

CHOOSING OUTCOME MEASURES FOR ARTHRITIS GROUP HYDROTHERAPY PROGRAMS

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CHOOSING OUTCOME MEASURES FOR ARTHRITIS GROUP HYDROTHERAPY PROGRAMS

I. PURPOSE

The purpose of this project was to explore the benefits of community-based group hydrotherapy programs for people with arthritis in order to choose client-relevant outcome measures for program evaluation and/or clinical trials.

II. OBJECTIVES

- 1) identify client-relevant outcomes based on focus group responses.
- 2) make recommendations for the selection of outcome measures for the development of a new measure if necessary, for program evaluation and/or clinical trials of group hydrotherapy for clients with arthritis .

III. BACKGROUND/RATIONALE

Arthritis and rheumatism are the leading causes of illness and disability in the province of Ontario, affecting approximately 15% of the population aged 16 years or older (1). There are many types of arthritis, ranging from serious and severely disabling conditions such as rheumatoid arthritis to conditions causing minor problems and often affecting only one joint.

Hydrotherapy, whether therapeutic or recreational, is a frequently employed component of the management of clients with arthritis although formal evaluation studies have been few and limited in scope (2-14).

A variety of hydrotherapy programs exist varying from aquafit programs in cool

water in community pools to formal physiotherapist-led programs in specialized pools with warm water (90° F degrees or greater). Therapist-led programs are expensive in terms of both facilities and professional time.

From the point of view of the client, studies of hydrotherapy have shown high satisfaction. Consequently, one of the challenges for many hydrotherapy staff is persuading clients to leave at the end of formal courses and to participate in other community-based programs (personal communication, The Arthritis Society therapists).

This paper represents part of a larger endeavour to evaluate the benefit of exercise in the management of arthritis, which includes assessing the value of different types of exercise and determining whether professional therapist input has benefits over the use of trained lay persons. The latter question is beyond the scope of this proposal.

a) Previous Work

Minor et al assessed the efficacy of intensive hydrotherapy (3 one-hour sessions/week for 12 weeks) in patients with RA and primary lower-extremity osteoarthritis (OA). In this randomized, controlled trial, hydrotherapy was compared with aerobic walking exercise and with active range of motion (ROM) exercises (control group). They found that both exercise groups (intensive hydrotherapy and aerobic walking) showed significant improvement in measures of physical fitness (VO₂ max),

and in levels of anxiety and depression in comparison with the ROM group. In addition, the intensive hydrotherapy group showed significant improvement in measures of disease activity (number of active joints, duration of morning stiffness, and grip strength) and flexibility (18).

In contrast to these findings, a randomized controlled study of hydrotherapy (twice weekly for six weeks) plus twice daily home exercises for 47 patients with OA of the hip demonstrated no differences between the hydrotherapy group and the group doing home exercises only. Outcomes included pain, joint range, muscle strength, medication use, and several functional tests (ability to rise from a chair, the time and number of steps taken to walk a fixed distance and the time taken to walk up and down a fixed staircase (15). A randomized controlled study of daily inpatient hydrotherapy for clients with rheumatoid arthritis (RA), failed to show improvement in knee and shoulder range of motion and muscle strength (16). A Scandinavian study failed to show any differences in pain or functional outcomes in a training group of 27 patients with RA attending once weekly intensive hydrotherapy compared with a control group (n = 28) matched on age, sex and disease duration. The training group did demonstrate significantly greater grip strength and self-reported activity level (17).

The focus of formal evaluations has been primarily on impairments (physical fitness, muscle strength, flexibility, morning stiffness, etc). Although measures of impairment (morning stiffness, grip strength, number of active joints, physical fitness), and anxiety and

depression, are important outcomes to include in the evaluation of hydrotherapy programs, impairment-based measures may not reflect client-relevant outcomes. As well, most community programs do not have the resources to evaluate these measures. It is important to identify what measures of disability and handicap might also be relevant. For instance, does hydrotherapy affect functional outcomes or social isolation? As well, Minor's findings cannot be generalized to the majority of community hydrotherapy programs, where sessions occur less frequently and which typically include clients with all types of arthritis. It is therefore important to identify simple, low-cost, client-relevant outcomes that can be easily incorporated into community-based programs.

IV. METHODS

For the purpose of this study, we defined hydrotherapy as any type of directed group exercise in warm water. Adults aged 18 years and older with all types of arthritis who were able to read, write and speak English and who were enrolled in a variety of community therapist-run or lay/volunteer-run group hydrotherapy programs in Toronto, London, Etobicoke, Scarborough, Hamilton and Newmarket were recruited to the study (stratified purposeful sampling)(19). Stratification was based on type of program leader. This study was approved by the Wellesley Hospital Research Institute ethics committee.

Focus group methodology (20) was used to explore the following areas: reasons for joining the group, differences between exercise on land and exercise in water, short and long-term benefits from the clients' perspective, what kept

them coming to the group, what they noticed if they missed a session, any adverse effects of hydrotherapy, etc. Questions were developed by the research team then pretested on Arthritis Society clients/volunteers attending pool programs in other areas of the province. The final set of questions appears in Appendix 1.

