

DDD Prevention Series

DIVISION OF DEVELOPMENTAL DISABILITIES

DEPARTMENT OF ECONOMIC SECURITY

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Your Partner For A Stronger Arizona

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Persons with a Developmental Disability are at Risk for Dehydration!

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There are four major health issues that occur more often in persons with a developmental disability. They are aspiration, dehydration, constipation and seizures. These problems are called the “The Fatal Four” in some publications because of the increased risk of illness and death for persons with a developmental disability who develop these problems. Today, we will be reviewing **DEHYDRATION**.

Dehydration is the loss of needed body water through the process of sweating and evaporation. (Water can be lost directly from the skin through evaporation due to the low humidity here in Arizona!)

The MOST COMMON SIGNS of DEHYDRATION are:

- ▶ Dry mouth
- ▶ Rapid weight loss
- ▶ Sleepy, difficult to wake up
- ▶ Few or no tears when crying
- ▶ Muscle weakness
- ▶ Headache
- ▶ Dizziness
- ▶ Decreased urination
- ▶ Dark, concentrated urine

Mild to moderate dehydration can be corrected with drinking more water alone, **but if severe dehydration develops, it can be a Medical Emergency!**

In SEVERE DEHYDRATION, all of these additional symptoms will be present:

- ▶ Sunken eyes
- ▶ A lack of sweating
- ▶ Low blood pressure
- ▶ Rapid heart beat

Who is at higher risk for dehydration?

- ▶ Persons with Developmental Disabilities
- ▶ Infants and children
- ▶ Older adults: the older you are, the higher the risk
- ▶ Persons with chronic illnesses such as:
 - Uncontrolled or untreated Diabetes
 - Kidney disease
 - Cystic Fibrosis
 - Alcoholism
- ▶ Persons who live at high altitudes (8,000 to 12,000 feet)

Why are persons with a developmental disability at a higher risk for dehydration?

*The Oregon Department of Health Services Developmental Disabilities Nursing Manual lists some examples of the risk factors for persons with a developmental disability becoming dehydrated:

- ▶ Persons with severe Cerebral Palsy may not be able to get something to drink on their own and will need the assistance of others.
- ▶ Persons who are unable to get out of bed by themselves or are in a wheelchair may have difficulty getting water on their own.
- ▶ Persons who cannot speak or whose speech is hard to understand may have a hard time telling their caregivers that they are thirsty.

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Other COMMON CAUSES of dehydration (for everyone) include:

- ▶ Vomiting and diarrhea
- ▶ Fever
- ▶ Excessive sweating
- ▶ Burns
- ▶ Increased urination, which can be caused by
 - Undiagnosed or uncontrolled Diabetes
 - Medications such as diuretics (“water pills”) and blood pressure medications

Some medications can also complicate the identification of dehydration. For example, two seizure medicines, Zonisamide (Zonisamide) and Topamax (Topiramate), can cause decreased sweating and higher body temperatures.

People who take psychotropic medications may also be at a higher risk during hot, sunny weather.

These are some of the reasons:

- ▶ Many antipsychotic medications (major tranquilizers), such as Thorazine (Chlorpromazine), Mellaril (Thioridazine), Haldol (Haloperidol) and Risperdal (Risperidone) can cause two different problems:
 1. These medications may decrease the body’s ability to sweat.
 2. They may also cause the skin to become more sensitive to the sun. As a best practice, persons taking these medicines should wear sunscreen every time they are out in the sun.
- ▶ Lithium (Lithium carbonate, Lithonate, Lithobid) is frequently used for the treatment of Bipolar Disorder (Manic Depression) or aggressive behavior. Persons who are treated with Lithium and become dehydrated are at a very high risk for developing **Lithium Toxicity**, a life threatening condition.

Lithium is a chemical element, in the same family as the sodium in table salt. When a person takes Lithium for a mental illness, it becomes dissolved in the body’s water.

To better understand the risk from Lithium Toxicity, think of the body’s total water as a glass of water in which the Lithium is dissolved. If half the water evaporates from the glass, where does the Lithium go? **NOWHERE!** It is still in the glass, but now it is dissolved in half the water! If half the water is gone, what happens to the concentration of the Lithium in the water? It goes up! If half the water is gone, the concentration of the Lithium has **DOUBLED!** So, when dehydration occurs, the concentration of Lithium in the body’s water gets too high and Lithium Toxicity occurs.

The FIRST SIGNS of Lithium Toxicity include:

- ▶ Nausea and vomiting
- ▶ Cramping
- ▶ Diarrhea

EFFECTS of Lithium Toxicity on the nervous system are:

- ▶ Tremors or shakiness
- ▶ Lethargy (feeling too tired to move)
- ▶ Ataxia (difficulty walking)
- ▶ Confusion

MODERATE to SEVERE Lithium Toxicity may result in:

- ▶ Thinking clearly can be more difficult
- ▶ Muscle Fasciculations (little tremors in the muscle)
- ▶ Seizures
- ▶ Hyperreflexia (increased reflexes)
- ▶ Coma
- ▶ Cardiovascular Collapse

If not treated right away, a Lithium Toxicity can be life threatening!

MEDICAL TREATMENT for Lithium Toxicity may include:

- ▶ Airway protection to avoid risk of aspiration
- ▶ Having the stomach pumped (gastric lavage) may be useful if the patient gets to the hospital within one (1) hour of taking their last dosage of Lithium
- ▶ IV Fluid Therapy
- ▶ Dialysis

**DEHYDRATION & LITHIUM TOXICITY
CAN BE PREVENTED!**

The BEST WAY TO PREVENT DEHYDRATION are:

- ▶ Always carry a water bottle for each person in the group when going out in the sun.
- ▶ Always drink when you are thirsty – don’t ignore a dry mouth or other signs of dehydration!
- ▶ Soda pop is not a good choice for rehydration because it contains too much sugar and not enough sodium to replace electrolytes.
- ▶ Increase intake of foods with a high water content, such as fruits and vegetables.
- ▶ Increase fluid intake at the first sign of illness such as a cold or the flu, but check with the individual’s doctor first!

We hope that this information will be useful to you in your care of persons with a developmental disability. The Division thanks you for your care of our enrolled members through our contracted health plans. #

SOURCES:

Lee, D.C. & Gupta, A., *Lithium Toxicity*, downloaded from <http://emedicine.medscape.com/Article/815523> on 06/28/2010.

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Oregon Department of Health Services, *Developmental Disabilities Nursing Manual*, downloaded from http://www.oregon.gov/DHS/spd/provtools/dd/nursing_manual/dehydration.shtml on 10/21/2008.



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