WHAT IS FUNCTIONAL MOVEMENT?

The #1 reason for introducing functional movement to an aquatic program is to help people complete a specific task/objective and/or daily activity (including sports and social activities) in the most efficient manner without placing unnecessary stress on the body.

The #1 exercise for functional movement is posture and balance. In order to perform functional movement successfully there may be a need to re-train posture and balance. This helps to distribute weight more evenly over the skeletal system by placing a minimum amount of stress on the supporting joints.

The #1 goal for functional training is mobility

- Keep people active throughout the program.
- Train the muscle groups that provide movement for all activities.
- Imitate daily activities in the water.
- Incorporate changes of direction and agility moves.
- Re-train the fast twitch muscle fibres.
- Maintain or improve present levels of fitness for those already active.

BEFORE YOU START A PROGRAM

Clients should be screened

Be aware of health conditions. Many people in the class may have health conditions such as arthritis, hip/knee replacement, lower back problems, diabetes, MS, heart problems or general depression associated with growing older and/or living alone. Encourage everyone to do as much or as little as they wish at their own pace.

Have everyone fill out Par Q and/or disclaimer form before starting a program. Establish who might have pain, poor range of motion and/or muscle strength. Remember that clients have good and bad days. Always remind them not to overdo their workout and stop if pain becomes a factor. If it hurts, don’t do it!!

Safety and success first

- Advise clients to wear shoes to prevent slipping and improve stability.
- Suggest aquatic mitts to increase the area of support and help with balance in the water.
- Remind them to dress appropriately. If the pool water is cool suggest dressing with a thermal vest, polyester shirt or tights, or a cap.
- Assist clients in and out of the pool, when necessary.
- Take time to help beginners, weaker clients and non-swimmers adjust to the water temperature and the change from gravity to buoyancy.
- Always identify non-swimmers and set boundaries for their comfort and safety.
- Make it part of the program to take a water break every ten minutes or so.
- Remember to always drink water before, during and after any physical activity.
THE BEGINNING OF THE PROGRAM

Teach skill and drills as soon as you get into the pool

- Recover to vertical standing position.
- Sculling for balance and movement.
- Walk with correct foot action forward.
- Discover the buoyancy and resistance of water.
- Use water for assistance and resistance.
- Find correct water depth.
- Give permission to go at own skill, speed and comfort levels.
- Demonstrate working positions to modify or increase the intensity for the same basic moves.
- Teach the progressive levels to “body-check” for balance and stability.

Start at low intensity and duration

- The blend of exercises in a program will depend on pool temperature, the client’s skill, physical and motivation levels, and health history.
- Increase duration before intensity.
- Always work through a good range of motion to target the muscle through its full length.
- Emphasize a longer muscle is a stronger muscle.

Start with a thorough buoyancy and joint warm up

- The warm up can be the most important part of any program since it sets the body up for the work out to come.
- There is no exact rule for a warm up format. It is not necessary to start from head or shoulders down to the feet. The important criterion is to provide a correct warm up for the program using enough comfortable movements to release synovial fluids to the joints.
- Start movement through short lever action then gradually progress to longer levers.
- Work through all three planes of movement to incorporate all major muscle groups.
- Encourage a longer warm up and use more caution and care for those with pain and with problematic clients.
- If the water is cool and the clients have sufficient mobility and leg strength, it is more effective to get moving right away since the large muscles in the lower body will generate the most body heat. Start warm and stay warm.
- Use this part of the program to evaluate clients’ range of motion to help you design exercises to increase mobility.
- There may be contraindications to exercises for people with chronic conditions such as arthritis or movement disorders. Remember to re-cue to “go at your own pace and do what feels good to you” throughout the program.
- Emphasize to let the instructor know if anyone has difficulty performing a movement. A modification or substitution can be suggested.

Upper body preparation (neck, shoulders, arms and hands)

- Roll shoulders backwards, walk backwards and “bicycle” alternate elbows.
- Train the shoulders to go both “down and back” to minimize Kyphotic or forward slumping posture.
- Cueing good upper body posture movements will help set up good posture and loosen the shoulder and neck areas.
- Pull the arms down and back at the sides (as when walking) to secure better upper back posture.
- Avoid changing resistance and placing stress on the shoulders.
- Discourage imitating a dog-paddle move, reaching the arms too high or placing them in and out of the water.
- Keep shoulders, elbows, arms and hands submerged and protected in the water by reaching or stretching across the chest on the forward diagonal.
- Add a rocking movement (forward and backward) using “conductor” arms.
- Add lots of forward walking with arms swinging down and back in opposition. Add a side-to-side rock with easy elephant trunk or figure-eight moves. This will help with trunk or thoracic spine rotation.
- Add more walking patterns. Look in the direction of travel to incorporate tilting, gentle turning or rotation of the neck. Do not force the range of motion.
- Use a biceps curl to flex and extend the elbow. Cue the hands to slice, then fist, then web to add size. Use small 2-3 inch splash balls to push and pull through the fingers.
- Add external and internal shoulder rotations with single arm figure-eight movement. This easy pattern will offer a variety of movements and planes to prepare the upper body area to move within a range that feels good and with little interference.