One focus group was held for each program. The focus group was held immediately before or following the clients' regular hydrotherapy session. For those programs that were limited in the number of sessions (eg. 2 weeks or 10 week program), we tried to time the focus group to occur near the end of the program. Each focus group was approximately one and a half hours in length. The groups were run by the investigator (SL). A research associate tape-recorded the sessions and took notes.

Before each focus group, each participant was asked to complete questionnaires providing demographic information (Appendix 2) and baseline functional status, using the Stanford Health Assessment Questionnaire (HAQ - Appendix 3). The tapes of the focus groups were transcribed into Word Perfect and then entered into Ethnograph, a set of data entry programs for the management and analysis of qualitative data, based on grounded theory (21). Data were categorized using a coding scheme developed from themes that arose from the focus group discussions. All transcripts were coded independently by the researcher and the research associate (19). Relevant outcomes identified through this process were categorized either as impairments, disabilities or handicaps according to the

International Classification of Impairments, Disabilities and Handicaps framework (22).

Demographic variables were entered into SPSS and were reported using descriptive statistics (proportions and frequencies).

The hydrotherapy programs at each facility participating in the focus groups were viewed by the researcher (SL) and a research associate, who independently completed a questionnaire about the pool, the instructor, the participants and the program content (Appendix 4). A homonculus (joint diagram) was used to record which joints were put through full range of motion during the hydrotherapy program (Appendix 5).

V. RESULTS

Focus groups were held at seven facilities: Sunnybrook Health Sciences Centre, York County Hospital, Baycrest Centre for Geriatric Care, the Scarborough YMCA and three programs run by The Arthritis Society staff and trained volunteers. Three programs were run by physiotherapists (PT), three were run by volunteers and one was run by a fitness instructor. Cost of the programs to the client varied from no cost (covered by provincial health insurance) to \$150.00 for a 10 week program including an educational session prior to each pool session. The programs were 30 to 60 minutes in length. Programs were offered at varying frequencies (one to five times per week) and ran from 2 to 10 weeks depending on the facility. Three programs were ongoing. A doctor's referral was required at four of the seven facilities, two therapist-run programs and two volunteer-run programs. Water

temperature varied from 87 to 96 degrees Fahrenheit.

Forty people took part in the focus groups (Table 1). Participants were mostly female (80%) with a mean age of 62.9 years varying from 35 to 80 years. Most were married (70%) and were not

programs specifically instructed participants to immerse their shoulders for shoulder exercises. This was difficult in some facilities because of fixed depth of the water. Most programs included some aerobic activities varying from 5 to 30 minutes in length. The two programs with the highest aerobic intensity were

Table 1. Demographics of Focus Group Participants (n=40)

female (%)	80.0
mean age (years)	62.9 (SD: 11.2)
married (%)	70.0
not working (%)	90.0
mean disease duration (years)	9.6 (SD: 6.9)
diagnosis (%)	
OA only	45.0
RA only	17.5
fibromyalgia	10.0
combinations	20.0
other	7.5

working outside the home (90%). The mean disease duration was 9.6 years. The most frequent single diagnosis was osteoarthritis (45%). The mean HAQ score was 1.3 (SD: .56).

a) Program Descriptions

All programs included five to twelve minutes of warm-up or stretching exercises. The programs included 20 to 30 minutes of range of motion exercises. Most put all peripheral joints through full range. Two programs concentrated on lower extremity exercises. Only 2 programs included stretching of the intrinsic of the hands. Appropriately, only PT-run programs included neck exercises. Only 2

Baycrest Centre for Geriatric Care and the Scarborough YMCA. The longest period of sustained aerobic exercise occurred at the Scarborough YMCA (30 minutes of continual walking). All programs included approximately five minutes of strengthening exercises. Three programs offered some progression of exercises over the length of the program (increased the time or number of repetitions as the clients progressed). Some participants were able to "graduate" to other less structured programs at the same facility. Three programs used various pieces of exercise equipment in the pool. A summary of the participating programs is provided in Appendix 6.

b) *Client-relevant Outcomes*

The most frequently mentioned *physical* outcome of hydrotherapy was decreased stiffness (n = 29, 73%). Participants rarely referred to morning stiffness or joint stiffness specifically, instead they referred to the improved ability to reach or bend, i.e., functional range of motion and talked about being more agile, flexible, or limber.

- "The fact that I couldn't get this arm past my head, but now I can. It hurts, mind you, but at least I can do it when I couldn't before."
- "I can bend down. Last week was the first time in about six months that I was able to bend down and get something out of the cupboard under the sink. I just couldn't bend down before."

Joint pain, pain on movement and pain during functional activities were decreased both in and out of the water (n = 24, 60%). Some participants (n = 7, 18%) reported being able to decrease their pain medications because of the pool. Other participants (13%) reported decreased health service utilization; they did not need to go to the chiropractor or to outpatient PT any longer because they found the pool more helpful.

- "Dr. R. had put me on Entrophen four a day. I went from four a day to three, and now to two. It was great until about six months ago. I found that two a day wasn't enough and I increased it to three a day. Since coming to the pool, I got comfortable with it, and I felt really good, and thought that I could go back to two pills a day."

And now, I am on two a day right now and I feel great."

