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Hi, welcome to Medicine Safety Podcast, safe and Sound. This is part one of four of our multi series podcast. With me today, we have Kirsty Robertson, who is our NICU pharmacist and we have Heather Parsons, who's our ward sister on NICU, as well as the governance lead. Welcome both of you. So, it is medicine safety month throughout the country. Tell me, Kirsty, what does medicine safety mean to you?

Thanks Aarash and thanks for inviting us on to speak today, so as you've already said, I am the NICU pharmacist, so medicine safety plays a huge part of my day-to-day roles, my responsibilities and essentially it underpins everything that I do as a pharmacist, but in different ways. So, the most obvious for me as a pharmacist would be coming in clinically screening drug charts to make sure that all drugs and doses are safe and appropriate for patients.

But I think medicine safety goes like, far beyond this, and especially as a profession, pharmacy profession, over the last few years, especially we've, we've expanded beyond the, the normal roles of a pharmacist. And I think it's about, so medicine safety is about creating, it's about creating an environment which is conducive to learning and continuously finding ways to support staff, improve safety for patients and yeah, working as a team basically and I think we do this pretty well on NICU.

That's, that's great. That's really, that's really good and positive to hear that, you know, medicine safety isn't, isn't just reporting when things go wrong. It's, it's about working together to proactively try and reduce errors or stuff that that may occur. Heather so tell me how you link in as a nurse with, with pharmacy as Kirsty's just described, when it comes to medicine safety.

Yeah, I mean, I absolutely agree with everything Kirsty said and I think definitely more and more every day. Med safety's been at the forefront of my day job really since I took on the new governance role, I have a nursing background, but in my new role, I'm essentially just looking at safety on NICU. So, I look into all the incidents which happen daily, weekly. Obviously, medications are a huge part of that. And then I sort of deep dive into them a bit more, try and figure out what happened and how I could try and prevent them happening again really. Yeah, that's, that's really interesting. And I guess one of the first questions that I have is, we, we talked a bit about the Intrahospital workings and how teams work with each other to promote medicine safety. Do we involve patients at any stage of medicine safety? And it'd be great to hear an example if you have one.

I suppose medicine safety encompasses a lot of different things, doesn't it? But when parents or patients on, in our instance, it's going to be parents, not the patients. Yeah, when they are involved, I suppose this, if something might have gone slightly wrong and we need to feedback on that. But the main thing is to say, you know. This has happened, but this is what we're doing about it and I think parents

respond really well to that, to say that okay, things happen but this is what we're putting in place, these realistic, plausible things that we can put in place to make sure this doesn't happen again. And it's really important to get parents involved in that discussion. So, they feel supported as well.

I think, I think that's brilliant and I, I have a feeling that loads of parents will agree with you there, that things, you know, we're only human and things do go wrong but you know, it's how we prevent this from happening again. So, I think it's great that we have that interaction with our patients and our parents to make sure that they know that we are doing what we can to, to prevent stuff like this from happening again and equally reacting to the situation that's occurred.

So, both of you work in NICU or NICU. it's a very, very specialist area requiring a lot of intensive, well intensive input, really. How does medication safety or your approach to medication safety how, how'd you go about it on NICU and is it any different to anywhere else I suppose?

So I think, Kirsty and I work really close together, we've got a great relationship. I've been in this new governance post now for about two years and over those two years we've managed to build a really positive reporting culture up here on NICU. We've got some really engaged staff who make up our little pharmacy link team who meet regularly to discuss any issues that have arisen and then we sort of sit down together and figure out how we can address them.

I think it's really important actually to jump in there about this, the team, we call it a pharmacy link team, but probably got different names in different trusts or different wards. But we are really lucky that we have engagement from all different staff groups in our Pharmacy Link team, so, we've got a consultant, we've got an advanced neonatal nurse, practitioner, practice educators, so, it means everyone is represented. And we sort of span the whole medicine pathway. So that would go from the prescription or even the procurement of the drug to the prescription, to the administration, to the education. So that's what I feel like we, we really value on NICU to have that, that team who tend to be very responsive.

I mean, as well between us over the last couple of years since we've been doing this together, we've developed like new medication guidelines, and tools to support safe prescribing. Obviously our focus is of course, always on protecting patients from drug errors but it's also a big focus on protecting and supporting the team who prescribe and give those medication, because obviously no one comes into this profession to cause any harm, but as you've said before, we're only human and these things happen, so the team can find it quite tragic when these incidents do occur. So, it's about supporting staff as well as just the patients.

Something else we've introduced on NICU specifically, which I'm not sure if other wards do, but we, we do here is that we've introduced something called a “draggle”, which is

sort of short for drug huddle and I can't take any credit for that name. I'm sure there's a pharmacist out there somewhere who came up with it, but it works quite well. And it's essentially designed to be a digestible short summary, of sorts, where I present once a month on either learning from incidents or it could be that we've got a new guideline which is published that I want to, tell prescribers how to use or, maybe how to prescribe something on our electronic prescribing system, but that's something that we've implemented and has gone down quite well and something that we want to continue into the future.

