



# Land Conditioning for Swimming

**Advice and Guidance for Clubs**

## Introduction

The topic of Land Conditioning is often ignored by Swimming clubs, perhaps through a lack of understanding of how this area of training can benefit the competitive swimmer, and perhaps through apprehension of what areas of land conditioning to perform and how to incorporate them into the programme. This leaflet aims to provide coaches, swimmers and administrators with some simple guidelines on how to set up a reasonably comprehensive Land Conditioning programme at the club level with minimal requirements for equipment, costs, facility usage and expertise.

Much of the information included here and detail of performing much of the content can be obtained by visiting the web site [www.whitedolphin.co.uk](http://www.whitedolphin.co.uk) and purchasing a land conditioning manual and disc which illustrates exercises both in full colour pictures and by video demonstration. The information has been compiled by Bob Smith (Head Strength & Conditioning Coach, British Swimming) and Dr. Henryk Lakomy, experts in the field of Land Conditioning. Examples of the type of illustrations are shown below:



For the more advanced swimmers, there is a comprehensive set of 5 CDs from the same source providing the swimmer and coach with a library of land exercises on CD ROM. The CDs include:

- Core stability
- Stretching & Flexibility
- Tubing/ Cable work
- Dumbbell CD
- Barbell (and Olympic lifts)

## Why do we need to perform Land Work?

Many of the fundamentals of Long Term Athlete Development (LTAD) are based on gaining skills and experiences of activities out of as well as in the water. Competency in activities such as agility, balance and co-ordination, running, jumping and throwing, catching and striking are best developed out of the water and help swimmers to improve their skill which will ultimately impact on better stroke techniques and starting and turning. In addition, swimmers will develop a more balanced physical development that will ultimately assist in the avoidance of injuries.

Land training aims to provide the body with a different stimulus from that gained in the water and should be seen as complimentary to pool sessions, not replicating work undertaken in swimming training. The land environment allows us to provide greater resistance to particular exercises than is possible in the water, and therefore the overload for strength and power development has greater possibilities. In addition, with gravity and body weight to create natural forces, and

unstable surfaces (e.g. a Swiss Ball) to work from, a complete range of exercises can be devised to target many different muscle groups or combination movements. It is this flexibility that allows us to target more than just the ‘swimming muscles’.

### **LTAD**

The British Swimming guide to LTAD provides a more comprehensive guide to swimmers development and the need for the correct type of Land Conditioning at each age and stage of a swimmer’s career. Explanations and recommendations for developing skills both in and out of the water and can be found on the website:

<http://www.britishswimming.org>

- Swimming
- Development
- LTAD

<http://www.sportcentric.com/vsite/vfile/page/fileurl/0,11040,4716-137912-155128-38041-0-file,00.pdf>

### **Getting Started**

Introducing Land Conditioning to groups should be done gradually and in a progressive manner. Younger swimmers should focus on exercises that require no equipment; they can progress quickly on to stability balls and latex bands or rubber tubing. In each area the exercises progress from easier to hard and as such they are suitable for a wide range of ability. In many cases only a small space (even at home) is required to perform the exercises, and when performing as a group exercise session, it can be fun, interactive and motivating.

Whenever heavier equipment is recommended a qualified coach should supervise. If there is any doubt as to where to begin a land training programme for swimming, it is recommended that the focus is on Core stability and stretching. For core stability training, use body weight exercises.

### **Land Training Objectives**

There are several key objectives of Land Conditioning, some that directly impact performance (i.e. improving power for the underwater pulling action), and some that contribute indirectly (e.g. improving core strength can result in better body alignment and therefore improve streamlining). Core strength also links to other body parts and helps prevent injury occurrence. To summarise, land training can aid performance improvements through developing:

- Functional Core Strength (e.g. Body weight and Swiss Ball balances)
- Injury prevention & Strength (e.g. Tubing and Band work)
- A comprehensive range of movement in key joint areas (particularly shoulder, hips, and back)
- Functional Strength & Power (e.g. Swim Bench, paddles and other resistive water work)
- Greater functional muscle tissue and recruitment of muscle fibre (i.e. improving muscle strength and power)

### Principles of Training

The standard principles of training apply to Land Conditioning as they do to all training:

- Overload
- Progression
- Specificity
- Combine work & recovery
- Individualisation

### Equipment

Equipment to get started can be very basic and inexpensive. For instance, many swimmers can cover much of the training elements without equipment; core strength and general muscular endurance can be developed using body weight exercises and flexibility requires just a space. As swimmers progress, a Swiss Ball (can be purchased for approx £10 – Argos), tubing and bands (approx £12) and skipping ropes (£7.50) can enhance the range and quality of exercises enormously. A comprehensive range of equipment for Land Conditioning can be purchased online at [http://www.swimteheartrateuk.com/land\\_train\\_2.htm](http://www.swimteheartrateuk.com/land_train_2.htm) .

