

# BUOYANCY EQUIPMENT....IT FLOATS!

**The main difference between buoyancy equipment ( stuff that floats) and resistive equipment (stuff that sinks) is control. Therefore, it is critical that you utilize your equipment safely to avoid excessive range of motion and lack of control.**

**Buoyant equipment** floats to the water's surface automatically as soon as it is put into the pool. This makes it useful for floating or relaxation activities where little or no "work" is required. It can also be used to help suspend the feet off the pool floor, or for balance and support for anyone unskilled or nervous in the water to get them off the wall and out into the open water.

Equipment such as a buoyancy belts or noodles are ideal for support for working in the deep end of a pool since they can be used to balance work with rest. The criteria for this are that the participant must be comfortable in the deep end of the pool and trained to use the equipment correctly.

When buoyant equipment is used for strengthening, pushing down into the water against buoyancy performs the "work" phase. The return or relax phase is performed by the water. It takes strength to push downwards but even more strength to control the upward movement to stop at the correct position to start the move over again.

When buoyant equipment is used in the hands for upper body conditioning the main area of concern is the shoulder joint. Although the ROM for abduction of the shoulder goes to 180<sup>0</sup> the range should not go above 90<sup>0</sup> with the palms facing downward. If a participant is using this type of equipment but is not sufficiently strong to control buoyancy to keep the shoulders down without turning the palms to face upward the joint can become compromised. Injury in the form of impingement or bursitis can develop. This occurs to people who have poor upper body strength and may have extra built in body buoyancy

When buoyant equipments is used for lower body conditioning the main area of concern is controlling the body so that should it be flipped onto the stomach that the participant has sufficient strength to "right" his/herself onto the back or into an upright position to keep the face out of the water.

## Examples of **BUOYANT EQUIPMENT**

**Buoyancy Belts:** The purpose of a buoyancy belt is to unload the stress on the joints in shallow water and provide safety for non-swimmers. In deep or transitional depths it is used to help a participant balance work and rest. It is necessary to wear some type of buoyancy equipment in deep water otherwise the body has a difficult time balancing and isolating specific parts of the body for training. Without a buoyancy belt, most individuals cheat the leg movements or burn out the shoulder by constant sculling just to keep the head above water.

The best reason for using a belt in the deep end is that all fitness components may be trained using a variety of body positions (including seated, L-sit, V-sit vertical, tilting and inclined), to get the most out of a workout. NOTE: One size does NOT fit all when it comes to a buoyancy belt. Belts should be fitted to each individual depending upon where their "built in" buoyancy ( or body fat composition). Assume everyone balances and moves differently. There are several types of belts on the market and each person should test for vertical balance before using in a program. Ideally you should be able to hang in the water and keep the head afloat. If you have to utilize your arms (for sculling) too much – a person often negates their legs being utilized. Therefore, have a variety of belts at your center and recommend that patrons BUY their own so they have an optimal fit ( and workout!).



**Foam dumbbells** can be used for upper body strengthening by resisting buoyancy. Dumbbells may vary in terms of buoyancy. A small dumbbell or buoyant ring provides an easier strengthening workout when compared to the denser and thicker rings. Each participant should be advised not to overload with too much buoyancy too soon. Be cautious not to do too much upper body strengthening with a participant at first. Start slowly and work up. Movements for strength should be slow and controlled so that there is eccentric loading on the way back to the surface or in the direction of buoyancy. Foam dumbbells may also be anchored in the water for shoulder stabilization work or adding drag for the lower body resistance. Frail participants (such as people with disabilities) may feel more secure using buoyant dumbbells for support between themselves and a partner to help them move through the water.

**Buoyant cuffs** may be worn on the ankles to increase surface area for ADVANCED work for the lower body. Program applications may include shallow water walking or deep-water training. In deep water, the buoyant cuff changes and challenges an individual's balance because it is extremely hard to keep the feet anchored underneath the body. This requires superior abdominal strength and balance skills. Assume that this is not for "every body". Cuffs may also be put together for a buoyancy belt or utilized for hand held upper body exercises. Be sure to teach and check safety skills individually with each person prior to commencing a program.

**Balls** are excellent for training for "core stability". A 5" ball can be used to isolate the abdominal group and to anchor movements that support good posture and balance. You can use small sponge balls to engage all the small muscles of the hand. Although the finger muscles additionally need stretching to prevent claw hands, this type of work is key for strengthening the forearms and preventing wrist fractures and aiding in stabilization of the wrist. It is an affordable item and allows frail or severely arthritic participants to start building hand and forearm strength. Additionally, balls may be utilized for hand to eye coordination skills and juggling fun!

**A kick board** is a very stable tool when used for support, balance or good posture. It can also be used for dynamic balance exercises such as sitting, standing or kneeling balance exercises. When trying these moves caution must be emphasized as the board can pop out should you lose your balance. Kick boards may be combined with **training fins** for a more challenging session. Avoid using a kickboard for strengthening exercises if the person has low upper body strength or shoulder problems.

**Noodles** add enjoyment, variety, resistance and assistance to any class. Participants may choose to relax the exercise with assisted applications or challenge the exercise by resisting buoyancy. There are many exercise options -you may sit, stand, lay, kneel, partner, drag, hold it above water, wrap it around the body, or simply utilize the noodle as an extension of the levers. The Noodles can be used in any water depth and will train every component of fitness safely. NOTE: Not all noodles are equal!. WaterART recommends three levels of intensity and buoyancy.

A beginner noodle is a regular noodle without a hole in the middle. Most of the noodles with a hole in the middle seem to disintegrate within weeks. Also they seep water. An intermediate has a bit more density and is in fact smaller to grip. We have found that these noodles last 2-3 years. The super noodle or most intense resistance (and assistance) is closed cell foam. This noodle is lasting 10-15 years and doesn't seep water. It has ridges for ease of grip, however, with that said, a patron should only lightly hold their noodle so that they do not put their blood pressure up or harm their wrists.

#### **Coaching Tips for using equipment :**

- Know if your participants have any injury or "problem" areas.
- **Do not overload** if they have injuries or localized discomfort or are new to a program.
- Assume buoyancy floats up – so it is very easy for the arms to go beyond a functional range of motion.
- Control buoyancy. Using speed only uses momentum.
- Teach participants "why" they are doing the exercise and "how" it will affect their performance
- Equipment takes strength – so don't jump to the "hard" level too fast.
- Breathe and utilize proper posture for optimal benefits.
- Provide a longer " Warm up & preparation " and "Warm Down & relaxation" when using equipment or overloads