Core conditioning is one of the most popular areas of training. This program will specifically focus on a blend of core stabilization exercises with targeted strengthening exercises. The key will be safe and effective movement in a vertical position, both deep and shallow, with advanced moves requiring good body control.

**DVD Part One:** 60 Shallow Water Moves & Combinations
**DVD Part Two:** Using Noodles for Shallow Water & Suspended Exercises

**INTRODUCTION**
When I am designing the choreography I am thinking about key components of strengthening. How do I use the water to challenge the core muscles and all the other muscles that are involved in stabilization. I want to use the whole body as much as possible. I want to engage the water and make it push me around. For group exercise classes I want to keep it simple and make it easy to follow.

**CHOREOGRAPHY KEY POINT:** The body in water stabilizes 100% of the time!

In a recent article in AKWA, Irene McCormick wrote: “It’s All Core All the Time.” This is so true, and water exercise instructors should chant this from the pool deck! You cannot be immersed in water without activating the core stabilizers. There is a discreet, constant activation of numerous muscles just to be able to stand in water. So the first ingredient in my core choreography is to challenge the stabilizers in a safe and effective way.

The muscles should make many small contractions. We also need to use isometric contractions. Remember, every muscle that attaches or is linked to the spine is a postural muscle.

See DVD for example of stabilizer and mobilizer muscle group.

**CHOREOGRAPHY KEY POINT:** In functional movement the stabilizers must activate before the prime movers

This movement rule tells us to plan our exercises so that stabilization strength is prioritized over isolated muscle strengthening. In the pool this means plenty of systemic moves reinforcing neutral posture at all times. Use water walking, running, changes of direction, asymmetrical moves, balances on one leg, bracing, and total immersion (deep water or level 2 for shallow)
Stabilization Strength:
- Exercises are designed to activate numerous muscles so that they support the prime movers. For example, the core muscles will be stabilizing while the legs are doing the cross-country ski.
- Stabilization strength involves multiple muscle contractions, many of which are isometric. The goal is to keep the joints safe, and/or the whole body safe.
- Stabilizers are deep muscles that build tension slowly and perform well over longer periods, with greater resistance to fatigue.
- Neutral postural alignment is the essential partner of stabilization.

Isolated Muscle Strengthening:
- Exercises are designed to target a specific muscle or group of muscles. For example, lying on the floor to do spinal flexion to target the abdominals.
- It involves direct strengthening of a prime mover to increase the strength in that muscle.
- Repetitions are usually done against a resistance until the muscle is fatigued.

My choreography uses these principles, but constantly blends the moves to keep everything active for the majority of the class time.

CHOREOGRAPHY KEY POINT: Posture – It’s all about Neutral Posture!

Posture is the most fundamental ingredient of core strengthening. My choreography is always designed to support good posture, not destroy posture. This means that the majority of the moves are performed in a vertical position. Once a participant can demonstrate good postural integrity from vertical, we can offer more advanced challenges like ‘off-axis’ moves, moves that sway, moves that really ask the core to demonstrate its strength. Deep water is really ideal for this because the primary strategy for body control is activated by the core.

See the DVD for examples.

CHOREOGRAPHY KEY POINT: The spine benefits from movement

The skeletal structures of the spine and all the muscles that attach to the torso are telling us to design exercises that constantly provide a blend of stability and mobility. This means that we choreograph moves where the torso is held in neutral while the arms and/or legs are doing various movement patterns. Then by contrast we also design exercises where the torso is actually moving:

- Spinal flexion – good but not sustained because of disc compression
- Spinal extension – encouraged because of disc health
- Spinal hyperextension – good but not sustained if no support is provided
- Spinal rotation – encouraged, but not in combination with spinal flexion
- Lateral flexion – good but not sustained if no support is provided
My favorite spinal moves are the ones that flow, so that the spine is experiencing multi-dimensional movement, rather than single repetitions of the same move. Flowing from one spinal position to another also avoids the issues with compression forces from gravity acting on the spine. We want to avoid spinal positions if it means staying in that position for any length of time. However, our spine is designed to do movement, so I need to find a way to experience and practice the movements; stimulate the muscles that need to be strengthened, but do this in a safe way. Flowing movement is the way to go!

**CHOREOGRAPHY KEY POINT: Movements at the extremities require core stabilization**

Even small movements in the hands and feet will activate the core stabilizers. If you stand on one leg and do ankle circles with the lifted leg, you will feel core activation, especially in the abdominals. Plus the supporting leg is extremely busy doing its share of the stabilization.

