

Guidance/Information Document

The application of dry land physical activity and weight training in the development of club swimmers

To develop an athletic swimmer requires more than training in the swimming pool. Although exercise in water has a certain amount of resistance that the swimmers muscles work against the pressure against the muscles is not nearly as great as working with weights or exercising on land. Strength and flexibility training is also key to injury prevention and body conditioning. To increase the strength of the body it is therefore necessary to have a land training regime. However, swimmers become good because they swim and become very familiar to that environment so if time is limited then don't take up your training time doing land work just focus on pool swimming.

Land training should not be confused with the **Stretch** and **Warm-up** exercises prior to swimming training sessions

Stretch - is a form of physical exercise in which a specific skeletal muscle (or muscle group) is deliberately elongated to its fullest length (often by abduction from the torso) in order to improve the muscle's felt elasticity and reaffirm comfortable muscle tone. The result is a feeling of increased muscle control, flexibility and range of motion. Stretching is also used therapeutically to alleviate cramps.

Warm-up – is usually performed before participating in technical sports or exercising. A warm-up generally consists of a gradual increase in intensity in physical activity (pulse raiser), a joint mobility exercise, stretching and a sport related activity. For example, before running or playing an intense sport one might slowly jog to warm muscles and increase heart rate. It is important that warm ups should be specific to the exercise that will follow, which means that exercises (of warm up) should prepare the muscles to be used and to activate the energy systems that are required for that particular activity. Warming up prepares the body mentally & physically.

Dry land training is simply activities that take place out of the pool as a form of cross training (a variety of different training methods including both cardiovascular and strength exercises), and includes strength and conditioning and flexibility exercises.

Land Training can help athletes to swim better and also improve their start with explosive power off the blocks. It is important that it is recognised that swimming is not the same as land based sports and therefore has different requirements from strength and conditioning work.

The main purpose of land training is to improve strength whilst maintaining flexibility and cardiovascular fitness.

Weight Training

It is felt from age of puberty that weight training was acceptable using low resistance high repetition sets whilst under the care/supervision of a fully qualified instructor. Certainly no child of that age should be lifting heavy weights and coaches/ clubs have a duty of care to the young swimmer to prevent this happening. The immature musculo-skeletal system is vulnerable due to the asynchronous growth rate between bone and soft tissues". In most cases exercises without the addition of extra weight would be adequate for young or inexperienced athletes, utilising body weight as the main source of resistance, in forms of push ups, pull ups and well executed squats.

The knowledge of the human physiology and the competences of the stretch and warm-up sessions are gained within the ASA Swimming Teacher qualifications but the skills required to teach and coach land training are not. The Institute of Swimming does provide CPD seminars that give an introduction but not a qualification in the subject.

It is recommended that swimming coaches that wish to implement a land training regime gain an appropriate land training and/or weight training qualification to demonstrate competency.

There is some evidence for malpractice where swimming coaches have introduced physical exercise on the poolside such as skipping, press-ups and sit-ups. There is a fine line between warm-up and more intense physical exercise without the use of weights but the pool deck is not an appropriate place to execute any form of exercise as the lack of a sprung floor and slippery tiles significantly increase the risk of impact and/or slip injury.

The correct area to introduce land training is in an exercise room with a sprung non-slip floor. Weight training should take place in areas with appropriate protective flooring to prevent damage to the facility and potential harm to the user.

A typical land training qualification that is frequently gained by exercise supervisors for fitness suites in leisure centres and fitness clubs is the BAWLA (British Amateur Weight Lifters Award), however qualifications from UKSCA (United Kingdom Strength and Conditioning Association) and NSCA (National Strength and Conditioning Association) are both relevant and provide the competency required.

Level 1 – Introduction to Resistance Training Using Free Weights

This course is recognised by the Register of Exercise Professionals (REPs) as Endorsed Training for Continued Professional Development (CPD) and is worth 16 credits. In order to claim the credits you must be at least 18 years of age and be qualified as an Instructor Level 2 in the Fitness Industry.

However, you may still apply to join a course even if you do not meet the above requirements. However, you will not be able to claim the CPD credits, even retrospectively, but will be issued with a certificate of attendance by the BWLA

The course has been designed to meet the needs of the Fitness Industry where the ability to demonstrate competence instructing in the use and instruction of free weights and exercise machines must also be supported by essential knowledge and understanding that underpins practical ability.

It is a competence-based course and candidates will be expected to show competence in the following areas:

1. Demonstrating and giving instruction in a small range of selected exercises, using free weights and exercise machines.
2. Planning and giving instruction for a beginner training session using free weights and / or exercise machines covering the warm-up, main work out and cool-down.
3. The essential basic knowledge and understanding of fitness training.

The course content will include:

- Using free weights and machine equipment
 - Components of fitness
 - Basic lifting position with free weights
 - Teaching sequence for exercises
 - Planning a schedule for free weights and machines
 - Training principles
 - Principles of strength development
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- Health and safety
- Instruction with free weights and machines

Level 2 – BWLA Weight Training Instructor Certificate

This award has been aligned to the N/SVQ Level 2 Exercise and Fitness coaching qualification (revised standards)

As such it can provide a BAWLA qualification and training to prepare candidates to meet the requirements for N/SVQ Level 2 Assessment. Candidates will be expected to provide evidence of ability to plan sessions to include:

Principles and variables of fitness - exercises which reflect safe practices - sessions to cover the warm up, main work out and cool down; using exercise machines, cardiovascular equipment and free weights.

Other topics will include: teaching methods - aspects of safety applied to equipment and the training area etc. - machine and weights equipment - customer service working with people - benefits of exercise - Code of Ethics for Exercise and Fitness.

Underpinning knowledge will include basic anatomy (including - structure and function of the skeleton, range of movement at joints, effects of exercise) - basic physiology (including - muscle contraction, major muscle groups, effects of exercise on muscles) - basic cardio circulatory & respiratory systems (including - aerobic and anaerobic systems and energy requirements for exercise) - components of fitness (including - health related cardiovascular endurance, strength, muscular endurance and flexibility)

BWLA candidate assessment

A combined written paper of questions (not essay type) and multi-choice questions
Instructing a small group with a range of selected exercises using free weights and machines

Readers are advised that the guidance or advice given in this information sheet is not inclusive and any decisions on swimming pool design should first be discussed with a member of the ASA's Facilities Team. Contact details: facilities@swimming.org or telephone: 01509 640258.