Northstowe
Martin Bacon Academy

Martin Bacon Academy
Hydrotherapy / Swimming Pool Policy
September 2025

Introduction to the Hydrotherapy / Swimming Pool

Our swimming pool has a dual purpose for regular swimming and hydrotherapy. Hydrotherapy is defined as the treatment of physical illnesses and conditions using the therapeutic properties of warm water. It consists of specific exercises and activities carried out in a one to one or group situation.

Where special schools use their pools for the purposes of providing hydrotherapy treatment to pupils with complex physical needs, pool activity programmes will usually involve team teaching by a range of staff. These could at times involve teachers, learning support/care assistants and physiotherapists.

Water based learning activities will take place in the hydrotherapy pool to promote water confidence and extend learning opportunities for the user.

Safe practice should be as rigorous as in swimming pools and adult / pupil ratio should be determined by carefully examining individual pupils' medical profiles and health care plans in conjunction with relevant medical staff.

The contents of this policy should be read alongside:

- Normal Operating Procedures (NOP),
- Standard Operating Procedures (SOP),
- Protocol for managing seizures in a swimming pool.

Responsibilities and expected competencies of staff

Principal

The Principal has a responsibility to;

- Ensure all staff involved in pool sessions are appropriately trained,
- Ensure a safe environment,
- Ensure that a competent person is assigned responsibility for pool maintenance issues; including the water sampling regime,
- Ensure that "Lesson Leader" is competent and aware of their responsibilities,
- Ensure all staff and volunteers are appropriately DBS checked, in accordance with Local Authority (LA) Policy.

For the purpose of this policy, there are three categories of staff who this policy applies to when conducting lessons:

- Lesson Leader,
- Support staff: Water Based,
- Support Staff: Poolside,

Lesson Leader – Physio/Teacher/Support Staff

The Site supervisor(s) will inform staff of any issues compromising water quality/temperature/pool environment which affect the use of the pool prior to any session. The site supervisor will inform staff if the pool is out of use via email and will use best endeavours to communicate a timeframe as to when it may be used again.

The lesson lead will be aware of:

- Water temperature,
- Staffing levels – including,
- Pool environment,
- Emergency exits,
- Alarms,
- Equipment,
- Moving and handling procedures (if applicable),
- Hygiene,
- Incident procedure,
- Unexpected immersion (individual pupil risk assessment)

The Lesson Leader (Teacher / Teaching Assistant) has a responsibility to;

- Ensure all support staff, volunteers and observers are competent, appropriately trained and briefed on their responsibilities within the session,
- Ensure written parental consent has been received from the parent of any child taking part in the session. Learner competence in the swimming is a question asked of parents within the MBA considerations forms, during the admissions process.
- Ensure appropriate staffing ratios relevant to individual pupil assessments (e.g. medical profiles, care plans, manual handling and Therapeutic plans),
- Lead the lesson according to the lesson plan,
- Brief support staff on session plan and their role in delivering it,

- Completed the annual dunk test and resuscitation accredited training in effecting resuscitation **or** identify at least one person inthe pool area who is responsible for this,
- Be responsible for deciding whether the lesson takes place and whether an individual child or member of staff takes part (see contra indications and precautions section),
- Monitor the safety and security of the environment, including the surrounding pool area,
- Ensure relevant updated care plans, medical plans and healthcare plans areavailable for all supporting staff. All staff must be aware of individual needs prior to the lesson and adapt lesson / access to pool accordingly,
- The site supervisor should ensure that the Emergency Box (by the Fire Exit) has space blankets available for each pupil/staff member, whistle and Inco pads, with lesson leaders being aware of the location, if required.
- The lesson leader is the person who has been allocated this role or the most senior member of staff active during the specified session

Support Staff (water based):

Support staff working in the water should:

- Be competent in handling pupils / students in the water,
- Attended and completed the annual accredited resuscitation training,
- Have knowledge and practice of evacuation procedures,
- Have knowledge of pupils they are supporting (i.e. medical conditions, behaviour, learning outcomes),
- Be aware of the location of the pool side support staff in order to communicate support where appropriate,
- Be confident in the water,
- Be medically fit,
- Be appropriately dressed,
- Be responsible for the care and safety of the child whilst in the water.

Support Staff (poolside):

Support staff (poolside) should:

- Wear appropriate footwear and clothing (shorts and T shirt/ flip flops). Staff must not wear everyday work clothing on the poolside,
- Have knowledge of pupils they are supporting (i.e. medical conditions, behaviour, learning outcomes),
- Be confident in the water (should they have to provide any assistance),
- Comply with school Manual Handling Policy and evacuation procedures,
- Attended and completed the annual accredited resuscitation training,
- Be responsible for the care and safety of the learners prior to and on leaving the water. Their duty begins as soon as the first pool user enters the water and s/he should remain poolside until the last pool user has left the water,

- Alert the attention of the lesson lead and water based staff to any issues or concerns that s/he has,
- Freely to move around the poolside as appropriate to view the whole session and remain alert throughout the session,
- Draw attention to any emergency that develops, and then return to observing the pool whilst other youngsters are still in the water,
- Remain on pool side and have no other responsibilities,
- Be aware of the location of the poolside phone and must have access to a radio, should they require assistance from other staff in the main school building.

