COVID-19 Critical Intelligence Unit

Evidence check

17 June 2020

Rapid evidence checks are based on a simplified review method and may not be entirely exhaustive, but aim to provide a balanced assessment of what is already known about a specific problem or issue. This brief has not been peer-reviewed and should not be a substitute for individual clinical judgement, nor is it an endorsed position of NSW Health.

Hydrotherapy and COVID-19

Rapid review question

What evidence is available regarding the safe use of pools for hydrotherapy or aquatic physiotherapy during COVID-19?

In brief

- Current guidance from Centers for Disease Control and Prevention (CDC) notes there is no evidence to suggest that COVID-19 can be spread to humans through the use of recreational waters such as swimming pools.(1)
- Guidance regarding COVID-19 from physiotherapy societies, government and international bodies recommends:(1-5)

For swimming pools – including aquatic physiotherapy:

- o Physical distancing.
- Frequent testing of pool water for recommended pH and disinfection levels.
- Objects and surfaces in the pool environment, equipment and general surfaces be frequently cleaned and disinfected.
- Those using the pool be screened for respiratory symptoms before aquatic activity and to shower before and after.
- People with respiratory symptoms refrain from attending the hydrotherapy session and be referred to a COVID-19 testing clinic.
- o Increased ventilation of indoor spaces via the circulation of outdoor air.
- For hydrotherapy sessions:
 - Hydrotherapy sessions resume in accordance with state restrictions.
 - The implementation of scheduled facility use and group sessions by appointment to ensure compliance with physical distancing measures.
- Australian guidance on the resumption of sport and recreation, including swimming pools, recommends a staged approach, with small groups and in a non-contact fashion, initially.(4)



Limitations

• There is a lack of research on hydrotherapy pools in relation to COVID-19, including how to sanitise equipment as well as patient and staff safety. The evidence check includes grey literature only.

Background

Aquatic physiotherapy, or hydrotherapy, is a physiotherapy treatment carried out in water where the properties of water are utilised to achieve specific, therapeutic goals for many patient groups. (6) NSW Health documents on public swimming pools and spa pools outlines the management of public pools, including testing criteria, disease risk, disinfectant properties, chemical criteria, water quality, designing amenities and temperature.(7,8) The Australian physiotherapy association released detailed guidance in 2015 on hydrotherapy pools, covering hygiene and infection control, pool and environment maintenance and risk management.(6)

The CDC has published recommendations on disinfection and cleaning rooms or areas occupied by those with suspected or confirmed COVID-19, which aims to limit the survival of COVID-19.(9) The World Health Organization (WHO) has published general guidance (not COVID-19 specific) on decontaminating medical devices in health facilities. Recommendations include cleaning methods, ideal chemical disinfectants and cleaning products and sterilisation.(10)

The Therapeutics Good Administration recommends a list of disinfectants for use against COVID-19 in Australia and recommendations advising appropriate use of disinfectants for consumers, health professionals and healthcare facilities.(11, 12) This list is included in Table 2.

Methods (Appendix 1)

PubMed and Google were conducted on 1 June 2020. Due to a lack of scientific literature and grey literature specific to the question, broader publications on safety around swimming pools during COVID-19 were also included.



Results

Table 1: Recommendations for hydrotherapy or swimming in the context of COVID-19

Source	Summary		
Greyliterature			
Statement from the International Organisation of Aquatic Physical Therapists (IOAPT) about COVID- 19 and the practice of Aquatic Physiotherapy International Organisation of Aquatic Physical Therapists. 2020 (2)	 This document provides guidance on the practice of aquatic physiotherapy in countries around the world to prevent the transmission and spread of COVID-19. It is advised that physiotherapists implement and reduce the transmission of COVID-19 in the aquatic environment by initiating early identification strategies and dealing with identified cases appropriately in the work environment. Guidance includes: Proper operation, maintenance and disinfection (e.g., with chlorine and bromine) of pools and cold and hot tubs should remove or inactivate the virus that causes COVID-19. Frequent, regular, testing of the pool water for pH and disinfectant levels. That pH and disinfectant levels comply with local ordinances and regulations. Monthly bacteriological tests of pool water are carried out by an approved laboratory. To clean and disinfect frequently touched objects and surfaces in the pool environment, ensuring a frequent and regular cleansing regime of all areas used by the public. Screening users of swimming pools for symptoms prior to participating in aquatic activity. Users of swimming pools need to shower before entering the pool to remove impurities and to shower immediately upon leaving the pool. Temporary suspension of free use or creation of specific times to use facilities by appointment to accommodate social distancing. Aquatic group sessions (water aerobics, aquatic physiotherapy) to be made possible with advance booking while respecting social distancing guidelines. The aerosols generated by the water in a spa or medicinal water facility must have the same disinfection characteristics as the bath waters of these facilities. Efforts are to be made for cleaning and disinfecting the materials used in the aquatic physiotherapy sessions each time they are used. 		