- "Since I have started exercising in the pool, it is not so painful, it is much better...I wouldn't bend my knees for anything because it was so painful. The program has allowed me to make it easier to go up the stairs..."

Improved function, in particular, mobility, was another important outcome (n = 16, 40%). Fifteen participants (38%) noted that they had less need for devices or assistance with ADL.

- "I just couldn't walk around and pick up a few things without a buggy. I needed the buggy for support...Now, I can shop. I can even go over to [the mall] and walk around for fifteen minutes and not collapse. I couldn't go to a shopping mall before the pool program..."
- "Before the pool, I just couldn't do it, now it is easier to do things. I can even walk on the street now..."

Fourteen patients (35%) reported that they felt that the program had helped maintain their independence and current level of functioning.

The *psychosocial* outcomes included decreased depression, an increased sense of well-being and social support.

- "It has given me hope. I think it has helped my depression because it has given me hope that I can move around."

- "I find that I come early and meet a group of people in the coffee shop and we talk about our problems, how they feel during the week, so it helps us immensely."
- "I need to feel like I am doing something. I need to participate in something. I need to feel a bit of control in my life. I have lost most control in my life and it's really tough."

Some outcomes were program-specific, e.g. those participants attending programs that emphasized walking reported improved ability to walk and to get out of the house.

- "The walking in water has straightened up my legs. It has made me able to walk a little more."
- "...because this is an extension program, where you are extending your joints through the motions, I now find that when I am in the shower that I can reach way down my back, when before I couldn't. My joints are much more flexible..."

c) ***Benefits of Hydrotherapy***

The client-reported benefits of hydrotherapy that made it a preferred way to exercise included the following.

- i) It was easier to exercise in water. There was less pain and stress on the joints. The buoyancy of the water was important in taking the pressure off the joints (noted by 10 people). Several noted the importance of exercising in **deep** water to make full use of the

buoyancy.

- ii) Some exercises could be done in water that couldn't be done on dry land. In winter, they could walk in the water when they couldn't walk outside. One program used floats to allow full non-weight-bearing exercises.

Walking in water was easier and often less painful. All seven programs included walking as part of the program. Ten people rated the walking as the most important component of the program. Walking against the resistance of the water helped to strengthen the muscles.

- iii) It was a safe way to exercise. They were not as likely to pull muscles or hurt their joints. Several participants noted the importance of having the shoulders immersed for shoulder exercises.

- iv) Seventeen participants noted that the programs offered them a "whole body workout", not provided by many other types of exercise.

- v) They could control the exercise and how hard they worked in the water. Many noted that they could use the buoyancy and the resistance of the water to make the exercises easier or more difficult, depending on what they wanted to achieve.

- vi) It was often the only form of exercise for some people, for example, if they had pain on weight-bearing, if they were

overweight, if they were waiting for joint surgery or if they had just had surgery.

- vii) Some people couldn't take medicine for their arthritis - exercise in water helped control the pain.
- viii) The warmth of the water was important. Warm water helped them relax and decreased the pain. Ten people had had experiences where the water was too cold. This resulted in increased stiffness or numbness in the extremities. Three participants noted that the water was sometimes too warm and this made them tired.
- ix) Meeting other people with arthritis in the pool was helpful. They learned from each other and got support from others who had similar problems.

d) Instructor

Most participants noted that a pleasant, interested and knowledgeable instructor was important. They liked an instructor who varied the exercises, noting that too many repetitions of the same exercise caused pain in their joints. They liked details about how to do the exercises to gain the most benefit, e.g. how to use the resistance of the water to make the exercises more difficult, to keep the shoulders under the water when exercising, etc. They appreciated individual instruction from the instructor, including corrections if they were doing the exercise wrong and adapting the exercise if they had had recent surgery, if it was causing pain or if they couldn't do it.

In all but one program, the instructor

entered the water. This allowed more individual instruction but made it more difficult to demonstrate the leg exercises.

Three programs used background music. This was thought to be relaxing, however, one participant noted that some people found it hard to hear the instructor over the music, especially those who had hearing problems.

e) Program Commitment

Participants expressed a strong commitment to the warm water exercise programs. Fifteen participants reported that they wouldn't miss or hadn't missed a session. Seven participants reported that they had been coming to the pool program for over a year (average 15 months). Two had been coming for eight years. Fourteen participants reported that they had purchased or were going to purchase a pool membership or had graduated from a therapist-run to a volunteer-run program in order to continue their programs.

- "I can forget a lot of things, but I never forget the pool day."
- "In the last few years my schedule revolves around the pool because I consider it important."
- "It takes me an hour and a half to get here so that I'm spending a lot of time twice a week to get here...but I wanted to come and I could see the benefits of coming to the pool..."

VI. DISCUSSION

The programs included in this study were very heterogeneous in terms of type of arthritis, age of participants, program length and content, however all programs included range of motion of most joints. Heterogeneity was desirable in order to identify outcomes that would be relevant to all types of programs, since most community programs by their nature are open to people with any type of arthritis.

