Yeoman Park Academy Hydrotherapy Pool Policy 2020

Office use

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Associated documents:			
Links to:			

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*** Important Note:** This guidance document contains a set of generic risk assessments intended for school use. The assessments only identify the common hazards and control measures associated with the use of hydrotherapy and spa pools. Before undertaking any activity, schools must also make an assessment of any specific risks associated with their particular site, activities and / or pupils. Further guidance relating to risk assessment can be found in section: B2 of the County Council's Health and Safety Manual (also available via wired).

Document History

This guidance has been developed by a working group of representatives from the following organisations and establishments.

Fountaindale School
Carlton Digby School
Ash Lea School
St Giles School
Yeoman Park School
Carlton Digby School
Newark Orchard School
Aspley Wood School
Mansfield, Bassetlaw and Ashfield PCT
Nottinghamshire Children & Young Peoples Services
Nottinghamshire County Council Health and Safety Advisory Services
Nottinghamshire County Council – Building Direct – Water Management Team

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Safety in Yeoman Park's Hydrotherapy Pool

Introduction to the Hydrotherapy Pool

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.

RESPONSIBILITIES AND EXPECTED COMPETENCIES OF STAFF

1. Principal

The Principal has a responsibility to.

- Ensure all staff involved in pool sessions are appropriately trained (see section 7) Ensure a safe environment (see section 10 & 11).
- Ensure that a competent person is assigned responsibility for pool maintenance issues; including the water sampling regime (see section 13). Site Manager
- Ensure that 'Session Leader' is competent and aware of their responsibilities.
- Ensure all staff and volunteers are appropriately DBS checked, in accordance with Local Authority (LA) Policy.

2. Session Leader – Physio/Teacher/Support Staff

The Site/Pool Manager will inform staff of any issues compromising water quality/temperature/pool environment which affect the use of the pool prior to any session. A notice will be placed on the pool doors if the pool is out of use. The session lead will be aware of:

- Water temperature ○ Staffing levels ○ The named spotter ○ Pool environment ○ Emergency exits ○ Alarms ○ Equipment
- Moving and handling procedures ○ Hygiene
- Incident procedure

- Unexpected immersion (individual pupil risk assessment)

The Session Leader has a responsibility to.

- Ensure all support staff, volunteers and observers are competent, appropriately trained and briefed on their responsibilities within the session (see section 7)
- Ensure written parental consent has been received from the parent of any child taking part in the session.
- Ensure appropriate staffing ratios relevant to individual pupil assessments (e.g. medical profiles, care plans, manual handling and behaviour plans).
- Lead the session according to the session plan.
- Brief support staff on session plan and their role in delivering it.
- Have accredited training in effecting resuscitation **or** identify at least one person in the pool area who is responsible for this.
- Be responsible for deciding whether the session takes place and whether an individual child or member of staff takes part (see contra indications and precautions section).
- Use the clock to record entry and exit times.
- Monitor the safety and security of the environment.
- Ensure relevant updated care plans, medical plans and healthcare plans are available for staff. (Physio/Class Teacher)
- The session leader should ensure that the Emergency Box (by the Fire Exit) has enough dry towels for each pupil/staff member, whistle, Inco pads, space blankets and rain ponchos
- The session leader is the person who has been allocated this role or the most senior member of staff active during the specified session

3. Support Staff / Volunteers (water based)

Support staff or volunteers working in the water should:

- Be competent in handling pupils / students in the water.
- Preferably have received accredited training in resuscitation (see section 7) Have knowledge and practice of evacuation procedures.
- Have knowledge of individual pupil they are supporting (i.e. medical condition).
- Be confident in the water.
- Be medically fit (see section 8).
- Be appropriately dressed. Be responsible for the care and safety of the child whilst in the water.

