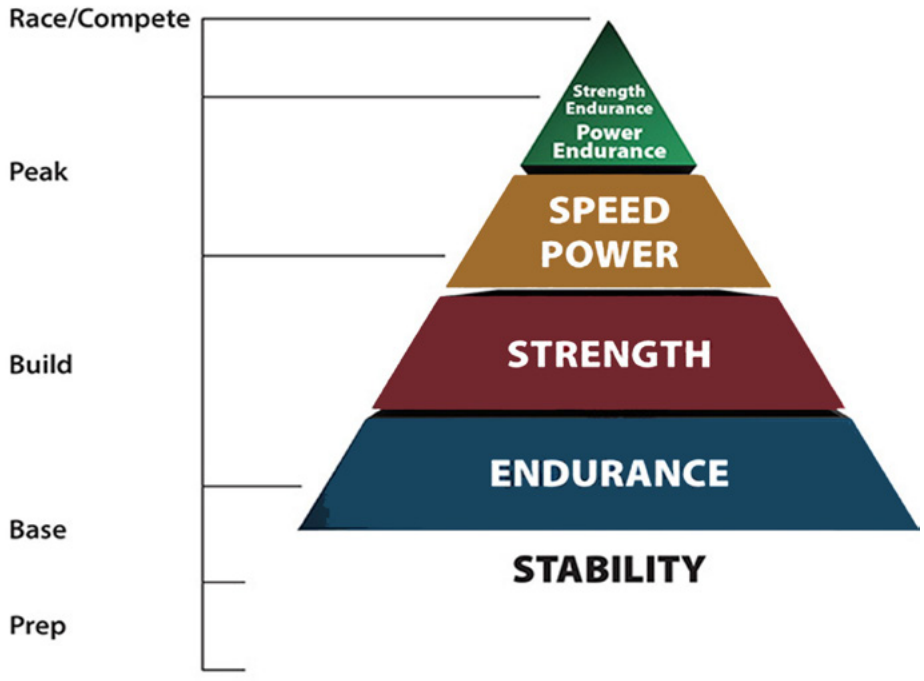
Periodically the instructor must make changes to an exercise programme and make alterations to the following variables:

- **Type of exercises**
- **Number of exercises**
- **Repetition range**
- **Number of sets**
- **Recovery periods**
- **Complexity of exercises**
- **Tempo**
- **Workout frequency**
- **Resistance Training progression**

A long term plan or strategy will help the client to continue to meet their training goals. The instructor must look ahead and make changes based on the current ability of the client and whether original goals are maintained or if there is a change of focus wanted or not.

Basic progression can be shown as a pyramid which can work in both directions depending on the goals agreed between the client and instructor.

This pyramid shows the progression from endurance to hypertrophy and finally power training, however, a client who has previously exercised for hypertrophy may wish to concentrate on endurance training for a period as a goal or as a way of improving their ability to perform in the hypertrophy range on their next phase.



Intensity Adaptations

Additionally to increments in load, intensity can be increased, when it is not possible, warranted or required to increase the weight, by manipulating the exercise itself in the following ways:

Effect of Gravity on Exercise

Gravity influences muscle contraction by trying to pull the body or body part down to the floor (if acting against gravity). For example, the abdominal curl takes place against gravity trying to pull the upper body down to the floor, making it harder. The rectus abdominis muscle is the agonist, working concentrically when the spine is flexed and eccentrically when lowered. If flexion of the spine takes place whilst standing up, the movement takes place with gravity, making it easier. The erector spinae is the agonist, working eccentrically when the spine is flexed and concentrically when raised. This exercise is ineffective for the abdominals. Changing the body position in relation to gravity changes the emphasis of the exercise in terms of the muscles used.