In this study, water temperature varied from 87 to 96 degrees. A recent exercise brochure developed by the Arthritis Foundation (US), recommends temperatures between 83 and 90 degrees. A few of the study participants did note that if the water was too hot, it caused them to feel more fatigued; most however, complained that the water temperature was too cold in other facilities that they had tried. Program content may vary according to water temperature as cooler water allows for more aerobic activity. Air temperature may also affect the comfort level of participants in the pool. These findings suggest that it may be appropriate to offer a variety of programs with water at different temperatures for clients with different types of arthritis or at different stages of disease. People with arthritis need to advocate for appropriate programs in their community and some facilities may need to raise the water temperature at certain times during the week to accommodate people with arthritis.

Participants were mostly female, older and not working outside the home. This was in part due to the timing of our focus groups (all during the work day) and also reflects the demographics of the population of those with arthritis.

Programs may need to be provided at times more easily available to those who work during the day.

All programs allowed family members/helpers or friends to participate in the pool program. This may enhance positive exercise behaviours and be one factor in the ongoing commitment to these programs.

The benefits of hydrotherapy reported by the focus group participants were identified and have been incorporated into a health promotion flyer for distribution to the general public (Appendix 7).

Based on the results of the focus groups, several possible outcomes were identified for evaluating warm water exercise programs and could be classified as impairments, disabilities or handicaps. Impairment outcomes identified in this study included general stiffness, depression and pain (joint pain and pain on movement). Disability outcomes included the ability to walk, climb/descend stairs and bend and reach (activities requiring full range of motion). Handicap outcomes included increased social support and mobility in the community. A general quality of life outcome may also be relevant to capture the increased sense of well-being identified by many participants. In addition, reduction in pain medications and use of health services may be important outcomes. Additional program-specific outcome measures might be appropriate for some programs.

Focus group results suggest that many of the outcomes are a result of a long term commitment to exercise, with many participants attending for over one year. The short term benefits i.e those

expressed by people in the two-week program and those who had just started attending the other programs were less obvious. This suggests that programs need to be available on an ongoing basis. This is usually not possible with therapist-run programs and resources for ongoing warm water exercise need to be available in the community following discharge from these programs. All of the facilities with therapist-run programs that participated in the focus groups provided opportunities to continue in a lay-run program.

All focus groups noted the importance of a knowledgeable and caring leader. There were few if any differences between the therapist-run and lay-run programs. All programs provided full joint range of motion. This suggests that well-trained leaders can deliver appropriate programs for this population, freeing up health-care providers for other work. The consulting role of the health-care provider, the need for standardized training and reference manuals and the ongoing support of lay leaders need to be addressed.

VII. CONCLUSIONS

This work has provided information about the benefits of group hydrotherapy for people with all types of arthritis. This information enables researchers, health professionals and community agencies to target client relevant measures of outcome in future evaluation studies of hydrotherapy programs. Further testing of suggested outcomes is required and will be part of the ongoing work of ACREU.

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Choosing Outcome Measures for Arthritis Group Hydrotherapy Programs

Focus Group Questions

1. Please tell us why you decided to come to the pool program?
 - *doctor/other told me to come*
 - *love swimming*
 - *read about program*
 - *my idea*
 - *need the exercise*

2. Has the pool program done anything for your arthritis in any way? Please explain.
 - *joints*
 - *pain*
 - *stiffness*
 - *mobility*

3. Has the pool program had any effect on your general health? In what way?
 - *mood*
 - *social life*
 - *confidence*
 - *mental well-being*
 - *activities of daily living*
 - *outlook*

4. When you attend the pool program. how do you feel the next day?

5. Is exercising in water different from other types of exercise? If yes, in what way?
 - *specific benefits compared to other types of exercise*

6. What do you like best about exercising in water?

7. Is there anything that you don't like about exercising in water?

8. If you miss a session in the pool. does it make any difference? If so, what?

9. Is there anything else you'd like to add?

The Arthritis Society

Client Data Form

ID# _____

AGE _____ DATE OF BIRTH _____ SEX (circle) M F
(dd/mm/yy)

MARITAL STATUS (check one) MARRIED NEVER MARRIED
 WIDOWED DIVORCED
 SEPARATED COMMON-LAW

HAS AN ARTHRITIS SOCIETY THERAPIST OR SOCIAL WORKER SEEN YOU BEFORE? (circle) YES NO

DIAGNOSIS _____ CONFIRMED _____ SUSPECTED _____

HOW MANY YEARS HAVE YOU HAD THIS CONDITION? _____

YOUR HEIGHT _____ YOUR WEIGHT _____

ARE YOU CURRENTLY WORKING FOR PAY OUTSIDE THE HOME? (circle one)
 YES NO

IF 'YES', ARE YOU EMPLOYED FULLTIME
 EMPLOYED PARTTIME
 SELF-EMPLOYED

OCCUPATION _____

IF 'NO', ARE YOU (check one or more)
 HOMEMAKER
 STUDENT
 VOLUNTEER
 RETIRED/VOLUNTARILY NOT WORKING
 UNEMPLOYED AND LOOKING FOR WORK
 ON MATERNITY LEAVE
 TEMPORARILY LAID OFF
 ON SICK LEAVE
 ON SHORT TERM DISABILITY
 ON LONG TERM DISABILITY
 OTHER (specify) _____

WHAT IS THE HIGHEST LEVEL OF EDUCATION YOU HAVE ACHIEVED? (check one only)