**CHOREOGRAPHY KEY POINT: When you teach a group, keep it SIMPLE!**

We must teach exercises that are safe and effective. When you teach groups, keep it simple, and choose exercises that the majority can successfully achieve with minimal risk. Group water exercise is very difficult to teach. It is almost impossible to supervise all the details of each exercise. So simple is the best way to go. Here is my list of recommendations for the core:

1. Never stop talking about neutral posture.
2. Stay vertical as much as possible.
3. Keep in motion. Move the spine in every direction if the participants are able. Do not stay in any one position for too long.
4. Look for simple vertical core exercises. The simplest way to activate the anterior core is to water walk forwards, and/or run forwards.
5. The simplest way to activate the posterior core is to water walk and/or run backwards.
6. Emphasize back extension (standing tall)
7. Limit the amount of repeated hip flexion, especially with the legs as long levers
8. Stretch the hip flexors and extensors.
9. Stretch the hip abductors, adductors, and rotators.
10. Do not use hip flexion for abdominal training. Know how to engage the abdominals without hip flexion.
11. Heighten self-awareness by placing hands on hip bones, rib cage, and pelvis.
12. Prioritize systemic exercises more than isolated muscle actions.
13. Strengthen the core by blending static, held contractions with moving contractions.
14. Use “bracing” exercises to help strengthen the deep spinal muscles.
15. Maintain strength and mobility in the upper and lower body, because they are connected to the core.
16. When you only have an hour with your class, prioritize the areas that are classic problems – overstretched middle back, tight hip flexors, head too far forward, anterior pelvic tilt, tight hamstrings, round shoulders, tight pectorals, and breathing!
17. Find more ways to teach neutral posture successfully.
Choreography for the Core – Pauline’s list of Movement Vocabulary

This list includes the key movement strategies that I used in the exercise and combinations:

- Move the SPINE as a complete unit – systemic motion
- Make resistance hit the body (with spine in neutral)
- Use water turbulence (body is bracing)
- Protect the neck (keep in neutral) and protect the lumbar spine (keep in extension)
- Use balance exercises for enhanced stabilization (reducing the base of support)
- Use resistance for enhanced stabilization (strong water)
- Use shallow and deep water (and/or suspend some exercises if you only have shallow)
- Use submerged foam to increase stabilization strength
- Use lower extremities as they are connected to the core
- Perform exercises without using arms
- Close the eyes for enhanced awareness (body control in space)
- Use deep water to approach moves from the lower body (e.g. lumbar lateral flexion)
- Use asymmetry for additional challenge
- Off axis moves are harder (maintain postural integrity)
- Prioritize hip extension (but be careful with long levers)
- Limit advanced moves to those participants who have good postural strength

PART ONE:
FOLLOW THE DVD FOR 60 SHALLOW WATER CORE MOVES & COMBINATIONS

The **music** used for the choreography is Balletone SOLE SYNTHESIS, Final Cuts 4 from Muscle Mixes Music

1. Walking forwards – anterior resistance, ASSIST ARMS
2. Walking backwards – posterior resistance, ASSIST ARMS
3. Walking forwards – anterior resistance, NO ARMS
4. Walking backwards – posterior resistance, NO ARMS
5. Walking forwards – anterior resistance, IMPEDE ARMS
6. Walking backwards – posterior resistance, IMPEDE ARMS
7. Multi-directional walking
8. Running forwards – SAME SCENARIO AS WALKING
9. Running backwards & sideways
10. Multi-directional running (add the no arms)
11. “TRAVERSE AS MUCH AS POSSIBLE”
12. & 13. Walk the line + wide steps combo
14. Walk with high knee lift + add leg extension
15. Hi/lo walking – walk on tip toe, walk with deep knee bends
16. Crossover walks
17. Crossover walks – no arms
18. Crossover walks & ½ turn – 3 crossovers + ½ turn; repeat combo.
19. Basic bounce, no arms, close eyes
20. The “Bump” – bump the water
21. Log jumps front to back
22. Bounce & pose – 3 bounces (in different directions) + single leg pose
23. Laterals + moguls (no spinal twist on this move)
24. Basic spinal rotations – ADD RESISTANCE build to a brace
25. Combination of standing spinal rotation sweeps to ¼ turn & single leg kick with lunge
   (arms folded at chest level)
26. Combination of single leg hop with int/ext rotations + 1 leap to the side. Repeat with
   other leg.
27. Combination of single leg hop with int/ext rotations + balance on one leg and do the hip
   figure of 8 (balance is grounded)
28. Two side steps + 2 side leaps (no arms)
29. More difficult – one side step, leap back
30. Two side steps + single leg pose. Add leg play!
31. Twisty jumps
32. Combination of twisty jumps & deep lunge brace. 4 twists + lunge and hold 4 counts (go/stop principle)
33. Spinal rotation jumps – play with rhythm to add challenge – single, single, double
34. Front kick – level 1, level 2, NO ARMS
35. Front kicks with hands on hips – stop & hold – then add leg extensions single leg. The
   sequence goes kick, kick, kick & flick, hold stance, 4 leg flicks.
36. Cross-country ski.
37. Three rotating cross-country skis + one bounce. Repeat.
38. Four rotating skis + 2 back-of-hand sweeps. Repeat.
39. Run and hold a balance – 8 runs, hold for 4 counts
40. Single leg squats – place one foot on opposite quad
41. Add arm sweeps to squats at the depth of the squat
42. Leg curls – talk about HIP EXTENSION
43. Leg curls in 3’s
44. Combo of leg curl in 3’s + 4 leg swings – front, back, front, back
45. Pendulums – off axis move
46. Pendulums – no arms (requires more body control)
47. Pendulums + lateral flexion reach
48. Inner thigh lifts
49. Inner thigh lifts + hold + 4 leg extensions (no arms)
50. Rocking horse – off axis move
51. Two front/back rocking horse + hold stance on one leg & add climbing flame arms
   (could close eyes)
52. Bracing – athletic stance, turbulence with arms at sides
53. Bracing – athletic stance, int/ext rotation of arms
54. Jumping jacks
55. Skis and jacks with turns – NEED GOOD CONTROL
56. Single leg balance - add arm sweeps, close eyes
57. Single leg balance – rotate lifted leg in and out (transverse rotation)
59. Kicks – front, side, and back (hands on hips)
60. Front kicks combo - #8 is a kick lunge. Then powerful double arm pulls in the lunge
   stance (this includes a brace)
PART TWO:
FOLLOW THE DVD FOR SHALLOW WATER & SUSPENDED EXERCISES USING THE NOODLE

