Aquatic Therapy for the Medically Complex Patient

By Mary LaBarre, PT, DPT, ATRIC

Therapeutic interventions for patients can be affected by a number of factors. With the rising cost of health care and health insurance, more individuals are putting off preventive and elective procedures. These individuals wait until physical symptoms worsen before they seek medical treatment. Some individuals with financial hardship stop taking physician prescribed medications to save money. In general, people are living longer, even after significant medical events. It is important to identify a patient's medical history (past and present), recognize how the properties of water can be beneficial or contraindicated, and how these co-morbidities can affect your treatment interventions and plan of care.

Past Medical History

The first thing to remember when first evaluating the patient is that the referring physician and the patient will not tell you everything. The script will typically list only the most current problem, why the patient went to the physician in the first place. Most of the time no other past medical history will be on the script, no matter how major of a medical event the patient has previously experienced. Patients frequently have short-term memory when it comes to their health. Patients remember why the physician sent them to therapy and forget other medical issues that have previously been treated with medication or other interventions. Often, facilities will have the patient fill out a past medical history form during the initial evaluation. It is essential for the therapist to not only review the form, but review other medical red flags and facility precautions to aquatic therapy before initiating treatment.

Examination

During the initial exam, it is important to check vitals, especially with patients who have a history of hypertension. Due to the hydrostatic pressure, temperature of water and aerobic condition of patient, checking blood pressure before and after treatment may be warranted. Depending on the patient's physical abilities, traditional range of motion and strength testing may or may not be possible. Functional strength and mobility tests such as sit to stand tests, supine bridge and balance testing (single leg stance, BERG, and Tinetti) may be more appropriate initial tests. Occasionally, land based testing is too irritating to the patient. In cases like this, functional testing can be performed in aquatic environment with proper documentation. Aerobic conditioning tests (2-minute step test, 6-minute walk test) can also be appropriate for those with endurance issues with functional activities at home and in the community.

Special Medical Conditions

There are numerous medical conditions that facilities can screen for as well as several major health issues that can affect interventions even years after the original event occurred. This article will focus on diabetes, cancer, mental health issues, and obesity.

Diabetes:

Diabetic patients can be referred to physical therapy for a variety of diagnoses. Gait and balance disturbances can be caused by peripheral neuropathy. More often, the primary diagnosis is unrelated to diabetes. No matter what the diagnosis, it is important to question the patient about the status of their diabetes? Do they check their glucose regularly? What range does their physician want their glucose to be in? Encourage the patient to check glucose before and after their sessions to determine tolerance to activity. Patients are also educated in the importance of having a snack or fast-acting sugar readily available in case of hypoglycemic event. Patient education regarding skin care, especially those patients with neuropathy, is also important. Patients are monitored each visit for changes in skin integrity and/or open wounds.

Cancer:

Patients who are currently or have previously been treated for cancer can be referred to physical therapy for many different health issues, including endurance/generalized weakness, skin integrity issues as well as gait and balance disorders. Physical therapy can be initiated during or after cancer treatments have been completed. Depending on the type of cancer treatment used, side effects can be an acute reaction or not detected until years after the cancer treatment is completed. The field of exercise oncology is the study of how exercise can be used to maintain health and prevent some of the side effects of cancer treatment, including heart failure, hypertension and diabetes. This relatively new field is providing evidence that "exercise is safe during and after cancer treatments and can improve physical functioning, quality of life and cancer-related fatigue."(1) The buoyant environment of water can be useful for pain relief, strengthening and endurance training in the patient population. Monitoring of skin integrity, including intravenous port sites will have to be addressed. Monitoring of significant patient fatigue can also be an issue.

Mental Health Disorders

Mental health issues are common with chronic pain, including depression and anxiety. Medications used to treat mental disorders can cause fluctuations in weight, causing joint irritation and decreased activity tolerance. Sometimes other side effects of these medications can cause dizziness, weakness and increased risk of falls. Patients typically are not referred to physical therapy because of their mental disorder, but the patient's mental status can affect

treatment interventions. Recently, researchers have begun to focus on health promotion strategies to improve health behaviors in individuals with mental disease. Exercise has been shown to "improve cardiovascular fitness, mood, quality of life, self-esteem and depression."(2) It is important to educate the patient on these benefits of exercise for improved health long term. Side effects of medication should be identified and monitored. Patient education and treatment strategies can also be modified as needed to improve compliance with home exercise program and health behavior alterations.

Obesity

Obesity affects many aspects of a patient's health and overall quality of life. It is well known that obesity can cause increased risk for cardiovascular disease, joint pain, cancer and other medical issues. Research has also shown that obese patients also have "increased number of physician office visits, increased physician time spent with the patient during each visit, and increased number of prescription medications" compared to non-obese patients.(3) All of which contribute to increased cost. Physicians often refer individuals to aquatic therapy to address chronic joint or back pain. These patients may need joint replacement or back surgery, however are not appropriate surgical candidates due to the co-morbidities caused by their obesity. The focus of therapy interventions can initially be diagnosis-specific (joint or back pain specific). As treatment progresses emphasis can be made on aerobic conditioning for weight loss and the importance of regular fitness in behavior modification. Careful monitoring of co-morbidities (hypertension, diabetes, etc.) can assure the patient is exercising in a safe and effective manner.

Aquatic intervention can be extremely beneficial to a variety of patient populations, including those with complicated medical histories. The buoyant environment can aid patients in improving strength, conditioning and mobility to allow improved quality of life. One must be aware as to other medical conditions that may affect the patient's tolerance to treatment and the ability to progress treatments. Careful monitoring, as well as good communication strategies with the patient and physician (referring doctor as well as other physicians that are part of the medical team), can assist these patients in improving their health and quality of life through behavior modification.

References:

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