

## Jelly and Beans: Appropriate Use of Ultrasound in Acute Kidney Injury

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**Abstract :** Acute kidney injury (AKI) is commonly seen in inpatients, and places a great cost on the NHS and patients. Timely and appropriate management is both nephron sparing and potentially life-saving. Ultrasound scanning (USS) is a well-recognised method for stratifying patients. Subsequently, the NICE AKI guidance has defined groups in whom scanning is recommended within 6 hours of request (pyonephrosis), within 24 hours (obstruction/cause unknown), and in whom routine scanning isn't recommended (cause for AKI identified). The audit looks into whether Stockport NHS Trust USS practice was in line with such recommendations. The audit evaluated 92 patients with AKI who had USS, between 01/01/14 to 30/04/14. Data collection was divided into 2 parts. Firstly, radiology request cards and the online imaging software (PACS) were evaluated. Then, the electronic case notes (ADVANTIS) was evaluated further. Based on request cards, 10% of requests were for pyonephrosis. Only 33% were scanned within 6hours and a further 33% within 24hours. 75% were requested for possible obstructions and unknown cause collectively. Of those due to possible obstruction, 71% of patients were scanned within 24 hours. Of those with unknown cause, 50% were scanned within 24 hours. 15% of requests had a cause declared and so potentially did not require scanning. Evaluation of the patients' notes suggested further interesting findings. Firstly, potentially 39% of patients had a known cause for AKI, therefore, did not need USS. Subsequently, the cohort of unknown cause and possible obstruction was collectively reduced to 45%. Alarmingly the patient cohort with possible pyonephrosis went up to 16%, suggesting an under-recognition of this life-threatening condition. We plan to highlight these findings within our institution and make changes to encourage more appropriate requesting and timely scanning. Time will tell if we manage to save or increase our costs in this cost-conscious NHS. Patient benefits, though, seem to be guaranteed.

**Keywords :** AKI, ARF, kidney, renal

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