

# Nomogram predicts upper urinary tract damage in pediatric neurogenic bladder

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For children with neurogenic bladder (NB), a nomogram including five

factors can predict the risk for upper urinary tract damage, according to a study published online Dec. 7 in *Frontiers of Pediatrics*.

Qi Li, from the Children's Hospital of Chongqing Medical University in China, and colleagues conducted a retrospective cohort study with 167 NB patients and a validation cohort of 100 NB [children](#) to establish a [predictive model](#) for upper urinary tract damage. The analyses were performed on the training cohort to identify predictors and develop the nomogram. The nomogram accuracy and clinical usefulness were then verified.

The researchers identified recurrent urinary tract infection, bladder compliance, detrusor leak point pressure, [overactive bladder](#), and clean intermittent catheterization as predictors, which were assembled into the nomogram. In the training and validation cohorts, the nomogram showed good discrimination, with areas under the receiver operating characteristic curve of 0.806 and 0.831, respectively. The nomograms were well calibrated in the calibration curve analysis; predicted and observed probabilities did not differ significantly. The nomogram had good clinical applicability in a decision curve analysis.

"A prognostic model based on five [risk factors](#) for predicting the risk of upper urinary tract damage in NB children was built and demonstrated good discrimination and clinical applicability," the authors write. "It helps clinicians identify children with high-risk upper urinary tract damage and take early therapeutic measures to reduce the risk of kidney failure."

**More information:** Qi Li et al, A nomogram for predicting upper urinary tract damage risk in children with neurogenic bladder, *Frontiers in Pediatrics* (2022). [DOI: 10.3389/fped.2022.1050013](https://doi.org/10.3389/fped.2022.1050013)

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