

Getting to the Core of Swimming!

by Jennifer Schembri-Portelli@WETS

JSP presented the topic of **Core Stability for Swimmers** at the AUSTSWIM National Aquatic Education Conference 2009 on the Gold Coast and then again at the NSW AUSTSWIM Splashout! Aquatic Conference 2009 and WA AUSTSWIM King Neptune Aquatic Conference 2009. All three presentations received complimentary and highly satisfied feedback:

- “great to learn skills and drills we can do with even our young swimmers”
- “I’ve always known its important to strengthen the core – I am now better informed on what works”
- “the amazing vitality and motivation of JSP’s presentation was refreshing”

Introduction: What is core stability

The core of the body is where power is derived; it provides the foundation for all arm and leg movements. The core must be strong, flexible, and unrestricted in its movements to achieve maximum performance regardless of the activity.

Where and What?

The core structure is much more than just ‘A SIX PACK’. To be a little more technical it includes muscles that lie deep within the torso, neck and shoulders. These muscles connect to the spine, pelvis, and shoulders to create a solid foundation of support. When the core muscles are strong, flexible, and move freely, then the swimmer is able to generate controlled, powerful movements in his/her arms and legs.

Why do I really need stable core muscles?

It is the role of the muscles of the torso to

- stabilise the spine, pelvis and shoulder girdle
- provide a stable foundation for movement in the limbs.

A strong core – *front and back*- is a contributing factor to gaining limb (arm and leg), proficiency in a swimmer. Instability in the core may cause a swimmer’s hips to sway resulting in a lowered leg line.

Drill:

Practise laying on a kickboard and perform a freestyle arm action. The correct core recruitment on the equipment will establish a neuro-muscular pathway. In other words, the body tells the brain this is the position and body tension that is required when swimming. As a challenge – just use a one arm freestyle action whilst the other is out the front or by the side.

Activities on Land to Improve the Swimmer’s Core Stability

Training long hours does not guarantee core stability. In fact, spending too much time working within one plane of motion often creates core imbalances.

Sending the swimmer to the gym to work on equipment isn’t the simple solution either. Unfortunately, many weight machines only work through one plane of motion (usually sagittal), these strengthening exercises only reinforce core instability.

It is now common practice that elite and serious swimmers will seek the advice of an exercise physiologist or physiotherapist and participate in exercises that strengthen their core stability on land as well as in an aquatic environment.

Land Activities

Both identification and retraining of weaker muscles can help overcome postural imbalances. Incorporate a variety of equipment to challenge the nervous in addition to the muscular system.

- Fitness balls provide an opportunity to incorporate therapeutic and preventative exercise
- Dura disks are quite cheap and easy to store.
- The Bosu is a half a ball with a solid base. It can be used to stand, sit or lie on.
- The medicine ball can be used on its own or in combination with one of the above pieces of equipment
- Pilates classes or reformer machine

The 'plank' is a static exercise for strengthening the abdominals, back and shoulders. Isometric strength is important for stabilising the trunk. The abdominal plank is a great exercise for strengthening around the midsection of the trunk. Many of our delegates got to experience this during the presentation.

Drill - Plank

Starting position: Lift your body off the ground on your elbows and toes. Contract the abdominals and relax shoulders. Keep still with upper body higher than lower body – keep breathing.

Water activities to improve core stability

Just as an unbalanced activity on land challenges the stability of the core so to does performing or using an unbalanced base of support in water. Functional fitness is another outcome of conducting core stability activities in an aquatic environment. An example of a water based activity is:

Equipment	Activity	Guidelines
One dumbbell	In a vertical position pass the equipment around the body, as low as possible	Whilst feet are flat on the floor, the toes are not clawed!
	In a vertical position – pass the dumbbell with a straight arm	Have a wide stance of support

Jennifer Schembri-Portelli

Through the power of water Jennifer Schembri-Portelli has created an unparalleled career in the fitness and aquatic industries. As aqua instructor, university researcher, principal Aqua Instructor Course facilitator and Director of the Water Exercise Training Service (WETS), award-winning JSP has entertained, enlightened and trained people for the past two decades. Her accomplishments as a leader, mentor and down to earth teaching approach have established her as one of the most respected industry gurus!