Swimmers who progress through the ages and to higher levels of Regional and National Swimming may begin a more comprehensive Land Conditioning programme. In most cases, including elements of machine weight exercises, lifting weights or using dumbbells/ barbells will require joining a local gym. This can be costly, although sometimes group deals can be arranged, or cheaper access gained during off-peak times. Paddles, stretch cords and other equipment for specific resistance training in the water can be found online at:

<http://www.swimteheartrateuk.com>

[http://www.swimteheartrateuk.com/swimmer\\_equi\\_2.htm](http://www.swimteheartrateuk.com/swimmer_equi_2.htm)

<http://www.swimshop.co.uk>

[http://www.swimshop.co.uk/category.asp?pricing=INC&cid=OSUFUFXA25CYWP9BBXZKXKCF7Y6O5TCT&cat\\_id=STARESISTRA](http://www.swimshop.co.uk/category.asp?pricing=INC&cid=OSUFUFXA25CYWP9BBXZKXKCF7Y6O5TCT&cat_id=STARESISTRA)

### Facilities

Land Conditioning at Swim 21© Level 1 (Teaching) comprises participation in other physical activities. Levels 2 and 3 largely require just a space and some basic equipment to perform most of the activities. In its most simple form, swimmers could conduct many of the body weight, balance and Swiss Ball exercises on their own and even within the confines of their own home. Alternatively, group sessions could be conducted in any area around the pool environment (gym/ meeting room etc.) or in summer, weather permitting, a space on the grass outside. Try to engage the group in partner type work and challenge swimmers using numbers of reps or time ability to hold positions. Music will also make the Land Conditioning session more enjoyable. Those at Level 4 will probably need the use of a proper gymnasium or leisure club to conduct some of the machine and lifting exercises. Coaches should investigate access to local facilities and specialist advice if necessary.

## Swim 21© – Land Conditioning for Swimming

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### Coaching Expertise

Coaches who have qualified at ASA Club Coach (Level 3) or Coach (Level 4) levels will have covered many of the relevant aspects of Land Conditioning. Generally, body weight exercises, Core stability, Medicine balls and Flexibility work can be supervised by the coach. Once weight training using machines and dumbbells/ barbells is introduced, coaches should have an ASA Coach (Level 4) qualification or a weightlifting (BAWLA) certificate. Advanced lifting usually requires external advice from a fitness instructor at a local gym. It is important however that this individual has an appreciation of Swimming as a sport and follows objectives and issues described in the Strength & Conditioning manual by Bob Smith (see introduction).

### Swim 21© Levels & Age (for general guidance purposes only)

<b>Level 1</b>	Female 9-10 years	Male 10-11 years
<b>Level 2</b>	Female 11-13 years	Male 12-14 years
<b>Level 3</b>	Female 14-15 years	Male 15-16 years
<b>Level 4</b>	Female 16+ years	Male 17+ years

### Land Conditioning Guidelines

	Swim 21© Level			
	1	2	3	4
Other Sports/ physical activities	✓	✓	✓	?
Flexibility & Stretching	✓	✓	✓	✓
Developing a full range of limb movement	✓	✓	✓	✓
Body Weight Exercises		✓	✓	✓
Introduce Core Strength & Balance		✓	✓	✓
Focus on Technique		✓	✓	✓
Develop Core Strength (Swiss Balls)		✓	✓	✓
Progress Body Weight exercises			✓	✓
Introduce Medicine Ball work			✓	✓
Tubing exercises			✓	✓
Integrate Land & Water work			✓	✓
Partner Flexibility			✓	✓
Basic Machine Weights			✓	✓
Lifting Education			✓	✓
Develop Weight Lifting exercises				✓
Dumbbells & Barbells				✓
Specific Power Development				✓

- Note how the programme is progressive throughout the levels and at each stage aspects are added to the programme, rather than replaced. At every stage, aspects developed at the previous level are retained and built upon.

## **Recommended Sessions at Swim 21© Levels**

<b>Level 1</b>	2 x 30 min other sports/ activity
<b>Level 2</b>	1 x 45 min Land session 1 x other activity 10 min stretching before each swimming session
<b>Level 3</b>	2 x 45 min Land session 1 x other activity 15 min stretching before each swimming session
<b>Level 4</b>	3 x 75 min Land session 20 min stretching before each swimming session

## **Safety**

All swimmers should be physically fit to undertake any training programme and so a medical confirmation of the swimmers state of health and fitness is recommended before undertaking any land conditioning programme.

The following safety points should always be adhered to:

- Always wear suitable clothes designed for training in the gym
- Always wear good training shoes, 'cross trainers' are ideal
- Always pay attention to nutrition and hydration before, during and after each workout
- Always take special care moving weights around the gym
- Always replace weights that have been used
- Always endeavor to execute perfect technique
- Always 'warm up' and 'cool down' appropriately

## **Summary**

The importance of land training to enhance all-round skill and balanced fitness in competitive swimmers cannot be stressed enough. Time should be taken to organise group sessions and encourage swimmers to perform regular 'land sessions', such as core strength, in their own time. The important thing is to start off with some basic exercises done with excellent form/ technique, and gradually add new exercises. Music and partners will aid motivation, but it once land work has been introduced, it is important to keep things going regularly. Land training should be conducted as religiously as the swimming sessions, and remember, a little land work done regularly is better than none at all.

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