- PUBLIC SCHOOL
- SOME HIGH SCHOOL
- HIGH SCHOOL GRADUATE
- SOME COLLEGE
- COLLEGE GRADUATE
- SOME UNIVERSITY
- UNIVERSITY GRADUATE
- POST-GRADUATE DEGREE

PLEASE INDICATE THE TOTAL NUMBER OF YEARS OF EDUCATION YOU HAVE COMPLETED. _____ YEARS

WHAT LANGUAGE DO YOU SPEAK AT HOME? (check one only)

- ENGLISH
- FRENCH
- OTHER (specify) _____

DO YOU TAKE MEDICATIONS FOR ANY OF THE FOLLOWING CONDITIONS? (check all that apply)

- | | |
|---|---|
| <input type="checkbox"/> HIGH BLOOD PRESSURE | <input type="checkbox"/> HEART DISEASE |
| <input type="checkbox"/> EMOTIONAL PROBLEMS OR DEPRESSION | <input type="checkbox"/> LUNG DISEASE |
| <input type="checkbox"/> CANCER | <input type="checkbox"/> KIDNEY DISEASE |
| <input type="checkbox"/> ULCER OR STOMACH DISEASE | <input type="checkbox"/> LIVER DISEASE |
| <input type="checkbox"/> ANAEMIA OR OTHER BLOOD DISEASE | <input type="checkbox"/> DIABETES |
| <input type="checkbox"/> OTHER (specify) _____ | |

HOW MANY PEOPLE LIVE IN YOUR HOUSE? (check all that apply and how many)

HUSBAND/WIFE _____ CHILDREN (#) _____
OTHER RELATIVES (#) _____
NON-RELATIVES (#) _____

TOTAL INCLUDING YOURSELF _____ (people)

HOW LONG HAVE YOU BEEN ATTENDING THIS POOL PROGRAM? _____

THANK YOU!

4. Please check the one response which best describes your usual abilities OVER THE PAST WEEK:

	Without Any Difficulty	With Some Difficulty	With Much Difficulty	Unable To Do
<u>HYGIENE</u>				
Are you able to:				
- Wash and dry your entire body.....	_____	_____	_____	_____
-Take a tub bath.....	_____	_____	_____	_____
-Get on and off the toilet.....	_____	_____	_____	_____
<u>REACH</u>				
Are you able to:				
-Reach and get down a 5 pound object (such as a bag of sugar from just above your head)..	_____	_____	_____	_____
-Bend down to pick up clothing from the floor...	_____	_____	_____	_____
<u>GRIP</u>				
Are you able to:				
-Open car doors.....	_____	_____	_____	_____
-Open jars which have been previously opened	_____	_____	_____	_____
-Turn faucets on and off.....	_____	_____	_____	_____
<u>ACTIVITIES</u>				
Are you able to:				
-Run errands and shop.....	_____	_____	_____	_____
-Get in and out of a car.....	_____	_____	_____	_____
-Do chores such as vacuuming or yardwork....	_____	_____	_____	_____

5. Please check any AIDS or DEVICES that you usually use for any of these activities:

- | | |
|--|--|
| <input type="checkbox"/> Raised Toilet Seat | <input type="checkbox"/> Bathtub Bar |
| <input type="checkbox"/> Bathtub Seat | <input type="checkbox"/> Long-Handled Appliances for Reach |
| <input type="checkbox"/> Jar Opener (for jars previously opened) | <input type="checkbox"/> Long-Handled Appliances in Bathroom |
| Other (Please Specify) _____ | |

6. Please check any categories for which you usually need HELP FROM ANOTHER PERSON:

- | | |
|----------------------------------|--|
| <input type="checkbox"/> Hygiene | <input type="checkbox"/> Gripping and Opening Things |
| <input type="checkbox"/> Reach | <input type="checkbox"/> Errands and Chores |

PILOT WORK TO INFORM THE CHOICE OF OUTCOME MEASURES
FOR ARTHRITIS HYDROTHERAPY PROGRAMS

Sample Questionnaire to be completed by research assistant

NAME OF FACILITY _____

CLASS _____ TIME _____

CONTACT NAME _____ TELEPHONE _____

PERTAINING TO THE FACILITY

Water temperature _____

Air temperature _____

..... are they adjusted for the class?

water	yes	no
air	yes	no

Depth of water _____

Size of pool _____

Does the pool have a hydraulic lift?

yes	no
-----	----

Does the pool have an adjustable floor?

yes	no
-----	----

Access to water is by..

stairs	ladder
ramp	lift

Is disabled parking available?

yes	no
-----	----

Is the building wheelchair accessible?

yes	no
-----	----

Are the washroom facilities accessible?

yes	no
-----	----

Are the changing facilities accessible?

yes	no
-----	----

Height of changing room bench _____

COMMENTS

How is program advertised _____

How do they get the participants? _____

**PILOT WORK TO INFORM THE CHOICE OF OUTCOME MEASURES
FOR ARTHRITIS HYDROTHERAPY PROGRAMS**

Sample Questionnaire to be completed by research assistant
Draft 4: January 10, 1995

PERTAINING TO THE CLASS

Are exercises paced to background music?

yes no

..... if yes what type of music? _____

Does the class have exclusive use of pool during the allotted time period?

