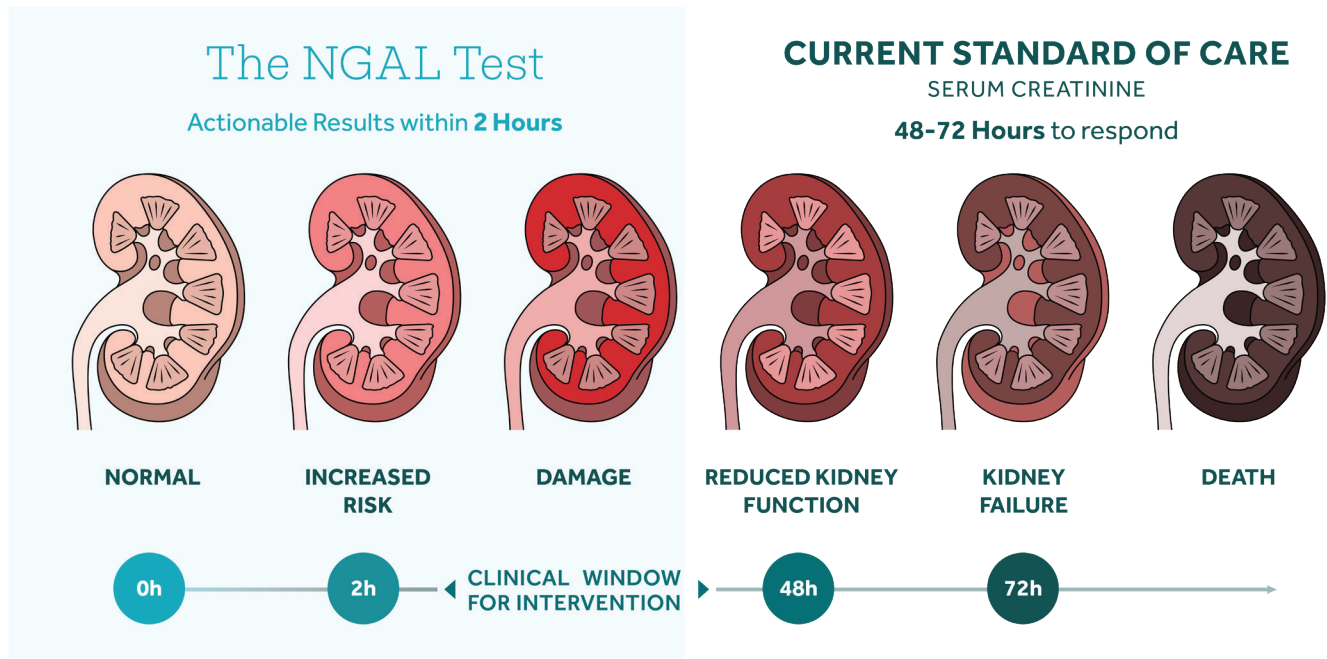


# For Early Assessment of AKI

Detected 2-3 days before creatinine rises<sup>1</sup>



The NGAL Test is CE-Marked for IVD use and is currently available for Research Use Only in the United States.

## Benefits

### FAST

NGAL responds 2 hours after kidney injury,<sup>2</sup> 2-3 days before serum creatinine rises.<sup>1</sup>

### ADDITIVE

NGAL+ identifies subclinical AKI when an sCr- alone failed to identify 43% of AKI.<sup>3</sup>

