



Prevention Advisor

News That Aquatic Professionals Need To Know

An Introduction To a CPO® Reference Library

Collection 1

Issue 1 through Issue 10

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Prevention Advisor

News That Aquatic Professionals Need To Know

Issue 1, March 2008

Quick Hits

Every seminar from the 2007 World Aquatic Health™ Conference is now available through the NSPF® Online Shopping Cart, including three videos you can watch for FREE!

[Click here!](#)



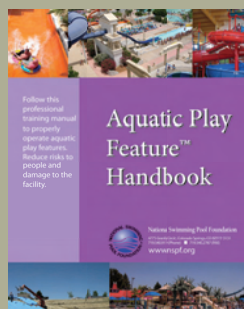
The CDC has recently updated the Fecal Accident Response Recommendations for Pool Staff.

[Download the new PDF here.](#)



Introducing the Aquatic Play Feature™ Handbook!

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Pool & Spa Safety Act

The United States Congress has passed, and President Bush has signed, a new law requiring safety improvements at EVERY PUBLIC POOL and SPA. The full text of the law is posted at www.nspf.org/Documents/HR6_TitleXIV.pdf.

The most important items that service companies, operators, and managers need to know and act on before December 19, 2008 are listed below:


1. Inspect and replace all drain covers with anti-entrapment covers that have "ASME/ANSI A112.19.8.2" and the "Maximum Flow Rate" stenciled on the cover, demonstrating that the cover complies with the standard and the federal law.
2. All drain covers must comply with this standard. Only anti-entrapment covers will be allowed in commerce from that date.
3. If there are any single drains directly linked to suction, plan to renovate to have hydraulically-balanced dual drains spaced at least 3 feet apart. Alternatively, consider renovating the hydraulic system to remove all direct suction using gravity systems.
4. Any pool or spa that has a single main drain will have to have an additional level of protection installed and operational. The additional levels of protection may include one of the options listed below:
 - a. Safety vacuum release system
 - b. Suction-limiting vent system
 - c. Gravity drainage system
 - d. Automatic pump shut off system
 - e. Drain disablement
 - f. Other systems approved by the Consumer Product Safety Commission (CPSC)

At this time, all aspects of the law are not clearly defined. The law does allow "unblockable drains" in some cases; however, this term is not defined. Another area of ambiguity is how states and the federal government will enforce this law. There may be conflicts between the federal law and local laws. NSPF® will continue to explore clarification on these issues. The CPSC has agreed to send a representative to the World Aquatic Health™ Conference (October 15-17, 2008, Colorado Springs, CO) to clarify the law.

Every aquatic facility should work to comply with federal law. Where facility equipment changes or renovations must be approved locally, comply with local/state laws and gain appropriate approvals to change drain covers, add dual drains, etc. Be sure to verify that compliance with the federal law does not conflict with local health codes or regulations.

Brief Summary of the Law:

The law has five sections.

1. The first one is entitled The Virginia Graeme Baker Pool and Spa Safety Act.
2. The second section briefly describes the intent of the law is to reduce suction entrapment and drowning.
3. The third section defines terms in the law.
4. The fourth section is the most important section for people who operate and manage pools to understand. Section four (1404) of the law is relatively simple. Each operator and facility manager should read this section rather than relying on other people's interpretations. The key points are summarized above.
5. The fifth section of the law (1405) is important for health officials. It also describes a grant program to encourage states to adopt additional laws to prevent drowning and entrapment. 



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News That Aquatic Professionals Need To Know

Issue 2, April 2008

Quick Hits

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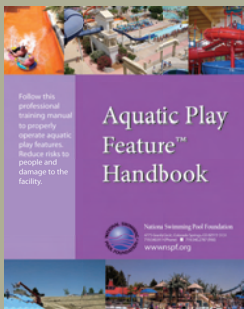


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CDC Partners with NSPF to create Crypto Outbreak Alert System

The Centers for Disease Control and Prevention (CDC) and the National Swimming Pool Foundation® (NSPF) have established a Cryptosporidium (Crypto) outbreak alert system that will be broadcast to some of the over 43 thousand individuals in the NSPF e-mail contact database. When CDC and NSPF become aware of an outbreak, NSPF will broadcast a regional email Outbreak Alert to individuals and to professional aquatics groups. The CDC and NSPF encourage other organizations to transmit the Outbreak Alert to their contacts in the region. To sign up to receive outbreak alert notifications, or review the toolkit's contents, visit www.nspf.org/cryptotoolkit.html.

