

Effects of Flotation REST on Range of Motion, Grip Strength and Pain in Rheumatoid Arthritics

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Rheumatoid arthritis (RA) is a chronic, progressive inflammatory disease of unknown etiology. It is a leading cause of long term disability with approximately 60% of the patients becoming disabled within 10 years (Whisler & Rothschild, 1985). This disease, which commonly shows onset in the 20-55 age range, involves a systemic inflammation of the synovial membranes of joints as well as joint capsules, tendons, and tendon sheaths (O'Sullivan, Cullen, & Schmitz, 1981). It appears that the synovial membrane undergoes a local autoimmune response causing increased vascular permeability and collection of cellular blood elements. The infiltration causes the synovial membrane to become thickened and multicellular. As the disease progresses, chronic synovitis develops and destruction of cartilage and subchondral bone occurs.

The RA patient demonstrates a variety of physical symptoms, including inflammation, redness, and local heat at the joints. These symptoms are associated with pain, decreased range of motion, and decreased strength, especially in the hands. Traditional treatment for arthritis symptoms is moist heat in the form of hot packs, paraffin, and

warm whirlpools (Moll, 1983). Moist heat decreases joint stiffness and muscle spasms as well as decreasing pain. Hydrotherapy has reportedly been beneficial in the management of RA symptoms. Tindall (1976) stated that patients exhibiting decreased range of motion and pain benefitted from pool therapy. It has been hypothesized that these benefits accrue from muscle relaxation associated with warm water and decreased strain of gravity associated with buoyancy.

There is evidence that various physiological and psychological stresses can exacerbate RA symptoms (Gordon, 1985). Thus, relaxation training may be beneficial for individuals with RA. Hypothetically, relaxation training involving moist heat should provide maximum relief from RA symptoms. One relaxation modality utilizing moist heat in a relaxing environment is flotation Restricted Environmental Stimulation Therapy (REST) in which the patient floats supinely in a light-free, minimal sound chamber which contains a saturated epsom salts solution maintained at 34.5° C. Preliminary research has shown that the use of flotation REST (henceforth, REST) is associated with decreased aspirin intake and decreased subjective pain reports in rheumatoid arthritis patients (Mereday, Lehman, & Borrie, 1988).

The present study was undertaken to determine the effects of REST on specific symptoms of RA. The study was intended to determine within and across session effects of REST on range of arm motion, grip strength and reported pain.

Materials and Methods

Four subjects previously diagnosed as having Stage II RA with moderate symptoms but otherwise in good health participated in this study. Subjects ranged from 52 to 69 years in age. Daily use of acetylsalicylic acid was <2 g. Two different REST environments were used in the study. The first, REST-Wet consisted of an ovoid fiberglass chamber (Floatarium, Inc., Huntington, New York), 2.5 x 1.3 x 1.1 m., filled to 25 cm. depth with a saturated epsom salt (MgSO_4) solution having an approximate specific gravity of 1.28 and temperature