



Knowledge Awards 2020 podcasts: Post-operative hypothermia audit

Podcast transcript: Samantha Thompson, RVN, discusses her post-operative hypothermia audit, which was awarded Highly Commended in the Knowledge Awards 2020.

Hi, my name's Samantha Thompson and I'm a Post-Registration Programme Manager for the Linnaeus Group. I'm going to talk to you today about a clinical audit I carried out in my role as Clinical Services Manager at North Downs Specialist Referrals. So for a bit of background, North Downs Specialist Referrals is large multidisciplinary referral hospital in Surrey, consisting of multiple wards where we can have anywhere from 25 to 45 patients overnight. As well as full theatres, we also offer a range of diagnostics.

The recovery ward was introduced in January last year, after it was noted that there was often quite a high number of patients returning from procedures at any one time. Having these patients quiet and warm, in an environment where they could be observed, was crucial. However, after implementing the recovery ward, it was noticed that a lot of the patients had suboptimal recovery temperatures, and at times some of them were worryingly low and this trend was picked up from the consistent staffing in that ward.

Alongside this information being relayed, and having observed several occasions where steps to warm were missed, we decided to assess how valid the concerns were with the baseline audit. So, did we actually have a problem with post-op temperatures, were our patients actually hold? We decided that an audit would be a best way to establish this. Once we discussed the first audit and we'd implemented the measures, we actually did do a second audit as well. We did find that we managed to improve our post-op temperature, quite significantly.

So what I'm going to do is, I'm going to talk you through the audit I did, the actions we took, the actions the members of the team took and the results. So the baseline audit was completed by the recovery ward nurses. As I mentioned, these nurses were fairly consistent and static – something that meant the baseline audit was able to be completed very efficiently. I spoke to these nurses on an individual basis, because they'd raised the concerns and they were fully on board with carrying out the audit. So over the period of a week, all the post-op temperatures were logged, alongside the procedure, the species of the patient on a spreadsheet, and also the patient's weight. This was simply done using pen and paper with a print-out table; this could also have been done using an Excel spreadsheet, electronically.

The data was analysed, and the average temperature was calculated and found to be low, 36.2°C. This does fall into the moderate category, according to the BSAVA guidelines, but actually several cases fell into the severe category: so patients with the temperature of less than 34°C, and this can have quite serious consequences, including electrolyte imbalances. This

wasn't massively surprising, given the type of cases that we see and the procedures that we carry out.

However, those consequences are still serious and we should be taking steps to minimise them. So I attended a recent CPD hosted by the AVA, and there were several suggestions made for improving temperatures during that CPD, including things like bubble-wrap jackets, socks on patients, blankets, warming after pre-med, and minimising preparation time for surgical patients. One of the speakers actually said they capped the preparation time at 30 minutes. And if that meant that two people had to clip and prep a patient, then that's what they did.

We also looked at some articles on the subject as well and we've discussed this with the team. We then had a nurse team meeting where we raised the findings and asked them for some suggestions. Loads of suggestions were made; many of them were in line with what we'd read and already researched. But it actually meant the nurses were really on board because they were able to come up with suggestions and implement them themselves.

Some of the suggestions weren't able to be implemented straight away and prior to the second audit, unfortunately, primarily because this relied on equipment being ordered and arriving – so for example, additional hot air warming devices for endoscopy and mattresses being made for MRI. As per the quality improvement cycle, we did carry out a second audit in a similar way to the first. And we did find that we managed to improve the steps that we'd taken. So the initial average post-anaesthesia temperature was found to be suboptimal - 36.2°C, as mentioned falling into the moderate category. We found the results to be concerning. We held our team meeting and we implemented some changes. We did a second audit and it was conducted over a much wider sample pool. Although this wasn't over different timeline and it wasn't intentional, it was over a busier week because the patient numbers were actually a lot higher.