Crypto is a chlorine-resistant parasite which causes the gastrointestinal illness cryptosporidiosis. Even well-maintained, treated aquatics venues (pools, recreational water parks, interactive spray grounds, etc.) can spread Crypto. Therefore, it is important that pool operators, public health officials, and the public work together to prevent Crypto from getting in the water, and to ensure the facility is being operated properly in order to minimize the risk that the public will contract the disease. Unfortunately, many aquatics managers are not aware when a Crypto outbreak occurs or how to minimize or prevent an outbreak from spreading to their pool. To bridge this gap, the Crypto Outbreak Alert System has been created.

According to the CDC, in 2007, there were at least 18 documented cryptosporidiosis outbreaks related to aquatics venues, the largest one in Utah affecting more than 1,900 people. Other large outbreaks, including the New York outbreak in 2005, demonstrate that Crypto outbreaks can quickly spread to impact many states, facilities, and thousands of people. "There is no doubt that outbreaks will happen this season and they will spread," says Dr. Michael J. Beach, Associate Director for Healthy Water with the National Center for Zoonotic, Vector-Borne and Enteric Diseases (NCZVED) at the CDC. "This new system is a tool to help us contain outbreaks," he adds.

Each Outbreak Alert will include the general location of the outbreak. The Alert will have a link to the prevention toolkit on the NSPF website. This toolkit will have procedures and preventative measures to reduce the spread of the outbreak. Though containment is critical, prevention is paramount. The toolkit will include posters, brochures, consumer and facility guidance documents and two free videos from the 2007 World Aquatic Health™ Conference. Aquatic facility management should use the toolkit to educate consumers, lifeguards, swim-team members, coaches, day-care groups, etc. not to use aquatic facilities if they have had diarrhea within the last two weeks.

Facilities should also consider other measures to reduce outbreak risks. Studies have shown that using supplemental disinfection, such as in-line ultraviolet radiation and ozone, can be helpful to reduce the transmission of Crypto, providing all of the water passes through the device. Additional strategies to reduce risk include periodic super chlorination and improving water circulation throughout the pool, increasing turnover rates, using flocculants or water clarifiers, and/or replacing water.

For more information about healthy swimming visit your state's website (<http://www.cdc.gov/healthyswimming/state.htm>) or CDC's Healthy Swimming website (www.cdc.gov/healthyswimming).



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Issue 3, May 2008

Quick Hits

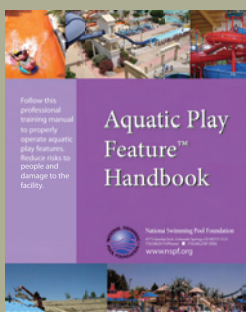
New @ eProAcademy:
Indoor Air Quality
Online Training Course,
including a section on the
ASHRAE standards for
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Voluntary Hyperventilation and Extended Breath-Holding

Operators and managers can play a role in reducing risk and danger when they share information about hazards with managers, lifeguards, coaches, and even the general public to help prevent drowning caused when pool users pass out and drown.

Some swimmers mistakenly think that by taking a series of deep breaths in rapid succession (hyperventilating) and forcefully exhaling, they can increase the amount of oxygen they breathe, allowing them to hold their breath longer underwater. This is not true. Instead, it lowers the carbon dioxide level in the body. Even highly skilled swimmers can pass out in the water and drown from this practice.

The practice of voluntarily hyperventilating followed by underwater swimming or holding one's breath for extended periods of time is dangerous. Whether used in competitive swimming, or just in recreational play, it can and has led to death.

Background

Swimmers who practice prolonged underwater breath-holding are particularly at risk of Shallow Water Blackout (SWB). Shallow water blackout results from an insufficient amount of carbon dioxide to activate the body's natural impulse to breathe.


