JOCKEY CLUB
SARAH ROE SCHOOL
賽馬會善樂學校

Aquatic Physiotherapy/ Hydrotherapy Policy & Procedures

WE ARE AN ACCREDITED SCHOOL

Revised: February 2017 by Bianca Brown, Physiotherapist (Approved by School Council 7 June 2017)

Contents

Appendices:

Appendix 1: Contra-indications and Precautions

Appendix 2: Consent Form

Appendix 3: Pool Rules

Appendix 4: Hydrotherapy Pool Medical Emergency Procedures

Appendix 5: Emergency Procedures Flowchart

Appendix 6: Procedure following Pool Contamination

1. DEFINITION:

Hydrotherapy is used to describe a number of activities that are conducted in heated pools. Aquatic Physiotherapy is used to describe specifically the practice of physiotherapy in water, conducted by a physiotherapist. It may include physiotherapy prescribed exercises (which may be carried out by a physiotherapy assistant) individually or in groups. Treatment includes individual assessment, diagnosis, treatment programmes, and re-assessment.

The JCSRS hydrotherapy pool is 4m by 5m with a maximum depth of 1.2m and is kept at a temperature of 33° Celcius. In addition to hydrotherapy/aquatic physiotherapy, the JCSRS hydrotherapy pool is also used for developing students water confidence and early swimming skills. This aspect is managed by the PE teacher.

2. AIMS:

Hydrotherapy Aims:

- To assist with the rehabilitation of neurological, musculoskeletal, cardiopulmonary and psychological function of the individual.
- To assist in maintaining or preventing deterioration of a student's level of function.

Swimming Aims:

- To assist with improving water confidence and basic stroke technique.
- To obtain a swimming standard where students are able to join mainstream classes.

3. STUDENT & STAFF SAFETY:

Consent:

- All student's participating in a hydrotherapy and/or swimming programme must have a consent form signed by a parent or guardian. Clearance from a doctor may also be required for students with certain conditions (see 'precautions' – Appendix 1).

Staff/client ratio:

- Ratios are based upon the physical, intellectual and water ability of the student. The ratio is 1:2 for independent students and 1:1 for dependent students.
- In addition to the staff in the pool, there should also be 1 poolside observer.
- A physiotherapist must be on school premises in order for hydrotherapy activities to take place.

Assessment: Suitability for participation and safety requirements e.g. type of floatation required, entry/exit procedures, physiological response to immersion and exercise in water should be conducted by the physiotherapist.

Records: Clear and accurate records are kept for each student participating in a hydrotherapy/aquatic physiotherapy programme and swimming lessons including:

- An up-to date programme

- Type of floatation (if required)
- Attendance
- Incidents/accidents
- Signed consent from parent/guardian
- Contact details of parent/guardian (see 'the Gateway')
- Medical information (see 'the Gateway')

Contra-indications and Precautions: Parents/guardians complete a form prior to the commencement of any hydrotherapy/swimming programme disclosing any contra-indicated or precautionary conditions (see Appendix 1).

- Staff should not spend more than 3 consecutive hours per day in the pool.

Emergency Policy & Procedures: All staff should be familiar with and follow the JCSRS emergency and rescue procedures. (Refer Hydrotherapy Pool Medical Emergency Procedures – Appendix 4). Rescue competencies of pool staff should be assessed annually.

- Evacuation: In event of emergency requiring evacuation of pool area e.g. fire alarm - follow the JCSRS Hydrotherapy Pool Medical Emergency Procedures, as well as the usual JCSRS fire drill procedure (Appendix 4).
- Emergency drills for both evacuation and extrication should be carried out at least 3 times per year.

- Emergency equipment: Appropriate resuscitation equipment needs to be available, and appropriate staff trained to use it. Protocols for its use need to be followed (see Hydrotherapy Pool Medical Emergency Procedures – Appendix 4).
- A suitable 'Rescue/Evacuation board' and head immobilizer and neck float must be available at the poolside at all times.
- An alarm system to call for assistance must be available and staff familiar with its use (see Hydrotherapy Pool Medical Emergency Procedures – Appendix 4).
- Pool Rules: A list of pool rules is displayed prominently on the wall in the pool area (see Appendix 3 for list of rules).

