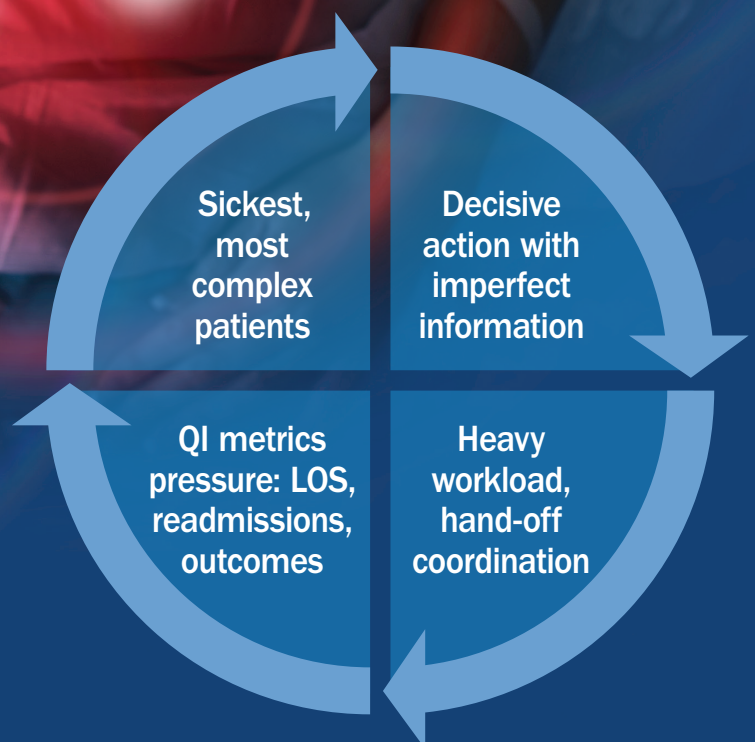


Shifting the AKI Paradigm from Diagnosis to Prevention

New Strategies for Personalized Medicine to Address Your Complex and Uncertain Critical Care Environment





Dozens of daily treatment decisions affect multi-organ systems:



DRUG
REGIMEN



FLUIDS
MANAGEMENT



TARGET
BLOOD PRESSURE



SPECIALTY
CONSULTS



DOZENS
OF OTHERS

Serum creatinine and urine outpt are two lagging indicators of renal function because:

- Values change after 50% of renal function is lost¹
- They are inconsistently measured and do not provide adequate information to predict renal injury^{2,3}

Incomplete and Lagging Renal Diagnostic Toolset: Damage is Underway

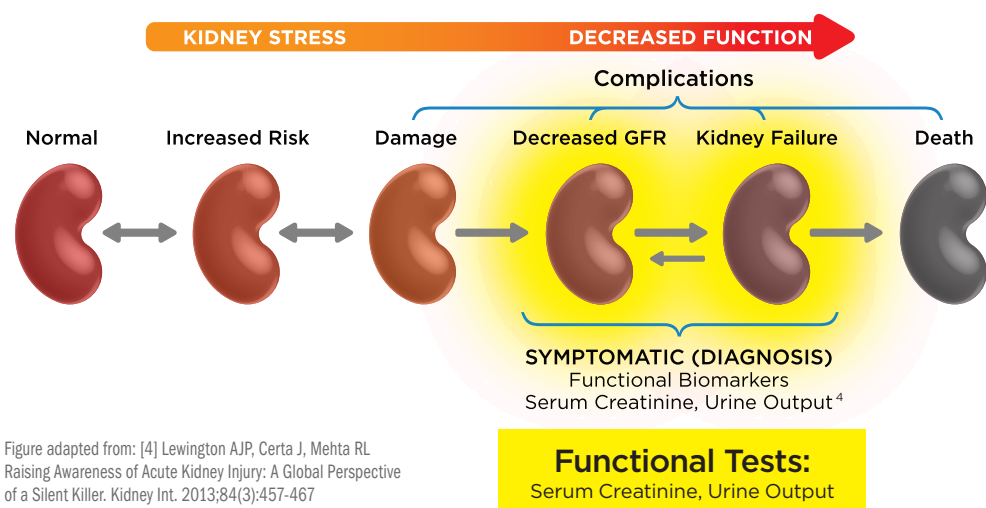


Figure adapted from: [4] Lewington AJP, Cerna J, Mehta RL. Raising Awareness of Acute Kidney Injury: A Global Perspective of a Silent Killer. Kidney Int. 2013;84(3):457-467

What should better AKI tools look like?