By rapidly breathing deeply prior to submersion (hyperventilation), swimmers exhale an excessive amount of carbon dioxide. When the oxygen level in the blood runs low before the carbon dioxide level rises to the point that triggers the breathing reflex, the swimmer loses consciousness. The swimmer never actually feels as though a breath is needed.

Anyone who practices competitive, repetitive underwater breath-holding is at risk for Shallow Water Blackout. Once submerged underwater, the swimmer may be hidden from the view of lifeguards by surface glare and ripples/waves on the surface. A series of events is then triggered, including the inhalation of water, possible convulsions and ultimately cardiac arrest and death.

The American Red Cross published these comments in a recent newsletter on this topic:

"As an industry, we must increase awareness among lifeguards, swim instructors and aquatic facility managers that the typical swimmer at-risk of injury or death from hyperventilation during swimming isn't necessarily the weak swimmer or non-swimmer who is normally identified as someone needing extra attention," said Greg Stockton, manager, aquatic sales for American Red Cross national headquarters. ***"These victims are typically skilled or highly skilled swimmers."***

"Although extended breath-holding used to seem like a child's innocent pool game, the aquatic community is quickly learning that this is no laughing matter. It is a growing safety hazard that aquatic safety personnel need to be able to identify, prevent and respond to in an appropriate manner," he added.

Operators and facility management should consider ways they can help prevent breath holding at their facility. Sharing the information in this Advisor with lifeguards, managers, and coaches is one way to get the message out to the personnel who can watch for it. Another way is to share it with facility visitors. Please consider how your facility can help prevent drowning caused when people hyperventilate and then hold their breath underwater. 



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News That Aquatic Professionals Need To Know

Issue 4, June 2008

Quick Hits

New @ www.nspf.org:

A bilingual twin to the National Swimming Pool Foundation® (NSPF®) website is now available at www.nspf.org/espanol

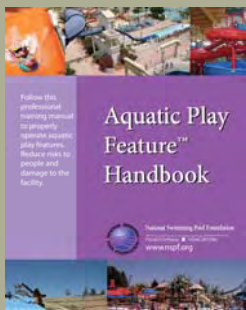
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[Click here!](#)



Introducing the Aquatic Play Feature™ Handbook!


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Flood, Hurricane, Seasonal Closure, and other Catastrophic Circumstances

Swimming pools and spas often are substantially contaminated due to catastrophic events like flooding, prolonged closure, and storm run off. The process the facility must go through to have the facility operational and the water sanitary depends on many circumstances. As a result, there is not one procedure that makes sense for every facility under every set of circumstances. This prevention advisor provides some guidance on several important areas to address when a pool or spa has experienced a catastrophic event and must be cleaned and prepared for use again.

A swimming pool or spa that experiences a catastrophic event needs to be rehabilitated before it can be used again. The facility needs to be isolated and appropriate barriers must be put in place to prevent accidental drowning. Next, the facility must be inspected to better understand any issues and the rehabilitation strategy. The water must be treated and circulated to reduce the risk of the becoming a breeding ground for mosquitoes and becoming a vector for mosquito-borne diseases. Stagnant water also can breed algae and bacteria, which can further contaminate the plumbing and filter systems once they are turned on. Ideally, all debris, dirt, slime, etc. should be removed from the pool. Next, the system should be decontaminated/disinfected. Water should be replaced with potable (drinking) water and normal water treatment operations should commence. Finally, operators should review a start up checklist and inspection to make sure the facility is ready for use. Each of these steps faces some challenges after a catastrophic event. .

To learn more about the four key steps to rehabilitate a pool after a catastrophic event, a more comprehensive document can be downloaded at www.nspf.org. 

This newsletter is a monthly communication to professionals in the pool and spa industry from the National Swimming Pool Foundation® (NSPF®). The NSPF® is a non-profit organization founded in 1965, committed to improving public health by encouraging healthier living through aquatic education and research.



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Issue 5, July 2008

Quick Hits

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Electrical Safety Work Practices and Standards (NFPA 70E) online training course. Features a section on Article 680 of the NFPA code for swimming pools and spas. [Click here!](#)



Seven Tips for Safer Swimming

The Centers for Disease Control and many state and local health departments are encouraging pool patrons to be proactive about recreational water illness and safety at the pools they visit. Pool operators should be aware that these announcements are going out to the public and should be prepared to address the patron's questions. If you welcome the inquiries, you have an opportunity to show your knowledge (by showing your certificate, daily log charts, posted signage, etc).

