

**BENEFITS OF WARM WATER POOL THERAPY**  
**TO INDIVIDUALS WITH POST-POLIO SYNDROME**

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**PURPOSE AND GOALS:** To promote pool therapy for well-being and pain relief in individuals with the Late Effects of Polio and to encourage community efforts to build suitable pools in many locations.

**PRESENTATION BODY:**

Sister Elizabeth Kenney, an Australian Midwife, knew in the 1920's that hot moist heat was the most effective pain relief for acute polio patients. It enabled muscles to remain pliable and decreased contractures. Her methods became the acceptable treatment for polio, worldwide, for decades. Franklin Roosevelt discovered the warm springs of Georgia as the best treatment for him psychologically and physically after his acute polio which left him with leg paralysis the rest of his life. Sister Kenney and F.D.R. were not wrong. Their theories were as true yesterday as today. Hot moist heat is still one of the safest and best pain relief for those with the late effects of Polio. Dry heat does not give the same results.

Pool therapy is "exercise" most polio survivors can tolerate and are familiar with.

**Guidelines for consideration:**

1. You do not need to know how to swim.
2. A physician or therapist needs to evaluate range of motion, muscle strength and endurance prior to beginning a program.
3. Water should be 90 to 95 degrees (most indoor pools are 82 degrees, these regulations are usually set by your local health department which may not be familiar with warm water therapy). 86-90 degree water can work for some individuals. If using an outdoor pool, late afternoon instead of morning is best. Water is warmest between 2-5pm. Water should never be warmer than body temperature.
4. Pool room atmosphere and locker rooms should be heated to prevent vascular collapse and chilling.
5. Water should be at least chest high, preferably shoulder/neck high. In water up to your neck you lose 80% of your body weight, lessening stress and body weight on joints, muscles and bones.
6. Persons with lower extremity paralysis, braces or walking limitations can be assisted into the pool by transfer platforms (new to pools) or hydraulic lift chairs that lower one into the water and out again.
7. Non-swimmers should not depend on floatation devices and those with atrophied or "hollow" limbs may require ankle weights to keep legs down

in the water. Vests, "noodles", bars and other aquatic therapy aids assist in balance.

8. Stretching and range of motion flexibility are key "exercises". Start at the neck and work down the body. Only gentle movements in the water that are non-resistive.

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9. Resting between repetitions is important. No more than 5 slow repetitions per movement to start is recommended. Smooth and slow, not jerky or hard. Rest between sets of routines.
10. If one can only enjoy being in the water, the relaxation and stimulation of the circulatory system is extremely beneficial. Warm water increases the metabolic rate, heart rate, circulation, and respiratory rate. (Dead blood in your feet returns to your head.) As a result, one tends to think better and feel sharper on pool days.
11. Initial pool visit should be no more than 20 minutes, building to 45 to 60 minutes, but no more than that. Hot water can be fatiguing in itself if used too long at one time. Two to three times per week is recommended.
12. Walking backwards and sideways in the pool helps balance and coordination, as well as circulation. These muscles are used very little on dry land and can often be strengthened for stability.
13. Gentle jets in some pools also help massage backs, hips or even fingers.
14. The psychological and social benefits are as important as the physiological. Meeting new people with all types of limitations and interests and those with other disabilities such as strokes or replacement of hips or knees can be mutually beneficial. Recovery from fractures is much quicker with pool therapy, also from any orthopedic surgery.

### **Negatives or contra-indications for pool therapy:**

1. Uncontrolled high blood pressure or severe cardiac conditions.
2. Open or draining wounds or skin irritations.
3. Lack of bladder or bowel control.
4. Fever or headache.
5. Recent immunizations within 2 weeks. (Most immunizations are for virus born illnesses and pool chemicals do not affect viruses.) No un-potty trained children should be allowed in the pool.
6. Skin rashes after pool therapy has begun. (One must shower or wash thoroughly after getting out of the pool to remove all pool chemicals from the skin as some of the chemicals trigger a rash in some individuals if not washed off.)