The number of support staff (water based and poolside) will be determined by the lesson leader, to ensure all learners can access the pool safely and work towards meeting the outcomes of the lesson.

External Professionals e.g. therapists, social care team etc

An external professional fall outside of the remit of lesson leader and support staff (poolside and water based). If an external professional is observing a pupil when they are using the pool:

- They must take their shoes and socks off prior to entering the poolside,
- They must observe away from the poolside (not standing close to the pool),
- They must not communicate to staff in the water and only engage with poolside staff if it is safe to do so,

The responsibility of the external professionals will remain with the lesson leader to ensure observations can take place, whilst maintaining safety at all times. The external professionals must not become involved in the lesson, they can only be there on an observational basis.

Levels of Supervision

- In conjunction with the NOP, the maximum number of people (staff and students) accessing the pool at any given time is 10 (pupil and staff). Once the maximum is reached, no one else is permitted to enter the pool, until someone has exited,
- The adult / pupil ratio for a pool based session can only be determined by careful examination of individual pupil risk assessments, which should include reference to medical profiles, healthcare plans and behaviour management plans. This will be recorded on the individual pupil risk assessment,
- There must be a minimum of one water based and one poolside based support staff when using the pool,
- Water based staff must have completed the dunk test training in order to support learners in the water and at least one member of staff must be dunk tested to be poolside support,
- If a staff member is using the pool they must have as a minimum 1 person with them at all times, either on the poolside or in the water with them. A timetable of use should be available to all staff including site

manager, listing the planned number of child and adult users,

- All lessons should be appropriately planned, outlining ratios as well as high quality learning outcomes,

Training

All staff involved in a pool session must be appropriately trained according to their responsibilities / role within the session.

This should include:

- Manual Handling training relative to local health and education guidelines
- Dunk testing,
- Resus training (completed annually with staff),
- First Aid (minimum 1 trained First Aider on site, first aid box provided poolside),
- Emergency medical training relative to individual pupil healthcare plans or immediate access to health care support staff,
- Use of pool based equipment (all staff),
- Evacuation procedures (all staff in school),
- Relevant knowledge of appropriate checks of water and air conditions. (Site Manager),
- Detailed records of staff training must be kept.

All staff should attend relevant pool training pertinent to their role within the pool area or pool itself and all staff should read the pool policy.

Staff should follow MBA recording systems should an event occur that requires documentation (e.g. Medical, behaviour etc), There is an accident plan and recording documentation in place and the session lead is responsible for recording any accident or near miss.

Medical and Hygiene Issues/Behaviour

All pupils and staff must be medically fit for the activities in which they will beinvolved. The following list of contra indications will preclude any child or member of staff from taking part in the session. The precautions stated should be taken into account by the session leader in determining whether someone is able to take part. See appendix 2 for contra-indications.

Precautions

MBA considerations forms will be completed by parents to indicate whether their child can access the swimming pool and highlight whether there are any medical needs that impact on their access to the swimming / hydro pool. All classes have a class risk assessment that provides an overview of the risks associated with each pupil and strategies to support learners to access the environment safely. This risk assessment also applies to learners safely accessing the swimming pool, including

behaviour strategies, medical safeguards and emergency medical procedures. All learners should be subject to a dynamic risk assessment prior to entering the pool.

Individual staff members should be responsible for evaluating their own health needs and discuss any specific requirements with the lesson leader prior to the start of the session,

Particular consideration should be made regarding any pregnant staff members. In such cases a specific individual risk assessment will be required.

The lesson leader has ultimate responsibility for the decision of who is or isn't fit enough to take part in the pool session,

To prevent fatigue and dehydration during a session, the school should set clear time limits for time spent by pupils and staff in the pool environment. These time limits will depend on the individual environments of each pool, however, they should not exceed the maximum levels set out in the generic risk assessment. In any case pupils should spend no longer than 30 minutes in the water at any one time. Access to fluids should be provided before and after a pool based session for staff and pupils, being available during the activity based on pupil need.

For hygiene purposes, consideration should be given to:

- The wearing of appropriate footwear on the pool side (see generic risk assessments),
- The cleanliness of equipment used in and outside the pool, including equipment brought into the area from outside e.g. hoists, wheelchairs etc,
- The wearing of appropriate swimwear, including padding for pupils at risk of incontinence,
- The tying back of long hair or use of swimming caps,
- Access to shower facilities for pupils and staff before and after a pool based session,
- That appropriate checks of water quality and air temperature have been carried out, in accordance with the generic assessment.

Safety Precautions and Emergency Procedures

See NOP for general rules relating to the use of the swimming pol.

Risk assessments are required for all pupils involved in water based activities. These are included within the class risk assessments, making reference where appropriate to;

- The medical needs of the child,
- Any behaviours which may cause risk,
- The manual handling needs of the child,
- Emergency procedures related to the child (information included in pupil PEEPS),

- Levels of supervision required

All equipment within the pool area must be used, regularly checked and serviced in accordance with the manufacturer's recommendations and any statutory requirements. Equipment not in use should be appropriately stored away from the pool area.