Above is an example of what consumers are receiving. The consumer document can be downloaded at www.nspf.org. Familiarizing yourself with these consumer tips will prepare you for the "activist swimmer" when they visit *your* pool.





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Issue 6, August 2008

Quick Hits

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Federal Pool and Spa Safety Act

The US Consumer Product Safety Commission (CPSC) is the federal agency responsible for enforcing this act. Compliance checks and recalls that are associated with products are responsibilities of the CPSC.

CPSC is currently working on developing a list of manufacturers of products that are in compliance. NSPF will provide a link to the list once it is made available.

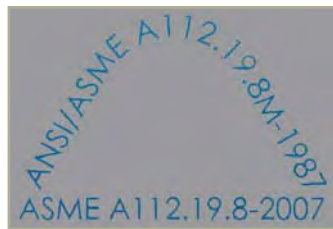
CPSC recognizes three organizations that conduct testing on drain covers and issue certification. As long as a drain cover is approved by one of these three organizations, it complies with the federal law. They are: the International Association of Plumbing and Mechanical Officials (IAPMO), Underwriters Laboratories (UL), and the National Sanitation Foundation (NSF). 

How will I know which covers comply with the new standard?

Answer: They will have the following embossed or permanently marked in a location that is visible when installed:

- "ASME A112.19.8 - 2007"
- a flow rating "X GPM"
- "Life: X Years"
- Manufacturer and Model

Also, look for the stamp below to ensure the drain cover meets ASME A112.19.8 - 2007



NSF Approved Drain Covers

Click [here](#) to view the drain covers that comply with the ASME/ANSI A112.19.8 - 2007 standard.

NOTE: Be aware that multiple drain covers are listed at this link. Scroll to the fine print below each drain to verify the date. It must say 2007 in order to comply with the Federal law.

UL Approved Drain Covers

As of 8/25/08, UL has not approved any drain covers under the ASME A112.19.8 - 2007 standard.

Click [here](#) for the entire H.R. 6 Title XIV (Virginia Graeme Baker Pool and Spa Safety Act)

Click [here](#) for the latest interpretations on the Pool and Spa Safety Act from the (CPSC)



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Issue 7, September 2008

Quick Hits

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[Click here!](#)



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The Prevention Advisor normally covers one topic per month to help operators and managers get more information on a key prevention topic area. We must all remember that there are advances being made on numerous topics. Unfortunately, we can not cover all of the threats and advances in one advisor.


There are several "hot" topics that are high on the aquatic facility's mind:

- [The Pool & Spa Safety Act](#)
- [Conserving energy](#)
- [Reducing risk of legal liability](#)
- [Preventing drowning](#)
- [Preventing and minimizing recreational water illness among your guests](#)
- [How to attract more people to your facility with innovations in programming](#)
- [New technologies entering the market from manufacturers](#)
- [How aquatic facilities benefit the health of the users](#)

The cutting edge advances in these topic areas will be posted on the web about a week after the 2008 World Aquatic Health™ Conference (WAHC™), in Colorado Springs, CO on October 15-17, 2008. Each Prevention Advisor subscriber will receive one free access code to view a WAHC seminar by sending an e-mail to michelle.kavanaugh@nspf.org prior to October 31st, 2008 and stating which seminar you wish to view. We will respond to your email with an access code by Friday, November 7, 2008.

As a result, next month, **YOU** can select the Prevention Advisor topic you wish to see and have a world expert share the topic with you. Remember, once you log in to view the seminar, you can have others in the room watch the seminar with you.

If you wish to attend the WAHC in person, there still is time to register. Visit our website at http://www.nspf.org/WAHC_2008.html for more information. If not, enjoy a seminar online – compliments of NSPF.

Keeping aware will help you be prepared. We appreciate your contribution to our field and the industry! 



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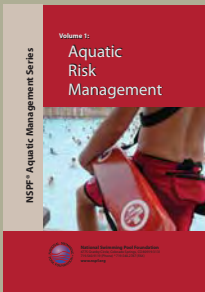
News That Aquatic Professionals Need To Know

Issue 8, October 2008

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The [Aquatic Risk Management](#) book, a guide to help identify, analyze, and take steps to reduce or eliminate exposures to loss.