So this is a factor to consider when we're looking at these results. So could it be that the results— the average was increased because we simply saw more patients? Or could it be increased because of the steps that we took? This is something that we do have to consider, and it could be taken in sort of both a positive and negative way, like I said. So on the flip side would the temperatures have even been even higher, potentially, on a less busy week? This could be something that could be investigated when we do a third audit. So whilst the average temperature was found to be low in the primary audit, the most concerning factor was the missed opportunities (so for example, a patient from MRI with a temperature of 35.2°C) and these were things that we highlighted to the team.

When we converted the gathered information to percentages on the baseline audit, 60% of the temperatures were found to be 36.5°C or below. And during the second audit, it had fallen to 55%. So there was an improvement. However, there is still room for improvement and the third audit is planned. However, this is currently pending, due to COVID. The plan was that this third audit would be capped at 54 patients, again at random, so that we could potentially look at these, this data against the second audit and draw slightly more effective comparisons. Ideally this would be under a similar sample pool. But in reality, this would be very difficult to replicate – replicating the percentage of patients that are under 10 kilos, the percentage of procedures that were over two hours, would be very difficult to do, but that could be an opportunity to really drill down in the data a little bit further.

So our audit actually had quite a large impact, it had a massive impact on our patient care as far as we're concerned. Over a relatively short space of time, we did manage to increase temperatures quite significantly. The hope would be that that would continue to improve. Our average temperature actually increased to 37°C. So the reason why it's so important, it's because hypothermia postoperatively has been linked to delayed wound healing, prolonged hospitalisation, and also delayed recovery. So we would hope that with the increase in the post-op temperatures, these areas would also be influenced in a positive way, but again, this would require further data collection and more analysis to really assess the impact. So a deeper look in the data did highlight that there were still significant areas for improvements with some temperatures still being of concern. Given the nature of what we do, we may never be able to eradicate this. You know, we have small patients with higher ASA scores undergoing very invasive procedures.

Most of our patients require very large clips, and a lot of them actually have low body condition scores as well, but we've taken steps to try and improve it as much as we can and what we hope is that we're doing the best for our patients.

Feedback from the team as well has been positive, so there's been a shift in thought process and culture for the better. Steps are being taken to improve and I think because the audit actually showed that we could improve things and we did have a positive impact – it's actually really motivating for the team, so they can see that the changes we have made have impacted. Then that improves compliance, motivates the team members to take the additional steps and therefore generally will just improve, you know, the sort of patient care overall. And that's a really nice culture to be in, and it's something that should be encouraged. As well as influencing patient care, we also used the audit to influence our budget allocation, so where we were able to identify areas for improvements – for example, patients come back from endoscopies hypothermic, we felt that patient warming was possible and we felt that this required budget allocation to improve the situation.

As well as this, we also noticed that the MRIs were having their inductions on a metal table on a bed, so we've actually ordered a mattress for them. We also noted that quite a lot of patients went through x-ray, the ones that had a lower temperature. And I think we all know that it can be very difficult to keep these patients warm. It's very difficult to cover them over; everything has to be sort of radiopaque, so what we actually did was, we sourced a mattress that was suitable for an x-ray table and that was purchased. And there's been really positive feedback, not only from a temperature point of view, but also from a patient comfort point of view. And we would like to extend those mattresses across the hospital.

And obviously the third audit would have taken into consideration these additional steps, but unfortunately due to COVID that hasn't happened as such. It would also be interesting to potentially just do an audit in x-ray, and sort of maybe pull some old data pre x-ray mattress, and then look at the temperatures post x-ray mattress. There's quite a lot of scope for further audits and quite a lot of scope for ways to seek further improvement. But obviously that just requires somebody to get it drilled down and look at the data.

So that was me talking through the audit that we did in practice. It worked really well. We were, the team were on board at all steps of the way and I think the communication was really, really important. And it's something that we hope that our PRP nurses will also want to take forward

and potentially one day we'll be using them as a case example. If you've got any questions, I'm sure that there will be contact details attached to posts and thank you for listening.

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