

Aquatic Activities Kids and Adults with SMA

Cure SMA Conference June 15-17, 2018

The pool is an exceptional venue for kids and adults with all movement abilities and goals. Some activities may need to be modified depending on specific needs and abilities. For activities with repetition, 3 sets of 10 are recommended as a target to work toward. For those activities that are more open ended be mindful of stopping any activity while the form is good and before exhaustion/muscle fatigue. Advance repetitions/time from that point slowly, to tolerance.

Things to always remember in the water:

- Water safety first (maintaining it and teaching it)
- Touch the muscles that you want to work – if you touch it they will use it
- All activities should be pain free and without muscle fatigue
- All activities should be done while breathing (no breath holding unless under water)
- Be aware of your body mechanics and your child's, as stability can be challenging in the water

Pulmonary:

- Supine floating in the water with support.
 - Move to left and right slowly while singing (swishing/snake)
 - Breathe audibly so they will breathe too
- Upright sitting: The deeper in the water, the greater the resistance on the pulmonary system. (i.e. water at chest vs. at belly button) Lift out of water with increased fatigue. The lower your hands are, the less support provided and therefore the greater the work.
- Bubble blowing:
 - Blowing only, no sucking. Straws are not a safe toy for this.
 - Count duration of bubbles. Set small increasing goals in seconds.
 - "ping pong" game, flipping game
 - Hum or sing a song in the water
- Timed breathing with arm activity:
 - Open arms – breathe in, Close arms breathe out
 - Increase/decrease resistance with weights/floats/paddles/balls
- Boxing:
 - Arms reach across to "punch" parent hand in the water, across body (R hand to parent's R hand)

Head Control:

- A head support/ring or not...sure, but for certain activities. Great for an extra set of hands, not so great for neck muscle strengthening.
- Move to static upright (not moving around)
 - Sing ABC's or other easy song
 - Blow Bubbles in pool
 - Gentle bouncing up and down to give some joint compression and increased muscle control
 - Fingers near jaw to give some forward head protection
- Dynamic Upright (moving):
 - Sitting on leg with hands high on trunk (under armpits), move down to pelvis to increase the challenge
 - Push light ball while moving forward. Move to heavy ball with increase in stability
 - Straddle sit on a noodle (like a horse), hold ball in front with 2 hands for stability
 - Semi-prone/upright tummy time on parent's chest

Trunk/Core Stability

- Sitting on Noodle or other flotation:
 - Bench sit holding float (upward stability can help from caregiver) in hands or between knees
 - Bounce/spin/run depending on stability
 - Short sit on noodle and kick or push ball (support help at abdomen or hips, not on spine)
 - Small weights on ankles or hips can help with stability
 - Swing sit on Noodle
 - Trunk stability with kicking or ball pushing
 - Hand support on abdominal muscles.
 - Horse Riding on Noodle
 - Reins are a ring, bungee, etc. Pull slow and increase speed and direction changes as stability increases.
 - "pedal" legs to move forward

Arm Activities

- Supine:
 - Butterfly arms (with or without collar on)
 - Arm circles (full shoulder flexion as goal) – one arm at a time
 - Coordinate with breathing
- Sitting:
 - Propel self forward/backward on noodle
 - Push ball under water – start small and move big; start in front move to sides
 - Thumbs up and fingers together
 - Boxing under water (arm and trunk) on noodle or bench
 - Wall push ups
 - Paddle (like a kayak)
- Spinning Spider Walk: (or any other animal that makes them happy)
 - Can hold wall and walk side to side for maximal reach
 - Advance to spinning on wall with hands reaching around to get wall (one hand on wall at all times)
 - May use small floats to help get hands high enough to reach wall
- Squeeze toys:
 - Ducks, foam balls to get anyone/anything wet!

Leg Activities

- Supine:
 - Wall blast off ("rocket")
 - Flutter kicking (1 leg at a time)
 - Jumping jacks (arms and legs doing laying down jumping jacks) Emphasize knees touching when legs come together, not feet
- Sitting:
 - On noodle kick with knee extension and hip flexion
 - Hold float/ball between knees if possible for song
- Standing:
 - Some use collar for head support
 - Flotation at trunk and weights on ankles can help.
 - Help with hands on stomach for support
 - Marching, walking, with hips over knees

Aquatic Activities for Adults and Teens with SMA who are Wheelchair Users Cure SMA Conference June 15-17, 2018

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Warm Up :