4. SAFETY OF FACILITIES

- Pool & ambient air temperature: maximum temperature should not exceed 35° Celsius. Recommended optimal temperature for aquatic physiotherapy is 'thermoneutral' (where body neither gains nor loses temperature). This is in the range of 33.5 – 34.5°C. Air temperature: Between 25-28°C.
- Humidity & Ventilation: at or below 60%. Exhaust fans should produce air turnover of 8 times per hour in the pool area and 10 per hour in the changing area.
- Surfaces of pool and surrounds should be non-slip.

- Prevention of fatigue/dehydration, which can result from the physiological effects of immersion in water. Ensure that there is adequate poolside access to drinks and students are encouraged to drink after any session in the pool.
- Hydrotherapy Equipment: The physiotherapist is responsible for procurement and purchase of all hydrotherapy/aquatic physiotherapy equipment. The hydrotherapy assistants are responsible for the maintenance of this equipment. An inventory of all hydrotherapy/aquatic physiotherapy equipment is kept.
- Security & Access: the pool door and door to changing rooms must be kept closed and locked at all times to prevent any unauthorized entry. JCSRS staff are aware of the keycode to open the doors. Students enter and exit the pool using the safest method possible i.e. hoist for non-ambulatory clients, stairs or pool side for others.

5. TRAINING LEVELS OF STAFF

Physiotherapist:

The following qualifications and training are required:

- A BSc/BSc (Hons) in Physiotherapy or equivalent.
- Registration (part 1a or 1b) with the Hong Kong Supplementary Medical Professionals Council, Physiotherapists Board.
- Current CPR certification.
- Professional Indemnity insurance.
- JCSRS pool rescue training.

Recommended additional qualifications:

- Physiotherapists with post graduate training and experience in aquatic physiotherapy.
- Continuing professional development in the area of hydrotherapy/aquatic physiotherapy.
- 'Bronze Medallion' certification

Hydrotherapy Assistant:

The following qualifications and training are required:

- Current CPR certification
- JCSRS pool rescue training.
- Other specific training in moving & handling and suitability to swim screening.
- 'Bronze Medallion' certification

Recommended additional qualifications:

- Additional training in swimming with disabled persons e.g. Halliwick, AUSTSWIM for disabled swimmers.

Swimming Coach

The following qualifications are required:

- AUSTSWIM Teacher of Swimming or
- ASA Level 1 Award in Coaching Swimming (QCF)
- Current CPR certification
- JCSRS pool rescue training
- 'Bronze Medallion' certification

Recommended additional qualifications:

- AUSTSWIM Teacher of Aquatics – Access & Inclusion is recommended

Poolside Observer

- Current CPR certification
- JCSRS pool rescue training

6. INFECTION CONTROL & GENERAL HYGEINE

See 'pool rules' (see Appendix 3) regarding hygiene, precautions and contraindications.

- Continence: for incontinent students, those at high risk of bowel incontinence should not use the pool. For low risk students, a suitable swimming diaper must be worn.
- Pool contamination: procedure following contamination of the pool with blood, vomit or faeces is in accordance with the Hong Kong Centre for Health Protection Guideline for Commercial Spa Pools (Appendix 6).
- Screening: Staff and students should have appropriate screening for all contraindications and precautions to hydrotherapy. Any precautions must be cleared with the school nurse and physiotherapist prior to commencing any aquatic physiotherapy programme. Further clearance from a medical doctor may also be required. Those with relevant contra-indications should not use the JCSRS hydrotherapy pool.

7. WATER QUALITY MANAGEMENT

In order to ensure that the pool and its surrounding environment is safe and comfortable for users, the pH, chlorine level and water temperature is measured and recorded twice per day by the pool staff. Monthly testing of water clarity and microbiological is undertaken in order to show that:

- the water is free from pathogenic (harmful) bacteria
- the water is free from growths of algae
- the water is neither toxic nor irritating to users
- there are no undesirable smells or tastes in the water
- there is no corrosion of the pool surround, it's fittings and equipment
- there is no scale formation in the pool, filters or pipework

Any tested parameter that does not meet standards will result in closure of the pool until it is resolved.