- Predict AKI in advance
- Specific to AKI
- Fast, simple to use
- Complementary to HAI and QI initiatives
- Supported with peer-reviewed evidence
- FDA cleared^{5,6}
- Easy to implement

[1] Martensson J et al. Novel Biomarkers of Acute Kidney Injury and Failure: Clinical Applicability. Brit J Anesth. 2012;109(6):843-50 [2] Wlodzimierz KA, et al. A comparison of RIFLE with and without urine output criteria for acute kidney injury in critically ill patients. Critical Care. 2012;16:R200 [3] Gould CV, et al. Guideline for Prevention of Catheter-Associated Urinary Tract Infections. HICPAC. 2009 [5] Uetwiller-Geiger, DL, et al. Analytical characteristics of a biomarker-based risk assessment test for acute kidney injury (AKI). Clin Chim Acta. 2016; 455; 93-98 [6] Vasan, RS. Biomarkers of Cardiovascular Disease. Circulation. 2006; 113; 2335-2362

Without Better Tools, the Best Doctors are Challenged with AKI: Acute Kidney Injury is Costly, Deadly and Prevalent

In a peer-reviewed study of over 50,000 postoperative patients, 39% developed Acute Kidney Injury.⁷ Patients with moderate to severe AKI experienced:



LENGTH OF STAY

7 additional days Hospital,
4 additional days ICU



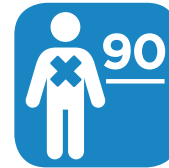
ICU ADMISSION

Doubled likelihood
of Intensive Care



ADDED HOSPITAL COSTS

Incremental costs average
\$21,000 – \$38,000 higher



90-DAY MORTALITY

Adjusted risk up 50%



HOSPITAL MORTALITY

Adjusted risk up 100%

The #1 Clinically Addressable Potential Inpatient Complication (PIC)⁸

The impact to you, your patient and the ICU Team:

At ICU admission

- Stabilize patient
- Identify specific disease states
- Input orders for care
- Communicate, set expectations with patient and family
- Essential communication and hand-off at shift change

Renal function changes

- Urine output has decreased...
- ...but serum creatinine has not elevated significantly
- Kidneys may be going down

Shift in care strategy

- Re-think fluids, drugs, perfusion... reactive to damage
- Call for renal consult?
- Communicate with family: new complication could affect condition, prognosis and length of ICU stay

Length of Stay (LOS)

[7] Hobson C., et al. Ann Surg. 2015; 261(6): 1207-14. [8] Complications Research, a new Premier methodology for identifying hospital-wide harm associated with increased cost, length of stay and mortality in U.S. hospitals. Premier, Inc. 2015

Getting Ahead of AKI: Identify Kidney Stress Before Damage Occurs



Enabling Physician Insight

The NephroCheck® Test

- Specific to AKI¹⁰
- Fast, simple 20 minute urine test¹⁰
- Commercially available in the USA¹⁰
- Peer-reviewed evidence¹⁰
- Complementary to HAI and QI initiatives
- Easy and cost effective to implement

