

Infection Control Quality Improvement
Sip Before You Dip
4 September, 2012

In recent months we have had several residents treated for urinary tract infections that have been diagnosed on the basis of vague symptoms not always associated with a urinary tract infection. We would like to try a study, that will hopefully improve the way we treat residents exhibiting vague symptoms to see if hydration may be an easy and inexpensive fix for our residents.

Benefits of drinking water:

Pressure ulcers: Adequate hydration helps prevent formation of pressure ulcers, increases levels of tissue oxygen and helps ulcer healing.

Constipation: Inadequate fluid intake is the most frequent cause of constipation. Constipation affects 42% of residents living in nursing homes. (And we wonder why some of our residents are crabby.)

URINARY INFECTIONS AND CONTINENCE: Water is essential to maintaining a healthy urinary tract and kidneys. Maintaining an adequate level of hydration is key to preventing urinary tract infections. This is the area that we will be focusing on for the next several months.

Kidney and Gallstones: Good hydration can reduce the risk of kidney stone formation by 30% because dilute urine helps prevent crystallization of stone-forming salts. Water also helps dilute bile and stimulate gallbladder emptying which prevents stone formation.

Heart Disease: Adequate hydration can reduce the risk of coronary heart disease by as much as 46% in men and 59% in women. It also protects against blood clot formation by decreasing blood viscosity.

Low blood pressure: Many elderly people experience a drop in blood pressure when they stand up. Maintaining adequate hydration can help prevent this—some suggest encouraging residents to drink a glass of water 5 minutes before standing. (Does it work? Let me know.)

Diabetes: Water is an essential part of the dietary management of diabetes since dehydration can worsen diabetic control. Adequate hydration helps maintain healthy blood sugar levels and reduces the risks of ketoacidosis during insulin deficiency in Type I diabetes.

Cognitive Impairment: Dehydration adversely affects mental performance. Symptoms of mild dehydration include light-headedness, dizziness, headaches, tiredness, reduced ability to concentrate and reduced alertness. Once a resident is aware of feeling thirsty,

their mental function may already be affected by as much as 10%, and as dehydration progresses, mental function continues to deteriorate.

Falls: The risk of falls increases with age. If a resident is under-hydrated, that risk of fall is even greater as their mental function has deteriorated, they may experience dizziness and fainting, and ultimately sustain a life changing injury—all for lack of water.

Skin: Good hydration is a good way to keep skin healthy and young looking. The skin acts as a reservoir for water and participates in fluid regulation for the whole body. Mild dehydration causes skin to appear flushed, dry and loose, with loss of elasticity that makes the skin look old.

What is good hydration?

While there is currently no specific agreement on exactly how much water a person should drink daily, guidelines suggest that drinking 6-8 8 ounce glasses of water per day will provide adequate hydration to keep the body functioning well and enhance good health. That amount of water is between 1450 and 2000 ml. of water over the course of the day. Assuming that there are no medical reasons for restricting fluids, residents should be encouraged to drink at least this amount of water on a daily basis.

Adequate hydration can prevent some of the following symptoms of dehydration: headache (one of the early signs of dehydration), feeling tired and lightheaded, reduced mental alertness and an increased inability to concentrate.

Our study will focus on the approach we use when residents are exhibiting vague symptoms for which our standard approach is to “dip their urine”. I am asking nurses to work with the CNAs and give residents a 24 hour trial of improved hydration to see if this will alleviate the vague symptoms. We will use a 24 hour ATCP along with a hydration sheet and monitor the resident for improvement or worsening of symptoms.

Obviously, any resident with a temperature over 100.4 , new or increased burning on urination, frequency or urgency, new flank or suprapubic pain or tenderness, obvious change in character of urine, and obvious worsening of mental or functional status would need to be carefully assessed and have their physician notified for treatment.

The resident we will be trying this new approach on is the resident who has had a fall or two in the last few days, has had a behavioral outburst at staff or spouse, who complains that I have to pee all the time, and any other reason that someone may say “ let’s check their urine”.

After 24 hours, hopefully we will see improvement in the resident and will not need to add antibiotics to their treatment plan. If there is improvement, that tells us we need to work with this resident on an ongoing basis to improve their hydration status.

Also, if we err on the side of caution, that is understandable as long as we are helping the resident. If it is easier to pass a pill than provide hydration, then we have a problem in our approach to resident care. I hope that this will be a program that in the long run will improve resident hydration and cut down on the amount of care and paperwork that is required when residents are treated for UTIs.