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**Contacts:** Tracy Hampton • (312) 339-9067 • [thampton@nasw.org](mailto:thampton@nasw.org)  
Bob Henkel • (202) 557-8360 • [bhenkel@asn-online.org](mailto:bhenkel@asn-online.org)

## **FAMILY HISTORY INCREASES THE RISK OF CARDIAC ARREST IN PATIENTS ON DIALYSIS**

*Additional research needed to uncover the genes involved*

### **Highlights**

- Among dialysis patients, genetically related family members have about a 70% increased risk of cardiac arrest compared with unrelated dialysis patients.
- Spouses on dialysis do not have an increased risk.

*Cardiac arrest is the #1 cause of death in patients on dialysis.*

**Washington, DC (April 16, 2015)** — The increased risk of cardiac arrest experienced by patients with kidney failure may, in part, be inherited, according to a study appearing in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN). Uncovering the genes that are involved may point to new treatments to protect patients' heart health.

Kidney failure patients on dialysis are 20-times more likely to experience cardiac arrest compared with individuals in the general population. To investigate whether inherited factors may play a role, Kevin Chan, MD MSc (Massachusetts General Hospital and Fresenius Medical Care North America) and his colleagues analyzed information on a population of 647,457 patients on chronic dialysis to identify 5117 pairs of patients who came from the same family. These patients were each matched to a control patient from the same population.

Among the major findings:

- In 4.3% of family pairs, both members died of a cardiac arrest compared with 2.6% in the control pairs.
- Genetically related family members who did not cohabituate had an 88% increased risk of dual cardiac arrest compared with their matched unrelated controls.
- Genetically related family members who lived together in the same environment had 66% increased risk.
- Spouses, who were genetically unrelated but lived together in the same environment did not have an increased risk.

“These findings advance the science because they suggest that genetic factors—or differences in DNA sequence—contribute to the high risk of sudden death among patients on dialysis,” said Dr. Chan. “It paves the way for more detailed genetic studies in the dialysis population to find specific genes that could explain the high risk of cardiac arrest and potentially new treatments for these patients.”

Study co-authors include Christopher Newton-Cheh, MD, MPH, James Gusella, MD, MPH, and Franklin Maddux, MD.

Disclosures: KC and FWM receive salary support from Fresenius Medicare North America.

The article, entitled “Heritability of Risk for Sudden Cardiac Arrest in ESRD,” will appear online at <http://jasn.asnjournals.org/> on April 16, 2015.

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