Swim pants must be worn at all times by all pupils at risk of incontinence during a pool session. No pupil can enter the pool without swim pants or a swim nappy**.** If a pupil begins to vomit or soil in the pool, s/he should be removed from the pool as soon as possible to limit contamination. The site manager should be informed. If the pool is contaminated, it will shut down for a minimum of 24 hours. The site supervisor will communicate with staff how long the pool will be shut for and when it will be reopen.

Staff and pupils in the pool area should remove all jewellery except where religious practice is being observed (apart from flat wedding bands) in which case such jewellery must be securely taped up. If it is not possible to remove all other jewellery, the individual concerned should not take part in the session. Any jewellery removed should be stored safely by a member of staff.

All emergency medication, which may be required, should be brought to the pool session and stored safely or be available when urgently required. Poolside based staff to radio or use the poolside phone to request help, in line with MBA procedures e.g. "code blue swimming pool."

Pupils with gastrostomy, venflon or Hickman lines should have them spigotted and covered with Op-site (or similar waterproof adhesive dressing) before entering the pool**.** All pupils must provide their own dressings (parents/carers can ask their G.P. to prescribe these).

A member of the senior leadership team must be informed of any pool incident and will determine who will contact parents to inform them of such incidents.

It is the lesson leads responsibility to complete MBA recording processes should they require (medical / behaviour), with support from the staff supporting in the pool area.

All staff should be aware and practice:

Emergency evacuation procedures.
Such practices should be at least termly. Records should be kept of staff update training received and those staff involved in each practice.

Emergency evacuation + procedures

A key role of all staff using the pool is to remove or reduce the chances of students getting into difficulty whilst in the water. This requires staff using their training to avoid incidents by early intervention to any given situation. However, when an incident does occur it is important that all staff know how to proceed.

On hearing the fire alarm:

- Students/pool-users will be immediately evacuated from pool, via the stairs or hoisted into their wheelchairs. They will be wrapped in survival blankets and dry towelling robes. Survival blankets need to be provided in the pool area,
- Ambulant students will exit the pool in a calm and supervised manner following their individual moving and handling risk assessment, they must also be wrapped in survival blankets/towelling robes,
- The poolside based staff member will sweep the zone and assist in evacuating the students from the pool area. Staff will follow the emergency evacuation route leading them to the exit doors, where they will await or request further advice on exit,
- They will only return to the pool area when instructed to by the fire marshal,
- During a Fire drill or Emergency evacuation practice**,** the pupils are to leave the water but remain inside the pool area by the double Fire Exit doors, on pool beds or in chairs with adequate heat cover (blankets etc),
- During a real emergency, all pupils and staff must evacuate the pool and await / use vocera to gain instructions to exit via the Fire Exit doors and report to the meeting point in the school grounds as indicated.

The site team conduct routine check of the pool area daily to ensure the pool area is safe to use. There may be occasions where upon inspection by the class team, they notice a hazard that impacts on the safety of the pool area. This includes:

- Lighting Failure:
  - The pool should be cleared immediately and all staff and students move to a safely lit area.

- Lack of Water Clarity.
  - If the water is cloudy or milky, it cannot be used and will be out of order until tests are completed and balance restored. The site manager will need informing.

- Chemical Leak.
  - In the event of a chemical leak or suspected leak staff need to follow procedures as for fire evacuation.

Minor Incident.

A minor incident is one that can be managed and is not life threatening. If staff need support they must use the radio or poolside phone to call for assistance.

A minor incident may result in an amendment of a risk assessment. All such incidents must be reported by completing the appropriate accident/incident forms and informing a member of the leadership team.

Serious Incident- PRESS EMERGENCY PHONE

If a student or member of staff in the water requires medical attention, a member of staff in the water will ensure the safety of that person. If there is a suspicion of a spinal injury they will not be moved unless they are face down. If a spinal injury is suspected and a spinal board is available - STAFF MUST LEAVE THE PATIENT ON THE BOARD AWAY FROM THE WATER'S EDGE. DO NOT ATTEMPT TO MOVE THEM ANY FURTHER THAN IS SAFE. Read this in line with the Protocol for managing seizures in the swimming pool document.

If a student is conscious and safe, the hoist may be used to exit the water. If the student is unconscious then they must be removed from the pool the safest way, a minimum of two staff would need to be in the water and staff available on the side (these would arrive via the poolside support staff requesting support through the radio or poolside phone). One adult must give the instructions using 1, 2, 3, or 'ready, steady, move'.

See "Protocol for managing seizures in the swimming pool" document if serious incident relates to seizure activity.

Additional considerations when dealing with a serious incident:

- Carry out first aid procedures until help arrives,
- The poolside support staff will take charge of the evacuation of the pool as necessary and request support via MBA support systems,
- The emergency service will be called by the office if needed,
- Staff to record incident following MBA recording systems,
- As a result of a serious incident a report to Reporting of Incidents, Diseases and Dangerous Occurrences Regulations 1995 [RIDDOR]

Procedures for Dealing with other Incidents.