- Water Balance: to ensure the chemical balance in the pool is sufficient to protect pool users health and prevent equipment being damaged through scaling or corrosion, the following levels should be maintained:
    - pH should be between 7.2-7.8
    - Total Alkalinity should be 100-250ppm
    - Calcium Hardness should be 100-300ppm
    - Chlorine (free residual) should be 1-3mg/L
    - Chlorine (combined) should be <1
    - Colour should be < 5 Hazen units
    - Turbidity (Clarity) should be < 5 NTU. Can also be measured by visual inspection of pool markings at greatest depth. These should be clearly visible when viewed from the poolside.
    - Pool turnover rate should be 1½hours.
    - Total bacteria count should be < 200cfu/ml with staphylococcus aureus, pseudomonas aeruginosa, E. coli, coliform and Total Legionella should not be at detectable levels.

6. POOL MAINTENANCE

The JCSRS hydrotherapy pool is maintained by an external contractor employed centrally by ESF. This contractor performs regular checking and maintenance twice per week and provides an inspection report after each visit. The pool is drained on an annual basis for thorough cleaning (during the summer holidays). The surrounding area and changing rooms are cleaned on a daily basis by on site cleaning staff.

Pool Closure

The pool will be closed and programmes cancelled for any of the following reasons:

- Poolside observer unavailable
- Certified Swim Coach absent
- Hydrotherapy assistant absent
- Soiling of the pool (faeces/vomit). See Appendix 6
- Outbreak of infectious illness
- Poor water quality (chlorine, pH, colour, clarity, bacterial counts)
- Maintenance failure
- Mechanical failure e.g. pumps, heaters, filters

7. SOURCES OF INFORMATION:

- *Australian Physiotherapy Association. (2002). Guidelines for physiotherapists working in and/or managing hydrotherapy pools.*

- *Safety of Facilities; information from British Chartered Society of Physiotherapy; 'Employment Relations & Union Services: Health & Safety – Hazards in Hydrotherapy Pools' ERUS H&S12 July 2001.*

- *American Physical Therapy Association, Aquatic Physical Therapy Section: 'Developing an Aquatic Physical Therapy Program – A How To Manual for Developing and Implementing Your Program'. February 2002.*

- *The Lovibond Handbook for water testing*

- *Hong Kong Centre for Health Protection Guidelines for Management of Commercial Spa Pools*

- *Hong Kong Swimming Pool Regulation, Cap. 132CA sections1-19*

Appendix 1

Contra-indications and Precautions:

Contra-indications:

- Uncontrolled seizure activity
- Persistent diarrhea
- Significant open wounds, without bioocclusive dressing
- Severely compromised cardiovascular system
- Deep X-ray therapy or renal disease where the person cannot adjust to fluid loss in the water.
- Contagious water or air-borne infection/disease
- Severely limited vital capacity – check with medical doctor whether person can tolerate a 10% decrease in vital capacity
- Tracheostomy

Precautions:

- History of aspiration of liquids
- Infectious respiratory event – cold, flu, allergy symptoms
- Elevated temperature
- Appears “unwell” e.g. lethargic, irritability
- Bladder or bowel incontinence (See Incontinence Management Guidelines)
- Compromised cardiac function or other heart conditions
- Compromised respiratory function
- Infectious skin conditions and small open wounds
- Nasogastric, Gastrostomy and PEG tubes
- Abnormal blood pressure
- Colostomy, urostomy, or ileostomy bags
- Acute orthopaedic injury with pain and instability present
- Controlled seizure activity
- Controlled diabetes
- Chlorine/chemical sensitivity
- Latex allergies
- Active joint inflammation
- Menstruation

Appendix 2

Hydrotherapy/Aquatic Physiotherapy/Swimming Consent Form

I the parent/guardian of _____ give consent for my child to participate in the hydrotherapy/aquatic physiotherapy and/or swimming programme.

Please indicate (with a ✓) if any of the following are applicable to your child:

History of aspiration of liquids		Deep X-ray therapy or renal disease	
Bladder or bowel incontinence		Tracheotomy	
Compromised cardiac function or other heart conditions		Compromised respiratory function	
Epilepsy		Nasogastric, Gastrostomy and/or PEG tubes	
Diabetes		Abnormal blood pressure	
Chlorine/Chemical sensitivity		Menstruation	
Latex allergy			

Your child will not necessarily be excluded for any of the above conditions, however it is important that our staff are aware of these and clearance from a medical doctor may be required prior to commencing or continuing any hydrotherapy/aquatic physiotherapy programme.

