

Nebraska Kidney Association

The mission of the Nebraska Kidney Association is to improve the lives of all Nebraskans through advocacy, education, early disease detection and patient services.

The Nebraska Kidney Association accomplishes its mission through a number of programs and services including:

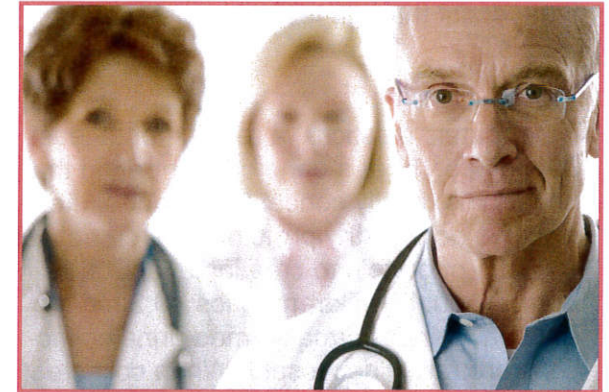
- Emergency Financial Aid for kidney and transplant patients.
- Free Medic Alert Jewelry.
- Annual Patient/Family Celebration Day.
- Funding for Nebraska medical professionals using research to find cures or new treatment methods for those with kidney disease.
- Free information on nutrition, travel, disaster planning and other subjects for kidney patients on dialysis.

*For additional information on the work of the
Nebraska Kidney Association,
please call us at 402.572.3180 or NE
Toll Free: 800.642.1255.
Please visit our website:
www.kidneyne.org
E-mail us at: develop@kidneyne.org*

7101 Newport Ave Suite 301
Omaha NE 68152

NEBRASKA KIDNEY ASSOCIATION

Doctor to Doctor



Provided as a service for
Nebraska Family Practice Physicians
by the
Nebraska Kidney Association
7101 Newport Avenue Suite 301
Omaha NE 68152
402.572.3180
NE Toll Free: 800.642.1255
e-mail: develop@kidneyne.org

*This newsletter made
possible by a grant from the
Gilbert & Martha Hitchcock Foundation*

Non-Profit Org.
U.S. Postage
PAID
Omaha, NE
Permit No. 1112

Asymptomatic Proteinuria in Children

Pascale H. Lane, MD, FASN

Professor of Pediatrics
Section of Nephrology

University of Nebraska Medical Center

The screening urinalysis is often part of school or sports participation physicals. Approximately 10 percent of children will have an abnormality on a random dipstick; however, very few children will have abnormalities that persist through testing over several weeks.

What is proteinuria?

On routine dipsticks, a reading of at least 30 mg/dl or 1+ at a urine concentration that is neither maximally concentrated nor diluted signifies noteworthy proteinuria. Determining the ratio of protein to creatinine facilitates interpretation. In children, ratios <0.2 mg/mg are considered normal. Timed urine collections are rarely necessary. When collected, values >4 mg/m² body surface area/hour are abnormal.

The dipstick is positive – what now?

The history and physical examination may point toward diseases that could cause the abnormality. If no other problems exist, two more urine specimens should be examined over a period of 2 to 4 weeks. Because of the high prevalence of transient urinary abnormalities in children, only abnormalities that persist over several weeks should be pursued. If these specimens remain positive, then another should be checked in 2-3 months. If persistent at that time, then the patient should be screened for orthostatic proteinuria, if appropriate.

What is orthostatic proteinuria?

“Orthostatic” comes from the Greek ortho (straight or vertical) and static (to make stand). In this condition, proteinuria occurs

when the child is upright and remits during rest. This common disorder occurs during sexual maturation and usually resolves over 3 to 5 years. Exaggerated levels of proteinuria may be seen in athletic teens, with daytime excretion rates of several grams. Serum protein levels remain normal, and resting protein excretion should be normal or nearly normal to support the diagnosis. Making this diagnosis is most important to prevent unnecessary interventions, such as biopsy, since this condition is clearly benign. The diagnosis can usually be confirmed by performing dipstick or protein:creatinine ratios on first morning and after school voids. If questions remain then a split urine collection to calculate excretion rates can be performed.

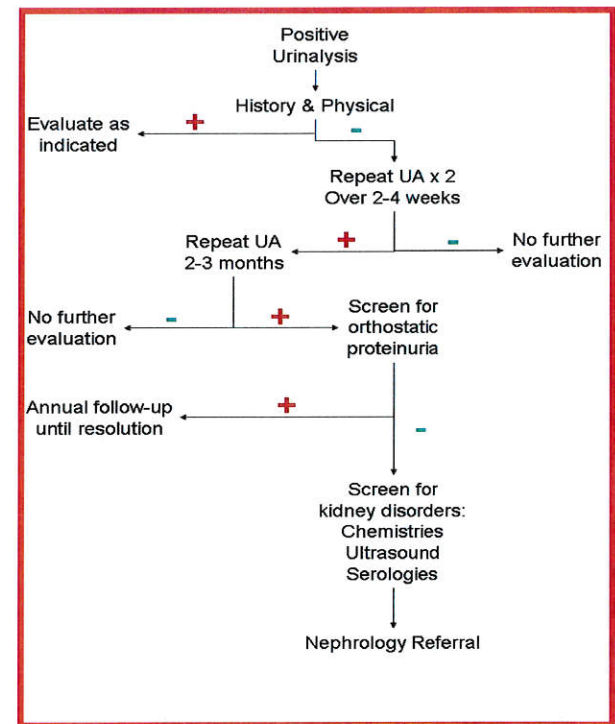
Children with orthostatic proteinuria deserve annual follow-up, since kidney diseases may rarely present with this type of proteinuria. Other signs and symptoms of kidney problems usually follow quickly, including fixed proteinuria.

It is not orthostatic – what now?

If not already performed, chemistry profiles including serum protein and creatinine levels should be performed. Ultrasound is also in order to examine kidney size and structure. Serologic studies including C3 and C4 complement levels, anti-nuclear antibodies, anti-neutrophil cytoplasmic antibodies, and anti-streptococcal studies are usually obtained. At this point most children should be referred to the nephrologist since biopsy may be indicated.

FOR MORE INFORMATION

Contact Dr. Lane at 402.559.7344 or via e-mail at phlane@unmc.edu.



Pascale H. Lane, MD

Pascale Lane is the Helen Freytag Distinguished Professor of Pediatrics in the section of Pediatric Nephrology at the University of Nebraska Medical Center.



She received her MD from the University of Missouri at Kansas City and trained in Pediatrics at Rush Medical College in Chicago.

Her fellowship in Nephrology was at University of Minnesota. She joined the faculty at UNMC in 1998, and became the Associate Chair for Research for the Department of Pediatrics in 2000.

Dr. Lane is a member of many professional organizations in nephrology and scientific disciplines.

She has performed and published both basic and clinical research, teaches in the lecture hall and the clinic, and sees patients in her specialty.