

Water wise

Most people drown because they don't understand how dangerous water can be, experts say

BY BARBARA BALFOUR

ILLUSTRATION BY KAREN KLASSEN

She passed through the screen door, popped open the fridge, and returned to the backyard with a bottle of juice, but the two-year-old who had asked for it wasn't there anymore.

It took only a minute – definitely less than two – but in that short span of time Julie Rusciollelli's daughter had somehow passed through the small unlatched gate in their yard that led to a nearby golf course. By the time rescue crews found the toddler's tiny body lying face-down in an icy pond, almost 25 minutes had ticked by.

Brought back to life at the scene and given a clean bill of health after spending the night in critical care, hers turned out to be a rare happy ending. Three years later, Rusciollelli's daughter Rachel is a perfectly healthy five-year-old child whose mother has since vowed never to let her out of her sight around water again.

"We go to Mexico every year and I never take my eyeballs off of her, even if she is in a wading pool that only goes up to her knees," says Rusciollelli, an advocate for water safety for Safe Kids Canada. "When she's around water I stay with her all the time.

"I never want to go through that hell again."

Every year, about 33 people drown in Alberta in bodies of water ranging from rivers and lakes to swimming pools and ponds. The most common theme among drowning victims is lack of awareness about the risks involved in each particular body of water. Rusciollelli herself had been far from unaware – she had spent the ninth month of her pregnancy crawling around on her hands and

knees in order to view things from the perspective of a baby and properly childproof their home. Their backyard pool was fenced and covered, as was their hot tub. The backyard was surrounded by a wrought iron fence. In hindsight, Rusciollelli wouldn't have left her daughter alone – but in the grand scheme of things, the larger mistake, she cautions, is when parents assume the safest place for their kids is the home.

"Many people are vigilant around rivers and lakes, but what about around their own homes?"

"Parents should not expect their kids to be able to call for help – that expectaton has killed thousands of people."

asks Clara Reinhardt, program representative for first aid and water safety for the Canadian Red Cross. "Drowning is always preventable. If you have an inflatable pool in your backyard, dump it out at night and fill it up again in the morning. It's all too easy for a child to slip underneath a hot tub cover or into a well – make sure everything is properly secured and latched shut."

In bathtubs, the drowning population hit most heavily is young children whose parents might leave for a minute to answer the phone and come back to find their toddler face-down and unconscious. But while children may seem to be at most

risk of drowning because of their age and ability to swim, the vast majority of drowning deaths during the past few years involved adults over the age of 25. In 2003, there were seven drowning deaths in Calgary; six of them were adults over 25.

When out and about in pursuit of recreational activities, people need to be mindful of the differences between static and dynamic waters, says John Conley, spokesman for the Fire Department and a nine-year member of its Aquatics Rescue Team. The tranquility of a reservoir or a man-made lake can easily lull swimmers into thinking it's a relaxed environment with a corresponding set of rules. "When you're playing around in the water, it's all too easy for that boat or raft to flip over, pinning the person un-

derneath it," says Conley.

In dynamic, flowing bodies of water, like the Elbow and Bow Rivers, rafting remains the single biggest risky outdoor water activity in Calgary. There's the dehydrating heat that can lead to bad decisions, changes in temperature and currents of the water, and people with little boating experience who jump on and think they're set. "There is a lot of force and pressure around bridge abutments and cement pylons, and it is hard to navigate safely around them," says Conley. "You run the risk of being bounced off the boat and pinned against the abutments while underwater."

That's why rafters and boaters are required by law to have the proper safety equipment on board, including paddles, a baler, towing line and properly fitted lifejackets. And it is not enough to simply carry the lifejackets on board; a Calgary bylaw states that boaters must wear them at all times while boating within city limits. "It's common sense," says Reinhardt. "A lifejacket can't save your life if you are not wearing it."