Most pools will allow you an inspection and trial period. The cost is usually very small compared to other treatments and a lot more fun. Most

therapy pool facilities have memberships so that other family members can use other parts of the facility if they do not want to join in the pool.

The availability of adequate pools is a gradual and persistent effort. Arthritis patients, those with orthopedic problems and surgeries, stroke patients and many others besides polio survivors can benefit from warm water pools with hydraulic lifts. Forming a group to influence hospital and free standing rehab facilities to build such pools benefits the whole community. "Build it and they will come." We have an aging population that can keep active with pool therapy. Mary Agnes was a Polio victim at age 5 and had not been able to move her legs for 50 years, always wearing long leg braces, until she was lowered in to water. Russ had his hip fused 60 years ago and was recovering from a recent stroke. He barely walks on dry land and wears an AFO, but in water, he walks for an hour unassisted 4 times a week. Lou wears a brace on both knees and a back brace, but walks and swims for an hour 2 times a week. Jack has been confined to a wheel chair most of his life, but floats on his back and totally relaxes in the water. (And drives many miles to get to the pool.) One man, who was 102, still swam everyday in the warm water pool at his retirement center. Ten years ago, a small Tri-Star Facility in Madison, TN (in Nashville) had the foresight to build two pools, one a full lap warm water pool (usually 84-88 degrees), and the other a hot therapy pool (94-96 degrees). The polio group was the first to use and encourage the use of the pools. Word of mouth spread the benefits of this facility. Now, nearly 300 people per day use this comprehensive therapy center, which expanded to other fitness programs for all types of rehabilitation and disabilities. Last year Easter Seals of Tennessee built a similar facility on the opposite side of Nashville, thanks to a generous local business man's efforts.

Sister Kenney and F.D.R. knew that polio and hot moist heat go together. Many neuromuscular aches and pains can be alleviated with warm water pool therapy. Sometimes it may even be called "Holy Water" for the way it heals the body and mind. All you have to remember is Dr. Jacqueline Perry's rule of exercise: "If there is no pain or fatigue, continue. If there is pain or fatigue, cut it 1/2 in two. If the pain or fatigue continues, stop!" This also applies to water.

Additional sources:

Robbie Leonard, MS, PT, Medical Univ. of S. Carolina, Greenville, SC  
(formerly of Warm Springs Roosevelt Rehabilitation Ctr.)

Roosevelt Warm Springs Polio Pool Therapy Video featuring  
Robbie Leonard, MS, PT.

Keith Puttman, MS, Pool Therapy Director, TN Christian Medical Ctr.,  
Madison, TN

(All of these sources have extensive experience with warm water therapy and Polio patients.)