### PROGNOSTIC

Identifies patients at risk of developing moderate to severe AKI.<sup>4</sup>

### CLINICALLY RELEVANT<sup>5</sup>

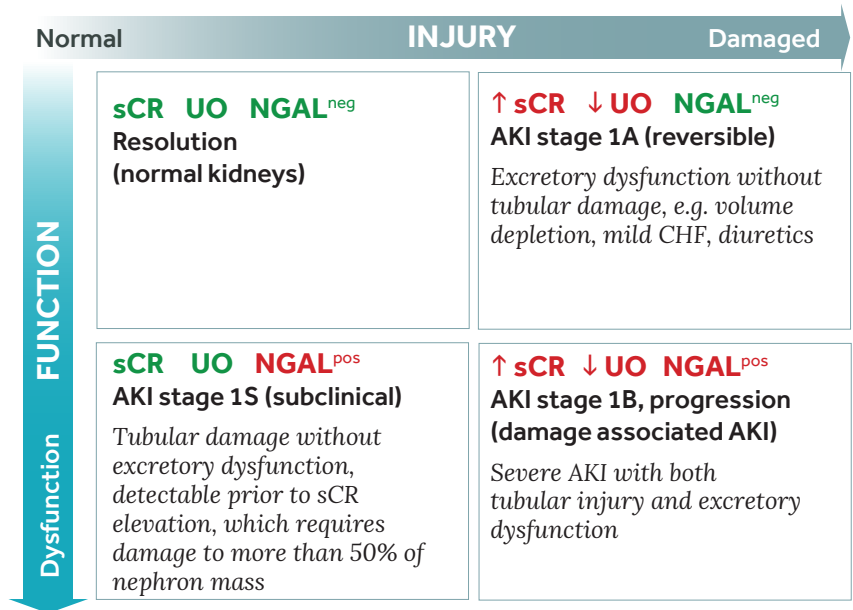
The NGAL biomarker was studied in over 16,500 patients in numerous settings including: post cardiac surgery, in critical illness and post kidney transplantation. In all three settings...

***“NGAL significantly improved the prediction of AKI risk over the clinical model alone.”<sup>5</sup>***

ADQI Recommendation

# Integrate damage biomarkers to prevent and manage AKI<sup>6</sup>

Based on existing data and the practical experience of researchers and clinicians, ADQI suggests that "a combination of damage and functional biomarkers, along with clinical information, be used to improve the diagnostic accuracy of AKI, to recognize the different pathophysiological processes, to discriminate AKI etiology, and to assess AKI severity. This recommendation received a grade of B, conditional."<sup>6</sup>



Adapted from: De Oliveira BD, Xu K, Shen TH et al. Molecular nephrology: types of acute tubular injury. Nat Rev Nephrol 2019;15:599-612. **Green** = normal result, **Red** = abnormal result; sCR = serum creatinine, UO = urine output, NGAL = neutrophil gelatinase-associated lipocalin

### CE Marked Intended Use

The NGAL Test is a particle-enhanced turbidimetric immunoassay for the quantitative determination of neutrophil gelatinase-associated lipocalin (NGAL) in human urine, EDTA plasma and heparin plasma on automated clinical chemistry analyzers. NGAL measurements are useful in the diagnosis of acute kidney injury which may lead to acute renal failure.

*The NGAL Test is CE-Marked for IVD use and is currently available for Research Use Only in the United States.*

### KDIGO stage-based management of AKI<sup>7</sup>

	AKI Stage		
High Risk	1	2	3
Discontinue all nephrotoxic agents when possible			
Ensure volume status and perfusion pressure			
Consider functional hemodynamic monitoring			
Monitor serum creatinine and urine output			
Avoid hyperglycemia			
Consider alternatives to radiocontrast procedures			
<b>Non-invasive diagnostic workup</b>			
Consider invasive diagnostic workup			
<b>Check for changes in drug dosing</b>			
Consider Renal Replacement Therapy			
Consider ICU admission			
<b>Avoid subclavian catheters if possible</b>			

REFERENCES: 1. Devarajan P. *Biomark Med.* 2010;4(2):265-280. | 2. Krawczeski CD, Goldstein SL, Woo JG, et al. *J Am Coll Cardiol.* 2011 | 3. Haase M, Devarajan P, Haase-Fielitz A, et al. *J Am Coll Cardiol.* 2011. | 4. Zappitelli M, Washburn KK, Arkan AA, et al. *Crit Care.* 2007 | 5. Haase-Fielitz A, Haase M, Devarajan P. *Ann Clin Biochem.* 2014. 6. Ostermann M, Zarbock A, Goldstein S, et al. Recommendations on Acute Kidney Injury Biomarkers From the Acute Disease Quality Initiative Consensus Conference: A Consensus Statement. *JAMA Netw Open.* 2020. 7. KDIGO Clinical Practice Guidelines for Acute Kidney Injury. *Kidney International, Suppl.* 2021;2:1-138.