ABSTRACT# 14

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Title: Adherence to Acute Kidney Injury Best Practice Guidelines in Hospitalized Children
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Background: The Kidney Disease Improving Global Outcomes (KDIGO) Clinical Practice Guidelines
recommend a non-invasive diagnostic workup and cessation of nephrotoxins in all stages of AKI. We
evaluated the provider adherence to these consensus guidelines in hospitalized children.

Methods: We reviewed the medical records of children <18 years old, who had at least two creatinine
values measured during a hospital admission in a large, academic, tertiary care hospital. We defined AKI
based on serum creatinine per the KDIGO guidelines, with a minimum absolute creatinine value of 0.5
mg/dL. We calculated the baseline daily rates of performing non-invasive diagnostic tests such as
urinalysis in children with AKI compared to all patients in the cohort. To evaluate adherence to general
preventive measures, we calculated the percentage of patients who continued to receive nephrotoxic
agents such as nonsteroidal anti-inflammatory drugs (NSAIDs) after the development of AKI.

Results: Among the 8634 encounters studied, AKI occurred in 779 (9%) encounters. Median age was 4.5
years [IQR, 0-13.2], 4559 (52.8%) were male, and 48% were admitted to the ICU (PICU or NICU) during
hospitalization. Development of AKI increased the rate of receiving a repeat serum creatinine
measurement from a baseline 54% to 81% per day in children with AKI, a urinalysis from 6% to 19% per
day, and a renal ultrasound from 1% to 6% per day (Figure 1). Children with AKI were 5 times more
likely to have a nephrology consultation as compared to all patients in the cohort. To evaluate adherence to general
preventive measures, we calculated the percentage of patients who continued to receive nephrotoxic
agents such as nonsteroidal anti-inflammatory drugs (NSAIDs) after the development of AKI.

Conclusion: We identified gaps in provider adherence to AKI management guidelines in hospitalized
children. We recommend establishing electronic health record-integrated best practice bundles to improve
care for children with AKI.

Figure 1. Baseline rate of receiving intervention compared to post-AKI rate. AKI, acute kidney injury.
Figure 2. Percentage of patients continued on nephrotoxic medications after developing AKI. ACEi, angiotensin-converting-enzyme inhibitor; AKI, acute kidney injury; ARB, angiotensin II receptor blockers; NSAIDs, nonsteroidal anti-inflammatory drugs.