

DRINKING WATER RESEARCH FOUNDATION

Submission to the Dietary Guidelines Advisory Committee

Daily water consumption supports a nutritious, healthful and well balanced diet and should be recognized by the Dietary Guidelines Advisory Committee in its recommendations for the 2015 Dietary Guidelines. The studies, research articles, and other information listed below contain data that address the healthful benefits of water consumption, optimum hydration, and the importance of making healthy beverage choices.

I. Physiologic attributes

- **Cheuvront et al., Am J Clin Nutr, 2013 March; 97 (3): 455-462- Physiologic basis for understanding quantitative dehydration assessment:**
- **Pross et al., Br J Nutr, 2013 January 28; 109(2): 313–321 – Influence of progressive fluid restriction on mood and physiological markers of dehydration in women**
- **Péronnet et al., Eur J Appl Physiol, 2012 June; 112(6): 2213–2222 – Pharmacokinetic analysis of absorption, distribution and disappearance of ingested water labeled with D2O in humans**
- **Popkin et al., Nutr Rev, 2010 August; 68(8): 439–458. Water, hydration, and health- Review Article**
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2908954/pdf/nihms210404_1.pdf

II. Cognition attributes

- **Armstrong et al., J Nutr, 2012 Feb; 142(2):382-8 – Mild dehydration affects mood in healthy young women** <http://jn.nutrition.org/content/142/2/382.long>
- **Tang C et al., Cell Physiol Biochem, 2011; 27(6):757-68 – Hydration-sensitive gene expression in brain**

III. Chronic illness alleviation (Diabetes, kidney stones, obesity, metabolic syndrome)

- **World Health Organization. Obesity and Overweight.** Fact sheet N°311. Updated March 2013 Data and statistics on the population's incidence of being overweight and/or obese. <http://www.who.int/mediacentre/factsheets/fs311/en/index.html>
- **Ogden et al., NCHS Data Brief. 2012;82:1–8 -- Prevalence of Obesity in the United States:** National Center for Health Statistics data on obesity in the United States 2009-2010
- **Lotan et al., BJU Int, 2012 Dec; 110(11 Pt C):E1060-7– Primary prevention of nephrolithiasis is cost-effective for a national healthcare system**
- **Strippoli et al., Nephrology (Carlton), 2011 Mar;16(3):326-34 – Fluid and nutrient intake and risk of chronic kidney disease**
http://eorder.sheridan.com/3_0/display/index.php?flashprint=1707

- **de La Guéronnière et al., Arch Ital Urol Androl, 2011;83(1):43-50** – *Increasing daily water intake decreases the kidney stone risk, measured by an indicator, the Crystallization Risk Index*
- **Roussel et al., Diabetes Care, 2011 December; 34(12): 2551–2554 (American Diabetes Association)** – *Low water intake and risk for new-onset hyperglycemia*
http://eorder.sheridan.com/3_0/display/index.php?flashprint=1736
- **Clark et al., Clin J Am Soc Nephrol, 2011; 6: 2634 –2641** – *Urine volume and change in estimated GFR in a community-based Cohort study*
http://eorder.sheridan.com/3_0/display/index.php?flashprint=1800
- **Daudon et al., Ann Urol, 2005; 39:209-31** – *Epidemiology of nephrolithiasis in France*
- **Schulze et al., JAMA, 2004 Aug 25; 292(8):927-34** —*Sugar-sweetened beverages, weight gain, and incidence of type 2 diabetes in young and middle-aged women*
<http://www.ncbi.nlm.nih.gov/pubmed/15328324>
- **Yoo et al., Am J Clin Nutr, 2004 Oct; 80(4):841-8**— *Comparison of dietary intakes associated with metabolic syndrome risk factors in young adults: the Bogalusa Heart Study*
- **Stamatelou et al., Kidney Int, 2003 May; 63(5):1817-23**—*Time trends in reported prevalence of kidney stones in the United States: 1976-1994.*

IV. Children and adolescents

- **Feferbaum et al., BMC Public Health, 2012 Nov 20; 12:1005** – *Fluid intake patterns: an epidemiological study among children and adolescents in Brazil*
- **Kavouras et al., J Med Sci Sports, 2012 Oct; 22(5):684-9** – *Educational intervention on water intake improves hydration status and enhances exercise performance in athletic youth*

V. Recommendation on daily water consumption

- **Piernas et al., Am J Clin Nutr, 2013 March; 97 (3): 604-611** – *Does diet-beverage intake affect dietary consumption patterns? Results from the Choose Healthy Options Consciously Everyday (CHOICE) randomized clinical trial*
- **2013 Australian Dietary Guidelines, Reference number: N55, ISBN: 1864965754** - Guidelines include scientific evidence to provide information on the types and amounts of foods, food groups and dietary patterns that aim to promote health and wellbeing, reduce the risk of diet-related conditions, reduce the risk of chronic disease.
http://www.nhmrc.gov.au/files/nhmrc/publications/attachments/n55_australian_dietary_guidelines_130530.pdf
- **USDA 2013 MyPlate Campus Toolkit.** MyPlate on Campus Toolkit was designed by the USDA especially for young adults attending universities and colleges. This toolkit

helps students to communicate the Dietary Guidelines messages supporting the “MyPlate” symbol to student bodies.

<http://www.choosemyplate.gov/MyPlateOnCampus/downloads/MyPlateOnCampusToolkit.pdf>

- **USDA 2012 Nutrition Education Series, *Make Better beverage Choices*.** MyPlate Nutrition Education Series Tips for beverage choices.
<http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet19MakeBetterBeverageChoices.pdf>
- **West E, The Food Republic, 2011 June; www.foodrepublic.com** “Food Pyramids of The World: 10 nutrition guideline charts from around the globe.”
- **European Food Safety Authority (EFSA), EFSA Journal, 2010; 8(3):1459.** *Scientific Opinion on Dietary Reference Values for water*
<http://www.efsa.europa.eu/it/scdocs/doc/1459.pdf>
- **European Food Information Council (EUFIC), EUFIC Review, 2009.** *Food-Based Dietary Guidelines in Europe*. <http://www.eufic.org/article/en/expid/food-based-dietary-guidelines-in-europe/>
- **Institute of Medicine (IOM), National Academies Press, Copyright 2005, ISBN 0-309-53049-0 (PDF).** *Dietary Reference Intakes for Water, Potassium, Sodium, Chloride, and Sulfate*.
- **Howard G, Bartram J. World Health Organization (WHO), Geneva, Switzerland 2003.**
Domestic water quantity, service level and health
http://www.who.int/water_sanitation_health/diseases/WSH03.02.pdf
- **Kleiner et al, J Am Diet Assoc, 1999 Feb; 99(2):200-6** *Water: an essential but overlooked nutrient*.

IV. Hydration Biomarkers

- **Perrier et al., Br J Nutr, 2013 May;109(9):1678-87**— *Relation between urinary hydration biomarkers and total fluid intake in healthy adults*
- **Armstrong et al., J Acad Nutr Diet, 2012 Jul; 112(7):1056-61** – *Hydration biomarkers and dietary fluid consumption of women*
- **Armstrong et al., Nutr Rev, 2005 Jun;63(6 Pt 2):S40-54**— *Hydration Assessment Techniques*
- **Nicolaïdis et al., Ann Nutr Aliment, 1976; 30(2-3):349-68**—*Physiology of water intake*