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MEMORANDUM

To: Superintendents of Schools, Charter School Leaders, and Other Interested Parties
Copy: Monica Bharel, M.D., M.P.H., Commissioner of Public Health
From: Mitchell D. Chester, Ed.D., Commissioner of Elementary and Secondary Education
Date: June 29, 2015
Subject: **Swimming Pools Located in Public School Buildings**

The Department of Elementary and Secondary Education (ESE), in consultation with the Department of Public Health (DPH), issues this memorandum to assist public schools and communities in understanding and following the DPH regulations and federal laws applicable to swimming pools located in public schools and implementing best practices for protecting student health and safety. **If you have one or more swimming pools in public schools in your district, this memorandum will assist you in being aware of the safety regulations that govern pool maintenance and use.** For more information about the safe maintenance, operation, and use of swimming pools in schools, please contact the Community Sanitation Program in the Bureau of Environmental Health at the Massachusetts Department of Public Health, at 617-624-5757.

Swimming pools in schools and other community settings are a valuable resource, providing opportunities for children to learn how to swim and to participate in physical education, team and individual athletic competition, and recreational activities outside of school hours. School and municipal officials can help protect student health and safety and avoid life-threatening problems by adhering to state regulations and federal laws for safe pool operation and recommended best practices.

The determination of whether the school district or another municipal department, such as a recreation department, will operate a school swimming pool is a local decision. Once that local decision is made, the appropriate entity should be designated as the pool operator and becomes responsible for regulatory compliance. **Regardless of the decision, a school district that has a pool on school grounds must take reasonable measures to protect student health and safety, even if another municipal department is the designated pool operator.**

The pool operator, who owns or has care, charge or control of the swimming pool, is responsible for taking necessary steps to keep the pool area locked and secure and ensuring that students and others do not have unauthorized or unsupervised access to the pool at any time.¹ The pool operator should inform school and building staff about pool security and access policies and

¹ 105 CMR 435.03 (12)

request that breaches of security or issues of concern be brought to the attention of the pool operator. It is of paramount importance that the pool operator keep the pool perimeter secure at all times including out-of-school time when students are not supervised by school staff. The pool operator should also inform school staff and others who use the pool of pool use policies and emergency response protocols.

Public and semi-public pools in Massachusetts, including pools located in schools, municipal facilities, and community centers,² must comply with regulations established by DPH and by the federal Virginia Graeme Baker Pool and Spa Safety Act.³ DPH regulations establish minimum standards for pools, emphasizing facility hygiene and safety. The regulations delegate the responsibility for issuing an annual permit to the local Board of Health (LBOH).

I. DPH Regulatory Requirements

1. A permit from the LBOH is required to operate a public or semi-public pool. The permit may remain in effect for no more than 12 months.

DPH regulations require pool operators to obtain a permit from the LBOH. The permit may remain in effect for no more than 12 months from the date of issue, and may be revoked at any time for cause by the LBOH.⁴ Plans and specifications must be stamped and signed by a Massachusetts Registered Professional Engineer or Registered Architect for newly constructed, expanded, or remodeled pools, and these facilities must be inspected and approved in writing by the LBOH before the pool may operate.⁵

A pool permit shall state the method of water treatment, the number of trained lifeguards required, and the maximum number of people allowed in the water at any time.⁶ The LBOH has the authority to conduct inspections, take water samples, review water maintenance records, issue variances and violation-correction orders.

The LBOH may issue an order that revokes or suspends a permit to operate if an examination reveals the existence of a health or safety hazard. No person shall be permitted to enter such a pool unless and until the permit has been reissued or the order has been revoked in writing by the LBOH.

2. The pool supervisor is responsible for supervision and safety.

Each public or semi-public pool must be supervised by an individual at least 21 years of age who has received and maintains a current Certified Pool Operator (CPO) certification from the

² 105 CMR 435 *et seq.* <http://www.mass.gov/eohhs/docs/dph/regs/105cmr435.pdf>

³ P.L.110-140, 15 U.S.C. 8001 *et seq.*

⁴ 105 CMR 435.21(3)

⁵ 105 CMR 435.02(3).

