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### Contrast-induced acute kidney injury: what is the prevalence of prevention protocols?

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Dear Editor,  
We read with interest the study by Hoste and colleagues [2] and the accompanying editorial by Joannidis and Wiedermann [1]. Hoste has shown the incidence of contrast-induced acute kidney injury (CI-AKI) to be much higher in the critically ill patient and associated with a three-fold increase in mortality. Those most at risk of renal injury appear to be patients with chronic renal disease, especially if they are hypotensive or on vasopressor therapy. The currently recommended treatment to optimise peri-procedural renal function is crystalloid volume loading. However, there is no consensus on which fluid to use and in what quantity—a state of affairs that could leave some clinicians sceptical as to whether an intervention is worthwhile at all. To assess current levels of practice in the UK, we performed an electronic survey to estimate the use of protocols and preventative therapies.

We directed the survey at all UK intensive care units (ICUs), as defined by the most recent UK Critical Care Directory (2008), via the Intensive Care Society website and by emailing individual hospitals.

We received responses from 117 individual ICUs from a possible 329—a 36% response rate. From these, 32 (27.4%) claimed to have a protocol while 85 (72.6%) did not. Protocols were more likely to have been implemented in cardiac or neuroscience ICUs (10/17 units; 58.8%) than in teaching hospital ICUs (8/32 units; 25%) or district general ICUs (14/68 units; 20.6%). Of the 32 units that claimed to have a protocol, 18 (56%) used *N*-acetylcysteine (NAC) in a variety of dosing regimens, and the remaining 14 (44%) did not use NAC. In units with a protocol, 1.26% sodium bicarbonate was the preferred fluid type (11 units; 34%), followed by Hartmann's solution (10 units; 31%) in a wide variety of volumes and regimen timings. Only five units (16%) with protocols did not use fluid boluses. Of the 85 units that did not have a protocol, no consensus on the available evidence was stated as the reason by 48 units (41%), while 20 units (17%) felt this is a decision taken by radiology. Of these units without formal protocols, 17 (20%) still gave NAC, whereas 68 (80%) did not. A fluid regimen was used by 39 units (46%), while 46 (54%) did not give fluid boluses at all. Themes from free text comments included the feeling that the evidence is not yet convincing for the widespread use of standardised preventative measures as well as that taking a “risk benefit”

approach, rather than using specific creatinine cut-off values, ought to determine contrast use.

Protocols for the prevention of CI-AKI are not commonplace on ICUs in the UK. However, it appears that many clinicians are thinking about CI-AKI and freely prescribing some form of prophylaxis. We think this adds weight to Joannidis and Wiedermann's claim that more evidence, ideally in the form of a randomised control trial, is needed to convince the majority of ICU physicians that to follow a standardised approach in order to prevent renal injury from contrast media is worthwhile.

### References

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