Order a [CD](#) of the 2008 conference proceedings for only \$50.00!



Order a [Hot Water & Healthy Living](#) book for only \$ 10.95!



Prevent Illness

Preventing disease is one of the key responsibilities for an operator. What we often don't realize is that swimming prevents chronic diseases. Dr. Steven Blair from the University of South Carolina has performed research with thousands of people's health history and has shown that swimming will help people live longer. He was a keynote speaker at the 5th annual World Aquatic Health™ Conference in October. This information can help you and your manager attract more people to your pool!

In addition to this free seminar, send an email to michelle.kavanaugh@nspf.org to receive an access code to view any other seminar from the WAHC for free. [Click here](#) for a complete listing of the seminars.

Does Regular Swimming Reduce Your Risk of Dying? **Dr. Steven Blair, P.E.D., University of South Carolina**

[Summary of the keynote address:](#)

Physical inactivity is a major public health problem. Inactive and unfit persons are more likely to develop chronic diseases such as diabetes, heart disease, hypertension, and other ailments; lose function with age and thereby lose their independence; and die prematurely. Most of the evidence on physical activity and health is from experimental studies of aerobic exercise, typically running.

Individuals who report swimming for exercise have baseline risk factor profiles similar to runners, and better profiles than those who are sedentary. Preliminary analyses show that mortality rates in swimmers were less than one half those observed in sedentary men. Blair concludes that men who swim for exercise have better survival rates than their inactive peers. The seminar has several scientific tips to live a healthier life.

[Click here to view the online seminar](#)

For those of you who have spas at your facility, the [Hot Water and Healthy Living Book](#) is another great resource to help you understand the benefits of hot water immersion. Bruce Becker, M.D. from Washington State University presented research findings on this topic at the conference as well.

For more information, [click here](#) 

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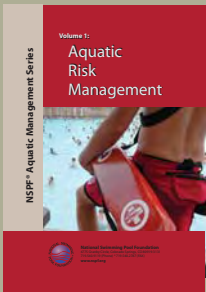
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Issue 9, November 2008

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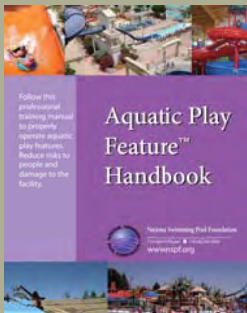
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Online, interactive training module now available at [eProAcademy.org!](#)

Take Action to Extend Deadline for New Pool and Spa Drain Regulation

The deadline for compliance with the Virginia Graeme Baker (VGB) Pool and Spa Safety Act is quickly approaching. Call your Senators and Representatives in Congress and ask them to address this issue now by enacting a delayed or phased-in implementation which would extend the compliance date to 2009. Use these talking points developed by the National Recreation and Park Association to guide you in your conversation.

Key Talking Points For Discussions with Congressional Staff and Members of Congress

Brief Background:

As a result of passage of the Virginia Graeme Baker Act in December 2007, public pools and spas must be equipped with certified drain covers or grates that meet the required ASME/ANSI A112.19.8-2007 standards and safety measures before **December 19, 2008**. Many facilities are finding it difficult if not impossible to be in compliance by this deadline.

Key Messages:

Public safety is a paramount concern for pool and spa facilities. Therefore, facilities support the intent of the Virginia Graeme Baker Pool and Spa Safety Act (VGB) which is to ensure public safety in pools and spas through the use of equipment that protects against entrapment and evisceration. They do want to comply with the Act. However, a recent staff interpretation of the law by the Consumer Products Safety Commission (CPSC) has created significant concern about the ability of pool and spa facilities to comply by the December 19, 2008 deadline.

We are asking Congress and the CPSC to allow for a delayed or phased-in implementation that would extend the requirements for compliance to December 19, 2009.

Action:

Ask your Representative and Senators to address this issue now by enacting a delayed or phased-in implementation which would require compliance by December 19, 2009. This deadline can only be changed through Congressional action.

