Wyoming Seminary

Fluid replacement fact sheet

All of the following information can be adapted from the NATA position statement. For more information, please visit https://www.**nata**.org/.

What is Dehydration?

-Caused by not properly replacing fluids lost by sweating

-Sweat loss that exceeds fluid intake causes an athlete to become dehydrated during activity

-Dehydration of 1%-2% of body weight compromises physiologic function and negatively influences performance.

-Anything greater than 3% of body mass can reduce muscle strength by an estimated 2%

WHAT TO AVOID:

- Caffeine
- Alcohol
- Carbonated beverages

Consequences of Dehydration

THIRST

Thirst is a useful indicator of daily fluid requirements. Unfortunately, it's not fully reliable since the body is already mildly dehydrated by the time an average person starts to notice thirst.[1]

MENTAL

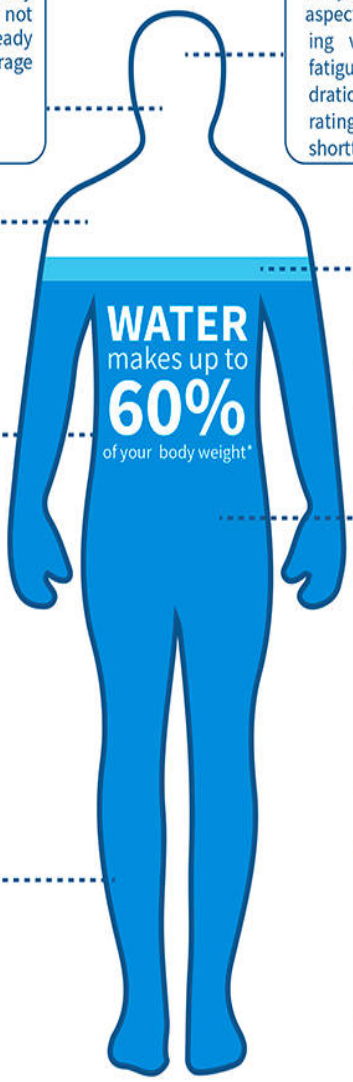
Dehydration can degrade specif aspects of cognitive performance inclu ing visual vigilance, tension, anxiet fatigue and visual working memory. Deh dration was also linked to negative moc rating, impaired motor performance ar shortterm memory.[6]

SKIN

Dehydration results in dry skin and wrinkles.[2]

DEHYDRATION

A 1% loss of body mass due to flu loss is defined as dehydration.[7]



KIDNEYS

Higher water intake is shown to have a protective impact on the kidneys, and there is initial evidence that CKD (Chronic Kidney Disease) may be inversely related to higher water intake.[3]

A study by Dai et al found a strong protective effect of fluid intake in preventing kidney stone formation in men.[4]

WEIGHT LOSS

Opting for water instead of sugar drinks can help reduce boc weight and fat levels. Accordin to Stookey,[8] just drinking 500 n (17 oz) of water increases energ expenditure by 100kJ. Findings the same study indicate that a absolute increase in drinkin water to to ≥ 1l (34 oz)/day wa associated with ~2 kg or 5 lb weight loss over 12 months.

PHYSICAL

Studies have shown that the modest level of dehydration (2% of body mass) can result in around a 20% decrease in physical performance levels in temperate climates and up to a 40% decrease in hot temperatures.[5]

*WATER

Water plays crucial roles, in transporting nutrients and waste products between our major organs and helping regulate temperature.[9]

1) Kolasa, K.M., Lackey, C.J. & Grandjean, A.C. Hydration and Health promotion. Nutrition Today. 2009; 44: 190-201
2) Atlanta dermatologist Kenneth Ellner, MD.
3) Sontorp et al. (2013) Am. J. Of Nephrology
4) Dai et al. (2013). J: of Renal Nutrion (23) 2
5) Péronnet F PhD(2010) Healthy Hydration for Physical Acti Nutrition Today, Volume 45, No. 6S
6) Ganio et al., 2010; D'Anci et al., 2009; Smith et al., 2012
7) Kleiner SM. Water: An essential but overlooked nutrient. J Am Diet Assoc 1999:99:201-7.
8) Stookey, J. D., Constant, F., Popkin, B. M. and Gardner, C. D. (2008) Obesity, 16: 2481–2488.