Effect of Lever Length on Exercise

Altering lever length can also affect how hard an exercise is. For example, with the abdominal curl, the easiest version involves performing the exercise with the hands-on thighs. To make it progressively harder, cross the hands over the chest, place the hands by the temples, or extend the arms behind the head. With the press up, altering lever length and the effects of gravity can change the intensity of the exercise. The easiest version involves resting the hands-on some object (so they are higher than the feet), and the hardest version involves resting the feet on some object (so they are higher than the hands). Performing a box press up (knees on the floor) is easy than a full press-up (feet on the floor).

Effect of the Speed of Repetitions on Exercise

The tempo at which an exercise is completed will affect the intensity and can help specify the exercise for a set goal. An example of this would be increasing the speeds during a cardiovascular workout (RPM on a bike, SPM on a rowing machine and speed on a treadmill). Explosive movements such as the clean and press or plyometric squats are completed at high speed and are more intense than a normal tempo of 2 seconds concentric, pause, 2 seconds eccentric.

Slowing resistance exercises from the normal tempo will also increase the exercise as the muscles are under tension for a longer period of time. This method of training can be referred to a super slows and will emphasise the eccentric phase (lowering against gravity) which is often neglected during exercise. A side effect of this training is an increase in DOMS.

There are several reasons as to why a trainer may utilise the above:

- **Plateaus in lifting load where the client is unable to progress to the 'next weight'**
- **To offer a new stimulus**
- **Prevent boredom**
- **Where there are equipment availability issues**

Prescribing Aerobic Exercise

The following table shows the current guidelines for aerobic exercise prescription in the maintenance of health and improvement of aerobic fitness:

		DURATION	SETS	INTENSITY
CARDIOVASCULAR HEALTH	N/A	30+ MINS	1	LOW - MODERATE
CARDIOVASCULAR FITNESS	N/A	20+ MINS	1	MODERATE - VIGOROUS

Aerobic intensity has been credited to be beneficial when performed at between 50-90% of maximum heart rate (MHR). In the maintenance of health, moderate intensity can be described as causing a person to become slightly out of breath but not too fatigued. This would also describe the lower end of the 50-90% MHR parameter. Moderate exercise is considered as 50 - 65% MHR.

Vigorous exercise will cause individuals to become out of breath and show greater physical signs of stress, including sweating and a reddening of the skin, particularly in the face. Exercise would be at the higher end of the 50-90% MHR scale. Vigorous exercise is considered as 65 - 90% MHR. It is assumed that by exercising at this higher intensity, the benefits of maintaining health are also achieved.

Training For Beginners

Beginners should aim to train 3-4 times per week with a view to progressing to the recommended five times per week. 30 minutes of continuous exercise that does not cause undue fatigue should be the goal. Although a beginner may not be able to exercise continuously for 30 minutes initially, they will demonstrate improvements fairly quickly and be able to progress from LSD training to interval training in order to meet the target for maintaining health.