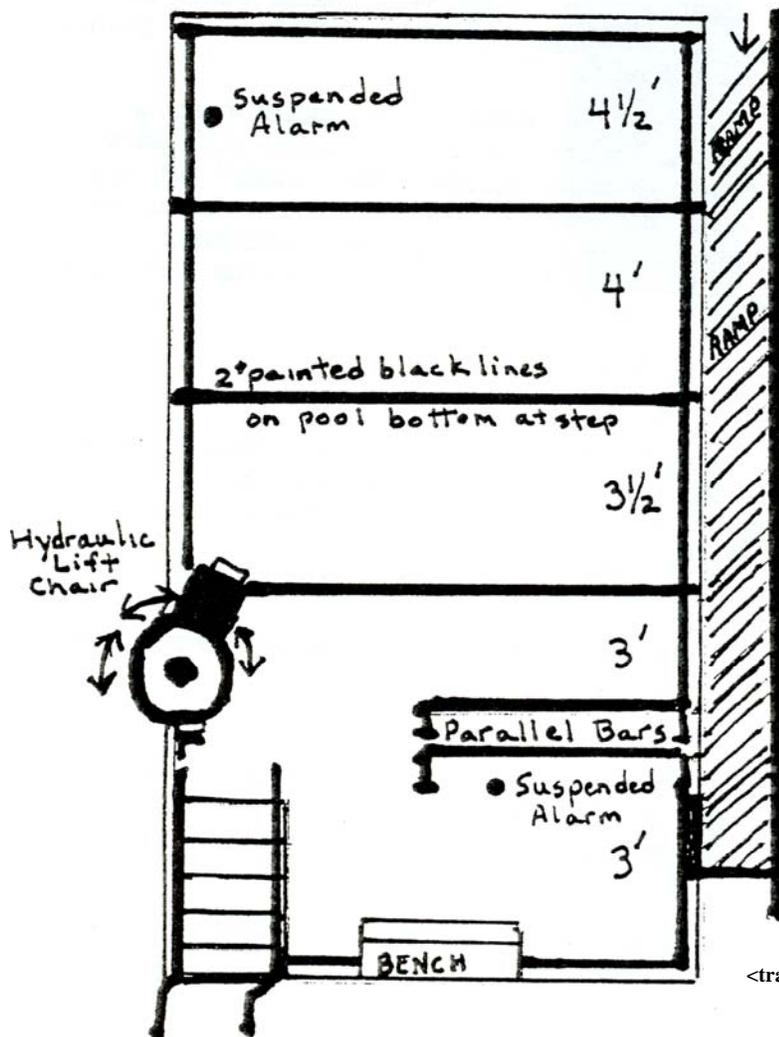
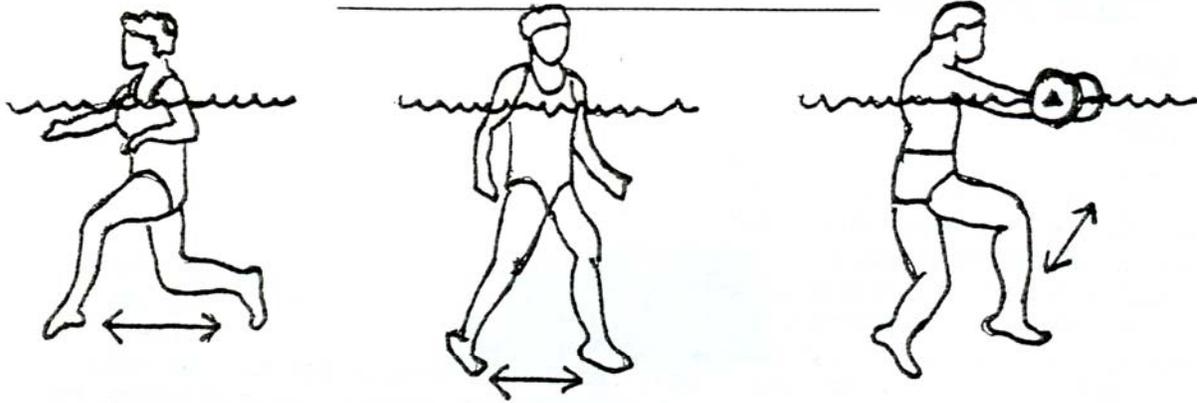
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Eighth International Post-Polio and Independent Living Conference, St. Louis, MO, June 8-10, 2000 - IDEAL  
THERAPY POOL FACILITY LAYOUT



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H.L.L.*

By  
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- Double railed, wide steps with no more than 4" stepdown.
- Flat pool surface in lanes, no slant to bottom of pool.
- Stepdowns marked by black lines painted on pool bottom.
- Rails all around pool edge.
- Parallel bars in water.
- In water bench in 3' level.
- Emergency alarm suspended from ceiling over each end of pool.
- Roughed pool floor and non-slip pool deck (including locker room floor).
- Gentle jets around pool at intervals.
- Rotating hydraulic lift chair that can operate from pool side and water levels.

Options:

- Ramp outside of pool to transfer platform.
- Ramp in to water for use of ambulatory walker or WC patients. (Difficult for wc patients when exiting pool as weight of water and uphill climb is a strain.)

Room atmosphere in pool room and locker rooms should be warm. Showers should be wc accessible and extra wide to accommodate bench or chair (removable) and hand controls. At least 3-4 showers in each locker room. All toilet stalls should also be handicap accessible.

4' and 4 1/2' levels in pool are the most used lanes.