**Aim** **-** Acute Kidney Injury (AKI) is a common and important clinical syndrome. It is associated with high mortality, especially in patients who develop AKI in hospital. NCEPOD [1] reported that a fifth of such cases were predictable and avoidable, and that there was an unacceptable delay in recognising post-admission AKI. We aimed to identify risk factors for ‘the development of AKI in hospital in those patients who did not have AKI at the time of admission’ (H-AKI), and to develop an H-AKI risk score.

**Method -** We conducted a prospective observational cohort study. Data collection occurred on 3 randomly chosen days each week in a 6 month period of 2014; the paper and electronic patient records of all admitted acute medicine patients of the day were included. We collected demographics, drug history and physiological parameters.

AKI, and its stage, was detected manually using the KDIGO criteria, comparing admission serum creatinine with recent available creatinines, up to 12 months prior to admission. If no previous creatinine was available then the upper limit of the normal range (at the time) was used as the baseline.

**Results**

The total number of patients who were recruited to the study was 2520. 2299 patients did not have AKI on admission (91%). Of these, 33 (1.4%) patients developed AKI more than 24 hours after admission (H-AKI) and within 7 days of admission. H-AKI development was statistically significantly associated with age over 75 years old, presence of pre-existing Chronic Kidney Disease (CKD), male gender, respiratory rate ≥ 20, and the presence of liver disease on admission (bilirubin greater than 50 umol/l) (p<0.05 for each). Using logistic regression, we created a risk score based on these variables; Age over 75 years *2 points,* CKD *1 point*, male gender *2 points,* respiratory rate over 20 *1 point,* liver disease *3 points*. Using a cut-off value of ‘< 3 points is Low Risk’ and ‘≥ 3 points is High Risk’ a sensitivity of 76% and specificity of 68% is achieved. This compares favourably with the acute kidney injury prediction score [3], which uses a seven variable score, of which three variables are common to our described score. Using our risk score, the Area Under the Curve (AUC) for prediction of H-AKI is 0.759.

**Conclusion**

We introduce a tool to help predict which patients in an unselected medical take may develop H-AKI. This simple risk scoring system has a good AUC performance. We plan to externally validate the score. A scoring tool such as this may help to identify patients at high risk of developing H-AKI, which may lead to the development of interventions to improve the poor outcomes for these patients.

**References**

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3. Forni et al. Identifying the patient at risk of acute kidney injury: a predictive scoring system for the development of acute kidney injury in acute medical patients. [*Nephron Clin Pract.*](https://www.ncbi.nlm.nih.gov/pubmed/23887252) 2013;123:143-150.