Intermediate And Advanced Exercisers

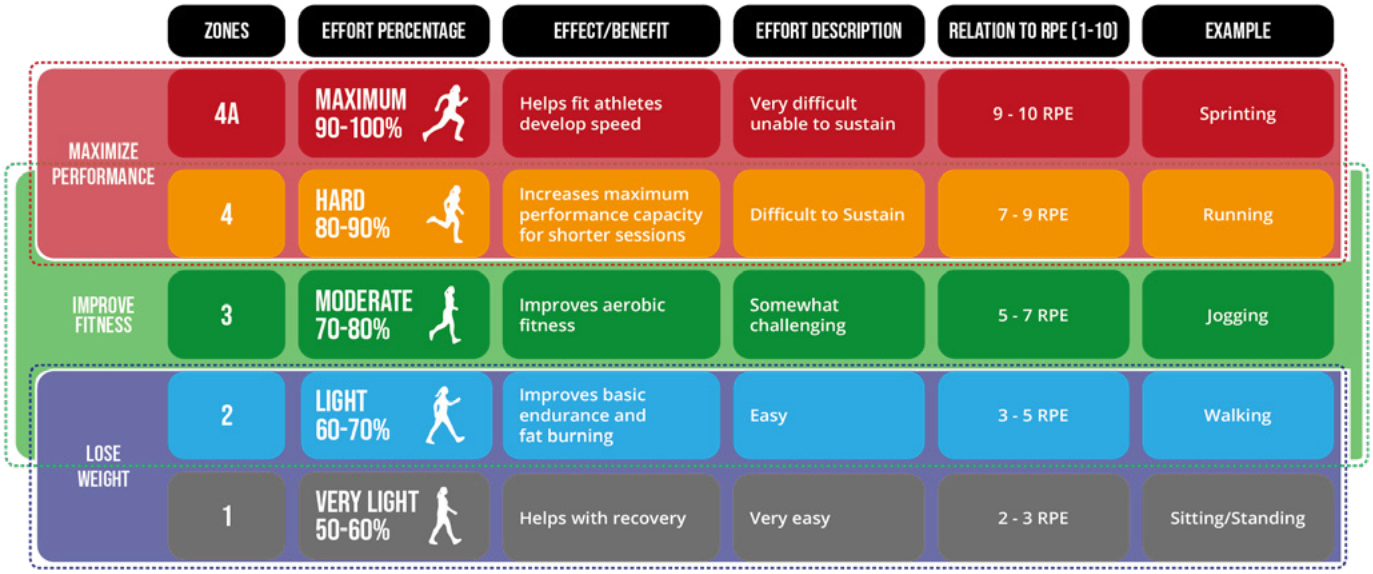
On being able to complete 30 minutes of continuous activity five times per week, it is time to develop training methods by manipulating the training principles (FITT) in order to progress further. It can be a great source of inspiration for an exerciser to reach this milestone as it represents a significant achievement. Many people are happy to maintain this level of ability and not all exercisers are driven to push themselves further. Those who embrace this opportunity will learn more about their body's capabilities as they try to overcome the challenges of vigorous activity. As performance improves, the individual will notice that future gains become smaller and harder to achieve. It is the job of the instructor to mix increasingly difficult interval training sessions with LSD training to keep the client motivated and allow the opportunity for the body to recover between sessions.

An advanced exerciser will aim to complete whole sessions of vigorous activity and be able to repeat this many times per week, with the elite performer training every day for months at a time. This can involve highly specialised planning and only an experienced instructor will be able to program for this and could certainly involve the use of fartlek training. It will draw on all of the knowledge learned by the instructor and involve the integration of other lifestyle factors outside the gym environment.

Cardiovascular Training Zones

The table above explains a basic description of the 5 cardiovascular training zones (1 - 4a). It is within these training zones that you can maximise your clients cardiovascular improvements.

The table below shows the same 5 ZONES however in this table they are represented as Heart Rate and Training Aims.



