

NEPHROTOXIN PRESCRIPTION IN ACUTE KIDNEY INJURY

Don't add "insult" to "injury" : a Quality Improvement Project within two Scottish Acute medical Units.

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The Issue

AKI is a common pathology seen in **1 in 5** acute hospital admissions.

Associated mortality can range **up to 60%** in severe cases, and in those who survive, there may be **lifelong** complications.

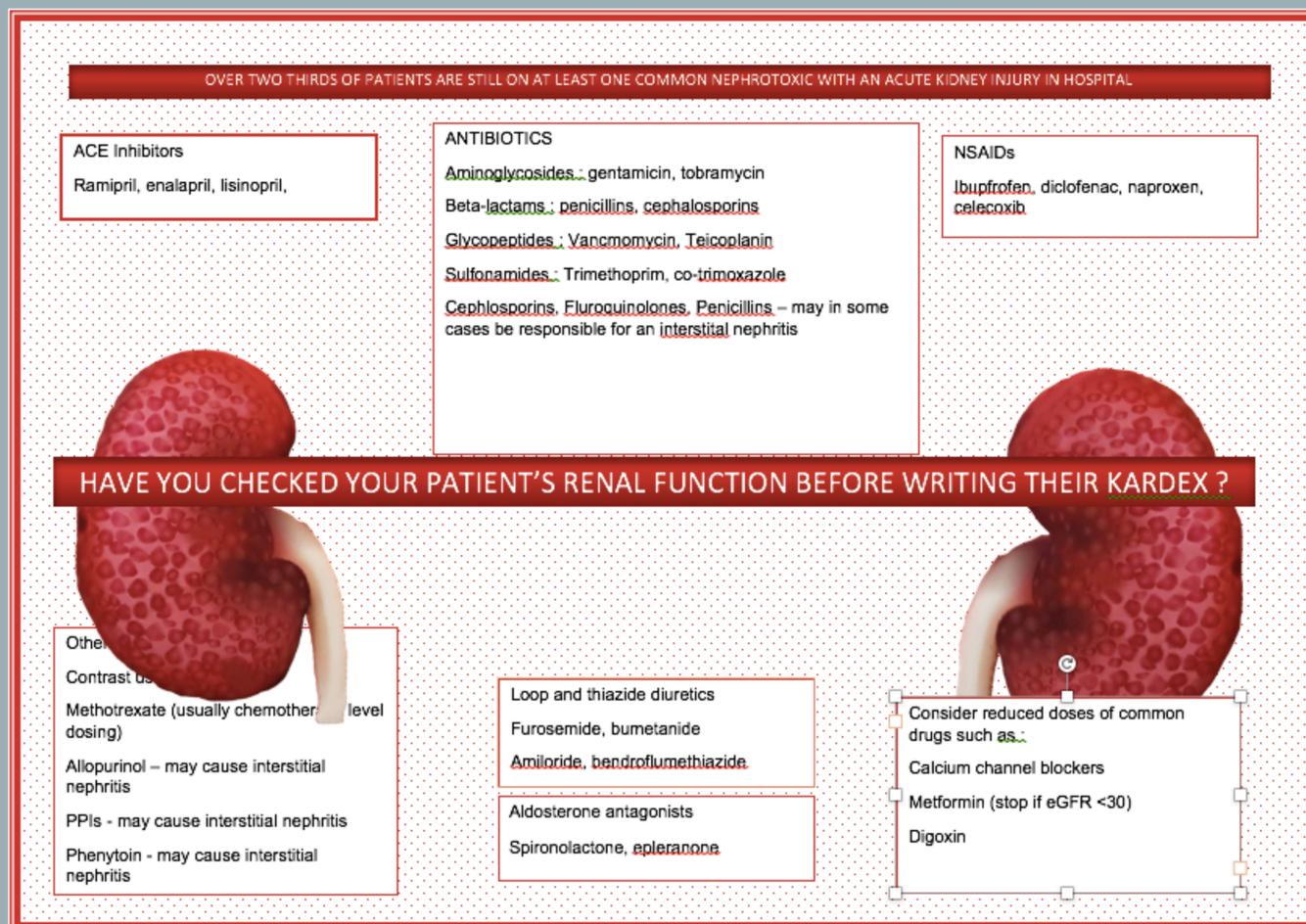
The "cost to treat" is several **million** pounds per year in NHS Scotland.

In the context of AKI, routine prescriptions **become poisons**. They can cause new AKI, worsen existing AKI and increase the likelihood of AKI becoming chronic kidney disease..

We collected data from NHS Fife and NHS Borders and evaluated drug prescriptions over the first **72 hours** of admission.

Patients were selected if they had a clearly recorded **decline** in renal function compared to their previous baseline.

Our aim is to increase recognition of when a medicine is **not safe** and to empower staff to take action.



The Reality

Prior to intervention **over 90%** of patients had inappropriate medicines prescribed.

This was not affected by a patient's length of stay. By Day 2 or 3 in hospital, most patients will have seen: 2 consultants, 3 junior doctors, 6 nursing staff and 1 pharmacist, yet these prescriptions were frequently missed on multiple occasions.

Some interventions had **no impact** on prescribing habits, most notably interventional posters placed on unit walls. These were largely **ignored**. Similarly, informal daily briefings at the morning unit handover had **little benefit**.

Reminder stickers placed in the Drug Chart also increased awareness of nephrotoxins, **reducing** dangerous prescriptions to a level of 30%.

Targeted presentations at Foundation Year Doctors' weekly teaching sessions saw **clear improvement**, with only 21% patients having all nephrotoxins stopped (excluding Gentamicin) though whether this would be sustained with the fluctuant nature of these staff remains to be seen.

The greatest benefit we saw came from utilisation of electronic rota software facilitated **targeted emails** to doctors would be working within AMU in the upcoming 14 days facilitating such an improvement that inappropriate prescriptions fell to 18%.

The Solution ?

The data we collected suggests if the individual who **clerks** a patient into the hospital doesn't stop the nephrotoxins, then they rarely get stopped thereafter. The majority of clerking duties are performed by **junior doctors**.

Increasing use of medical **technology** can help us target this group of staff to make patients safer – can smartphones replace pagers in the future – if so can we add "think **nephrotoxin**" to part of their possible remit of sophisticated med alerts? Could **electronic prescribing** simply automatically withhold nephrotoxins in context of AKI?

Qualitative evidence gathered at time of the QIP suggest these doctors do not feel **empowered** to stop patient's long term medications. Could there be a future role for ambulatory "**polypharmacy**" clinics within the remit of future Acute Med physicians – if patients in their 90s are on a multitude of different medicines – and are then at risk when they become ill – are these really essential and of **benefit**?