Your child may be temporarily excluded from a hydrotherapy/aquatic physiotherapy session due to the following:

- Infectious respiratory event – cold, flu, allergy symptoms
- Elevated temperature
- Appears “unwell” e.g. lethargic, irritability
- Infectious skin conditions and small open wounds
- Acute orthopaedic injury with pain and instability present
- Active joint inflammation
- Significant open wounds, without bioocclusive dressing
- Contagious water or air-borne infection/disease
- Menstruation

_____ _____

Signature of parent/guardian Date:

Appendix 3

Pool Rules

- Pool door to be kept locked at all times.
- Before entering the pool, observe normal hygiene practices by using the toilet and showering thoroughly (using soap/shampoo if necessary)
- The school nurse must be consulted on suitability for any students with the following conditions to use the pool: open wounds; colds, sores, infections i.e. urinary, skin, eyes, ear; gastrointestinal conditions; skin complaints, i.e. tinea, plantar warts, rashes, sensitivity or allergy to pool chemicals.
- Staff must know and understand the normal operating procedures and emergency action plan (refer to emergency procedures).
- Staff (including observers) must understand the safety aspects of their own duties and be fully competent to deal with incidents. Any adult with, or supervising children in the pool must be certified and willing to carry out CPR.
- Staff should understand and be familiar with methods of handling individual students (refer to individual programmes).
- A maximum of 6 people (including adults and students) in the water at any one time.
- For incontinent students, those at high risk of bowel incontinence should not use the pool. For low risk students, a suitable swimming diaper must be worn.
- Disposable nappies must not be used in the pool.
- If the pool is contaminated by blood, vomit or faeces, use of the pool must be suspended immediately and the school office informed. This also applies should diaper/swimming costume be found soiled on exit from the pool.
- Diving and jumping in from the pool side is not allowed.
- Walking at all times on the poolside and up and down stairs.
- The pool area should be kept clear of obstruction. All equipment should be stowed in the designated area.
- Equipment must not be left in the water after use.
- Students should not be in the water for longer than 30mins, and staff should not be in the water for longer than 3hrs continuously.
- Jewelry should not be worn in the pool, and long hair should be tied back.
- No-one is to swim in the pool alone (including adults).

Appendix 4

HYDROTHERAPY POOL – MEDICAL EMERGENCY PROCEDURES

These procedures cover all medical emergencies that may occur, including epileptic seizures, drownings and near drownings, head injuries, and any other event that could be classed as a medical emergency.

In the event of a medical emergency the following steps must be followed.

1. The person who witnesses/involved informs the poolside observer on the side of the pool to get help. This is done by paging the office according to the medical emergency call system which is clearly labeled by the phone. The office staff will page the nurse and other members of the school emergency team to proceed immediately to the pool to assist with extrication procedure. If the nurse is unavailable then the office should be paged to call firstly an ambulance, and then inform the principal/vice principal and class teacher accordingly. (See Emergency Procedures Flowchart for details).
2. The rescuer in the pool is the **PRIMARY RESCUER** and will control the emergency until the nurse or senior staff are present.
3. If other students are present in the water and there is a second staff member already in the pool, then they should assist the other students to exit the pool, when it is safe to do so. If no other staff member is in the water, other staff should be summoned to assist. The victim is the priority and should be evacuated first. Other students should remain in the pool until after the victim has been evacuated, unless it is disruptive or dangerous to do so.
4. In an emergency situation, the victim is lifted out of the pool immediately on the 'evacuation board'. Pool staff should take note of whether the child has potentially swallowed/inhaled water or sustained a head/neck injury and inform the nurse/ambulance staff.

5. **EXTRICATION PROCEDURE**: The method of removing the victim from the pool is as follows:
    - After raising the alarm and summoning more staff to assist, the poolside observer will put the evacuation board into the pool get into the pool to assist.
    - If there is a seizure involved, the poolside observer will throw the ball mat and neck floatation into the water to be used as additional support/floatation. The neck floatation is placed around the victim's neck and victim is floated to the side of the pool.
    - School emergency team members assist with stabilizing and extrication the 'evacuation board' from the pool. If necessary a third person may have to get into the water depending on the condition and size of the victim.
    - Secure the victim onto the board with the straps provided.