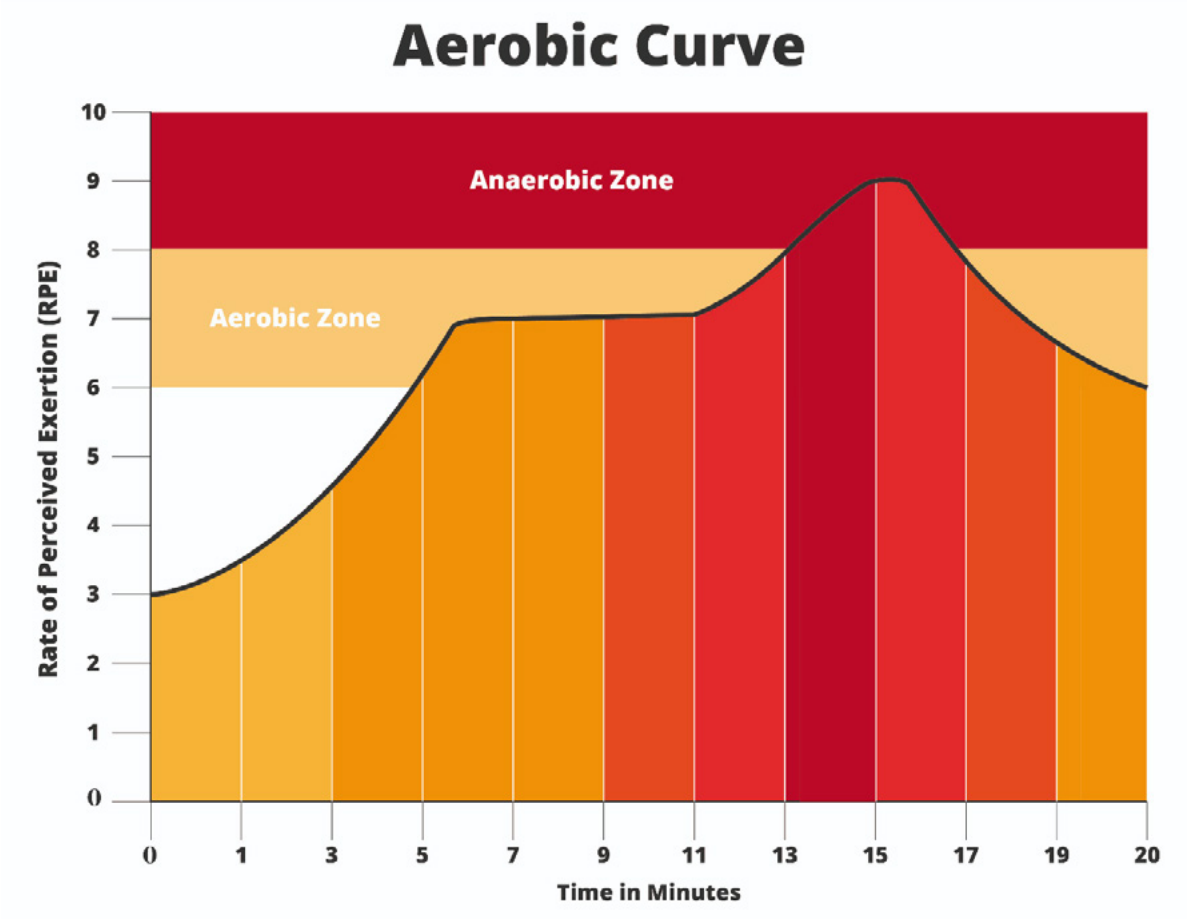
Cardiovascular Programming

Aerobic Training

Aerobic fitness is regarded as the ability of an individual to take in, transport and utilise oxygen. There are many ways in which the aerobic element of a programme, which may have a duration of 20-30 minutes, may be designed. This type of training differs from resistance exercise which has a relatively short period of work within each set. The duration of an aerobic "set" can require the need for stimulus in order to avoid boredom. Changes in intensity can fulfil this task and also contribute to the aerobic curve with an increase in intensity after a warm up period, and a decrease in intensity towards the cool down. Generally, aerobic exercise can be identified by what happens in each type of training:

Long Slow Duration Training (LSD)

LSD training involves working for an extended period of time at a consistent workload. For beginners this will be at a relatively low intensity. With adherence, LSD training will provide all of the desired physiological adaptations and is therefore suited to those with limited ability or experience of aerobic conditioning. It can be easy to persevere with this type of training whilst under the impression that it will fulfil all of the requirements needed for improvement. However, performed exclusively, it can actually stagnate performance and therefore improvement, due to a lack of stimulus. The instructor should employ this method of exercise with a view to progressing on to more advanced training systems.