yes no

What is the cost to the individual client?

no cost _____
per class _____
per week _____
per session _____
donation _____
other _____

What is the cost to the facility per session?

no cost _____
staff _____
maintenance _____
pool booking _____
other _____

Number of people in the class? _____

Maximum number allowed? _____

Is there a gradual progression through the program?

yes no

Is there equipment available for the use of participants? (i.e. floats, resistance tubing?)

yes no

..... if yes what equipment is available? _____

What is the aim or goal of the program?
(I=improve M=maintain O=not a goal)

mobility _____
range of motion _____
strength _____
endurance _____
fitness / exercise _____
flexibility _____
pain management _____
social / emotional _____
other _____

What is the breakdown of the class?
(example: 15 min. stretching)

_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
Total

COMMENTS

PILOT WORK TO INFORM THE CHOICE OF OUTCOME MEASURES
FOR ARTHRITIS HYDROTHERAPY PROGRAMS

Sample Questionnaire to be completed by research assistant
Draft 4: January 10, 1995

PERTAINING TO THE CLIENTS

Is a doctor referral mandatory?

 yes no

How do you deal with concomitant medical
problems? (ie. respiratory, or CV disease)

Are clients assessed before joining?

 yes no

..... if yes what does it consist of?

Is the class specifically designed for people
with arthritis?

 yes no

Are people who do not have arthritis allowed
to join the program?

 yes no

Do you separate the class, due to diagnosis,
or class of arthritis?

 yes no

..... if yes how?

What % attend regularly? _____

Age distribution of participants (%)

under age 20 _____
20-35 _____
36-50 _____
50-65 _____
66-75 _____
over age 75 _____

Distribution of arthritis of participants (%)

Osteoarthritis _____
Fibromyalgia _____
Rheumatoid Arthritis _____
Systemic Lupus _____
Other _____
Don't know _____

Sex distribution (%)

males _____
females _____

What % of the class would you consider
exercises.....

Over 5 times a week _____
5 times a week _____
3-5 times a week _____
2-3 times a week _____
once a week _____
don't know _____

The program runs _____ a week

COMMENTS

**PILOT WORK TO INFORM THE CHOICE OF OUTCOME MEASURES
FOR ARTHRITIS HYDROTHERAPY PROGRAMS**

Sample Questionnaire to be completed by research assistant
Draft 4: January 10, 1995

PERTAINING TO THE STAFF

Is a lifeguard (valid NLS and CPR) on duty?

yes no

Are there volunteers available to help?

yes no

The instructor is....

- a lifeguard _____
- a fitness instructor _____
- volunteer _____
- therapist _____
- other _____

Is the instructor trained in CPR?

yes no

Has the Instructor received training about
arthritis from The Arthritis Society?

yes no

COMMENTS

PERTAINING TO THE SCHEDULE

Length of each class _____

Number of classes a week _____

Number of weeks a session _____

Are there other hydrotherapy sessions at this
facility?

