

# Study examines global management of anemia in children on dialysis

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Children on dialysis who have anemia and who require high doses of drugs to treat it have an increased risk of dying prematurely, according to a study appearing in an upcoming issue of the *Journal of the American Society of Nephrology (JASN)*. The findings provide new insights that may help improve the health of children with kidney failure.

Many patients on dialysis develop anemia, which can be treated with erythropoiesis stimulating agents (ESAs) to boost hemoglobin, the component of blood that transports oxygen throughout the body. Using these medications presents considerable challenges, though: patients respond differently to the drugs, and using them too aggressively increases the risk of heart-related problems and [premature death](#). Proper anemia control in children on dialysis is even less clear than in adults.

Franz Schaefer, MD (University of Heidelberg) and his colleagues conducted a five-year study to examine anemia control in children undergoing chronic peritoneal dialysis, hoping to identify factors that interfere with anemia management and to assess whether there are upper and lower [hemoglobin levels](#) that may compromise patient survival. The study included nearly 1,400 children and adolescents from 81 pediatric dialysis centers in 30 countries around the globe.

"Given the low incidence of pediatric end-stage [renal disease](#) in children—only 1% to 2% of all [dialysis patients](#) are children—this study is remarkable as it overcame the patient size limitations that notoriously hamper clinical research in this area," said Dr. Schaefer.

Among the major findings:

- In 25% of patients, hemoglobin was lower than clinical guidelines recommend. European and North American centers generally achieved higher hemoglobin ranges than centers in Asia, Turkey, and some Latin American countries.
- ESAs were prescribed to 92% of patients, and neither the type of ESA nor the dosing interval appeared to affect efficacy.
- Poor response to ESAs was linked with inflammation, [fluid retention](#), and hyperparathyroidism (a disorder of the parathyroid gland).
- Low hemoglobin and the need for high ESA doses indicated an increased risk of dying while on dialysis.

"We gained valuable insights regarding the clinical variation of anemia control, ESA dose-response relationships, the factors associated with low and high hemoglobin, and the relationship of hemoglobin control with the survival of children on dialysis," said Dr. Schaefer. "The relevance of the study findings clearly goes beyond the pediatric setting; whereas most studies in adults have focused on anemia management in hemodialysis patients, this study included the largest [peritoneal dialysis](#) population ever assessed in this respect," he added.

**More information:** The article, entitled "Management of Anemia in Children Receiving Chronic Peritoneal Dialysis," will appear online on March 7, 2013, [doi: 10.1681/ASN.2012050433](https://doi.org/10.1681/ASN.2012050433)

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