VIDEO AVAILABLE ON LEARNING PLATFORM

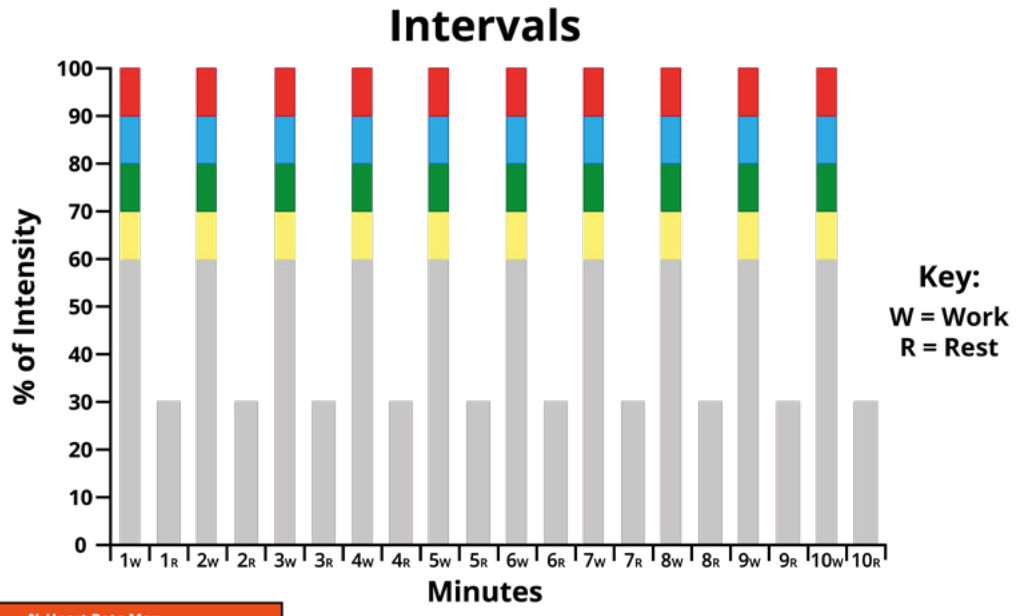
Interval Training

The structured periods of work and recovery which form the basis of interval training can allow the aerobic system to fully develop. By interchanging these two variables to their extremes, interval training can be utilised by almost anyone in the pursuit of improved performance. Work periods can be programmed at low intensity with frequent rest periods, or at high intensity with short rest periods, which can cater for relative beginners or elite athletes. The harder the workload, the more oxygen is demanded by the body and at some point, for every individual, oxygen demand will outstrip oxygen supply. At the aim is to programme rest periods before this occurs, otherwise the body will not be able to continue exercising. Alternatively, if the rest periods are too long and the work periods lack sufficient intensity, there will be insufficient stimulus for the body to make improvements. An associated benefit of interval training is that it develops the ability to tolerate the build-up of lactic acid in the body which allows the body to continue exercising while experiencing levels of discomfort.

This is something that the beginner who uses LSD training alone may find more difficult to do.

There are a number of variables to consider when programming for interval training:

- **Duration and intensity of work periods**
- **Duration and intensity of rest periods**
- **Number of intervals (total number of work and rest periods)**



% Heart Rate Max	
<60%	Warm up / Cool down
60-70%	Fat Burn
70-80%	Aerobic Endurance
80-90%	Anaerobic Endurance
90-100%	Red Line / VO2max

System	Speed	Capacity	Duration	Fuel
Aerobic	Slow	Large	>2min	Fat, CHO, Protein, Glycogen
Lactate	Fast	Medium	10sec - 2min	CHO & Glycogen
CP	Sprint	Low	<10 sec	ATP, Phosphocreatine

VIDEO AVAILABLE ON
LEARNING PLATFORM

Group Training

Group exercise provides the opportunity for like-minded exercisers and instructors to communicate, develop rapport and build a greater exercising community. Traditionally, group exercise classes were one hour sessions which did not necessarily reflect the exercise preferences, abilities or time constraints of all those who attended. Shorter sessions are an excellent way of providing a diverse timetable with many opportunities for attendance.

There are many types of group exercise sessions. Traditional aerobics, step and spinning classes may still attract an audience, but alternatives are being added with greater frequency.

Group sessions allow exercisers to receive instruction in a similar way to one-to-one sessions, but without the associated costs.

