

MUSCULAR STRENGTH & ENDURANCE CONDITIONING BY MARK GODWIN, ELITEPERFORMANCE SPORTS CONDITIONING.

Eliteperformance is based outside Chester and the company specialises in the physical conditioning of athletes. They have been involved with the RFU in running 'developing rugby athletes' sessions in the North West and with the RFU Referees Department.



Muscular strength and endurance conditioning is one of the components of rugby fitness. Not only is strength and endurance required for the physical side of the game, muscular development may assist in injury prevention.

Furthermore, strength conditioning at an earlier age prepares young athletes for the physical demands of rugby no matter what level they play. As the game continues to get quicker and more physical, strength conditioning becomes one important factor of rugby conditioning.

Youth and Junior Equipment.

Muscular strength and endurance conditioning does not require vast quantities of equipment. Initially, the learning of technique should be the focus allowing for neuromuscular programming. (Neuromuscular programming is the ability to learn a movement through doing it. By using light weights and focussing on correct technique, the body 'learns' the correct movement. Signals are sent through the nervous system to the muscle and it moves in the way that is desired.) The use of resistance bands (See Photos 1 & 2) enables a safe and effective platform for the development of exercise technique.

The use of body weight exercises, resistance bands, machines, medicine balls, dumbbells and barbells all allow an enjoyable, safe and almost limitless programme design.

Training Progression.

An increase in repetitions and sets makes progression easy for all athletes. For players in the Training to Train (Male:12-16 years, Female: 11-15 years) phase of the Long Term Athlete Development, the emphasis should be on higher repetitions. Progressive loading should take place alongside technique development.

A training diary should be kept by all athletes to monitor conditioning programmes. It can provide a useful indicator as to the amount of conditioning undertaken and avoid over training or 'burnout'. All areas of an athlete's day - sleep, school, other sports etc - should be recorded to ensure a balanced lifestyle.

Athletes in the Training to Compete phase should be able to increase the weight lifted providing they are physically developed. The exercises can range from specific muscle groups to functional multijoint exercises.

Basic Guidelines for Resistance-Exercise Progression

Age	Programme Design
8-10 years	Gradually increase the number of exercises; practise exercise technique in all lifts; start gradual progressive loading of exercises; keep exercises simple; gradually increase training volume; carefully monitor tolerance of the exercise stress.
11-13 years	Teach all basic exercise techniques; continue progressive loading of each exercise; emphasise exercise techniques; introduce more advanced exercises with little or no resistance. Progress to more advanced youth programmes in resistance exercise; add sport-specific components; increase volume.
14-15 years	Progress to more advanced youth programmes in resistance exercise; add sport-specific components; emphasise exercise techniques; increase volume.
16 years or older	Move child to entry-level adult programmes after all background knowledge has been mastered and a basic level of training experience has been gained.

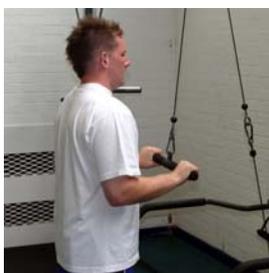
Note: If a child of any age begins a programme with no previous experience, start him at a previous level and move to more advanced levels as exercise tolerance, skill, amount of training time and understanding permit.

CHEST.



The three exercises shown in the photographs above are for the **chest, front of the shoulders and triceps**. Progress through all the phases, using the variety of equipment shown in these photographs, namely resistance band, medicine ball and barbell.

TRICEPS.



All three of the exercises shown in the photographs above are designed for **triceps development** and are a simple progression from the resistance band through to free weight dumbbells.

About Eliteperformance:

Eliteperformance is based outside Chester in the North West and specialise in the physical conditioning of athletes. They have been involved with the RFU running ‘developing rugby athletes’ sessions in the North West and the RFU Referee Department. They have produced a strength and conditioning CD for youth and junior rugby athletes.

¹ Kraemer, W J and Fleck S J (2005) **Strength Training for Young Athletes: Safe and Effective Exercises for Performance**, 2nd Edition; Human Kinetics