

Train Like an Athlete

Have you ever felt like your gym routine is stagnant, boring and not very efficient? Have you looked at a random piece of equipment and said how can that help my training? Or have you wondered what does Usain Bolt, Cristiano Ronaldo or Serena Williams do inside the gym?

Luckily for you there are many different training methods that can be used within the fitness regime that can take you to the next level, or just to make things new and exciting. You just need a push in the right direction. That is why I have written this article to help you understand what you could achieve if given the right guidance. The article consists of 5 different components to athletic training, which can turn that boring routine into something more fun. Also, it will give you a new insight to what true Personal Trainers can give to you to achieve better results.

Compound Movements with Accommodating Resistance

Compound exercises are best described as multi-joint movements that are working multiple muscle groups at the same time. For example, a squat activates your quadriceps, glutes, erectors and hamstring, which is more beneficial than a bicep curl. Therefore, the more muscles you use, the more calories you burn, the quicker you can get leaner. Additionally, compound exercises that have a load of advantages, which include:

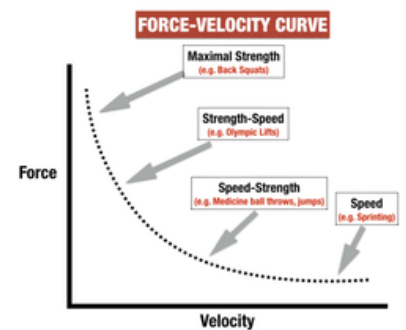
- Improve intramuscular coordination
- Elevate the heart rate and provide a cardiovascular training benefit
- Is a form of dynamic flexibility
- Improve movement efficiency.

These movements can be progressed by using bands and chains, which can be known as accommodating resistance. Chains come in different weight sizes, whereas bands are based on resistance. The reason these pieces of equipment are good is because it allows the body to control deceleration and acceleration while moving loads. This allows the body to train with explosive speeds and can increase your strength in very short amount of time.

Think about the Force-Velocity curve (photo on right), when the force is high, the velocity is low. That is why chains and bands are crucial as you can give you the ability to develop that explosive strength. Instead of squatting with a heavy weight and slow speed or a light weight with fast speed. You are working in the middle of the graph and accelerate the bar in both lowering and lifting phases of a lift. This increases your rate of force development, which is something quite a few people are lacking within the gym environment.

To break it down, you are about to bench 100kg and you add 10kg of chains to the bar. The bar now weighs 110kg. However, half of the chains should be laying on the ground, meaning there is 105kg altogether. As you lower the bar towards your chest, the bar gets lighter as more chains lay on the ground. As you press up the chains start coming off the ground, gradually increasing the weight.

This is how it should work, if you see an idiot in the gym wrapping a chain around his neck to do tricep dips, he just can't afford a belt or is auditioning to be a new member of Goldie Looking Chain.



Examples of progression of plyometric exercises for the lower extremity		
Beginner	Intermediate	Advanced
Squat Jumps	Jump and reach	Depth Jumps
Split squat jumps	Medial and lateral jumps	Box Jumps
Bilateral mini jumps	Anterior and posterior jumps	Single leg hops
Skipping	Double leg tuck jobs	Single leg tuck jump
Lateral bounding	Pike jumps	Drop jump to box jump
Ankle bounces	Jumping to box	Squat depth jump
Shuffling	Zig zag jumps	Hurdle hops

Michael Boyle

Plyometrics

Plyometrics are training techniques used by a range of athletes in all types of sports, which help the development of strength and power. Furthermore, *Plyometric training of the lower extremities have been shown to increase sprinting speed or velocity. This is important for sports requiring short bursts of speed repetitive change of direction.*

The best way to describe plyometrics is that it consists of a rapid stretching of muscle and its connective tissues (eccentric), which is immediately followed by a shortening (concentric) action.

The stored elastic energy within the muscle is used to produce greater forces than can be provided by a concentric action alone. This process is also known as the stretch shortening cycle (SSC). The SSC improves the capability of the neural and musculotendinous systems to produce maximal power in the shortest possible time period. If athletes or clients can understand and figure out a plan that combines plyometric training with periodised strength training, they would start to notice improvements in agility, proprioception, acceleration and muscular power.

People have to understand that this type of training is not slow and is defiantly not about how many repetitions you can do in a set amount of time, which is usually noticed in group training classes. This does my head in, seeing people jump up meaninglessly for a whole minute, not landing correctly and jumping down off the box too. To do Plyometrics correctly you need low volume, low reps and proper rest between sets. This will allow you to become more explosive and increase fast twitch muscle fibres.

The goal should be to improve not to consistently damage yourself. Too many people follow the Crossfit trend of getting that deep burn beast yourself effect. However, not many people actually think of how their central nervous system is feeling and how that can play a role in your hormones of stopping growth etc.