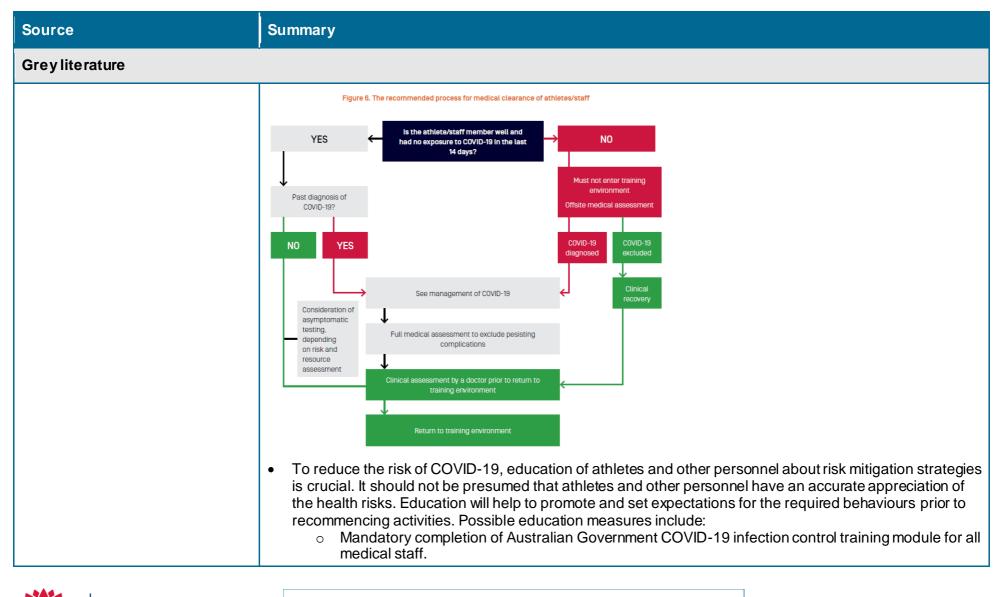


Source	Summary			
Greyliterature				
	 Ensuring ventilation systems of indoor spaces operate properly, increasing introduction and circulation of outdoor air as much as possible by opening windows and doors, using fans or other methods. A risk assessment in relation to COVID-19 for each facility should consider each aquatic activity and appropriate risk minimisation strategies, including but not limited to emergency planning and response, vulnerable persons, staff, contractor and visitor health, monitoring, physical distancing, hygiene, cleaning and personal protection equipment in conjunction with reviewing usual Aquatic Physiotherapy screening, referral, safety and supervision processes. 			
<u>Guidelines for Safe Pool</u> <u>Operations Managing the Risk of</u> <u>COVID-19 in Aquatic Facilities</u> Royal Life Saving Society Australia. 2020 (3)	 This guideline provides guidance for owners of aquatic facilities on how to manage the risks within the aquatic environment regarding COVID-19. Providing and maintaining a work environment that is without risk to health and safety: Facilities should provide adequate and accessible facilities for the welfare of workers to carry out their work, and monitoring the health of workers and the conditions of the workplace for the purpose of preventing illness or injury. Owners and operators of Aquatic Facilities should refer to the state and territory workplace health and safety authorities. The owner or operator of an aquatic facility should develop, implement, monitor and continually improve a risk management framework that includes the potential of someone being exposed to the infection of COVID-19. The framework should be consistent with the <i>AS/NZS ISO 31000:2018 Risk management - Principles and Guidelines</i>, the <i>Guidelines for Safe Pool Operations - Aquatic Risk Management and any of their amendments.</i> The aquatic activity risk assessment in relation to COVID-19 should consider, at a minimum, the following: Physical distancing of parents and children to other parents, children, teachers and coaches in the water. Requirements to touch a child in order to assist them in their learning activities (e.g., assisting the child to float). 			
	Rapid evidence checks are based on a simplified review method and may not be entirely			