4. Support Staff / Volunteers (poolside)

Support staff or volunteers should:

- Wear appropriate footwear and clothing (shorts and T shirt/ flip flops).
- Comply with school Manual Handling Policy and evacuation procedures.
- Preferably have received accredited training in resuscitation.
- Be responsible for the care and safety of the child prior to and on leaving the water

5. Observers

- A minimum of 1 observer/spotter per session is required
- The observer/spotter must have accessed relevant training and updates, as required, which should include first aid and resuscitation training.
- The observer/spotter is required to observe the pool session from the side of the pool
- The observer/spotter's 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.
- The observer/spotter must draw the attention of the pool lead to any issues or concerns that s/he has.
- The observer/spotter should be free to move around the poolside as appropriate to view the whole session and remain alert throughout the session.
- The observer/spotter should draw attention to any emergency that develops, and then return to observing the pool whilst other youngsters are still in the water.
- The observer/spotter should remain on pool side and have no other responsibilities.
- The observer/spotter should wear a vocera communication device or carry the walkie talkie at all times on the poolside

6. Levels of Supervision

- 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 at least one observer on the pool side.
- Staff members using the pool 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.

7. Training

All staff / volunteers 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
- Recognised qualification e.g. ATSPRA (Aquatic Therapy Shallow Pool Rescue Award)
- Resuscitation (minimum of 1 person on site)
- First Aid (minimum 1 trained First Aider on site)
- 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.

There is an accident plan and recording documentation in place and the session lead is responsible for recording any accident or near miss.

8. Medical and Hygiene Issues/Behaviour

All pupils and staff must be medically fit for the activities in which they will be involved. 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.

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

Precautions

- Pupils should undergo formal medical screening to assess their suitability for any water-based programme. Individual risk assessments for each pupil should include medical safeguards and emergency medical procedures. In addition, a final health and hygiene check of each child should be made just prior to entering the water.

- Individual staff members should be responsible for evaluating their own health needs and discuss any specific requirements with the session 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 session 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, during and after a pool-based session for staff and pupils.

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.

9. Safety Precautions and Emergency Procedures

Risk assessments are required for all pupils involved in water-based activities. Such risk assessments should make 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
- 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 (using the SSOW) to limit contamination. The site manager should be informed. If the pool is contaminated, it will shut down for a minimum of 24 hours

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 via vocera to the healthcare support assistant.

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 must take responsibility to inform parents/ carers

The session lead will fill out the school accident form

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 hoisted into their wheelchairs and 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 Spotter 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.

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 vocera or press the panic button 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 PANIC ALARM

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

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 on sounding of the panic alarm). One adult must give the instructions using 1, 2, 3, or 'ready, steady, move'.

If a student is having a seizure they must be monitored carefully and once over removed from the pool by staff transfer or hoist if deemed safe. The student should

them be placed in the recovery position. If prescribed Buccal Midazolam this must be accessible during the session and administered is needed, as stated in their care plan, by qualified staff.

Carry out first aid procedures until help arrives.
Breathing and airways need to be monitored carefully in the event of any incident.

The Spotter will take charge of the evacuation of the pool as necessary and raise the alarm.

The emergency service will be called by the office if needed.

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 & Head Teacher immediately.

Staff on the poolside should use towels to dry and cover the patient.

The area around the patient should be dried and a mat of towels put on the floor around the patient

The Lead Hydrotherapy Staff Member must then make the initial assessment of patient, i.e.:

A.B.C. and commence CPR if appropriate

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.

- 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 the risk 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.

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.

GROSS CONTAMINATION

GASTRO-INTESTINAL INFECTIONS

In an adequately disinfected pool, most microorganisms responsible for diarrhoeal 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, this should immediately be scooped from the pool. If the pool is operating properly with appropriate disinfectant residuals and pH values, no further action is necessary.

If the contamination is runny (diarrhoea), the pool should be immediately closed, cleared of bathers, and disinfectant residuals turned up to the top of the normal range as identified in the Normal Operating Procedures (NOP) for that pool. If there is some doubt about the accuracy of the diarrhoea incident, its presence should first be confirmed by pool staff. If it cannot be confirmed, pool operators may decide that the risk of harmful contamination is low and allow bathing to resume.

For smaller pools, emptying and cleaning the pool before refilling and reopening is a safe option. Filters will also be contaminated and need to be backwashed. For larger volume pools, disinfection, filtration and backwashing are the principal controls. The causes of diarrhoea include viruses, bacteria and protozoa, but alcohol, emotional state, diet and medicinal side effects can also cause it. Most viruses and bacteria that because diarrhoea could be killed within minutes, although it is wise to turn the disinfectant residual up 2.00-3.00 mg/l free chlorine as recommended by PWTAG, after which it would then be safe for bathing to resume. If the diarrhoea is the result of Cryptosporidiosis, however, normal levels of chlorine will not be able to deal with it and inactivate the contamination (refer to PWTAG guidance on how to handle contamination).