- Walk 5 pool widths (or do as a timed activity) with heel contact, straight arms and wrists swinging back behind hips with your trunk upright. Use noodle support or wall support (do length) if needed. Walking can be done with or without flotation support, with or without weights for stability.
- Walk or stand for 3 pool widths of marching (hand to opposite knee, elbows back out of the way for advancing hand)
- Walk 2 pool widths of hand to opposite ankle

Strength:

- Lateral pushdowns with noodle 3x10 (straight elbows, knees bent slightly). Do in sitting or standing, depending on balance.
- Tricep Press with noodle 3x10. Elbows next to body bent, then extended to thighs.
- Single leg push downs with noodle or floats 3x10 (stance leg bent slightly. Slow up, fast down)
- Hip abduction 3x10 standing on one side of line with knee slightly bent, foot crossing line. Can do with or without a noodle.
- Walking backwards 6 pool widths with ankle extending behind hip and upright trunk.
- Knee extensions Starting in a seated position, keep float between knees – kick one leg up at a time. Harder with float on foot.
- Arm rotation and abduction hold float or keep fingers together in a flat palm. Start with palms flat on thighs. Rotate palms up and, with shoulders down, bring arms out to side. Slowly return to palms down on thighs. Fast out/slow back.

Balance:

- 3 second step across Arms out to side, step across the line and stay on 1 foot for 3 seconds before moving forward/across to the other foot. Do 2-4 pool widths. Progress to hands on hips and then to holding float under water with this activity.
- Pushing ball under water for increasing balance/dynamic activity with trunk stability. Need a second person for this or use wall, depending on stability. Keep shoulders down.
- One foot on pool floor, one on noodle for balance. Can do slow raises of noodle off floor (just inches) and back to floor for extra balance challenge.
- Push ball, swim arms, press downs or anything else to work on balance with strength. Can use shortened noodle (cut in half) for less resistance.

Endurance:

- Water biking/running Do with noodle under elbows and shoulder pressed down. Do in deep end for 5-10 minutes, per tolerance. Can increase by 1-2 minutes per week if able.
- Sit on noodle and kick for increasing quad and hamstring strength. Start with 3x10 repetitions. Can progress to widths/lengths. Fast up/slow bend.
- Sit on noodle and propel forward with arms for improved shoulder and spine strength and stability.

Stretching:

- Hamstring Do with noodle under ankle, body against wall. Keep knee straight and let leg with noodle float up. Hold for 2x30 seconds.
- Quadriceps Do with noodle under front of ankle, holding wall. Keep knees together while knee with noodle bends. Hold for 2x30 seconds

Cool Down:

- Repeat warm up in reverse order.

Other things to Consider

- Increase difficulty by increasing speed, repetitions or resistance
- Use floats or weights to change how you do an exercise.
- Creativity is endless in the water
- Weights on your ankles are usually stabilizing
- Floats can be great exercise on your ankles but they can also be very unstable and dangerous, as they can flip you face down, making it very difficult to right yourself. Always use with another person/lifeguard around.

Aquatic Activities Adults with SMA

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Warm Up Walk:

- Walk 10 pool widths with heel contact, straight arms and wrists swinging back behind hips with your trunk upright
- Walk 6 pool widths of marching (hand to opposite knee)
- Walk 4 pool widths of hand to opposite ankle

Strength:

- Lateral pushdowns with noodle 3x10 (straight elbows, knees bent slightly). Do in sitting or standing, depending on balance.
- Tricep Press with noodle 3x10. Elbows next to body bent, then extended to thighs.
- Single leg push downs with noodle or floats 3x10 (stance leg bent slightly. Slow up, fast down)
- Hip abduction 3x10 standing on one side of line with knee slightly bent, foot crossing line. Can do with or without a noodle.
- Walking backwards 6 pool widths with ankle extending behind hip and upright trunk.
- Toe tapping Done with knees over heels. Toes up/heel down on floor. Do with small float between knees.
- Knee extensions Starting from a seated position, keep float between knees – kick one leg up at a time. Harder with float on foot.
- Arm rotation and abduction hold float or keep fingers together. Start with palms flat on thighs. Rotate palms up and, with shoulders down, bring arms out to side. Slowly return to palms down on thighs. Fast out/slow back.

Balance:

- 3 second step across Arms out to side, step across the line and stay on 1 foot for 3 seconds before moving forward/across to the other foot. Do 2-4 pool widths. Progress to hands on hips and then to holding float under water with this activity.
- Marching with Ball under water for increasing balance/dynamic activity with trunk stability.

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Cool Down:

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