FOR THE INSTRUCTOR:

- **Relatively easy to plan**
- **Can be less physical to teach than**
- **Additional revenue stream**
- **Provides target audience for related products and services**

ADVANTAGES OF GROUP SESSIONS:

- Social atmosphere
- More sources of motivation
- Exercise variety
- Greater access to instruction

DISADVANTAGES OF GROUP SESSIONS:

- Difficult to monitor all participants
- Limited one-to-one instruction
- Difficult to monitor all participants
- Limited one-to-one instruction

Components of a group session

Essentially the format will be similar to that of one-to-one instruction:

- Preparation
- Warm up
- Main session
- Cool down
- Preparation
- Session time and type
- Range of participants
- Risk assessment of exercise
- Equipment checklist and availability
- Screening procedure
- Exercise plan
- Procedure for post-session evaluation

Warm Up

- **Simple, less technical movements with increasing intensity**
- **Dynamic stretches**
- **Brief introduction of session to group**

Main Session

The session may focus on a specific aspect of fitness rather than a whole body workout.

Types of equipment may include:

- **Resistance bands**
- **Dumbbells**
- **Skipping ropes**
- **Cones**
- **Hurdles**
- **Steps**
- **Medicine and stability balls**
- **Agility ladders**
- **Sparring pads**
- **Mats**

The equipment listed above is extremely transportable which increases options for the exercise environment. The use of bodyweight exercises is also recommended.

Cool Down

- **Simple, less technical movements with reducing intensity**
- **Static stretches**
- **Brief summary of session to group**

Safety Considerations

In order to maximise safety, the more participants there are in a group session, the greater the vigilance of the instructor must be. The instructor must also comply with relevant insurance guidelines.

Participants And Exercises

The instructor may want to group a range of clients with differing abilities within the same session. This will present the greatest challenge, especially in the planning of the session. A selection of exercises to meet the needs of all participants and alternatives for each must be prepared.

The options for operating group sessions can be almost endless. Special populations, individual components of fitness, sport specific and beginner only sessions are examples of the variations available.

Work And Recovery Periods for Circuit Training

Each period of work will generally be 20-60 seconds with time for recovery in between each workload. This may differ for sport specific sessions.

Recovery can be timed or under the control of the instructor, for example when all participants have reached the next work station, or preparing for use of equipment such as gloves and pads or a participant finishes a station e.g. 500m row.

When designing the format of the session, the following factors must be considered:

- **Aims of the session**
- **Duration of session**
- **Ability of participants**
- **Number of participants**
- **Number of work stations**
- **Equipment needs**

There must be some compromise when using a circuit format where ratios don't always compare with those in a multiple set workout. A balance must be struck so participants are able to gain the intended training effects within a group environment where longer rests may affect the atmosphere of the session. For this reason circuit training is most beneficial for those looking to gain improvements in general fitness, from the beginner to an athlete working in off or pre-season. Strength training, which employs greater work to rest ratios are better served by other training methods.

Order Of Exercises

Generally, exercises should be alternated to prevent overloading of any particular muscle group, therefore avoidance of consecutive exercises for the same dominant muscle group are to be avoided. On the contrary, an aerobic circuit for runners may well aim to target leg muscles in this way.

Types Of Group Training Sessions

Timed Circuit

This is the most common method, where a timing station or instructor dictates the movement of the exercisers throughout the circuit. There should be a participant for each exercise when using a timing station, otherwise the instructor may have to intervene to maintain the flow of the session.

Work times are often changed between each circuit within the session, creating a peak work rate and intensity curve, for example:

First circuit - 30 seconds each station

Second circuit - 45 seconds each station

Third circuit - 35 seconds each circuit

Cardiovascular Session

Individual disciplines can be enjoyed by small groups using the same equipment throughout the session such as studio cycling, or participants can alternate between types of equipment for multidiscipline activities such as triathlon.

Floor Based Session

In terms of equipment, this will be amongst the easiest to prepare and is suited to facilities with busy operating timetables for a dedicated space, such as an exercise studio. Exercise mats are easy to transport and require no set up as participants will prepare their own exercise space and often bring their own equipment. The aim of the session is often far more technical than other group sessions, with specialised movements, stretches and body positions to instruct. This type of session often requires specialist instructor qualification and teaching methods.