Source	Summary				
Greyliterature					
	 Supervision requirements if a student is unable to support themselves in activities. Social practices of children in managing their own hygiene (e.g., wiping their nose in the water). Physical distancing of other aquatic activities within the pool/area that may cause social distancing to be compromised. Sharing of teaching and pool equipment from one class to another or within the same class. Placement or location of personal items and their vicinity to others, such as water bottles. The owner or operator of an aquatic facility should consider a range of risk treatments to minimise the risk of COVID-19. These include: Emergency planning and response Vulnerable persons Staff, contractor and visitor health monitoring Specific considerations of physical distancing Hygiene measures Cleaning measures Personal protection equipment Staff training and induction Signage measures. 				
<u>The Australian Institute of Sport</u> (AIS) Framework for rebooting sport in a COVID-19 environment Australian Institute of Sport. 2012 (4)	 Resumption of community sport and recreation activity, including swimming, should take place in a staged fashion, with an initial phase of small group (<10) activities in a non-contact fashion, prior to moving on to a subsequent phase of large group (>10) activities, including full contact training/competition in sport. Individual jurisdictions will determine progression through these phases, taking account of local epidemiology, risk mitigation strategies and public health capability. 				







Source	Summary		
Greyliterature			
	 Provide educational material for athletes and other personnel to promote required behaviours (e.g. regular and thorough handwashing, covering mouth and nose with a tissue or sleeve during coughing and sneezing, no sharing of drink bottles and towels, no sharing of equipment and mats). Use of Australian Government and WHO resources are recommended and listed in the document. Display appropriate education material within sporting environments and facilities. Use of Australian Government and WHO resources are recommended and listed in the document. Recommend high performance, professional athletes and other personnel download the Australian Government COVID-19 contact tracking app, COVIDSafe, to reduce the risk of COVID-19 spread. The specific considerations for a safe resumption of formal training will be dependent on the sport and the environment. Considerations include: Number of athletes and other personnel Cleaning Handwashing facilities Organisation of high performance and professional sporting activities. 		
	 Agreed protocol for a possible case of COVID-19: In an environment of community transmission of COVID-19, any individual with respiratory symptoms should be considered a possible case of COVID-19. All athletes and other personnel must be made aware not to attend sport environments if they are unwell with any of the described symptoms, even if only mild. Sport organisations should refer to local state and territory guidelines on the assessment process for a possible case. A doctor must make decisions about investigations. 		
Considerations for public pools, hot tubs, and water playgrounds during COVID-19 Centers for Disease Control and Prevention. 2020 (1)	 Public aquatic venues consider different strategies to encourage healthy hygiene, including: Hand hygiene and respiratory etiquette Encouraging all staff, patrons and swimmers to wash their hands often and cover their coughs and sneezes. Cloth face coverings Encouraging the use of cloth face coverings as feasible. 		
NSW Health	Rapid evidence checks are based on a simplified review method and may not be entirely exhaustive, but aim to provide a balanced assessment of what is already known about a specific problem or issue. This brief has not been peer-reviewed and should not be a substitute for individual clinical judgement, nor is it an endorsed position of NSW Health.		

Source	Summary			
Grey literature				
	 Advise those wearing face coverings to not wear them in the water Staying home Educating staff, patrons and swimmers about when to stay home. For example, if they have symptoms of COVID-19, have tested positive for COVID-19 or were exposed to someone with COVID-19 within the last 14 days. Educating staff, patrons and swimmers about when they can safely end their home isolation. Adequate supplies Ensuring adequate supplies to support healthy hygiene. Supplies include soap, hand sanitiser with at least 60% alcohol (for staff and older children who can safely use hand sanitiser), paper towels, tissues and no-touch trash cans. Signs and messages Posting signs about how to stop the spread of COVID-19. Broadcasting regular announcements about how to stop the spread of a PA system. Including messages about behaviours that prevent the spread of COVID-19 in contracts with individual patrons or households. To maintain healthy environments, operators of public aquatic venues may consider: Cleaning and disinfection of frequently touched surfaces at least daily and shared objects each time they are used. For example: Handrails, slides and structures for climbing or playing. Lounge chairs, tabletops, pool noodles and kickboards. Door handles and surfaces of restrooms, handwashing stations, diaper-changing stations and showers. Ventilation Ensuring ventilation systems of indoor spaces operate properly. Increasing introduction and circulation of outdoor air as much as possible by opening windows and doors, using fans, or other methods. However, do not open windows and doors if doing so poses a saf			