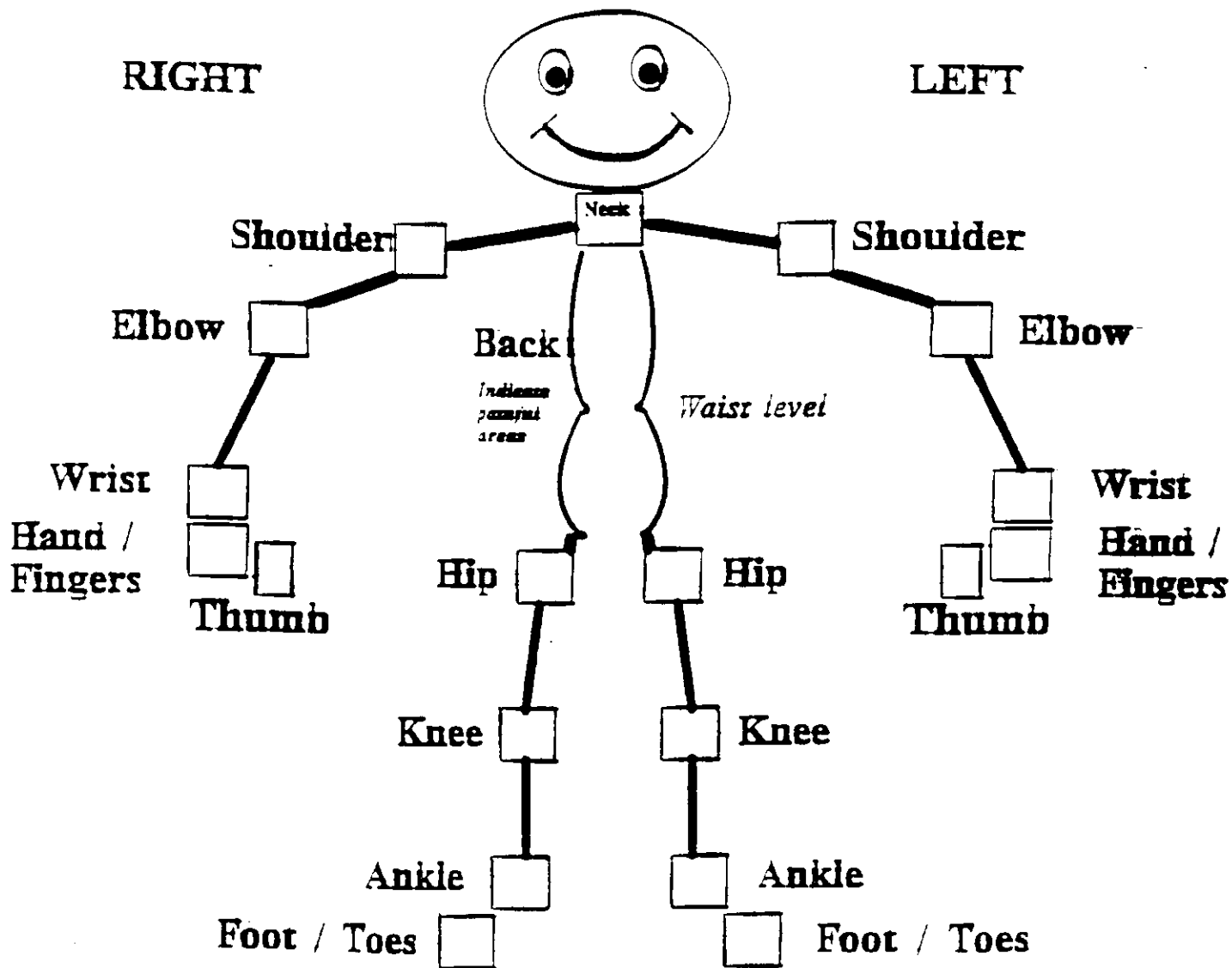
yes no

COMMENTS

Sydney Lineker
c/o ACREU Churwell Site
160 Wellesley St. E.
Toronto, Ontario
M4Y 1J3
Tel: (416) 926-7764 Fax: (416) 926-4910

Does staff enter the water?

Please look at the chart below and check each joint which has been PAINFUL



Summary of Participating Programs

PERTAINING TO THE FACILITY	FG 1 London	FG2 SYMCA	FG3 Gus Ryder	FG4 Dundas	FG5 YCH	FG6 Sunnybrook	FG7 Baycrest
Qualities of the Pool							
Water temperature (degrees fahrenheit)	92	87	88-92	92	94	94-96	93
Air temperature (degrees fahrenheit)	92	88-89	83	84	84	86	86
Adjusted (W=water) (A=Air) (N=neither)	N	N	W	N	N	N	N
Depth of shallow end (m=metres) (ft= feet)	3'3"	4'	1.42 M	3 ft	N/A	3'6"	.9 M
Depth of deep end (m=metres) (ft=feet)	5'8"	4'	2.9 M	4.5 ft	4'4"	5'6"	1.5 M
Size of pool (m=metres) (y=yards)	60' X 24'	10 M X 8 M	25y X 20y	15 X 5 y	16' X32"	10m X 5m	20 X 40
Access to Pool							
Hydraulic lift (Yes or No)	N	N	Y	Y	Y	Y	Y
Adjustable floor (Yes or No)	N	Y	N	N	N	N	N
Access by stairs (Yes or No)	Y	N	Y	Y	Y	Y	Y
Access by ladder (Yes or No)	N	Y	Y	Y	N	N	Y
Access by ramp (Yes or No)	N	N	N	N	N	N	N
Access by lift (Yes or No)	N	N	Y	Y	Y	Y	Y
Access to Facility							
Disabled Parking Available (Yes or No)	N	Y	Y	Y	Y	Y	Y
Building Wheelchair Accessible (Yes or No)	N	Y	Y	Y	Y	Y	Y
Washroom accessible (Yes or No)	N	Y	Y	Y	Y	Y	Y
Changing facilities accessible (Yes or No)	N	Y	Y	Y	Y	Y	Y

PERTAINING TO THE CLASS	FG 1 London	FG2 SYMCA	FG3 Gus Ryder	FG4 Dundas	FG5 YCH	FG6 Sunnybrook	FG7 Baycrest
Qualifies of the class							
Background music (Yes or No)	N	Y	Y	Y	Y	N	N
Exclusive use of pool (Yes or No)	Y	Y	Y	Y	Y	Y	Y
cost to client (\$ or no)	NO	\$125 for 20	\$2.00 per	\$2.00 per	NO	NO	\$150 sess
cost to facility MA=maintenance. ST=staff NO=no. BO=Bookings. OT=other	MA	ST, MA, BO	ST, MA, OT	MA	NO	ST, MA,	ST, MA
number of people in the class	17	11	22	18	16	2	15
Maximum number of people allowed	20	20	22	30	20	7	18
gradual progression (Yes or No)	N	Y	Y	N	N	N	Y
equipment available (Yes or No)	N	Y	Y	Y	Y	Y	Y
Equipment used (Yes or No)	N	N	Y	Y	Y	Y	N
Aim or Goals of the program							
I= improve M=maintain O=not a goal							
Mobility (I, M, O)	I / M	I	I / M	I	I	I	I/M
Range of Motion (I, M, O)	I / M	I	I / M	I	I	I	I/M
Strength (I, M, O)	I / M	I	I / M	I	I	O	I/M
endurance (I, M, O)	I / M	I	I / M	I	O	O	I/M
fitness / exercise (I, M, O)	I / M	I	I / M	M	O	I	I/M
flexibility (I, M, O)	I / M	I	I / M	I	O	I	I/M
pain management (I, M, O)	I	I	I / M	I	O	I	I/M
social / emotional (I, M, O)	O	I	I / M	I	O	I	I/M
Breakdown of the class							
w=with							
stretching (ST) in minutes	3	7	w WU	w ROM	w WU	10	w ROM
warm up (WU) in minutes	2	3	5	5	5	2	5
range of motion (ROM) in minutes	25	30	25	25	20	25	20
cardio (CD) in minutes	7	w ROM	15	5	w ROM	0	6 to 15
strength/ balance (SB) in minutes	w ROM	w ROM	5	5	w ROM	5	8
cool down (CD) in minutes	3	5	10	5	5	3	5
total minutes of program (minutes)	40	45	60	45	30	45	15 to 60