The music used for the choreography is Balletone SOLE SYNTHESIS, Final Cuts 4 from Muscle Mixes Music

The noodle is being used for enhanced core work and postural strength. Submerged foam will increase the need for core stabilization, so it is a very effective way to add more core work to any water workout.

Shallow water, using noodles

1. Submerging the hand-held noodle for enhanced resistance
   - Rocking horse front to back
   - Side rocking horse, hand on hip
   - Lateral flexion
   - Spinal rotation
   - Repeat rotation and lateral flexion
   - Knee lift, touch back, with noodle press
   - Add diagonal move – without forward flexion

2. Submerging the Pretzel noodle for enhanced resistance
   - Rocking horse front to back
   - Side rocking horse, hand on hip
   - Spinal rotation – added a figure of 8 pattern
   - Lateral flexion
   - One leg balance with pretzel motion
   - Repeat rotation and lateral flexion
   - Add diagonal move – without forward flexion
   - Cross-country ski with one pretzel arm swing
   - Free flow movement + pulsing

Remember, any submerged noodle exercise will require more core stabilization!

3. Placing the noodle under one foot
   - This placement is asymmetric, so recommended for stability
   - Single knee lift and press down
   - Knee lift and out to side and press down (variation)
   - Both knees on the noodle (suspended)
     - Requires vast amount of stabilization
     - Not recommended for a group class
     - Many will fall off!
Shallow or deep water, suspended exercises using noodles

1. Placing the noodle between the legs
   - **All** the primary deep water exercises will work the core. Just keep cuing good posture and then remove the arm actions for enhanced core work. Run, straddle run, cross-country ski
   - Noodle is dynamic, so more core strength required
   - Hold noodle with one hand in front, one hand behind, and do cross-country ski
   - Straddle run, one hand on back of noodle, other hand pushes front end of noodle under water
   - Front end of noodle between thighs – see special segment on lumbar spine alignment in relation to level of hip flexion
   - Travel with arms only, FORWARD AND BACK
   - Spinal rotation of lower body,
   - Lateral travel arms only
   - Lateral travel legs only
   - Bracing
   - Pelvic circles
   - Lumbar lateral flexion
   - For asymmetry – Paddle both hands on one side of the body; 4 on R, 4 on L, 2 on R, 2 on L, singles

2. Placing the noodle under the legs – like sitting on a swing
   - Balancing
   - Lateral lumbar flexion swinging
   - Sit kicks forward and backward
   - Knees knocking (ankles stay in contact)
   - Knees and ankles knocking
   - Spinal rotation

3. Placing the noodle around the torso
   - Watch shoulders – noodle needs to be down the back
   - I like this position with the noodle because the torso is free to move, and the arms cannot really help, so you get more pure physical work in the torso. Use the latissimus to gently squeeze on the noodle.
   - The noodle will allow for flowing movements from side-to-side
     - Mermaids side-to-side
     - Hold tucked shape and move hips from side-to-side
     - Lumbar lateral flexion diamonds – add progression with one leg straight
     - Aqua bicycles