Source	Summary			
Greyliterature				
	 Taking steps to ensure water systems (e.g., drinking fountains, decorative fountains, hot tubs) are safe to use after a prolonged facility shutdown to minimise the risk of Legionnaires' disease and other diseases associated with water. Modified layouts Changing deck layouts to ensure that in the standing and seating areas, individuals can remain at least six feet apart from those they don't live with. Physical barriers and guides Providing physical cues or guides (e.g., lane lines in the water or chairs and tables on the deck) and visual cues (e.g., tape on the decks, floors or sidewalks) and signs to ensure that staff, patrons and swimmers stay at least 6 feet apart from those they don't live with, both in and out of the water. Shared objects Discouraging people from sharing items that are difficult to clean, sanitise or disinfect or that are meant to come in contact with the face (e.g., goggles, nose clips and snorkels). Discouraging the sharing of items such as food, equipment, toys and supplies with those they don't live with. Ensuring adequate equipment for patrons and swimmers, such as kickboards and pool noodles, to minimise sharing, as much as possible, or limiting use of equipment by one group of users at a time and cleaning and disinfecting between use. The document also covers options for maintaining health operations, managing lifeguards and water safety, altering public aquatic venues, being aware of local or state regulatory agency policies, staggering or rotating shifts, managing group gatherings and meetings, such as planned pickups, implementing communication systems for reporting COVID-19 cases, implementing a backup staffing plan, staff training on safety protocols and preparations for when someone gets sick. 			
National Guidelines for restarting club environments	Recommendations for clubs and coaches to consider when determining how to minimise risk to swimming environments include:			



Source	Summary			
Greyliterature				
Swimming Australia. 2020 (5)	 Each club should have a COVID-19 liaison responsible for staying up to date on community and state recommendations and any associated changes. Before the resumption of activity, one or more persons undertake the 'COVID-19 infection control training' provided by the government (30min module). Swimming environments to determine: What are the current local and state restrictions regarding COVID-19? What is the transmission data for your local area? How will you share information and communicate to parents and swimmers regarding plans in place? What are the community expectations in your area? If returning is as much a reputational risk as it is a health activity? Why are you returning to training? How will the club limit possible infection around water bottles and equipment? How will you manage numbers of swimmers at any time within the guidelines? What is the plan should a coach or swimmer become sick while training? What is your communication plan to your club if a case of COVID-19 is confirmed? With new COVID-19 related steps in place, do you need to consider any further work, health and safety practices or safe sport practices? What is the drop off and pick up procedure for your swimmers? 			
NSW Government Gazette No 99 of 14 May 2020 (pages 2004 to 2020) NSW Government. 2020 (13)	The NSW Government gazette notes that the <i>Public Health (COVID-19 Restrictions on Gathering and Movement) Order (No 2) 2020</i> allows no more than 10 people at an outdoor public swimming pool at an time.			
Reflections on providing physiotherapy services during a	This interview took place via videoconference on 23 May 2020 with the Director of Hydrotherapy at the rehabilitation hospital, Sheba Medical Centre in Israel. The interview was conducted by Sophie Heywood,			
SOVERNMENT Health	Rapid evidence checks are based on a simplified review method and may not be entirely exhaustive, but aim to provide a balanced assessment of what is already known about a specific problem or issue. This brief has not been peer-reviewed and should not be a substitute for individual clinical judgement, nor is it an endorsed position of NSW Health.			