⁶ 105 CMR 435.27

National Swimming Pool Foundation, a Pool Operator certification from the YMCA, or certification from any other organization providing equivalent training, subject to approval from DPH.⁷ The pool supervisor is responsible for ensuring that on-site pool personnel are adequately trained in the safe, sanitary and effective operation of the pool and its equipment. A list of topics that must be included in any training is included in the regulations.⁸ While the pool supervisor is not required to be on the premises whenever the pool is in use, the pool supervisor *must make a site visit at least once per week* to ensure safe and sanitary pool operation.⁹

The LBOH determines whether a “trained person” must be on the premises at all times when the pool is open and also determines the number of lifeguards that are necessary.¹⁰ Lifeguards must hold specific, current certifications as outlined in the DPH regulations¹¹ and wear a red or bright orange bathing suit when on duty. The DPH regulations recommend 1 lifeguard per 25 bathers.¹² **If the LBOH permit requires a lifeguard to be on duty, no bathers are permitted in the pool unless the lifeguard is present.**¹³ If the LBOH determines that no lifeguards are necessary, warning signs must be posted with specific wording as provided in the regulations.¹⁴

DPH regulations set out specific requirements for safety equipment,¹⁵ first aid equipment,¹⁶ communications capabilities,¹⁷ and pool security.¹⁸ The communication system must provide each pool with immediate communication with Emergency Medical Services, police, and fire departments.¹⁹ **The pool operator should clarify who is responsible for testing and maintaining the communications equipment.** A cellular phone is not an acceptable substitute for the mandated communications equipment.

Emergency phone numbers must be posted near the communication device, which must be unlocked and available to staff and the public at all times. In addition, **school emergency response plans should include an emergency response protocol for a swimming pool health emergency.**

II. Best Practices for Protecting Student Health and Safety at School Swimming Pools

The pool operator should meet with school officials and the LBOH periodically to consider issues regarding pool use, pool supervision, and to review emergency procedures. Effective

⁷ 105 CMR 435.17

⁸ 105 CMR 435.17(3)

⁹ 105 CMR 435.17(5)

¹⁰ 105 CMR 435.17(4) and 435.23

¹¹ 105 CMR 435.23(1)

¹² *Id.*

¹³ 105 CMR 435.23(3)

¹⁴ 105 CMR 435.23(2)

¹⁵ 105 CMR 435.24

¹⁶ 105 CMR 435.25(1)

¹⁷ 105 CMR 435.25(2)

¹⁸ 105 CMR 435.03 (12)

¹⁹ 105 CMR 435.25(2)

collaboration and communication are essential to protect the safety of students. In addition, ESE after consultation with DPH urges pool operators and schools to adopt the following best practices for student health and safety:

1. Increase safety of pool operations.

- The pool operator should convene a meeting with policymakers from the school and municipality prior to the annual renewal of the pool permit, and periodically as needed throughout the year, to identify common concerns and strategies for complying with regulatory standards and pool best practices.
- The pool operator and the pool supervisor should meet with all staff who will be involved in pool activities before pool operation begins to review and update staff on all existing policies and practices, discuss and resolve any barriers to implementing upgraded policies, and ensure all policies and practices are in writing and are understood.
- Trained on-site personnel should understand and respect the importance of daily safe and sanitary pool operation. Improper pool maintenance can contribute to a variety of health effects including skin infections and gastrointestinal diseases; a water clarity issue can delay observation of a swimmer in distress; and a non-functional emergency communication device can waste precious minutes in an emergency.

2. Increase safety of pool supervision.

- Inform all on-site staff with pool contact, not just those who have been trained by the pool supervisor, of the reasoning behind specific pool operating policies and the possible safety risks if policies are not followed.
- Develop a detailed written checklist for daily use that requires visual and hands-on inspection.
- Inform all school and building staff, and all after-school program coordinators of the requirement for continuous pool perimeter security and the prevention of unauthorized pool access.
 - Review policies related to the need for access keys to any pool entrance or secondary entrance (e.g. rest-rooms, locker-rooms, coach's office, external entrance, etc.) and limit the number of keys distributed.
 - Review perimeter access policy with all individuals holding access keys (e.g., pool operator, pool supervisor, instructors, maintenance staff etc.). Pools are attractive to children and teens. An entry that is left unlocked due to inattention or for convenience provides an opportunity for unauthorized access at any time of day or night and poses a significant risk for drowning.
 - Ask all staff and after-school staff to be vigilant about observing and reporting breaches in perimeter security; explain associated risks and provide procedure for reporting unlocked or broken access points.
- Communicate that a “culture of safety” requires a willingness to report broken, missing or unsafe items rather than “make-do” or substitute; establish to whom the report is to be

made and the action steps that will be taken upon receipt of the report, up to and including pool closure until it is back in compliance.