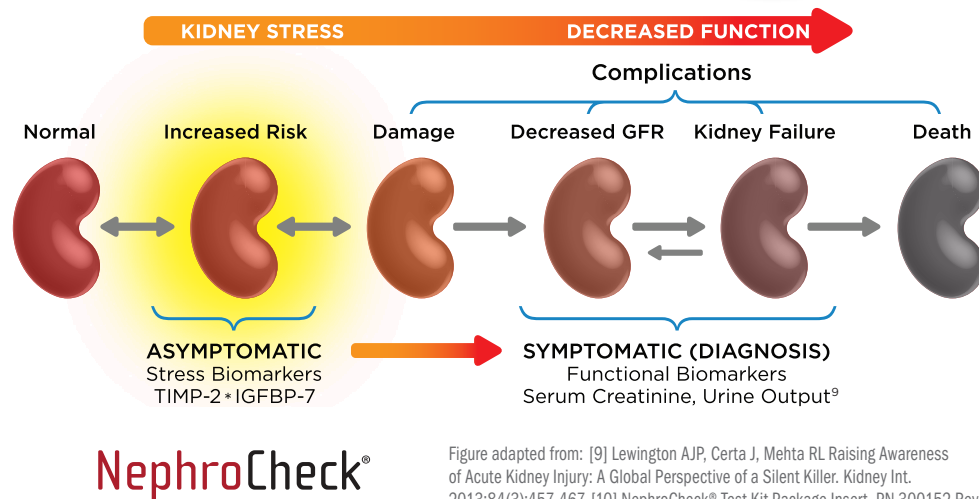
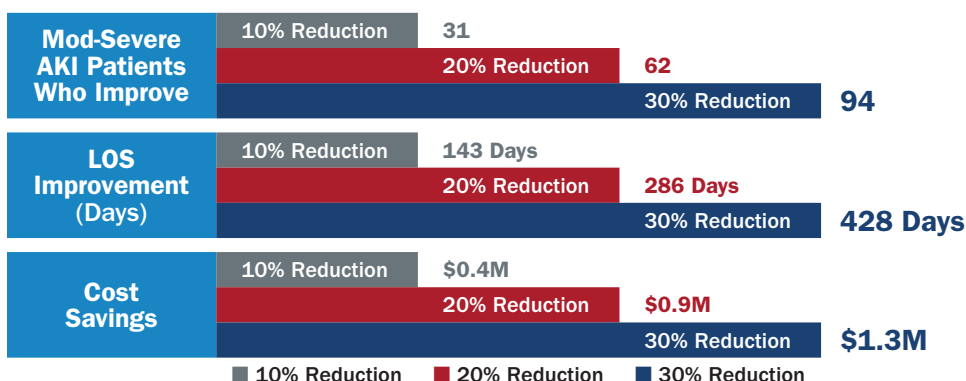


Figure adapted from: [9] Lewington AJP, Cerna J, Mehta RL Raising Awareness of Acute Kidney Injury: A Global Perspective of a Silent Killer. Kidney Int. 2013;84(3):457-467 [10] NephroCheck® Test Kit Package Insert. PN 300152 Rev E

The Opportunity to Intervene Proactively

Small Reductions in Incidence and Severity of AKI Can Have Dramatic Impact

Estimated impact of reducing moderate/severe AKI in ICU by one level: 350-bed hospital^{11,12,13*}



*Calculated using assumptions published in AHA Database (ICU beds per hospital bed), Wunsch et al. (ICU LOS, % cardiovascular/respiratory compromised), and Hobson et al. (% moderate/severe AKI, incremental LOS/cost). [11] Hobson CE, Ozrazgat-Baslanti T, Kuxhausen A, et al. Cost and Mortality Associated With Postoperative Acute Kidney Injury. Annals of Surgery. 2014;00:1-8 [12] American Hospital Association Database, accessed Jan 2014 on 6,416 hospitals [13] Wunsch H, et al. Comparison of Medical Admissions to Intensive Care Units in the US & UK. Am J Respir Crit Care Med. 2011;183:1666-1673.

Intended Use for the NephroCheck® Test System: The NephroCheck® Test System is intended to be used in conjunction with clinical evaluation in patients who currently have or have had within the past 24 hours acute cardiovascular and/or respiratory compromise and are ICU patients as an aid in the risk assessment for moderate or severe acute kidney injury (AKI) within 12 hours of patient assessment. The NephroCheck® Test System is intended to be used in patients 21 years of age or older.

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