Contact your Members of Congress immediately as they need to hear about the challenges the December 19, 2008 deadline poses for your community. We are asking Congress and the CPSC to enact a delayed or phased-in implementation which would require compliance by December 19, 2009.

Talking Points:

- **Many of the ASME/ANSI certified covers required for compliance are not yet on the market.** CPSC has reported that manufacturers are working to have certified covers for common sized drains available for purchase in November. This gives pool facilities only one month to purchase a product whose demand exceeds supply, and have it installed.
- **Drains utilized in older pools as well as competition pools and water parks are often uniquely shaped and sized.** To be in compliance, custom covers will need to be specially engineered by manufacturers, and then certified, which will take considerable time and may cause many pools to shut down because they will not be able to be in compliance by the deadline.
- **There is growing evidence that the CPSC interpretation of the requirements of the VGB law may conflict with state pool codes.** Much confusion exists among inspectors regarding the requirements of the law and some states have reported they will continue to use their own requirements or interpretation until CPSC guidelines are finalized. This puts many pool facilities in a precarious situation of not knowing which guidelines they must abide by. This outcome does not effectively ensure public safety as intended by VGB.
- **Guidance issued by CPSC is in the form of a staff interpretation document and has not been officially adopted by the Commission.** Therefore, notice of the guidelines was not published in the Federal Register and many facilities were unaware of the issuance of this guidance. The budgets of many pool facilities are not able to meet unexpected demands for capital maintenance costs in the middle of a fiscal year. Accommodating significant expenses in order to comply with new regulations must be part of the initial stages of the annual capital budget planning process. Many agencies will have extreme difficulties accommodating the expenses that will result from complying with VGB in their budgets.
- **Preliminary estimates show that the cost of compliance ranges from \$1,000 to \$15,000 per pool and, in some communities that require special engineering for unique pool designs, significantly more than \$15,000.** Be prepared with a cost estimate when you speak with your congressman.
- **We are asking Congress and the CPSC to allow for a delay or phase-in of requirements that would extend the deadline for compliance to December 19, 2009.**

What to tell them:

“As a pool safety advocate and professional, I want my community to comply with the Virginia Graeme Baker Pool and Spa Safety Act of 2007. However, a recent staff interpretation of the law by the Consumer Products Safety Commission (CPSC) has created significant concern about the ability of facilities throughout the country to comply by the December 19, 2008 deadline.”

Call the Capitol Switchboard at **202-225-3121** and ask to be connected to your Senators’ and Representative’s office. Visit the **House of Representatives website** or the **Senate website** to find out who represents you in Congress. Once connected to a legislator’s office, ask to speak to the person that handles issues relating to the Consumer Product Safety Commission.

To access resources on compliance with the VGB Act, [click here.](#) 



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Issue 10, January 2009

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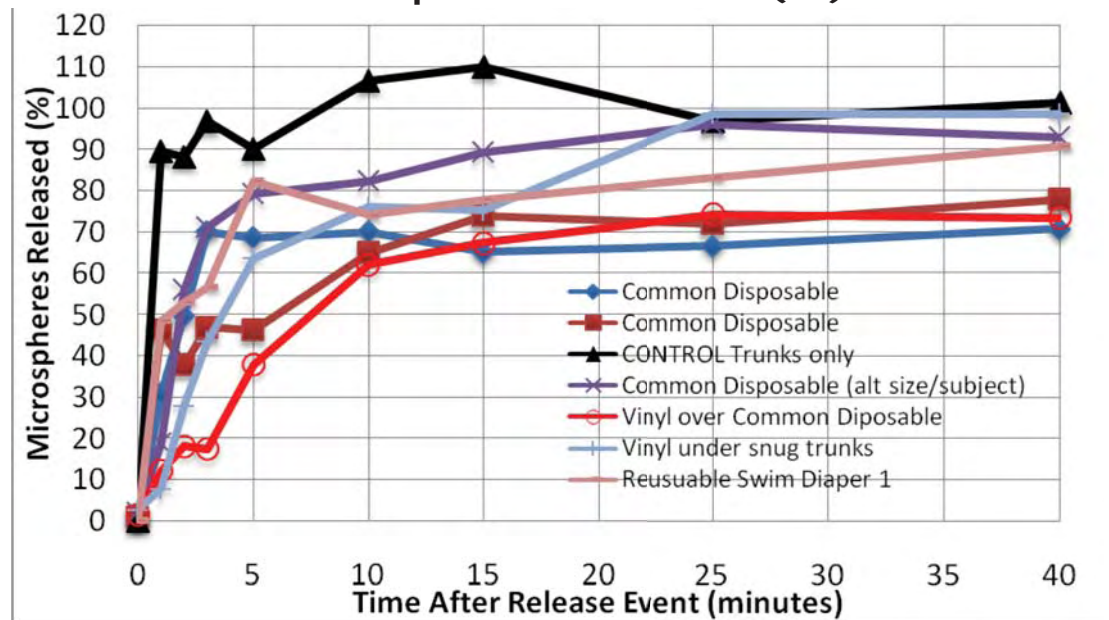
Coming in February 2009!

