



What is Hyponatremia?

Hyponatremia is an imbalance of substances in the blood stream that reduces the effectiveness of sodium.

Simply put, hyponatremia or **water intoxication** occurs when either too much water is taken in or not enough water is excreted. When an excess of ingested water enters the bloodstream from digestive processes, it dilutes the bloodstream to the point where the sodium concentration is so low that an imbalance is created with the other substance in the blood. Since the concentration of (and, therefore the effect of) sodium has been reduced, the water in the bloodstream is absorbed by the cells throughout the body. Due to this excess, the cells of the nervous system may begin to malfunction, and very serious problems can begin very quickly.

How are ISR lessons structured to prevent hyponatremia?

Your child is enrolled in an established technique that monitors for conditions that could lead to hyponatremia before the lessons begin. At ISR, our number one priority is your child's safety.

ISR lessons are structured to prevent water intoxication from occurring on several levels:

1. The parent provides information to the Instructor through the National Registration Form and daily BUDS (Bowel, Urine, Diet and Sleep) sheet. By checking the BUDS sheet, the Instructor can monitor fluids ingested, as well as urination frequency for any abnormalities.
2. During lessons, one of the first things a child learns is to open her eyes and close her mouth when under water. As lessons progress, the Instructor continually monitors the child to make sure the child is not drinking water when submerged.
3. Lessons are kept to a 10 minute maximum, so that the child is not exposed to the water for a significant enough period of time, even if he or she was drinking water.

ISR has delivered over 7 million safe lessons and follows strict safety protocols for each child to ensure a safe lesson experience.

A specific search of medical journals including Pediatrics and The Journal of Pediatrics for article dealing with hyponatremia brought forward a total of 16 articles for review. Each of the articles falls into one of five categories:

1. **MISMANAGED FEEDING** of infants in the home account for 3 articles.

2. **ENEMAS** using tap water in excessive amounts, which caused the hyponatremic condition, account for 2 articles.
3. **PHYSIOLOGICAL** descriptions accounted for 6 medical aspects of water intoxication, ranging from effects on the central nervous system to the use of saline infusion for diabetics and polydipsia.
4. **MISCELLANEOUS** causes, of which there are two. One appeared in Neurology in 1973 and was titled “Voluntary Water Intoxication in Normal Infants,” and the other discussed child abuse involving forced ingestion of copious amounts of water.
5. **SWIMMING RELATED** water intoxication in infants. **As of 1993, there have been no reports of hyponatremia related to infant swimming lessons in the medical literature.**

CAUTION: A Warning for Parents

Being unconscious while underwater is a very dangerous situation. Death has occurred up to 48 hours after some near-drowning victims have been revived or undergone effective CPR, even in cases where the victim was revived and walked away from the scene. Since you do not know if your child hit his head or was incapacitated in any way as he or she stumbled into the water, **always react immediately, as though it is a rescue situation, whenever your child falls into the water.**

Any near-drowning involving even momentary loss of consciousness must be followed by a 48-hour period of observation in a hospital.