Cryptosporidium must be filtered to remove it from the water and requires more time. Knowing with certainty that the contamination is diarrhoea caused by

Cryptosporidiosis is difficult. It is possible that even the individual affected does not know they have Cryptosporidiosis.

Anyone can be infected with Cryptosporidiosis, but it is most common in children aged between 1 and 5 years. Cryptosporidiosis is an illness; symptoms include watery diarrhoea, stomach pains, dehydration, weight loss and fever which could last for up to three weeks. A sufferer might think that they are getting better and have shaken off the infection but then find that they get worse before the illness eventually subsides. Customers or pool managers may know that there is an outbreak in the community. A quick phone call to the Health Protection Agency or medical practice may establish that there is an outbreak locally. Usually, though, pool operators won't know whether or not Cryptosporidium is involved (refer to PHE guidance as to what documentation to keep should the EHO knock at the door).

Because pool operators are unlikely to know that cryptosporidium is involved, and because diarrhoea can get into a pool unnoticed, the best defence against such infections is awareness and good hygiene measures.

No one with an infection should use a public swimming pool. Anyone with diarrhoea should be prevented from using the pool for up to **14 days** after the symptoms have passed.

Additionally, a pool manager may need to take action to deal with an outbreak of cryptosporidium when the pool has been identified by the Health Authorities (Health Protection Agency and/or the Local Authority Environmental Health Department) as the cause of an outbreak of this disease in the community. In these circumstances the pool will be told to close and they should follow the procedure outlined above.

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.

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. 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 cause 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.

Important Note:

The use of spas in educational establishments is now prohibited based on advice from NCC Water Treatment Team (Steve Hughes). Please ensure that your school adheres to this request and any problems please seek further advice from Steve Hughes (0115 956 7772).

10. ENVIRONMENT

Access

- Entrance to the pool should be securely locked at all times when not in use. This function is performed via a fob system. 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.

- Users should wear protective covers over shoes **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 Health & Safety representative, within school, immediately.

- 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.

- 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
- General information (e.g. evacuation procedures etc)
- Storage
- Alarm systems
- 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.

11. 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 flowrate 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 (Normal Operating Plan 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.

- 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).

- The controls needing to be in place to effectively manage any risk relating to legionella. Further guidance and training relating to the control of legionella can be obtained by contacting NCC's Water Management Officer – Building Direct, Centenary House, or your Health and Safety Adviser.

Important note: Whilst routine Legionella testing is not a requirement for the pool water, please ensure that any associated water systems such as showers are being maintained as required under the L8 ACOP, e.g. daily flushing of showers, and regular descaling of shower heads.

Important Note: This guidance document contains a set of generic risk assessments intended for school use. The assessments only identify the common hazards and control measures associated with the use of hydrotherapy and spa pools. Before undertaking any activity, schools must also make an assessment of any specific risks associated with their particular site, activities and / or pupils. Further guidance relating to risk assessment can be found in section: B2 of the County Council's Health and Safety Manual (also available via wired).

12. 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 session leaders who work in the pool must be familiar with the tests and checks on the maintenance schedule. Familiarisation by site manager. 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 appropriate staff and be accessible to those using the pool from plant room, if needed, via key holder (Site Manager/Head teacher/ Deputy head teacher/office staff)

- 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 Manager is responsible for the risk assessment for the pool plant room and the review of the document.

13. 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). Adequate backwashing of the filter, giving an equivalent of 30 litres of fresh water per person per day, should also take place and be recorded in the hydrotherapy pool log book (backwashing may not take place on a daily basis so the equivalent of 30 litres, spread over a reference period of one week, for example, is acceptable and

when the pool is soiled). Disinfectant and pH levels need to be tested 2 or 3 times a day.

Important note: Full microbiological testing of the pool should take place at least once every week 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	1.0 – 2.0 mg/l ppm	0.5 – 7.0 mg/l ppm	
Humidity	60% max	50%-70%	
External temperature	25c – 28c	25c – 28c	Avoid contact with eyes It is advisable to shower well after treatment

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)