There may be occasions where staff have to deal with vomit, diarrhoea or faeces. In the case of any of the above, the pool should be evacuated and all students and staff shower thoroughly. Inform the site manager & a member of SLT immediately.

Transmission of Infection

Swimming pool water must be adequately disinfected at all times to ensure that there is no cross-infection risk from bather to bather**.** This is the responsibility of the site team.

Many types of bacteria and other micro-organisms are introduced into the water, but most of these are harmless. Non – pathogenic and are normally present in healthy people; only in exceptional circumstances can they cause disease, pathogenic, e.g. harmful.

Some micro-organisms (called pathogens) can cause disease, in a well- managed and adequately disinfected pool, their number is so small that therisk to bathers is slight.

Infections

It is useful for pool operators to understand which infections can be transmitted in swimming pools. There are a number of organisms that can cause disease through recreational water use, but are not in practice transmitted via swimming pools. The different types of infections can be seen in appendix 1.

Gross Contamination

Gastro-Intestional Infections

In an adequately disinfected pool, most microorganisms responsible for diarrheal diseases, if introduced into the water, will be diluted in the large volume of pool water and inactivated by the disinfectant residual. However, some organisms are resistant to the commonly used disinfectants.

Bacterial infections that can cause diarrhoea as a result of swimming in contaminated water include Shigella and Escherichia coli. These bacteria and viruses are rapidly inactivated by chlorine, and outbreaks associated with pools are due to inadequate chlorination.

Dealing with faeces, vomit, blood in a pool can be dealt with in similar ways.

Faeces

If the contamination is solid, site team to be alerted by poolside support staff immediately, to scoop the contamination immediately from the pool. If the pool is operating properly with appropriate disinfectant residuals and pH values, no further action is necessary. For a solid faecal fowling the turnaround time for a single turnover cycle is 1.25hours.

If the contamination is runny (diarrhoea), site team to be informed, with the pool being immediately closed, cleared of bathers. If there is some doubt about the accuracy of the diarrhea incident, site team must be called to make the judgement of the contamination. Site team to decide that the risk of harmful contamination and determine whether the pool can remain open or should be closed. For runny faecal fowling or diarrhoea deposits the pool will be closed for 24 hours, with a further 8 hours to aid filtration of any contaminants that a full back wash in the plant room did not manage to remove.

For smaller pools, cleaning the pool before reopening is a safe option. Filters will also be contaminated and need to be

backwashed.

Environment

Key considerations with regards to the pool environment:

- Entrance to the pool should be securely locked at all times when not in use. This function is performed via a fob system. Learners are not to enter the pool area without the appropriate staffing levels (water based and poolside support). All staff are aware of potential danger when fire alarm is activated, as the doors are disarmed/disengaged at this time,
- There must be adequate signage for exits to ensure safety of emergency evacuation.

Flooring

- All floor surfaces should be slip resistant to prevent accidents involving slipping or falling,
- All floor surfaces should be cleaned on a regular basis using appropriate cleaning materials,
- Staff should be wearing appropriate clothing for the swimming activity. If unable to wear swimming attire, outdoor shoes and trainers must not be worn on poolside. These should be removed. If unable to remove protective covers over shoes must be worn **or** change into clean appropriate footwear,
- Adequate facilities should be in place for cleaning wheels on wheelchairs,
- Any cracked tiles or uneven flooring must be reported to the site team immediately, who will liaise with Meridian Trust Health & Safety representative (if appropriate),
- Excess water should be kept to a minimum and spillages cleaned up immediately and wet floor signs placed appropriately,
- All steps into pool must be visible with step edges highlighted

Equipment

There should be suitable storage provision for all equipment e.g. swimming aids, therapy aids, clothing, moving and handling, in order to keep poolside, changing areas and fire exits clear,

Ensure equipment maintenance and service contracts are kept up to date in accordance with the applicable statutory requirements. All records are kept in the School Health and Safety folders.

Checks on swimming aids for any damage and cleanliness should be made prior to use by staff using the pool. Site team and class teams are responsible for these checks.

Ensure all staff are adequately trained in the safe use of equipment, in accordance with the manufacturer's guidelines.

The use of a pool cover should be risk assessed on an individual site basis. This should be cleaned regularly to minimise the

risk of ‘puddling’.

Dangerous Substances

Chemicals and water treatments must be stored in accordance with the manufacturers and suppliers guidelines.

Personal protective clothing should be worn when using chemicals. (Site Manager) as appropriate.

Adequate disposal facilities for incontinence wear must be provided.

Electricity / Lighting

Report any faults immediately.
Ensure appropriate lighting for the task.
Ensure appropriate electrical safety standards are met (BS:7671:2008 - The Requirements for Electrical Installations & the Electricity at Work Regulations).

Ensure that an adequate alarm/communication system is in place and is tested regularly.(vocera/walkie-talkie)

Ensure Residual Current Devices are in place (RCD’s).

