**Title:** Does an Acute Kidney Injury care bundle improve Management?

**Aim:** To review the management of Acute Kidney Injury (AKI) in a general medical setting and assess whether an AKI care bundle improves this.

**Background**: AKI is common in hospitalised patients (1 in 7) and carries significant morbidity and mortality risk as well as substantial financial burden.1 The NCEPOD mortality review in 2009 suggested only 50% of patients who died with a diagnosis of AKI had a ‘good’ standard of care and stressed the importance of early recognition and intervention. In 2017 Healthcare Improvement Scotland highlighted Acute Kidney Injury as a new focus for improving patient care.2 Patients admitted to general medicine frequently have multiple risk factors for AKI including sepsis and/or heart failure1. The aim of this audit was to assess the current management and implement an ‘AKI bundle’ in a general medicine ward to improve patient care

**Method**: Blood results were reviewed daily for all patients on a general medical ward over a 14 day period and patients with an AKI identified and staged for severity using KDIGO criteria. All identified patients with AKI had medical notes and electronic records reviewed and a questionnaire was completed assessing key AKI management issues and whether these were addressed within 24 hours of admission. These included: documented recognition of AKI, patient examination and observations (NEWS score); urinalysis; assessment of fluid status; fluid balance chart initiation; stopping nephrotoxic medications or documented reason to continue and repeat U+Es. Initial results were presented at ward level and education undertaken. An AKI care bundle was introduced – patient note sticker with management prompts and supplementary guidance made available. The audit cycle was then completed by repeating the initial assessment of AKI management over a further 14 day period. Statistical significance between the pre and post intervention performance was tested for with Chi-squared test.

**Results:** In the first audit there were 66 patients (32 male), mean age 66 years. Of these, 11 (16.7%) had an AKI (9 stage 1 and 2 stage 2). In the 2nd audit there were 55 patients (32 male), mean age 65 years. Of these, 8 (14.5%) had AKI (6 stage 1 and 2 stage 2). Completion of important AKI management objectives within 24 hours in these patients with AKI is shown in the table below.

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| **Results** | **Cycle 1** | | **Cycle 2** | | **P value** |
| **Yes** | **No** | **Yes** | **No** |
| **AKI Documented** | 5 (45.5%) | 6 (54.5%) | 8 (100%) | 0 | 0.014 |
| **NEWS Documented** | 10 (90.9%) | 1 (9.1%) | 8 (100%) | 0 | 0.394 |
| **Urine Dip documented** | 2 (18.2%) | 9 (81.8%) | 7 (87.5%) | 1 (12.5%) | 0.0036 |
| **Patient examination** | 10 (90.9%) | 1 (9.1%) | 8 (100%) | 0 | 0.394 |
| **Fluid status** | 9 (81.8%) | 2 (18.2%) | 8 (100%) | 0 | 0.214 |
| **Fluid balance** | 10 (90.9%) | 1 (9.1%) | 8 (100%) | 0 | 0.394 |
| **Nephrotoxics stopped** | 8 (72.7%) | 3 (27.2%) | 8 (100%) | 0 | 0.117 |
| **Daily U&Es** | 9 (81.8%) | 2 (18.2%) | 8 (100%) | 0 | 0.214 |

AKI management improved in all domains after education and introduction of the care bundle. There was a particular improvement in recording urinalysis results.

**Conclusion:** AKI was common in our general medical ward ~15%. The introduction of an AKI care bundle improved the management across all domains in our audit.

**References**: **1**. National Confidential Enquiry into Patient Outcome and Death. ‘Adding Insult to injury’. 2009 **2**. Healthcare Improvement Scotland. Acute Kidney Injury 2017. <http://ihub.scot/acute-kidney-injury/> Accessed Feb 2018. **3**. KDIGO Clinical Practice Guideline for Acute Kidney Injury. Kidney Int, 2 (2012), pp.124-138