Lower body preparation (hips, knees, feet and ankles)

- Walk forward, backward, sideways using diagonal patterns.
- If space is an issue, an excellent way to get the body warm and lower body joint actions is to use a combination of the working positions (neutral and extended) to create the modified rebound movement. This is also a safe way to warm up the hip and knee joints for anyone with orthopedic problems where bouncing or rebounding must be avoided.
- The modified rebound movement also trains body awareness rather than using momentum in the water.
- Extend hips, flex, rotate externally and internally, abducted and adduct, then horizontally adduct and abduct.
- The knee is a hinge joint that flexes and extends using the hamstrings and quadriceps. The knee is not designed to rotate so it is critical to help people learn correct function.
- Keep hips, knees and toes aligned to add support to many weight bearing patterns.
- Generally, people do not articulate properly with the ankle joint.
Learning how to utilize correct footwork such as a heel-to-toe forward walk or a toe-to-heel release as they walk backwards is key to balanced movement.

- Align toes, knees, and hips with each step and add pedal movements with the feet to cushion the impact with the metatarsals or the break of the forefoot.
- Increase the range of motion of a correct walking pattern, start with small steps and expand to larger strides. Add variations to the walking movements with knee lifts, curls, knee bends towards the back, and forward/backward small lift legs.
- Focus on keeping the weight back on the heels and knees soft to take stress off back and knee joints.
- Go down and up like a squat to prepare the hips and engage the hip stabilizing muscles.
- Add lots of side walking to prepare the abductors and adductors for the exercise to come.
- Knee problems often occur by locking the joint or twisting at the knee so cue to keep them soft.
- Do not lock the knee by pointing the toe too much. Keep knees over the toes (do not let the knees go past the toe such as with deep knee bends).
- It is important for daily function to add oppositional movement such as hand to opposite foot or knee. Make sure the rotational movement happens from a flexed hip rather than torqued knee.
- Add neutral and suspended ankle pops and “froggies” movements. Add a noodle to provide support for any suspended movements.

THE MAIN PART OF THE WORKOUT
Alternate cardiovascular conditioning with strength and flexibility training

- For gentle cardiovascular conditioning work with minimal impact by using the modified rebound working position.
- Incorporate the down-up walking pattern that are frequently used in daily activities, such as stepping off a curb, going up stairs, moving from a sitting to standing position.
- Use all the basic moves, adding travel patterns to use the assistance and resistance of water, as well as properties such as inertia and turbulence.
- Frequently check for balance.

Target overall body strengthening

- Practice good posture throughout the program and incorporate the muscles of the abdominal core.
- Target the upper body – Rhomboids, Latissimus Dorsi, Posterior Deltoids and Triceps. Target the lower body – Hamstrings and Quadriceps, Adductors, Adductors and Gluteals.
- Do endurance exercises for all upper body muscle groups in a neutral working position to protect the shoulders or move deeper to a more transitional depth. (Feet on the pool floor)
- Use an extended working position for clients with a limited ROM.

Stretching

- Stretch frequently throughout the program – especially the muscles that have been specifically strengthened.
- Target tight muscles, especially the hip flexors and pectorals.

Work on agility

- Provide changes of direction while being aware of inertia currents.
- Cue to stop before the change if the client is not skilled, has a severe back, and hip or knee joint condition. These people should not make a fast change of direction.
- Stay in straight planes of movement and use exercises such as lines facing each other and travel forward and back. Use diagonal travel or circle patterns with cues to change direction.

Introduce functional daily living activities

- Use the modified rebound working position or squat-like moves with all the basic moves. This two foot to one foot move involves knee and hip flexion to knee and hip extension. The down-up move will effectively target the Quadriceps and Gluteus Maximus muscles for all sit-to-stand and stair-climbing movements.
- Walking is the number one functional activity to maintain independence on land. Use the arms to assist or resist travel to walk in all directions. A variety of walking moves may be utilized for stretching, balance exercises, cardiovascular training, posture and fun.
- Imitate vacuuming, stirring a pot, picking up groceries or sports activities using flex paddles. The arms may pull or push the paddle to simulate these moves and target all upper body muscles for strength exercises.
- Go shopping, walk and then pick up something, move and stop, then change direction and height of movements.
- Imitate getting in and out of the bathtub/car. Add a noodle to simulate lifting the leg up and over and getting in and out.
- Sculling involves lots of wrist action to strengthen the Brachioradialis muscles of the forearms. Use to practice opening a door or twisting a jar top. You may progress to flex paddles or mitt work.
- Imitate washing windows or reaching for objects by moving the arms in many movement patterns.
- Mimic moving pots from the stove and emptying by adding the Macarena for fun.
- Add Hi 5’s exercises with a partner for fun to practice reaching a high shelf.

THE WARM DOWN (NOT THE COOL DOWN)

- Keep moving as much as possible until the end of the program by using the water to stretch, maintain heat. Get out of the pool while still warm.
- Extend the duration of the warm down with active stretching using Tai Chi movements and relaxation techniques to safely bring clients back to land.
- Decrease intensity and re-stretch the typically tight musculature.