Ensure emergency lighting is sufficient and maintained on a regular basis. All records are kept in the Schools Health and Safety folders (kept in plant room).

Signage

Ensure signs are in place for;

- Emergency exits,
- Safety precautions e.g. No running - No jumping etc,
- Pool depth,
- Ensure that a clock is on the wall in full view from the pool to time length of sessions, seizures etc.

Air Temperature

Hydrotherapy and aquatic rehabilitation pool air temperature should be maintained at approximately 25-28°C or 1°C either side of this temperature. There is a ‘boost’ button to increase the temperature if it falls within the lower range.

Relative humidity should be maintained at a level of 60% (no less than 50%, no more than 70%) throughout.
A thermometer should be in view for checking air temperature to protect people from fatigue and dehydration.

Risk assessment and Pool Management

Risk assessment is central to the effective management of health and safety in hydrotherapy and spa pools. The Health and Safety Executive (HSE) makes it clear that, "It is the duty of pool operators to ensure risks are adequately identified, assessed and controlled to prevent harm to employees or those affected by the work activity".

Risk assessments should include an evaluation of all facilities, equipment, staffing levels, patients, treatment programmes and operational, maintenance, management and supervisory policies, as well as an inspection of the hydrotherapy pool site. Risk assessments should incorporate the following: facilities inspection, including pool site; surround equipment; plant room and related facilities such as changing rooms, showers, etc;

- Observation on the maintenance of the facility, including a review of maintenance records;
- Observation on the cleanliness of the facility;
- Review of history of facility repairs, existing equipment and need for new equipment purchases;
- Note of hazards, and appropriate action;
- Gathering of water and air samples (for chemical analysis), check on water clarity etc;
- Checking of flow-rate and water turnover time to acceptable standards;
- Adequate lighting, including ensuring that glare from natural or artificial lighting does not interfere with ability to see below the pool surface;
- Adequate airflow, ensuring good ventilation;
- Pool temperature;

Site manager keeps records of Pool Safety Operating Procedure (NOP and Emergency Action Plan), water sampling, records of levels of contamination and resulting chemical balance needed (incident and maintenance logs), Chemical and bacterial water analysis, pool operation training, daily pool chemical logs. All these records are to be kept in the Swimming pool Health and Safety Folder (plant room). Emergency evacuation, accident and incident poolside sheets are completed by school. Site team also responsible for:

- The provision of prominent and adequate safety signs as an effective method of risk control;
- Follow-up action to involve relevant departments/colleagues, such as occupational health / environmental health (where appropriate).

Operational Procedures

Monitoring

All maintenance checks must be carried out according to the maintenance schedule by the appropriate person responsible for the pool maintenance.

All lesson leaders must be aware that a maintenance schedule is in place and conducted by the site team. Staff will be made

aware if the session cannot take place due to failure of test.

Results of all required tests and checks should be recorded on a daily basis on a record sheet by the site team and be accessible to staff or professional, if requested.

All records must be accurate and up-to-date and should be readily available.

Any malfunction of the pool must be reported promptly to the person responsible for pool maintenance and/or the Principal, and appropriate action taken; for example the pool may need to be closed until the problem has been rectified.

Handling Chemicals

All chemicals used in the maintenance of the pool must be handled in accordance with Control of Substances Hazardous to Health Regulations 2002 (COSHH).

Chemicals must be handled only by the staff who are authorised to do so and who have had the appropriate instruction in their use (Site Manager or NCC staff acting in this role.)

All staff must wear appropriate PPE when handling chemicals.

Plant Room Inspections

Appropriate Personal Protective Equipment (PPE) must be worn at all times by staff that are required to visit the **plant room** for routine inspections and checks.

Strictly no unauthorised entry to the pool plant room

The Site team is responsible for the risk assessment for the **pool plant room** and the review of the document.

Pool Water Treatment

Staff using the pool and safety reps should be aware that safe working practices in hydrotherapy pools rely on management's effectiveness in dealing with hazards, including the use of potentially dangerous chemicals and other water treatment issues such as bathing load and turnover. Risks to all those using the pool and surrounding area from poorly maintained pool water include:

- Skin irritation;
- Respiratory problems and eye irritation due to disinfectant used;
- Infection;

- Possibility of fire due to some disinfectants being oxidising agents;
- Leaks of toxic gases (i.e. escape of chlorine gas).

School safety representatives are advised to familiarise themselves with the guidance issued by the Pool Water Treatment Advisory Group (PWTAG available on the internet). Backwashing and filtration and chemical use and control is the responsibility of the site team, which is outlined in the NOP. The NOP outlines chemical readings / parameters and daily testing timings.

Important note: Full microbiological testing of the pool should take place at least once every month by an accredited UKAS laboratory, this should include the following tests:

- **TVC – Total Viable Count**
- **Coliforms**
- **E-coli**
- **Pseudomonas**

The Control of Substances Hazardous to Health (COSHH) Regulations are applicable to chemicals used in hydrotherapy pools. Guidance relating to COSHH can be located in section: B 22 of the County Council's Health & Safety Manual (also available on wired).