- Confirm that only school staff members who have been oriented to pool operating policies are allowed to oversee pool activities.
- Request that all ancillary staff, including maintenance staff, are informed of and follow security procedures to prevent unauthorized pool access.
- Stress that whenever the pool is in use there should be trained staff on duty to provide swimmer surveillance, rescue and first aid.
- If the LBOH permit requires lifeguard(s) to be on duty, **no bathers are permitted in the pool unless the lifeguard(s) are present.** Even if the LBOH does not require a lifeguard, **ESE, following consultation with DPH, urges the pool operator to arrange for a lifeguard to be present** during school swimming activities. Lifeguards are trained to observe, to *safely* rescue swimmers in distress, and to provide first aid. They also maintain a level of fitness that allows them to perform these tasks under duress, and must re-qualify every two years. An individual who is not trained to rescue/retrieve a human from a pool may endanger himself/herself and other swimmers in the process of an attempted rescue.
- There should be a trained and appropriately garbed adult whose sole responsibility is to perform swimmer surveillance. Proper swimmer surveillance requires training, focus and practice. It is not possible to safely and continuously observe swimmers and non-swimmers when multi-tasking. The most recent *American Red Cross Lifeguarding Manual* states: “You cannot perform adequate surveillance duties while also coaching a swim team or teaching a swimming lesson.” If the lifeguard is involved in the swimming activities, there should be another person whose sole duty is swimmer surveillance.
- Additional trained adults may be desired for classes that include children with special health care needs, especially children with autism or seizure disorders. Schools may seek assistance from the municipality’s recreation department and may also consider using students who are certified lifeguards or water safety instructors (they must be at least 16 years old to be certified) or volunteers from parent, college, or community populations so long as such volunteers are properly trained and supervised.

3. Follow the recommendations of the Massachusetts Child Fatality Review Team.

- Obtain written parental permission for student participation in pool physical education, swimming lessons, or open-swim periods.
- Because children are at risk of drowning in swimming pools and natural bodies of water, **at or prior to the first swim session**, swimming program supervisors should provide instruction on safe water behavior and self-rescue. Include children who are not actively participating in school swim activities. Topics to include:
 - the dangers of diving head-first into water of any depth or clarity
 - the risks of taking deep breaths before going under water (increases the risk of sudden black-out and subsequent drowning)
 - signs of drowning
 - safety orientation to pool area:

- location and use of emergency equipment and communications devices
- safe pool deck practices
- Require that all staff overseeing pool activities be certified in cardiopulmonary resuscitation (CPR) and Automated External Defibrillator (AED) use, and provide opportunities for older students to learn CPR/AED.
- Schedule an annual “walk-through” for Emergency Medical Services/Fire Department so they are aware of best entrance/exit points. This walk-through could be included as a part of any planning/walk-through/drill activities with EMS under required medical emergency response plans.²⁰
- Implement annual swim tests, to classify each child’s swimming ability. Administer the swim tests at the first swimming session, with the evaluations to be conducted by trained staff holding appropriate certifications from nationally-recognized swim-instructor programs. (e.g., American Red Cross, YMCA, or equivalent).
- Assign color-coded bracelets based on swim ability to be worn during mixed-level classes.
- Establish a student buddy system for pool use.
- Ensure that instructors take attendance before and after students are in the pool.
- Establish a policy that instructors perform a “walk-around” of pool deck and locker rooms before leaving the pool area.

III. Context and Background Information

Nationally and in Massachusetts, unintentional injuries are the leading killers of school-aged children. In the most recent 5-year period of available Massachusetts data (2006-2010), drowning was the second-leading cause of injury death among children ages 5-9 and the third-leading cause of injury death among children ages 10-19. Twenty percent of non-fatal near-drownings result in significant, irreversible brain damage. Children and adolescents drown in swimming pools and natural bodies of water. Many do not know how to swim. Child deaths in public or semi-public swimming pools have occurred in the presence of other children and adults, including lifeguards. According to the U.S. Centers for Disease Control and Prevention, and the Report on the Massachusetts State Child Fatality Review Program, males and minority children, especially African-Americans, are at a significantly increased risk of drowning.²¹

A general misconception about drowning is that bystanders will become aware of a drowning person by the subject’s splashing, struggling and calling out for help. In reality, drowning is swift and silent—it can be initiated by a medical event, such as a seizure or head injury, or more commonly by a sudden muscle cramp, exhaustion, hyperventilation-induced blackout

²⁰ <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXII/Chapter69/Section8A>, “Michael’s Law.”

²¹ Centers for Disease Control and Prevention. Unintentional Drowning: Get the Facts. <http://www.cdc.gov/HomeandRecreationalSafety/Water-Safety/waterinjuries-factsheet.html>; Report of the Massachusetts Child Fatality Review Program 2009-2012, <http://www.mass.gov/eopss/docs/eops/publications/cfrr-2009-2012-annual-report.pdf>. p. 18.

