VIDAS® NEPHROCHECK®

HELPING YOU BETTER MANAGE AKI IN THE ICU

The VIDAS® NEPHROCHECK® test provides **early information** about **kidney stress** in acutely ill patients.

REFINING ICU PRACTICE

When AKI is a possible risk, the sooner you know that something is wrong, the better clinical strategy you may adopt[10].

Reveal kidney stress early:

- Identify patients at high risk for AKI within 12 hours of assessment
- Rule out patients with confidence or adapt treatment using goal-directed protocols

Drive better outcomes:

- Implement early renal-protective actions to reduce AKI frequency and severity
- Reduce LOS [11] and extra costs associated with moderate/severe AKI management [12]

AN EARLY WARNING SIGNAL

How does VIDAS® NEPHROCHECK® **detect** kidney stress **before** significant damage occurs[13]?

2 innovative urinary biomarkers TIMP-2* & IGFBP-7**

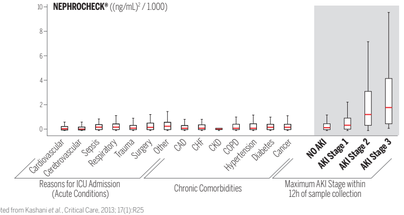
- **High-performing** markers, in combination, in AKI risk assessment[13]
- **Specific** to AKI
- Expressed in tubular cells in response to kidney stress
- Stress defined as G1 cell cycle arrest, to prevent cells with possible damage from dividing

The AKIRISK™ Score[14]

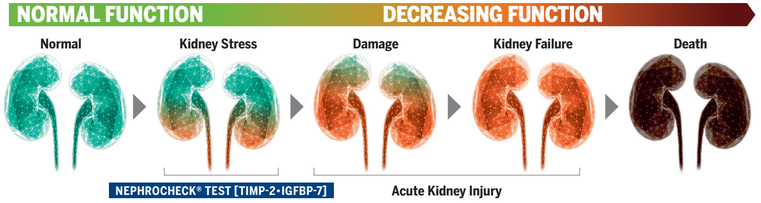
NEPHROCHECK® Test Result (AKIRISK™ Score) = **[TIMP-2•IGFBP-7] / 1,000**

units = $(ng/ml)^2/1,000$

NEPHROCHECK® is a marker that is specific for AKI and is not influenced by the presence of acute conditions or chronic comorbidities

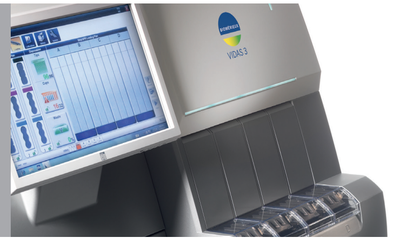


Adapted from Kashani *et al.*, Critical Care, 2013; 17(1):R25



* TIMP-2: Tissue Inhibitor of Metalloproteinase-2. ** IGFBP-7: Insulin-like Growth Factor Binding Protein-7.

AVAILABLE ON VIDAS® 3



BECAUSE IT MAKES SENSE ON VIDAS®

VIDAS® NEPHROCHECK®, allowing you to easily manage your samples in your routine activity.

24/7 On-demand automated testing

Fast & Simple results

1 patient 1 test

All-inclusive kits, limited calibrations and controls

Traceability & Robustness of the result

VIDAS® ACUTE AND CRITICAL CARE PANEL

- NEPHROCHECK®
- B•R•A•H•M•S PCT™
- D-Dimer Exclusion™ II
- NT-proBNP2
- High sensitive Troponin I
- CK-MB
- Myoglobin

	VIDAS® NEPHROCHECK®
Time to result	46 minutes
Sample type	Urine
Sample volume	100 µL
AKIRISK™ Score Measuring Range	0.04 - 10.00
Calibration & Control frequency	Every 56 days

Discover the VIDAS® NEPHROCHECK® story on our dedicated Web Page

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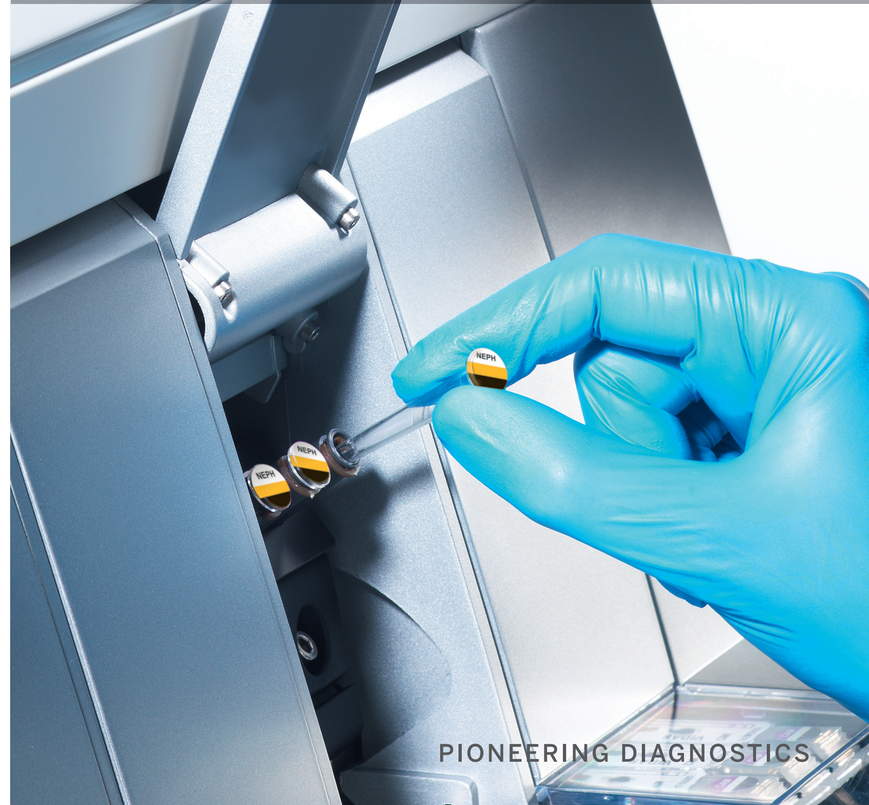
VIDAS® NEPHROCHECK®

