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## **VERY PREMATURE INFANTS MAY FACE HIGH RISK OF KIDNEY FAILURE AS ADULTS**

**Washington, DC (July 14, 2005)** — Babies born before the 32nd week of pregnancy may be at increased risk of reduced kidney function in young adulthood, but only if they were "small for gestational age" at birth, suggests a study in the September *Journal of the American Society of Nephrology*.

A Dutch collaborative study group, led by Mandy G. Keijzer-Veen, MD, assessed various kidney function measures in 422 young adults born very prematurely—average time of birth was the 30th week of pregnancy and average birth weight 2.9 pounds. About half of the subjects were considered "small for gestational age" (SGA) at birth, meaning they were even smaller than expected considering how early they were born. Average birth weight in this group was 2.5 pounds, compared to 3.3 pounds in subjects born "appropriate for gestational age" (AGA).

At age 19, kidney function test results were within the normal range for all of the former premature infants. Several measures of kidney function were significantly related to birth weight—that is, kidney function was lower for subjects with lower birth weights.

However, the link between birth weight and kidney function was significant only for subjects born SGA. For subjects in the AGA group, birth weight was unrelated to kidney function. None of the kidney function measures was related to adult weight.

Microalbuminuria—an early sign of kidney damage—was found in nearly 3 percent of subjects. This finding was more than twice as common in subjects born SGA: 3.8 percent, compared to 1.6 percent in the AGA group.

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Previous studies have linked low birth weight to problems with kidney development. Low birth weight may lead to a reduced number of nephrons, the functional unit of the kidneys. The remaining nephrons must work harder, eventually leading to reduced kidney function. The kidneys continue to develop until the 36th week of pregnancy. The combination of prematurity and being born SGA—also known as intrauterine growth retardation—may increase the risk of kidney failure even further.

Kidney function normally begins to decrease after age 20. The new results suggest that this process may be accelerated in very premature babies who are born SGA. If so, then these SGA babies may be at increased risk of kidney failure later in life. The authors plan further follow-up to confirm this risk, and to determine whether the link between birth weight and kidney function persists beyond young adulthood.

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