Source	Summary		
Greyliterature			
pandemic at the Sheba Medical Centre Hydrotherapy Service in Israel International Organisation of Aquatic Physical Therapists. 2020 (14)	 Australian Physiotherapy Association Aquatic Group representative to the International Organisation of Aquatic Physical Therapists. The experience of a hydrotherapy service in March, April and May 2020 during the COVID-19 pandemic includes: Reducing hydrotherapy staff to 30%, with 70% of staff making the choice of going on non-paid leave, paid vacation or continuing to work elsewhere in the hospital. Patients in the rehabilitation hospital who were suspected to have COVID-19 were transferred to another building. Patients were restricted from leaving. Visits from family and friends were prohibited, with the exception of one family member, who could remain on the hospital campus as the main caretaker. After taking these precautions, hydrotherapy pools remained open, with approval from the medical director and Ministry of Health. The number of people allowed in the pool and poolside area was limited. Treatments were able to perform exercises without hands on assistance in the pool used a virtual reality tool. Hospital created guidelines relating to patient referral for hydrotherapy, including screening and infection control. Hygiene control and cleaning was increased and the removal of all equipment and toys that were not needed. Equipment used in the pool was wiped down with Antigone wipes and Chlorine D. Pool water was tested every three hours. Personal protective equipment was used by all staff. Signs and placards were placed appropriately, floor stickers were used to maintain 2m social distancing. Ventilation was improved by keeping doors and windows open. 		



Table 2: Disinfectants for use against COVID-19 included in the ARTG for legal supply in Australia

Product name	ARTG ID	Product name	ARTG ID
Aeris Active & Evocide Extra Hospital Grade Disinfectant Cleaner	331860	Oxivir FIVE16	286618
Aussan L44 Concentrate	336809	Oxivir Tb	165058
Clinell Low level instrument grade disinfectant wipe	299351	Oxivir Tb Wipes	164850
Clinell Universal Sanitising Wipes and Spray	178363	Premier disinfectant wipes	337692
Clorox disinfecting wipes	333208	S-7 XTRA Concentrate	232011
Fuzion	332716	S-7 XTRA RTU-750ml / S-7 XTRA Wipes	232014
Germicidal Wipes	335509	Taskforce Commercial Grade Disinfectant	334780
Glen 20 Surface Spray Disinfectant - Hospital Grade	65954	Total 360	332715
Hospital Plus Multipurpose disinfecting wipes	336791	Trigene Advance Concentrates / Sterigene Concentrates	232937
Ki-ose	336973	Trigene Advance Solution / Sterigene Solution	233129
Nanocyn Disinfectant & Sanitiser	292455	Virex II (J-flex / J-Fill)	153031
Netbiokem	336972	Whiteley Industries Viraclean	69000
Oasis Pro 65 Bathroom Cleaner Descaler Disinfectant	337671	Zoono Z-71 Germkiller	224480
Oust 3 in 1	145645		

(Publication date: 11 June 2020. Date accessed: 15 June 2020. URL: <u>https://www.tga.gov.au/disinfectants-use-against-covid-19-artg-legal-supply-australia</u>)



Appendix

PubMed search terms

- ((aquatic AND physiotherapy) OR (hydrotherapy)) AND ((2019-nCoV[title/abstract] or nCoV*[title/abstract] or covid-19[title/abstract] or covid19[title/abstract] OR "covid 19"[title/abstract] OR "coronavirus"[MeSHTerms] OR "coronavirus"[title/abstract] OR sars-cov-2[title/abstract] OR "severe acute respiratory syndrome coronavirus 2"[Supplementary Concept]))
- ((2019-nCoV[title/abstract] or nCoV*[title/abstract] or covid-19[title/abstract] or covid19[title/abstract] OR "covid 19"[title/abstract] OR "coronavirus"[MeSHTerms] OR "coronavirus"[title/abstract] OR sars-cov-2[title/abstract] OR "severe acute respiratory syndrome coronavirus 2"[Supplementary Concept])) AND ("aquatic physiotherapy"[title/abstract]))
- ((2019-nCoV[title/abstract] or nCoV*[title/abstract] or covid-19[title/abstract] or covid19[title/abstract] OR "covid 19"[title/abstract] OR "coronavirus"[MeSHTerms] OR "coronavirus"[title/abstract] OR sars-cov-2[title/abstract] OR "severe acute respiratory syndrome coronavirus 2"[Supplementary Concept])) AND ("aquatic physiotherapy"[title/abstract])) AND ("infection control"[title/abstract]))