[TIMP-2•IGFBP-7]



PIONEERING DIAGNOSTICS

Did you know?

AKI occurs in **13.3 million** people **every year**[1]

More than 50% **of ICU patients** have AKI[2]

Hospital Mortality raises from 28% to **57%** **in sepsis patients with AKI**[3]

In the ICU*: how can you preserve your patient's renal function?

Acute Kidney Injury (AKI) is one of the most common syndromes in ICU patients and there is **no direct treatment**[5].

Every day, clinicians make important decisions to **save their patients' lives. Aggressive treatments** may be needed, which sometimes include nephrotoxic agents. When limited information is available to monitor the kidney status, they may lead to a rapid loss of kidney function (typically within 48 hours)[6].

Commonly used indicators, e.g. serum creatinine and urine output, are known to be **lagging**[7]:

- They may be normal when kidney damage has already occurred.
- They can be complex to measure and interpret.

Today, an innovative test detects kidney stress even before the damage occurs, when intervention can still make a difference.

AKI: a heavy impact on hospital costs

"Patients with AKI are more likely to develop other post-op complications"

With a high prevalence of post-operative complications, ICU LOS** is longer with AKI[8].

"Each re-hospitalization costs the health care system approximately $9,000, totaling over $40 million per year"

Survivors of an AKI hospitalization experienced a more than 50% higher risk of being readmitted to the hospital in the subsequent 30 days compared with matched patients without AKI[9].

What if you could improve patient outcomes and support hospital cost optimization?

* Intensive Care Unit. ** Length Of Stay.

REVEAL KIDNEY STRESS EARLY. DRIVE BETTER OUTCOMES.[6,15]

T=0H — KIDNEY EXPOSURE — NEPHROCHECK® — KNOW EARLIER AKI RISK +12H — T=24H — *Creatinine may start to rise 48 hours after kidney exposure*[16] — T=48H

TIME TO TEST

Which patients should be tested?[17]

- Cardiovascular/respiratory compromise <24h
- Shock or hemodynamic instability
- Sepsis (suspicion/confirmation)
- Post-operative major/cardiac and non-cardiac surgeries[14]
- Trauma with cardiac/respiratory compromise

What to do with the AKIRISK™ Score ?

In conjunction with clinical evaluation

Triage: The NPV* is as important as the PPV** for best use of resources

Change in Clinical Practice: a value beyond the demonstrated and validated cut-off of 0.30 should trigger specific measures to protect the kidney and the patient's overall status

Negative AKIRISK™ Score ≤ 0.30***

Patient has lower risk of developing moderate or severe AKI within 12 hours of evaluation ****

Standard treatment protocol may be continued[4]

Patients may be candidates for "fast-track" protocols[4]

Optimized use of resources

Early discharge **Confident treatment**

Positive AKIRISK™ Score > 0.30***

Patient has higher risk of developing moderate or severe AKI within 12 hours of evaluation ****

Refer to the KDIGO bundle Clinical Practice Guideline[6] for Acute Kidney Injury for recommendations to prevent development or worsening of AKI

KDIGO Consensus Guideline for AKI

	AKI STAGE		
High Risk	Stage 1	Stage 2	Stage 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			
	Non-invasive diagnostic workup		
	Consider invasive diagnostic workup		
		Check for changes in drug dosing	
		Consider renal replacement therapy	
		Consider ICU admission	
			Avoid subclavian catheters if possible

No unnecessary harm to kidneys

Better chance of limited consequences after renal insult

Individualized treatment

* Negative Predictive Value. ** Positive Predictive Value. *** An AKIRISK™ Score in the interval 0.30 – 2.00 indicates a higher risk of developing moderate to severe AKI than an AKIRISK™ Score below 0.30. **** bioMérieux cannot be held liable and makes no representation or warranty whatsoever as to the accuracy, completeness, reliability, nor about the fitness of the information provided herein, for a particular purpose or of its suitability for a particular healthcare situation. The use and/or implementation of this information remains under the sole responsibility of the user of the NEPHROCHECK® product, and in any case bioMérieux shall have no responsibility whatsoever regarding the decisions made by the healthcare professionals concerning the diagnostics and management of the patients.