PERTAINING TO THE CLIENTS	FG 1 London	FG2 SYMCA	FG3 Gus Ryder	FG4 Dundas	FG5 YCH	FG6 Sunnybrook	FG7 Baycrest
Specific to clients							
Doctor referral mandatory (Yes or No)	Y	N	Y	N	Y	Y	N
Assessed before joining? (Yes or No)	Y	N	N	N	Y	Y	Y
specific to arthritis (Yes or No)	Y	Y	Y	Y	Y	Y	Y
others allowed (Yes or No)	N	Y	N	N	N	N	N
separate due to diagnosis (Yes or No)	N	N	N	N	N	Y	N
What % attend regularly	80	75-80	80-90	80	80-90	80	90
Age distribution of participants							
Under age 20 (%)	0	0	0	0	0	0	0
20-35 (%)	10	0	1	0	5	0	0
36-50 (%)	10	10	2	5	30	0	0
50-65 (%)	40	70	50	50	40	0	5
66-75 (%)	35	20	45	40	20	100	65
over age 75 (%)	5	0	2	5	5	0	30
Distribution of arthritis (%)							
Osteoarthritis (%)	60	50	85	30	0	100	85
Fibromyalgia (%)	5	10	7	20	0	0	5
Rheumatoid Arthritis (%)	25	20	7	13	100	0	8
Systemic Lupus (%)	0	0	0	2	0	0	0
Other (Ankylosing Spondylitis)	10	10	1	30	0	0	2
Don't know (%)	0	10	0	5	0	0	0
Sex Distribution							
Males (%)	20	5	15	22	5	0	10
Females (%)	80	95	85	78	95	100	90

PERTAINING TO THE STAFF	FG 1 London	FG2 SYMCA	FG3 Gus Ryder	FG4 Dundas	FG5 YCH	FG6 Sunnybrook	FG7 Baycrest
lifeguard on duty (Yes or No)	N	Y	Y	Y	N	N	N
volunteers available to help (Yes or No)	Y	N	Y	Y	Y	Y	Y
lifeguard led? (Yes or No)	N	Y	N	Y	N	N	N
fitness instructor led?(Yes or No)	N	Y	N	N	N	N	N
volunteer led? (Yes or No)	N	N	Y	Y	Y	N	N
therapist led? (Yes or No)	Y	N	N	N	N	Y	Y
staff enter water (Yes or No)	Y	N	Y	Y	Y	Y	Y
trained in CPR (Yes or No)	N	Y	N	Y	N	Y	Y
training from the Arthritis Society (Yes or No)	Y	Y	Y	Y	N	N	N

PERTAINING TO THE SCHEDULE	FG 1 London	FG2 SYMCA	FG3 Gus Ryder	FG4 Dundas	FG5 YCH	FG6 Sunnybrook	FG7 Baycrest
Length of each class (minutes)	40	45	60	45	30	45	45
Number of classes a week (number)	1	2	5	5	5	4.5	2
Number of weeks a session Number or CONTIN=continuous	12	10	CONTIN.	CONTIN.	CONTIN.	2	10
Other hydrotherapy sessions? (Yes or No)	Y	Y	Y	Y	Y	Y	Y

People with Arthritis Tell Us About.....

The Benefits of Exercises in Warm Water

We talked to 43 people with different types of arthritis who exercise in warm water:

THEY TOLD US.....

- * It's easier to exercise in water. There is less pain and stress on the joints.
- * You can do some exercises in water that you can't do on dry land. In winter, you can walk in the water when you can't walk outside.
- * The warmth of the water is important. Warm water helps to relax your muscles.
- * It's a safe way to exercise. You are not as likely to pull muscles or hurt your joints.



ACREU

THE
ARTHRITIS
SOCIETY



Ontario Division

- * You can control the exercise and how hard you work in the water.

- * It is often the only form of exercise for some people, for example, if you have pain on weight-bearing, if you are overweight, or if you are waiting for joint surgery or if you just had surgery.

- * Exercise in water works the whole body

- * Some people can't take medicine for their arthritis. Exercise in water helps control the pain.

- * Meeting other people with arthritis in the pool is helpful. You learn from each other and get support from others who have similar problems.

**For more information
contact The Arthritis Society**

**1-800-361-1112
or (416) 967-1414**

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