Instructional Styles

The style of instruction can be dictated by the abilities of the participants. Beginners may want to be directed through every aspect of a session and may demand an autocratic approach that defines the timings, instructions and decisions throughout.

Training for advanced exercisers or professional athletes may require a more inclusive approach where participants contribute to the operation of the session in terms of timing and fluidity. More importantly, the instructor should adapt their leadership which can empower individuals or prevent chaos within a session.

Observation of the group at all times is essential to ensure safety and correct exercise technique. The instructor should also be observable by all members of the group and should try to give equal attention, rather than concentrating on one workstation or individual. In such cases, the instructor would have to evaluate whether the exerciser or workstation was appropriate for the session.

Monitoring Exercise Intensity

THE INTENSITY OF THE SESSION CAN BE MONITORED IN A NUMBER OF WAYS:

- **Observation**
- **Talk test**
- **Questioning**
- **Rate of perceived exertion (RPE)**
- **Heart rate monitors**
- **Checking pulse**

When monitoring exercise intensity, feedback received from the group can dictate the future instruction of the session. It must be the aim of the instructor to guide all participants through the whole session in order that they gain the maximum physiological benefits for their level of ability and performance.

Forming Effective Working Relationships With Clients

To be successful, an instructor must know how to support clients taking part in a program of exercise or physical activity. Being an effective communicator and implementing exercise adherence strategies are all part of forming a good working relationship. Both the instructor and the client will benefit from an effective working relationship.

During a career, an instructor will form relationships with a wide range of long term and occasional clients, work colleagues and other instructors, supervisors and managers and professionals from other fields.

Developing and maintaining effective working relationships with all of the above is important for establishing professionalism and maintaining and improving the reputation of the organisation the instructor represents while helping to generate repeat business.

Developing A Professional Relationship With A Client

Every relationship is different and it's important to realise that what makes for a good relationship with one client may not transfer effectively to another. Different personalities respond in different ways to things like motivational strategies, instruction, criticism and forms of communication. Where one client may respond well to a firm "tough love" approach, another client may prefer a more nurturing environment.

That said, all relationships will flourish if they contain these characteristics:

- **Mutual respect**
- **Trust**
- **Good communication**
- **Rapport**
- **Feelings of safety and security**
- **High ethical standards**

Developing And Maintaining Relationships

Good relationships do not happen by accident and often require a lot of work.

The three main aspects of developing and maintaining good relationships are:

1. **Communicating clearly and effectively**
2. **Good personal conduct**
3. **Respect of personal barriers and boundaries**

RPE Scale

RPE Scale	
Rating of Perceived Exertion Chart (Cardiovascular Endurance)	
	I am dead!
	I am probably going to die!
	I can grunt in response to your questions and can only keep this pace for a short time period.
	I can still talk but I don't really want to and I am sweating like a pig!
	I can still talk but I am slightly breathless and definitely sweating.
	I'm just above comfortable, I am sweating more and can talk easily.
	I'm sweating a little, but I feel good and I can carry on a conversation comfortably.
	I am still comfortable, but I'm breathing a bit harder.
	I'm comfortable and I can maintain this pace all day long.
	I'm watching TV and eating bon bons.

Providing Customer Care And Service

Customers are the lifeblood of any business as without customers there would be no one to buy the products and services on offer. Subsequently, the customer should be at the heart of every business but, sadly, this is not always the case. Tales of poor customer service are rife and unhappy customers will often go elsewhere, taking their money with them!

Getting customers on board initially is hard and can be expensive because of advertising costs so it makes sense that every effort should be made to ensure that customers are happy and become loyal to the organisation or business. And, as the saying goes, a happy customer will tell a few people about their experience but an unhappy customer will tell lots.

The ethos of good customer service should also be applied to all professional dealings including colleagues and other professionals. This "treat others as you would have them treat you" mentality can make any working environment more enjoyable and more profitable.