For more information see the section on 'Management of the Hydrotherapy Pool' in the CSP's 'Service Standards' (Standards of Physiotherapy Practice, CSP, London, July 2000).

Guidelines for Water Conditions

Reading	**Ideal State**	**Acceptable Range**	**Extra Precautions**
Temperature (Hydro)	34.5º C	32 - 36º C	Cold – active students only watch for chill Hot – moderate activity shorten time in water watch for overheating
pH	7.4	7.2 – 7.4	
Free chlorine	– 2.0 mg/l ppm	0.5 – 7.0 mg/l ppm	Avoid contact with eyes It is advisable to shower well after treatment
Humidity	60% max 25c – 28c	50%-70% 25c – 28c	
External temperature			

Figures correct as of PWTAG Code of Practice for Swimming Pool Water – 2017

Infection Risks

Microbiological sampling
Hydrotherapy pools – including those not in a healthcare setting – should be tested once a week

Familiarisation with the Local Authority's guidance on infection control, and an understanding of its importance.

If at any time during the session a child opens their bowels or vomits whilst in the pool, the session must stop and all children taken out of the pool as quickly as possible. Liaison with the person who maintains the pool will clarify the length of time the pool remains closed for thorough cleansing and necessary checks.

References:

- PWTAG Code of Practice for Swimming Pool Water – 2017
- Safety in Swimming Pools – September 2004
- Control of Substances Hazardous to Health Regulations 2002 (COSHH)
- Education Department Circular
- ERUS H&S 12 Hazards in Hydrotherapy Pools
- CPS – July 2001
- Managing health and safety in swimming pools (HSG179) – HSE Books (2nd edition published 1999, 3rd edition published 2009)
- Safe Practice in Physical Education and School Sport (2008 Edition) – British
- Association of Advisers & Lecturers in Physical Education (BAALPE)
- ATACP Recommendations for safe aquatic physiotherapy practice in relation to the COVID-19 pandemic

Appendix 1: Types of Infections transmitted through swimming pools

LEGIONELLA

This bacterium is found in a range of recreational water and may cause respiratory infection (including pneumonia) when water is mixed with air in an 'aerosol' and inhaled. Showers and spa pools have been sources of infection. Site Manager is to ensure that all weekly flush and shower clean (every three monthly) is carried out and record.

LEGIONNAIRES' DISEASE

This severe form of pneumonia is caused by the Legionella pneumophilia bacterium. However, for it to be spread, there must be an infected spray, typically from a spray humidifier or a cooling tower, sometimes associated with poor air-conditioning systems. To date no case of Legionnaires' disease (Legionellosis) has ever been reported that is associated with conventional swimming pools. Site Manager is to ensure all pool air heating equipment is serviced and recorded in the school Health and Safety folders

Poorly managed spa pools can, however, become infected and spread the disease through the fine droplets of water, called an aerosol, generated at the turbulent water surface. Careful maintenance, frequent filter backwashing and close attention to disinfectant levels are critical.

Pre-swim and post-swim showers in swimming pools and spas are a frequent potential source of infected aerosols. Supply water should be stored above 60˚C to kill bacterium and piped at 50˚C or more. Shower heads should be cleaned regularly, 'dead legs' in pipework should be avoided and the water system maintained in accordance with the publication "Legionnaires Disease: The control of Legionella bacteria in water systems" (Approved code of practice and guidance" L8, Health and Safety Executive, 2015. ISBN 0717617726).

All legionella checks are carried out by Second Element on a month basis and all reports are held with in the Schools Health and Safety folders. These are to be checked as part of the management checks.

LEPTOSPIRA

These are bacteria that are excreted in rat urine and can cause Weil's disease (a form of hepatitis). The organism is very sensitive to chlorine.

Although recorded incidents are rare, many outbreaks have been linked to failures in the pool's water management so a well-run pool should be able to offer adequate protection against infection.

Wherever people congregate – at work, in shops, in theatres, on public transport, etc.
there are opportunities for pathogenic micro-organisms to be spread by personal contact, or in the air. Busy pools and changing areas are no exception. So overcrowding should be avoided and pool surrounds, changing rooms, toilets, etc,

should be kept clean and hygienic.

No person should be knowingly admitted to the swimming pool whilst suffering from an infection.

If the disinfection is inadequate, or if hygiene standards are not maintained, it is possible for certain infections to be transmitted by the pool water. Bathers themselves, of course, have a responsibility, reinforced through health education, to follow basic rules of hygiene. There are however, some circumstances in which pool operators should take immediate action, to cope with incidents of diarrhoea, blood and vomit.

EYE INFECTIONS

Conjunctivitis (inflammation of the eye) may be transmitted during visits to swimming pools, but is rarely due to infection.

Where there is bacterial or viral infection it is likely to have come, not from pool water, but from close contact with infected people, or infected articles such as towels.

Irritation of the eye by pool water does make eye infections more likely.

VIRUSES

Viral infections are not spread in well-managed and adequately disinfected pools. Nevertheless, some viruses, including that of pharyngo-conjunctival fever (which affects nose and eyes) have been found in pools with too little disinfectant.

