**Capstone Aquatic Therapy Presentation Outline**

1. Introduction/Welcome
   1. Thanks for coming today! I grew up at the beach and have always loved water. This past semester I have been working with patients in the pool with a professor. I want to share with you different stretches and strengthening exercise you can do in the pool with patients and well as discuss the different type of patients you can bring in the pool. I also want to demonstrate and practice techniques with you. At the end of the presentation, I have an evaluation for you to fill out and a handout with exercises/stretches to use with your patients as a reminder of today’s presentation.
2. Objectives
   1. Presentation Learning Objectives: At the conclusion of this presentation, the participants will be able to…
      1. State the types of patients who are appropriate an inappropriate for aquatic interventions.
      2. Demonstrate the stretches and strengthening exercises in the pool.
      3. Relate land-based interventions to aquatic interventions and vice versa.
      4. Understand the importance of transitioning aquatic stretches and exercises to land-based activates.
3. Questions to Clinicians
   1. Who do you bring in the pool?
   2. Why do you bring people in the pool?
   3. What do you tend to do in the pool with your patients?
   4. Equipment?
      1. Floats, noodles, balls, resistance objects like trays/plates
4. Discussion
   1. Types of patients you can bring the pool
      1. Almost anyone! Kids, adults, the elderly, and very involved individuals who cannot walk.
      2. Patient populations who are appropriate for aquatic PT include but are not limited to the following pediatric, adult, and geriatric populations: sensory disorders, limited range of motion, poor motor coordination, spasticity/contractures, perceptual/spatial problems, balance deficits, respiratory problems, circulatory problems, depression/poor self-esteem, cardiac diseases, joint replacement, motor learning and processing disorders, orthopedic injuries/trauma, obesity, prenatal, neurological (MS, CVA, PD, TBI, SCI), osteoporosis, arthritis, and fibromyalgia.
   2. What you can work on in the pool
      1. Relaxation
         1. Water temperature
         2. Non-weightbearing
         3. Stress Release
      2. Psychosocial Benefits
         1. It can be fun, used as a reward
         2. Children can complete therapy by playing
      3. Stretching
         1. Same as on land but with therapist support
         2. Buoyancy of water helps limbs to float and can increase stretch
      4. Strength
         1. Increase speed or add objects to create resistance.
         2. Anything movement in the water is resisted by the water...even if it is a very small movement
         3. Strengthen any muscle in the body in water.
         4. When standing in water up to chest, an individual is only weight bearing 10% of total body weight
      5. Balance
         1. Water movement can cause perturbation even when standing still in the pool and other people are moving around you
         2. Can progress exercises from standing at the edge of pool holding on to holding unstable surfaces to holding nothing
      6. Gait
         1. Increases in balance and strength can help locomotion on land
         2. Can focus on slowing movement down in a fall free and safe medium
      7. Cardiovascular
         1. Increase heart rate/RPE
         2. Burn 3x calories in the pool
   3. Transition to land
      1. Transition must be a goal.
      2. Work on things in the pool that can translate to land such as stretching, strengthening, balancing, walking, etc.
5. Demonstrate/Practice Techniques and Discuss Their Relation to Land-based Exercise
   1. Stretches
      1. Upper Extremity
         1. Shoulder flexion/extension, abduction, adduction, elbow flexion/extension, wrist flexion, extension
      2. Lower Extremity
         1. Hip flexors/extensors, Hamstrings, quads, gastrocs, Dorsiflexors, adductors, and abductors
   2. Strength
      1. Supine exercises on top of water with therapist assistance (can add resistance with another practitioner if able)
         1. Lower Extremity
            1. Hip flexion, extension, abduction, adduction
            2. Knee flexion and extension
            3. Ankle plantar flexion and dorsiflexion
            4. Kicking LE together or recipricol
         2. Upper extremity
            1. Shoulder flexion, extension, abduction, adduction
            2. Elbow flexion, extension, supination, pronation
            3. Wrist flexion/Extension
            4. Sculling with both UEs
      2. Standing Exercises
         1. Lower Extremity
            1. Hip flexion, extension, abduction, adduction
            2. Knee flexion and extension
            3. Ankle plantar flexion and dorsiflexion
            4. Squats
         2. Upper extremity
            1. Shoulder flexion, extension, abduction, adduction
            2. Elbow flexion, extension, supination, pronation
            3. Wrist flexion/Extension
   3. Balance
      1. Walking forward
      2. Walking backwards
      3. Lateral walking
      4. Can start walking along pool with therapist assistance, then progress to less support.
6. Questions and Comments
7. Thanks!