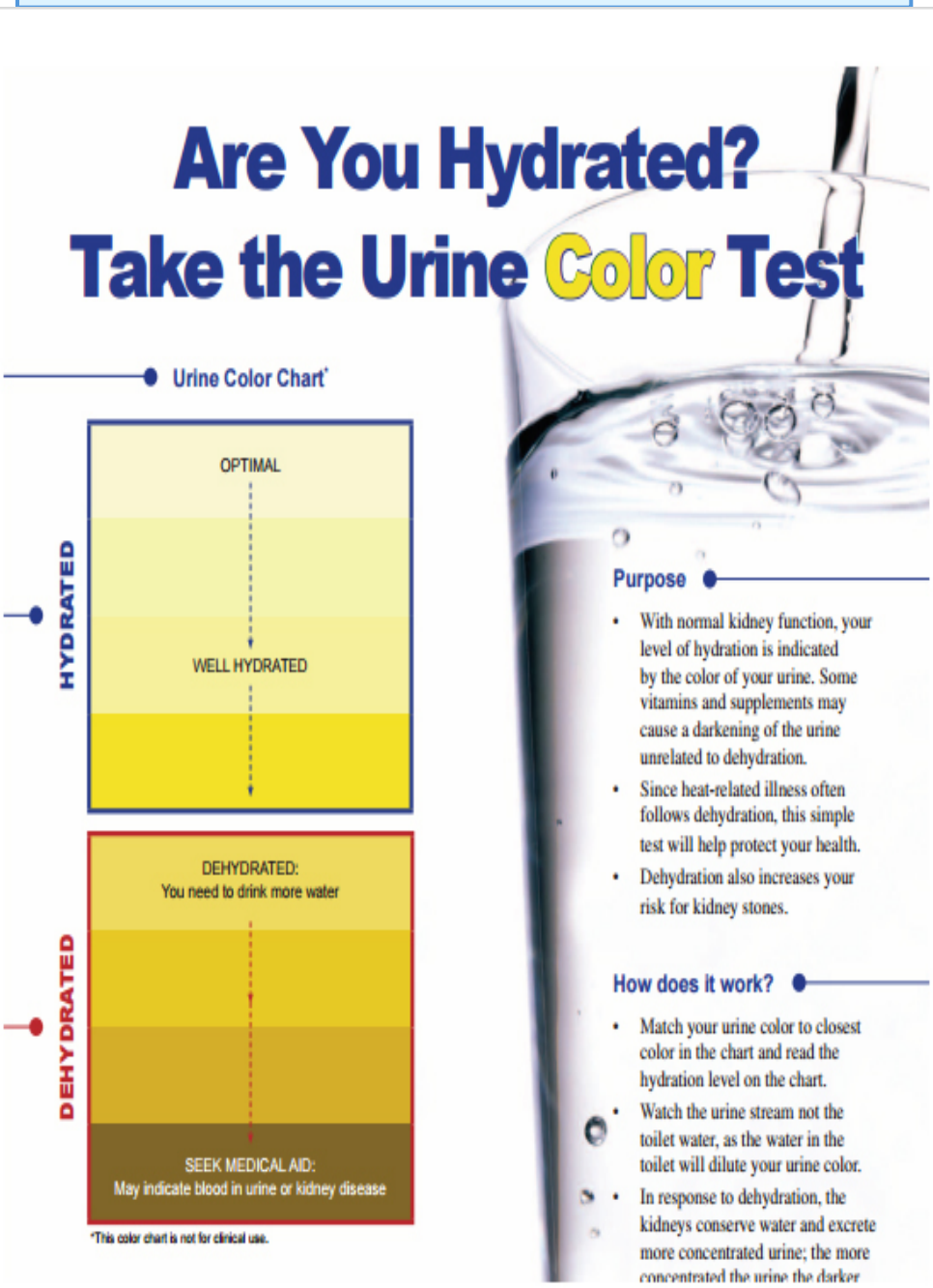
SAFTEY TIPS:

-Have sports drinks on hand for workout sessions lasting longer than an hour.

-Keep beverages cold. (Cold beverages are consumed 50% more than warm beverages.) 50 degrees to 59 degrees Fahrenheit is recommended.

-Hydrate before, during and after activity.

-Adding modest amounts of salt (0.3 to 0.7 g/L) can help prevent electrolyte imbalance.



WHAT TO DRINK:

BEFORE ACTIVITY:

- ✓ 17-20 oz. 2-3 hours before exercise
- ✓ 7-10 oz. 10-20 minutes before exercise

DURING ACTIVITY:

- ✓ 7-10 oz. every 10-20 minutes during exercise

AFTER ACTIVITY:

- ✓ Must consume water to restore hydration
- ✓ Should contain carbohydrates & electrolytes to speed rehydration
- ✓ Drink about 25%-50% more than sweat losses to assure the greatest amount of rehydration 4-6 hours after exercise