Naso-pharyngeal and respiratory infections are usually spread by infected airborne droplets. Bathers are more likely to contract these diseases in crowded areas than through contact with the pool water.

Nose and sinus problems may also result from changes in osmotic pressure, or chemical irritation.

BLOODBORNE VIRUSES

The human immunodeficiency virus (HIV) and hepatitis B virus are carried in blood and other bodily fluids. Infections are transmitted by inoculation, injection, cuts, etc.

CRYPTOSPORIDIUM AND GIARDIA

CRYPTOSPORIDIUM

These are very similar, they are microscopic single celled parasites somewhat smaller than a red blood cell, which, if swallowed, can cause gastroenteritis. They are not a bacterium or a virus, but belong to a group of microorganisms known as protozoa. They infect humans, animals such as cattle and sheep, and sometimes dogs, cats, rodents, birds, etc.

Cryptosporidium can grow only in a living host and do not multiply in the pool itself. The parasite develops mainly in the cells lining the gut where it goes through a complex life cycle. The last stage of this cycle is the production of oocysts, the infective stage. These are passed out of the body in the stools and can survive (but not multiply) in the environment, especially in cool, moist conditions. Oocysts contain four mobile free moving banana-shaped bodies known as sporozoites. When oocysts are swallowed, the sporozoites are released and attach to the cells lining the gut and start the life cycle over again.

In the United Kingdom the infection is most common in children aged 1-5 years; younger adults are the next most commonly affected group. Infection is less common in infants under 6 months of age or adults over 45 years.

The incubation period may be as short as two days but is more usually about a week. Symptoms may start with the loss of appetite, nausea and abdominal pain. This is usually followed by profuse, foul smelling, watery diarrhoea, vomiting (especially in children), and there may be mild fever and noticeable weight loss. In otherwise healthy people the symptoms persist for 1 to 3 weeks but some symptoms can recur for longer periods (usually not more than a month).

FOOT INFECTIONS

The chances of transmitting any foot infection can be reduced by keeping floor surfaces clean and by ensuring good bather pre-swim hygiene. Footbaths have a limited role in controlling foot infections.

ATHLETE'S FOOT (TINEA PEDIS) Athlete's foot is a fungal ringworm infection which causes itchy scale between the toes.
It is spread by contact with floor surfaces contaminated by skin fragments infected with the fungus.
Floor cleaning reduces the number of the infective particles.
People with severe athlete's foot should not attend swimming pools.

However, it is not realistic to exclude those with possible infection between the toes, as it is difficult to distinguish between infection and soggy skin. Attempting to exclude children is particularly futile, as athlete's foot is unusual in children.

VERRUCAE (PLANTAR WARTS)

Verrucae are plantar warts caused by a virus.

They are spread by contact with floor surfaces contaminated by skin fragments infected with the causative virus.

Floor cleaning reduces the number of the infective particles.

Historically, efforts have been made to exclude verrucae sufferers from swimming pools in the hope that the spread of the virus could be reduced. However, verrucae are common, and there are undoubtedly other means by which the virus is

spread. There is a substantial body of medical opinion which considers that exclusion cannot be justified. Immunity to infection appears to develop readily, as verrucae are uncommon in adults, including those who participate regularly in barefoot activities. It is very doubtful if a firm exclusion policy influences the incidence of verrucae and it is difficult to implement, as well as distressing to children.

The viruses are susceptible to the action of disinfectant and neither condition has ever been known to be spread as the result of using a swimming pool.

Hepatitis A is normally passed on in food and water, its spread in a swimming pool is, like gastrointestinal infections, very unlikely. You should always use a spill kit to minimise the risk to other bathers.

SKIN RASHES

Skin irritation and rashes can be linked to swimming pools. It is a complicated subject, and it is difficult to be sure how far a rash is due to other factors in the sufferer's physical make up and environment. The most important safeguard against such skin problems is good water management and adequate disinfection.

Skin rashes associated with pools are mainly due to one or more of the following factors:

- Wetting and degreasing – especially with warm water and prolonged exposure,
- Degreasing – with most disinfectants,
- Chemical irritation – usually trivial in chlorinated pools but reported more from pools using bromochlorodimethylhydantoin (BCDMH),
- Infection – which can causes rashes in swimming pools but also do so in spas,
- Changing rooms, play equipment etc causes folliculitis

These factors contribute to the most common skin conditions – Bromine itch and folliculitis.

EAR AND SINUS INFECTIONS

Swimmer's ear (otitis externa) is inflammation of the ear canal caused by infection, allergy or other cause. In swimmers, it is brought about by wetting, dewaxing and degreasing of the outer ear. This removes the natural protective coating and leaves the ear prone to infection.

Some people seem prone to otitis externa. If you get water, shampoo, soap, hair spray etc in an ear, it may cause it to itch. You may then scratch or poke the ear. This can damage the skin in the ear canal, and cause inflammation. Inflamed skin can quickly become infected. A vicious circle may then develop. The inflammation and infection cause more itch, you then scratch more, which makes things worse, etc. The infection is usually by bacteria that are almost always present, even on healthy skin, however Pseudomonas aeruginosa is frequently associated with otitis externa.

