

Arterial stiffness tied to kidney disease in children

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Pulse wave velocity is increased in children with chronic kidney disease

(CKD), according to a study published online Aug. 25 in the *Clinical Journal of the American Society of Nephrology*.

Karolis Azukaitis, M.D., Ph.D., from Vilnius University in Lithuania, and colleagues assessed longitudinal dynamics and determinants of pulse wave velocity in [children](#) with CKD and its association with CKD progression. The analysis included 667 children aged 6 to 17 years with CKD stages 3 to 5.

The researchers found pulse wave velocity was above the 95th percentile in 20 percent of patients at baseline. During the median 2.7 years of follow-up, absolute pulse wave velocity increased gradually, while the pulse wave velocity z score remained relatively stable. Over time, absolute pulse wave velocity was associated with time, older age, lower ferritin, and higher mean arterial pressure, low-density lipoprotein cholesterol, and albuminuria. Similar associations were seen for the pulse wave velocity z score plus a higher diastolic blood pressure z score, lower height z score, younger age, and girls. More than half of patients (58.8 percent) reached the composite end point of CKD progression during a median follow-up of 2.4 years. There was no association observed between [pulse](#) wave velocity z score and CKD progression.

"Pulse wave velocity is increased in children with CKD but does not associate with estimated [glomerular filtration rate](#) or CKD progression," the authors write.

Several authors disclosed financial ties to the [pharmaceutical industry](#).

More information: Karolis Azukaitis et al, Arterial Stiffness and Chronic Kidney Disease Progression in Children, *Clinical Journal of the American Society of Nephrology* (2022). [DOI: 10.2215/CJN.02200222](https://doi.org/10.2215/CJN.02200222)

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