- If a head injury is suspected, use the head immobilizer.
- Position the board so that the head end is by the side of the pool.
- The rescuers that are in the water will press down on the foot end of the board until the head of the board is high enough to clear the edge of the pool.
- The board is then pushed up and onto the side of the pool where other rescuers will pull it out of the water and take the victim out into corridor (to the designated rescue area) and lower it to the ground.
- See videos of JCSRS rescue procedures for more details (Y:\Policies and Procedures\Training Videos\Hydrotherapy pool rescue procedures).
- Once the victim has been rescued, the victim must be kept as warm and dry as possible.

6. Place victim onto the floor, check airways, breathing and circulation (ABC) according to CPR training. Perform CPR as indicated.
7. If the use of an AED is indicated, dry off the victim BEFORE placing AED pads onto the victim's chest. Follow the instructions of the AED. The school nurse will be in charge, unless unavailable, in which case Senior Leadership Team will be in charge.
8. Once the incident is over then an 'Incident Report Sheet' must be completed and given to the Principal for countersigning.
9. People involved in the incident/emergency have an opportunity to debrief.

Appendix 5: EMERGENCY PROCEDURES FLOWCHART

Drowning/seizure in the pool

▼

Pool Staff	**Poolside Observer**
➢ Evacuate victim using rescue board ➢ Evacuate other students from the pool if possible ▼	➢ Page Office staff ➢ Prepare rescue board and or ball mat ➢ Assist student evacuation from the pool (Jump into the pool if necessary). ▼

Perform CPR while awaiting assistance

Nurse & PT	**Office Staff**	**Senior Leadership Team**	**Janitorial Staff**
Go directly to the pool without delay. ▼ Bring along with AED and resuscitation bag ▼ **Nurse/PT/Pool Staff** Commence CPR. (Refer CPR Flow Chart) ▼ Escort student to hospital with detailed resuscitation record (Nurse) ▼ **Evaluation for further improvement**	Summon nurse and all other members of emergency team to pool area (all page "emergency in pool") ▼ Call Ambulance ▼ Inform all teachers to keep all students in the classroom (all page) ▼ Kept the corridor clear of obstruction. ▼ Direct ambulance personnel to the pool.	Manage 'Pool Emergency Team' * ▼ Ensure appropriate documentation of incident is completed. ▼ Inform parents ▼ Handling of mass media if necessary. ▼ Debriefing with staff after the incident.	Go directly to the pool and assist with student evacuation. ▼ Place mat and towels in designated resuscitation area ▼ Unlock emergency exit nearest pool for fastest exit of emergency personnel and victim ▼ Tidy up all emergency equipment and return to medical room and office

*** Pool Emergency Team Members: Nurse, Physiotherapist, Pool staff, Janitorial staff, Senior EA, SLT**

Appendix 6: Procedure following Pool Contamination (from Hong Kong Centre for Health Protection Guidelines on Management of Commercial Spa Pools)

Faeces in Pool

The procedure depends on whether the stool is formed and can be removed intact. Close pool, remove stool, hyperchlorinate to raise the residual chlorine level to not less than 2ppm for at least one hour with pH between 7.2-7.8. If a loose stool is dispersed in the pool, the pool should be drained of water, hosed down, refilled and hyperchlorinated. After hyperchlorination, the pool can only be used when the chlorine drops below 3ppm. Wait for one complete turnover of the filtration system before the pool is reopened for use.

It is always difficult to differentiate between formed and loose stool in water and therefore the more stringent measure should be taken when in doubt.

Blood or Vomit

The pool should be temporarily cleared and the contamination dispersed until there is no further trace. Tests for disinfectant levels should be satisfactory before allowing people to use.

Hyperchlorination or super chlorination is the addition of an extra dose of chlorine to pool, which brings the Free Available Chlorine level to 6.0ppm. This will restore the chlorine's ability to control algae and bacteria. After super chlorination, the pool can only be used when the chlorine residual drops below 3.0ppm.