High numbers of pathogenic Pseudomonas aeruginosa in a swimming pool, due to inadequate disinfection, may cause an

unusually high incidence of swimmer's ear. It is most likely in distance and competitive swimmers because of their increased exposure.

Infection of the middle ear (otitis media) and sinusitis, if they follow swimming, are probably caused by infected mucus being forced into the naso-pharyngeal tubes whilst swimming.

FOLLICULITIS CAUSED BY PSEUDOMONAS AERUGINOSA

This is due to infection of skin hair follicles with the pathogenic bacterium Pseudomonas aeruginosa. A combination of intense skin wetting and high concentrations of Pseudomonas in the pool water are necessary conditions for:

- This complaint as this is an opportunistic pathogen, the bacterium almost never infects undamaged tissues, yet there is hardly any tissue that it cannot infect if the tissue defences are damaged in some way. These factors are intensified in spas via the action of the pressure jets,
- Disinfection failure in swimming pools and spas, allowing heavy bacterial growth within the water treatment system, can also result in the presence of Pseudomonas aeruginosa,
- Folliculitis has been reported in persons using hot tubs, spa pools, saunas, swimming pools, water slides and physiotherapy pools.

PREVENTION OF FOLLICULITIS CAUSED BY PSEUDOMONAS AERUGINOSA

Pseudomonas can colonise filtration media and internal surfaces of equipment. Proper maintenance, including inspection and cleaning surfaces and materials where Pseudomonas aeruginosa can form, (especially found in water-walkers and inflatables), together with control of pH and disinfectant levels will prevent the growth of Pseudomonas aeruginosa. Monthly routine testing for P. aeruginosa is recommended for pool water.

BROMINE ITCH

This is associated with the use of BCDMH, which for some people in some pools produces an intensely itching contact dermatitis (i.e. eczema) especially after re- exposure. The itching usually precedes a visible rash within 12 hours of exposure. The frequency of the rash increases with age, being unusual in children and more common in bathers of more than 50 years of age. It is also more frequent and severe with prolonged exposure, which may occur occupationally, for example, to hydro therapists.

MOLLUSCUM CONTAGIOSUM

A viral infection caused by a member of the poxvirus family, and probably transmitted by direct contact or indirect contact such as shared towels.

The mode of spread is not always clear. Incubation varies from several weeks to several months and scratching may cause the infection to spread. Lesions can occur anywhere on the body. These take the form of pimples and little bumps with

dimples on their tops, often having a pearly appearance.

They may be present for some months before spontaneously disappearing. The virus will not spread in swimming pool water, although pools may provide an opportunity for infective contact.

STAPHYLOCOCCUS AUREUS AND MRSA

Staphylococcus aureus can cause boils, abscesses and infected wounds. Where S. aureus is resistant to methicillin and other antibiotics it is termed MRSA. There is no evidence that S. aureus or MRSA can be transmitted through normal swimming pool use. It will not spread through the water. It is generally spread by skin to skin contact or by sharing towels or clothing. There is no evidence to justify the exclusion of MRSA carriers from swimming pools or hydrotherapy pools, but people with infected wounds should be prevented from entering pools.

BURKHOLDERIA CEPACIA

For people with cystic fibrosis, cross-infection can be very harmful and poses a particular threat. This is why people with cystic fibrosis should not meet face to face. People with cystic fibrosis are vulnerable to different bacteria or 'bugs', which grow in their lungs. While these bugs are usually harmless to people who don't have cystic fibrosis, they can settle in the lungs(colonise) and be harmful for those who do. These bugs can be easily transmitted from one person with cystic fibrosis to another. There is less risk of transmission of 'bugs' in an outdoor environment, but meeting indoors, travelling with other people with cystic fibrosis, or spending time with them socially has a high level of risk. The risk of cross infection increases the longer people with cystic fibrosis are in close proximity to one another. Bugs such *Burkholderia cepacia complex* and *Pseudomonas aeruginosa* can be transmitted from person to person by close personal contact and activities such as meeting, sharing rooms, medical equipment, cutlery or crockery; and by kissing or coughing.

There should be a minimum of an hour between hydrotherapy sessions between two CF sufferers.

Appendix 2 - Contra Indications

Unstable cardiac conditions Circulatory problems Hypertension / hypotension Recent pulmonary embolus Pacemaker Faecal incontinence (more than 2 hourly) Gastrointestinal problems / viruses Recent ear infection Skin or wound infection Open wounds Systemic illness / pyrexia Advanced renal failure During a course of radiotherapy Respiratory problems Low vital capacity Renal disease	Diabetes Infections of bladder, skin or eyes Immuno - compromised system Impaired temperature regulation Contagious viral condition Contagious fungal conditions Contact lenses etc Impaired hearing, grommets etc Tracheotomy Acute fear of water Poor integrity of skin Chlorine sensitivity Other infections Epilepsy Recent radiotherapy (within 10 days of completion) Thyroid problems Cystic Fibrosis-Burkholdria Cepacia