In the fitness industry, customers will ask questions, need information, want guidance, demand clean and well maintained equipment and require support to reach their fitness and health goals. This is part and parcel of the job of an instructor and should never be seen as an inconvenience or annoyance.

Remember, your fifth client of the day may only see you for one hour a week so they should expect to receive your best service even if you are tired or they are asking you a question you have answered a dozen times before.

Good customer service consists of four principle elements:

- **Expanding the definition of service**
- **Knowing who the customer is**
- **Forming positive relationships**
- **Developing a customer-friendly attitude**

Expanding The Definition Of Service

Service can be good, bad or indifferent but should generally meet or exceed the customer's expectations and requirements. For example, if an instructor is asked whether they can do personal training, rather than just say no, they could recommend a colleague who can provide this service without the customer having to find out for themselves. In this example, the instructor went above and beyond the original remit – to answer a question – and provided information that exceeded the customer's request. This is generally known as "going the extra mile" and makes a huge difference to satisfying the needs of the customer. Going the extra mile reflects well on the individual and the organisation. Other examples of going the extra mile in a fitness environment include following up on client complaints or comments, emails, calls or texts to see how a client's new workout is progressing, courtesy calls if a client has been unwell and cards for customers on their birthday.

Knowing Who The Customer Is

Customers can be defined as internal or external. Internal customers are people who, in the fitness environment, rely on the instructor for support, information or products and include managers, cleaners, maintenance staff, professional colleagues and receptionists while external clients are usually gym members who pay for products or services, Using these definition, a customer is anyone which you have professional contact.

The relationship between the internal and external customers is called the customer chain and, like any chain, is only as strong as its weakest link. The people that make up these links must all "do their bit" for the chain to work.

For example, if a piece of gym equipment is broken, a member may tell the duty gym instructor. It is not the instructor's job to fix the equipment but they need to notify the maintenance team, the gym receptionist and ultimately the facility manager to ensure a speedy rectification of the problem. Each party has a role to play in turning what could initially be a negative situation into a positive one by following the principles of good customer care.

Forming Positive Relationships

At the centre of good customer service is forming positive relationships with both internal and external customers. Positive relationships lead to happy, stress-free interactions both up and down the customer chain and happy customers are much more likely to become loyal customers that will remain loyal to the organisation.

Good relationships are built on rapport; the concept of rapport being that people like people that are like themselves. A relationship of mutual respect and influence, another definition of rapport, involves seeing things from the customer's perspective or, in simpler terms, walking in their shoes.

Rapport is built on effective communication and effective communication requires:

- **Active listening i.e. nodding, making eye contact, leaning toward the person speaking, paraphrasing, summarising, clarifying etc.**
- **Positive body language i.e.use of hand gestures, being aware of posture, smiling, avoiding crossing arms or slouching, avoiding standing over a client, being aware of a client's personal space etc.**
- **Tonality and use of language i.e. speaking at an appropriate speed and volume, not using jargon or overly technical terms, avoiding monotones, expressing enthusiasm, not using inappropriate language, explaining concepts clearly and patiently etc.**

Over-training

Exercise that exceeds the client's ability to recover and adapt can lead to a condition called overtraining or, to give its full name, chronic overtraining syndrome. Overtraining can be caused by the instructor's program as well as what the client does outside of the gym, so it is important that both parties know how to recognise the symptoms.

SIGNS OF OVER-TRAINING INCLUDE:

- **Decrease in coordination**
- **Inability to concentrate**
- **Reduction in performance**
- **Irritability**
- **Oversensitivity to criticism**
- **Disrupted sleeping patterns**
- **Non-specific aches and pains**
- **Loss of training enthusiasm**
- **General lethargy**
- **Limbs "feel heavy"**
- **Increased frequency of colds and other illnesses**
- **Digestive upset**
- **Elevated resting heart rate**
- **Dysmenorrhea (irregular periods) or amenorrhea (absence of periods)**

If overtraining is suspected, a short break and regression of the training plan must be implemented. Trying to "smash through" overtraining can make matters much worse and could necessitate a long break from exercise.