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U.S. Water Intake and Serum Osmolality Data from the Third National Health and Nutrition Examination Survey, 1988–1994

TABLE G-1 Estimates of Serum Osmolality by Decile of Mean Total Water Intake: United States, NHANES III, 1988–1994

Sex/Age Category ^a	Decile of Total Water Intake ^b	<i>n</i>	Total Water Intake (mL/d)		Serum Osmolality (mmol/kg)	
			Mean	Median	Mean	Median
M, 12–18 y	1	94	1,364	1,412	278	279
	2	87	1,837	1,857	279	281
	3	105	2,146	2,138	277	277
	4	81	2,489	2,492	278	279
	5	86	2,793	2,789	279	279
	6	82	3,128	3,149	279	278
	7	80	3,511	3,490	279	279
	8	57	3,953	3,948	278	279
	9	70	4,499	4,497	279	282
	10	96	6,460	5,877	281	281
M, 19–50 y	1	380	1,694	1,763	279	279
	2	336	2,322	2,339	279	278
	3	287	2,667	2,660	281	282
	4	278	2,984	2,974	280	281
	5	296	3,310	3,308	280	282
	6	307	3,691	3,692	280	279

TABLE G-1 Continued

Sex/Age Category ^a	Decile of Total Water Intake ^b	n	Total Water Intake (mL/d)		Serum Osmolality (mmol/kg)	
			Mean	Median	Mean	Median
M, 51-70 y	7	312	4,133	4,122	280	281
	8	276	4,727	4,689	280	280
	9	304	5,555	5,502	280	280
	10	315	7,934	7,279	280	281
	1	184	1,635	1,721	280	281
	2	146	2,168	2,149	282	283
	3	156	2,570	2,593	281	281
	4	134	2,907	2,894	281	281
	5	105	3,172	3,174	283	283
	6	125	3,465	3,469	281	282
M, 71+ y	7	124	3,798	3,798	280	280
	8	119	4,319	4,337	280	280
	9	128	5,162	5,141	281	283
	10	95	7,203	6,721	281	282
	1	106	1,444	1,523	283	283
	2	101	1,895	1,895	283	283
	3	83	2,208	2,216	283	284
	4	87	2,455	2,452	284	284
	5	74	2,707	2,715	283	284
	6	66	2,976	2,980	282	284
F, 12-18 y	7	68	3,218	3,225	281	281
	8	83	3,597	3,572	283	284
	9	67	4,129	4,151	283	283
	10	73	5,450	5,247	281	280
	1	103	943	942	278	279
	2	106	1,444	1,469	278	279
	3	81	1,696	1,685	276	276
	4	105	1,964	1,961	276	277
	5	105	2,202	2,173	276	276
	6	83	2,492	2,512	278	279
F, 19-50 y	7	100	2,719	2,711	278	279
	8	84	3,069	3,085	277	278
	9	104	3,737	3,672	278	279
	10	83	5,525	5,279	277	278
	1	429	1,249	1,315	277	277
	2	369	1,727	1,735	277	278
	3	350	2,033	2,015	277	278
	4	347	2,309	2,299	276	277
	5	347	2,612	2,603	277	278
	6	340	2,923	2,925	277	278
7	320	3,270	3,257	277	277	
8	306	3,725	3,719	278	279	

continued

TABLE G-1 Continued

Sex/Age Category ^a	Decile of Total Water Intake ^b	n	Total Water Intake (mL/d)		Serum Osmolality (mmol/kg)	
			Mean	Median	Mean	Median
F, 51–70 y	9	281	4,298	4,267	277	277
	10	353	6,163	5,426	277	278
	1	174	1,321	1,382	281	281
	2	135	1,836	1,854	280	281
	3	147	2,102	2,117	280	280
	4	130	2,388	2,406	280	281
	5	134	2,682	2,682	281	282
	6	151	2,969	2,971	280	281
	7	135	3,301	3,291	281	281
	8	127	3,704	3,720	280	279
F, 71+ y	9	129	4,230	4,216	281	281
	10	141	5,807	5,331	279	280
	1	110	1,191	1,242	282	283
	2	102	1,649	1,656	282	282
	3	101	1,957	1,953	282	282
	4	87	2,193	2,190	281	281
	5	79	2,382	2,378	283	283
	6	92	2,589	2,591	282	283
	7	84	2,883	2,882	283	282
	8	99	3,173	3,152	281	281
9	79	3,599	3,601	280	281	
10	88	4,852	4,646	282	283	

^a M = male, F = female.

^b Total water intake reflects the sum of drinking water and the water content of foods and beverages.

NOTE: Data are limited to individuals who provided a valid response to a question on usual plain drinking water intake, provided a complete and reliable 24-hour dietary recall, and had a serum osmolality measurement. Females who were pregnant, lactating, or had “blank but applicable” pregnancy or lactating status data or who responded “I don’t know” to questions on pregnancy or lactating status were excluded from the analysis.

DATA SOURCE: U.S. Department of Health and Human Services, National Center for Health Statistics, Third National Health and Nutrition Examination Survey (NHANES III), 1988–1994.

SOURCE: ENVIRON International Corporation (2002).