The table below gives you a great indication of the volume load you should be looking at based on your ability, something I'm not too sure many of you would have considered whilst doing that group class in the past.

Plyometric exercise volume (foot contacts) based on athletic ability		
Beginner	Intermediate	Advanced
80-100	100-120	120-140

Chmielewski, Myer, Kauffman and Tillman (2006)

Medicine ball

The medicine ball maybe the simplest and safest tool for developing total body power, rotary power and anterior-core power. One of the main reasons athletes use medicine ball training is to develop power from the ground, through the legs (hip internal and external rotation), through the core, and finally out the arms.

The medicine ball is a safe, adaptable and effective tool that everyone should be using. The tool bridges the gap from conventional strength and endurance for the core to power development.

There are a lot of back injuries in the world of medicine ball training. This is because many Personal Trainers/coaches have mistakenly attempted to develop core power through using weighted exercises that focus on lumbar rotation. Whereas rotary power through hip rotation is not only functional but safe.

Medicine ball throws are critical for all clients, especially adult clients. Adults lose on average 1.5 times the rate they lose strength. Therefore, if a client loses 10% of their strength, they lose 15% of power.

Furthermore, other problems associated with med-ball training is that clients don't feel it initially. This is due to people judging core work by that deep burn sensation. However, med-ball effects should be noticeable the next day. Also, you need a lot of space and requires a sturdy wall to throw against and need a range of sizes of med balls to go with different sized clients (table below).

Guidelines for Medicine Ball Selection		
Client weight (kg)	Ball weight (kg) for rotation	Ball weight (kg) for overhead
45-61	2	1
61-79	3	2
79-90	4	3
90-113	5	4

Olympic Weightlifting

People are always asking what are best and safest methods to develop power. There are tons of research out there that Olympic Lifting and the variations maybe the best methods to rapidly improve power. The exercises are extremely functional and is done standing, which uses almost every muscle in the body in an explosive, coordinated fashion. However, with benefits of Olympic lifting also bring disadvantages too.

Some of the main reasons why people Olympic lift are for athleticism, eccentric strength and because they are fun. There is nothing more pleasing than seeing a well equipped lift come together after building all the foundations. The guidelines a client should follow learning these moves are:

- Be able to do a Hands-free front squat (photo on right) and a clean-grip front squat.
- Make sure you are mobile enough to get into the start position.
- Have a stable overhead support position.
- Think safety first and use a platform if available.
- Practice proper techniques. Move the bar from point A to point B quickly and in a technically correct manner.
- Emphasise speed of movement over weight on the bar.



If you can do these efficiently you are one step closer to being able to do a Olympic lift. However, you have to remember that there are a fair few downfalls to Olympic lifting.

These are as follows:

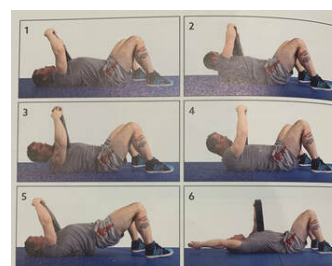
- Needs a great deal of teaching and supervision
- Coaches are not willing to teach proper techniques.
- Coaches programming high-repetition challenges instead of low repetition for power development
- Poorly taught, implemented or unsupervised causes injury.
- Can get gains through jump squats, kettlebell swings and single leg or single arm versions of Olympic lift variations.

Performance Essentials

There are many essential components to a well designed functional program. All of the list below have to be considered to become a more functional athlete/client. By leaving out one component can cause imbalances, which would be detrimental in future life scenarios. However, the client and coach should have an idea of what is more important towards the goals they want to achieve and have a journey planned on the best way of getting there.

Essential Components

- Foam Rolling
- Static Stretching
- Mobility, Activation and Dynamic Warm up
- Explosive Power Development
- Plyometrics and Speed
- Strength
- Bilateral Hip Dominant Exercises
- Single Leg Knee Dominant Exercises
- Unilateral Hip Dominant Exercises
- Core Work
- Horizontal and Vertical Presses



- Horizontal and Vertical Pulls.
- Conditioning

As you can see there is a lot to consider and these should be utilised and combined based on the number of training days available. The more the number of training days' decreases (4 to 3 to 2 to 1) the decisions about priority become even harder. That is where training more can be a benefit, although this can be hard to fit around everyday life. However, it is crucial just to ensure a client has a properly designed program without overemphasising or underemphasising any component.

The amount of times I have seen coaches just waltz around the gym making things up is a mystery to me. Every client should have a goal and it is the coaches job to ensure they get there. Sessions should be allotted around 60 mins to cover, soft tissue work, warm up, strength work and stretching.

Conclusion

Overall this article should of given you an insight of new techniques athletes use but what you can use aswell Remember an athlete is no different to you or me, they have just trained in an athletic way. Therefore, If you want to know more about training or have friends interested, then send me a message and we can arrange a consultation and get you started.