(commonly called “shallow-water blackout”), torsion reflex (involuntary gasping when suddenly entering water below 70 degrees F.) or panic induced by accidentally inhaling water (most commonly in non-swimmers who are unfamiliar with basic self-rescue actions).

School swimming-pool drowning deaths have occurred in Massachusetts and other states, including Minnesota, Washington, Michigan, Texas and Connecticut. In most of these cases, drowning occurred during supervised pool activities. In 2012, pool deaths of two students prompted the Connecticut legislature to adopt a state law requiring the presence of an additional “qualified” person whose sole purpose is to provide surveillance of school pool patrons and activity. Additional best practice recommendations have been implemented in the wake of school-pool deaths across the country and are provided in this memorandum as recommendations from Massachusetts Child Fatality Review Teams that conduct fatality reviews on child deaths, including pool drowning deaths. Additional information may be found in the links at the end of this advisory.

Below are examples of common pool oversight errors that increase the potential for an adverse event.

- Example: DPH regulation 105 CMR 435.12 requires that when non-swimmers use the pool, a polyethylene line with floats must separate the non-swimmer area from deeper water. For convenience or other reasons a teacher may elect to use orange cones or other boundary markers, rather than the line floats. From a safety perspective, the line floats are a full-length visual reminder of deep water to a youthful non-swimmer who may be distracted by play or other activities and otherwise might suddenly get into a dangerous situation.
- Example: Merely moving children to a distant area of a pool when a drain or grate cover is broken or missing. Massachusetts conforms to the Virginia Graeme Baker Pool and Spa Safety Act,²² which established federal standards for swimming pool drain and grate covers in order to prevent suction-entrapment deaths. On-site staff must have a clear understanding of the significant risk posed to children for a limb or hair entrapment if a grate or drain cover is broken or missing; staff must be given clear guidelines as to acceptable and necessary follow-up actions (e.g., report issue, close pool). Merely moving children to a distant area of the pool is unsafe, unacceptable, and violates federal law and state regulations.²³
- Example: The “ring-down” line that connects the pool to the 911 operator has a handwritten “broken” sign attached. The instructor has a cell phone available and decides to proceed with the scheduled class. When a student experiences a medical emergency the instructor attempts to call for help but the cell-signal is poor. After moving around the pool deck, the instructor finds an optimal spot and dials 911 but has difficulty making a voice connection. Cellular 911 calls are answered at three state police dispatch centers in

²² P.L.110-140, 15 U.S.C. 8001 *et seq.*

²³ For example, 105 CMR 435.08(4) requires swimming, wading, and special purpose pools to immediately close down for repairs if any type of suction outlet covers are missing, broken, loose, create an obstruction or are secured in such a way that the cover can be removed without the use of tools.

Massachusetts; cellular 911 calls do not display the caller's address and it can take a significant amount of time to triangulate a caller's location. The instructor must send a student out of the pool area to call for help as the minutes tick by.²⁴

In light of these concerns, the goal of this memorandum is to provide school officials and others with information about the operation, maintenance, and use of school swimming pools, to enhance student health and safety and mitigate potentially serious problems.

IV. Additional Resources and Contact Information at DPH

DPH Regulations – Minimum Standards for Swimming Pools
<http://www.mass.gov/eohhs/docs/dph/regs/105cmr435.pdf>

American Academy of Pediatrics Policy Statement 2010: Prevention of Drowning
<http://pediatrics.aappublications.org/content/early/2010/05/24/peds.2010-1264.full.pdf+html>

Unintentional Drowning – Get the Facts
<http://www.cdc.gov/homeandrecrentialsafety/water-safety/waterinjuries-factsheet.html>

Pool Safety Resources
<http://www.poolsafely.gov/wp-content/uploads/Guidance-For-Safety-The-Pool-and-Spa-Safety-Act.pdf>

Recreation Management
Safe and Swim
http://www.recmanagement.com/feature_print.php?fid=200404fe02

Safety Certification Requirements for Swim Coaches (YMCA)
<http://www.ymcaswimminganddiving.org/nats/Coach/Safety-Training-Certification-Requirements-for-Swim-Coaches.Final.pdf>

US Lifeguarding Standards
http://c.ymcdn.com/sites/www.usla.org/resource/resmgr/lifeguard_library/lifeguard_standards_final_re.pdf

If you have questions or need more information about the safe maintenance, operation, and use of swimming pools in schools, please contact the Community Sanitation Program in the Bureau of Environmental Health at the Massachusetts Department of Public Health, at 617-624-5757.

²⁴ Note that 105 CMR 435.25(2) requires, at a minimum, “immediate” and “toll-free communication” with emergency medical services, local police, state police and the local fire department.