Google and Twitter search terms

- Aquatic physiotherapy and covid-19
- Aquatic physiotherapy and covid-19 guidelines (limit to 2020)
- Aquatic physiotherapy (limit to 2020)
- Swimming pools and COVID-19
- Public pools and COVID-19
- NSW Health swimming pools COVID 19
- Re-open pools

References

- 1. Centers for Disease Control and Prevention. Communities, Schools, Workplaces, & Events [Internet]. Atlanta: CDC; 2020 [cited 3 June 2020]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/community/parks-rec/aquatic-venues.html
- 2. International Organisation of Aquatic Physical Therapists. Statement from the International Organisation of Aquatic Physical Therapists (IOAPT) about COVID-19 and the practice of Aquatic Physiotherapy. Domingos de Rana: IOAPT; 2020. Available from: https://www.wcpt.org/sites/wcpt.org/files/files/IOAPT%20Statement%20-%20Covid-19%20and%20practice%20of%20Aquatic%20Physiotherapy%20%2812-05-20%29.pdf
- 3. Royal Life Saving Society. Guidelines for Safe Pool Operations Managing the Risk of COVID-19 in Aquatic Facilities. Broadway: Royal Life Saving Society; 2020. Available from: <u>https://www.royallifesaving.com.au/ data/assets/pdf_file/0017/28016/Guidelines-for-Managing-the-Risk-of-COVID-19-in-Aquatic-Facilities-Final.pdf</u>
- 5. Swimming Australia. National Guidelines for restarting club environments. Belconnen: Swimming Australia; 2020. Available from: <u>https://mastersswimming.org.au/wp-</u>



content/uploads/2020/05/National-Guidelines-for-Restarting-Club-Environments Swimming-Australia-4.pdf

- 6. Australian Physiotherapy Group. Australian guidelines for aquatic physiotherapists working in and/or managing hydrotherapy pools (second edition). Camberwell: APA; 2015. Available from: https://australian.physio/sites/default/files/tools/Aquatic Physiotherapy Guidelines.pdf
- Health Protection NSW. Public swimming pool and spa pool advisory document. Sydney: Health Protection NSW; 2013. Available from: <u>https://www.health.nsw.gov.au/environment/Publications/swimming-pool-and-spa-advisorydoc.pdf</u>
- Public Health Regulation (NSW) 2012. Schedule 1 Requirements for public swimming pools and spa pools (Clause 15). Available from: <u>https://www.health.nsw.gov.au/environment/publicpools/Documents/public-health-reg-2012-</u> schedule 1.pdf
- 9. Centers for Disease Control and Prevention. Communities, Schools, Workplaces, & Events. Atlanta: CDC; 2020. Available from: <u>https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/cleaning-disinfection.html</u>
- 10. The World Health Organization. Decontamination and Reprocessing of Medical Devices for Health-care Facilities. Geneva: WHO; 2016. Available from: https://www.who.int/infection-prevention/publications/decontamination/en/TGA
- 11. Therapeutic Goods Administration. Disinfectants for use against COVID-19 in the ARTG for legal supply in Australia. Woden: TGA; 2020. Available from: https://www.tga.gov.au/disinfectants-use-against-covid-19-artg-legal-supply-australia
- 12. Therapeutic Goods Administration. Appropriate use of disinfectants: Information for consumers, health professionals and healthcare facilities. Woden: TGA; 2020. Available from: https://www.tga.gov.au/appropriate-use-disinfectants-information-consumers-healthprofessionals-and-healthcare-facilities
- 13. Public Health Act (Cth) 2010. Public Health (COVID-19 Restrictions on Gathering and Movement) Order (No 2) 2020. Government Gazette No. 99. Available from: https://gazette.legislation.nsw.gov.au/so/download.w3p?id=Gazette 2020 2020-99.pdf
- International organisation in Aquatic Physical Therapies. 'An intensive and interesting time': reflection from the Sheba Medical Centre Hydrotherapy Service in the time of COVID-19. Domingos de Rana: IOAPT; 2020. Available from: <u>https://www.wcpt.org/sites/wcpt.org/files/files/An intensive and interesting %20time COVID-</u> 19 %20interview IOAPT.pdf