And while tying two rafts together – or as many as six from what Conley has seen – to make a flotilla may look like fun, it is a definite hazard, as safe navigation becomes virtually impossible.

Alcohol is another factor in many drowning incidents. The group at highest risk for drowning is represented by males aged 15 to 24; most drown in recreational activities or swimming, and nearly a quarter of them, according to the latest Canadian statistics, were above legal limits for blood alcohol levels.

What may seem to be a harmless can of beer can actually impede depth, temperature and visual perception, interfering with co-ordination either on land or on water, and can confuse a victim who may not be sure of which way is up or down. Water safety expert Frank Pia, who worked as a lifeguard for more than 20 years on Long Island Sound, New York, recalls a six-foot-tall man who drowned in four feet of water and was only found when bathers stepped on him.

Being out in the sun will multiply the effects of alcohol as you lose fluids and become dehydrated. And contrary to popular belief, "going for a dip in the lake won't sober you up, no matter how cold the water is," says Pia.

Pia, a world-renowned expert on drowning and lifeguard training, once spent an entire summer filming near-drownings and rescues on the beach in order to create an instructional video. What came out of the study was the finding that in the vast majority of cases, people around the drowning person are unaware of what is going on.

The typical images from cartoons and movies of drowning people waving their hands in the air and crying out for help are grossly inaccurate, says Pia.

"When all your energy is being spent on getting your mouth above water level you cannot talk or yell," explains Pia, whose team would perform about 2,000 rescues every summer. "Drowning is essentially suffocation in water. You don't have enough air left over to satisfy the respiratory function, much less the function of speech. When you are drowning, you exhale, inhale and sink. You don't physiologically have the air necessary to satisfy the vocal cords."

Being able to wave your hands above your head would mean you could tread water or float, which would not be the case with someone who was drowning.

Water safety tips

Wear a lifejacket. About three out of four people who drown in boating incidents in Canada are not wearing lifejackets or personal flotation devices at the time. Water wings and recreational flotation devices for children are not substitutes for approved lifejackets.

Water and alcohol don't mix. Approximately 38 per cent of all drowning fatalities in Alberta in 1999 involved alcohol.

Swim in supervised areas. Many drowning deaths and near-drownings are attributed to decisions to swim in unsupervised areas where help is not available.

Assess your home. Be aware of all water hazards in and around the home, including wading pools, sinks, toilets and ponds. Never leave your child alone in a bath.

"It's common sense. A lifejacket can't save your life if you are not wearing it."

The initial surface struggle, which to the untrained eye may look like playing in the water, can take as little as 20 seconds before the victim becomes fully submerged.

As the person submerges and keeps their mouth fully closed, the carbon dioxide level builds up in their bloodstream and triggers the urge to breathe. "Within 45 seconds to one minute, the CO₂ level will rise to a point that forces the victim to take a last, terminal gasp," says Pia. "It's that involuntary breathing response that causes them to take water into their respiratory tracts and then to suffocate." Their heart will continue to beat for another two-to-three minutes, but as water enters the bloodstream and dilutes its oxygen-carrying capacity, the function of the brain is rapidly diminished.

As oxygenated blood stops reaching the brain, irreversible damage begins within the next three-to-seven minutes. While there are exceptions to the rule in instances of hypothermia, which causes slowing of the heartbeat and can, in the most fortunate of cases, stave off brain damage for up to 45

minutes, drowning occurs swiftly and suddenly.

That is why it is so important to be close enough within arm's reach so that if something happens, you can rescue your child. "Parents should not expect their kids to be able to call for help – that expectation has killed thousands of people," says Pia.

Barbara Balfour is Editor of Frontlines, the Calgary Health Region's staff newsletter.

EYI

For more information about water safety, call the Canadian Red Cross contact centre at 1-888-307-7997.

In 2001, a group of 12 organizations and agencies came together in Calgary to educate parents and children about the dangers of water and how to become prepared to deal with dangerous situations. Check www.watersafety.ca