

Knowledge Awards audio overview transcript: Clinical audit on fluid therapy rates in dehydrated patients by Vet Now, Bristol

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Hi, my name is Emily Hudson. I'm the Principal Nurse Manager at Vets Now, Bristol. It's been really exciting to win the second-place champion practice in the RCVS Knowledge Awards. We ran an audit on fluid therapy, which was really interesting to run, and we had really good outcomes. As you can imagine, fluid therapy forms a really big component of care for our emergency patients. We often see them dehydrated, hypovolemic, or they have electrolyte or acid-base imbalances.

It's really important to tailor your fluid therapy to individual patients and studies in both human and vet patients have identified harmful side effects if too much fluids administered, such as pulmonary and peripheral oedema, delayed soft tissue healing, acute kidney injury (AKI), ileus. Ultimately, this all can increase morbidity and mortality, but also length of hospital stays and cost to owners. On the other hand, we also want to make sure we're providing enough fluids so that we can correct their imbalances as efficiently and as safely as possible. We discussed this in a team meeting and it was hypothesized that fluid therapy rates weren't being calculated according to the current recommendations and rates such as twice maintenance are often used, which I'm sure we're not alone in that one. Our aim was to make sure that we are adhering to the current guidelines for fluid therapy.

At the time of this audit, the most current ones were the American Animal Hospital Association, so AAHA, and American Association of Feline Practice (AAFP) guidelines for dogs and cats. I was responsible for the data collection.

So, in cycle one, I gathered 30 cases that met our inclusion criteria and that had occurred prior to discussing the audit so that people didn't change their management of fluid therapy in the meantime. We decided to include cats and dogs that presented with signs of dehydration.

We excluded some cases where no fluid rate was recorded on the clinical notes or hospital sheet and we excluded patients that required really aggressive fluid resus by bolus therapy and patients that came from a partner practice because they often already have a plan in place from their referring vet. So based on the current recommendations for fluid therapy and dehydrated patients I looked for two key things with the cases which was that percentage dehydration was

recorded and was the fluid rate based on percentage dehydration, maintenance and ongoing losses. All of the data was input on Excel.

So, our first cycle showed what we hypothesized, which was out of 30 cases, only 30%, so nine patients had their percentage dehydration recorded and seven patients, which was 23%, had their rate calculated based on percentage dehydration, maintenance and ongoing losses.

The results were disseminated, we discussed that actually probably not all of the team were aware of what the current guidelines were for fluid rates and people may have had varying interpretations of percentage dehydration based on clinical signs. So based on this, we decided to create a poster resource to go up in prep where we sit to make our patient plans. This included how to interpret clinical signs for estimating percentage dehydration and the calculations for fluid rates.

In cycle two, data was collected for 30 cases, again, following the poster going up, and we had really good results. So, 87%, which is 26 patients, had percentage dehydration recorded upon admission, and the same number had their fluid rate calculated as per the current guidelines. It was really great to see how this improvement had come about and how fluid therapy was now being administered differently and that people considering the most current evidence.

Ultimately, we hope that...from this, the patient's safety may have improved, and hospital stay shortened if their hydration was being replaced at a more appropriate rate. Since the audit, the 2024 guidelines have now come out from AAHA AAFP. We've updated the poster resource to reflect the changes, and the team now use the updated resource. I'm looking to re-audit this in the future to see if fluid rates are still being calculated based on this.

We also now have fluid therapy audits going on across Vets Now, which is really great to see the wider impact there. The team collaborated really well with the audit and we had really good team buy-in. Both the vets and the nurses took responsibility for calculating and recording the rates per the guidelines. I think a key thing to a successful audit is discussing the topic as a team, seeing what people think is important or interesting to audit and I think keeping the change implementation as simple as possible is also really important, to consider that change if it's too time consuming or complex, it may limit your team buy-in. A resource worked really well for us, a postage resource, it may be useful for other people. I advise keeping it really concise, easy to follow and in a place where it can easily be used. But whatever your changes, if you always keep your aim in mind and involve the team when it comes to decision making, I think you can do really well and have really good outcomes for your patients.

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