How Well Do Swim Diapers Work?

How well do they contain a watery diarrhea accident typical of a *Cryptosporidium* (*Crypto*) infected child?

Here are some results from a UNC – Charlotte research study by James Amburgey, Ph.D., Michael J. Arrowood, Ph.D., and Roy R. Fielding, B.A., M.Ed. that examined how well a variety of swim diapers trap or release microspheres that mimic *Crypto*. This work was presented at the 2008 World Aquatic Health™ Conference.

Microsphere Releases in Time for Different Swim Diaper Combinations (%)



What percentage of the 10 million *Crypto*-like particles remain in a swim diaper 5 minutes after a release event? The answer is that only 10-62% of *Crypto* remain in the swim diaper after 5 minutes. In the majority of these experiments (shown in the figure above), more than 50% of these 5-micron sized particles were released within the first 2 minutes. Whether you release 3.8, 5, or 9 million *Crypto* into the pool, a serious problem is created for the swimmers. Therefore, swim diapers are not the best solution.

Working to prevent fecal accidents remains the best defense. Parents and children must be educated about the Six “PLEAs” recommended by the CDC for protection against recreational water illnesses:

1. PLEASE do not swim when you have diarrhea. You can spread germs in the water and make other people sick.
2. PLEASE do not swallow pool water. Avoid getting water in your mouth.
3. PLEASE practice good hygiene. Take a shower before swimming and wash your hands after using the toilet or changing diapers.
4. PLEASE take your kids on bathroom breaks or check diapers often. Waiting to hear “I have to go” may mean it’s too late.
5. PLEASE change diapers in a bathroom or a diaper-changing area and not at poolside.
6. PLEASE wash your child thoroughly (especially the rear end) with soap and water before swimming.

For more information on *Crypto* and to download the CDC poster on the Six “PLEAs” for Protection against RWIs, go to the *Crypto* Tool Kit on our website at <http://www.nspf.org/CryptoToolkit.html>. In the event fecal accidents occur, it is important to note that very high chlorine levels are needed to inactivate *Crypto*. As a result, operators should consider other techniques at their facility to help inactivate *Crypto* and to reduce the risk of RWI. For example, ultraviolet light (UV) systems or ozone systems have been shown to inactivate *Crypto*. For more information about these techniques, WAHC seminars have been posted online at www.eProAcademy.org. Dr. Amburgey and his colleagues have also shown that water clarifiers can help sand filters to remove the vast majority of *Crypto* as it passes through a sand filter.

Take Home Messages on Reducing *Crypto* Outbreaks:

- Educating patrons on the Six “PLEAs” is the key to preventing *Crypto* outbreaks.
- On their own, sand filters are not very efficient at removing *Crypto* (about 2 days to remove 90% and close to a week to remove 99.9% *Crypto*).
- With proper water clarifier use, 99.6% of the *Crypto* can be removed more quickly (i.e., with a single passage through the filter) versus 23.3% without clarifier.
- Regular use of water clarifiers can help mitigate *Crypto* outbreaks.
- Consider other lines of defense at your facility including UV, Ozone, or enhanced filtration to reduce the risk of RWI outbreaks.
- Prevention Advisor subscribers will receive outbreak alerts when NSPF and CDC are aware of one in your region.



To view the entire online seminar by Dr. James Amburgey, go to the [NSPF® Online Shopping Cart](#).