That sounds really good guys, I'm, I'm loving all the initiatives that you've got going on at the moment and druggle sounds fantastic, if only, you know, all of the wards could sort of band together and we could make this a bit of a, a thing that goes outside of the intensive care unit and maybe we can, explore that in the future. So, you've talked about some, you know, incidents that may have occurred, but I'm more interested in, as well as the incidents that we have the, the projects that you might be undergoing, as a result of any safety incidents that have happened. Is there, are there any projects that you are currently looking at, any trials that you're doing around patient, around medicine safety, that you'd be willing to share and sort of talk about?

Well, I think we could probably talk about, it's not necessarily a, a, it's kind of like an ongoing project that we focus on quite a lot in NICU about how we give very small doses, yeah, I wonder if that might be something good to talk about. Yeah, I mean, I can easily talk about that for hours. But so, the babies we look at up, look after up here on, on Nick are extremely vulnerable because they're not just super sick. They're also super premature. So, kind of for those people who don't work in a NICU, a full-term neonate would be around 40 weeks, usually give or take a day or a week for those poor mothers, but I mean, we're looking after babies, anything older than about 23 weeks here. And if you've never seen how small that is, I don't think you can fully appreciate how small those infants actually are. I mean, their body weight can be anything down to like 500 grams.

Wow. Which is like what a sixth, very roughly like a sixth because a normal, you know, a, a full-term infant would usually weigh at least sort of three kilos, so their body systems are still so immature. Yeah. They just, they're so much more susceptible to illness and injury and stress, a massive issue we have with it is venous access to give medications down, both gaining access because, you know, a lot of drugs can only be given centrally. So, getting central access on these tiny, tiny little humans and also that access itself then being quite tiny, so, what you can give down is quite restricted if the medication is really thick. Yeah. And obviously those, the access that the cannulas blow really easily as well, so we have to consider what we're giving down them and how diluted it is, et cetera.

Yeah, I think, I think, Heather's really sort of hit home on like how, how our patient cohort is so, niche almost or so unique. And it's only made more difficult by the fact that the majority of medicines available to us on the UK drug market are not designed for children most of the time, let alone neonates. So, one thing we are constantly working towards or having to overcome is how do we give these drugs that are designed for adults, in most cases to, tiny, tiny little babies and leading on from that, I think it's important to speak about the use of electronic prescribing systems. So, this is kind of bringing me on to how we're doing this ongoing project.

So electronic prescribing systems have largely replaced paper drug charts now, in I think most UK hospitals, but I think, I think a lot of people will agree with me that they are a blessing, but also like, a curse in some respect. Yeah. Because these systems were not originally designed for neonates, they were again, normally designed for adults. And so, it just means that we are constantly having to review the drug builds in-house and work with our internal, in electronic prescribing team to basically rebuild things to make sure they work for us and our patients.

So, a good example would be, the drug dexamethasone. So, we, we give this drug to patients sometimes in very, very small doses to help them come off a ventilator and when I say small doses, talking about sometimes. nought point nought nought five mil. Wow. So teeny tiny, really small, really small doses and the electronic prescribing systems are set up in a way that they would often round a dose to what they think is the smallest measurable dose, which is often considered as nought point nought one mil and so that would, might actually result in a double dose or double the intended dose for our patients. So, it's something we always have to analyse with drugs, for these instances we work with the EPR team to actually remove the rounding rules, et cetera and make sure that we can facilitate the, the accurate prescribing of these doses and make it easy for our prescribers to do that without any risk. And obviously the nurses then have to give these tiny doses so for that, I'll hand over to Heather to probably to talk you through.

Yeah, it's a continuous ongoing teaching project on NICU regarding administration of these minuscule doses. So for the nursing team as well as the trust IV medication workbook, which anyone coming into the trust has to complete before they deemed IV competent as it were. NICU also adds in a NICU specific booklet to all our new staff to tackle exactly this task. Definitely everyday practice on NICU to be giving 0.0 something of a drug and we absolutely could not survive without our beloved one mil syringes. It's, it's also even pretty common for us to be needing to give doses, which we can't actually physically measure. So even with our beloved one mil syringes, so to tackle this, we would have to take up 0.1 mil of the drug and then dilute it up to a mil with normal saline. So essentially giving that a 10 times dilution and then would aspirate our dose from there. I mean, even then the dose is still minute, it will still be 0.0 something of a mil, but at least it's measurable that way.

Yeah. Absolutely. These are fantastic examples of, of patient specific, problems in, in your area that you have. If you had anything to sort of say to the product market out there, what would it be, I suppose, how, how would you like to see the medicines within the paediatric world change?

Yeah, I mean. We would love things to be designed for our patients, wouldn't we? It's easier said than done, especially with premature neonates, but at least if they were designed for children in mind, you know, vial strength, sizes, concentrations, it would make life a lot easier, not for just me as a pharmacist, but mainly for our nurses who are having to manipulate these drugs and give them every day, but I think. I mean, at least Heather and I can agree that we'd also love to have a neonatal electronic prescribing system, I think that would also make things much more streamlined, in, for our day to day. Maybe one day we'll have the time, to make that.

Absolutely and thank you both for everything you said so far. Heather, I'm curious to go back to the point that you said around such tiny, tiny babies, going down to around half a kilo. Obviously as our patients get older, their weights are changing and it can be really difficult to sort of keep on top of how fast children are growing, especially when they've been through such an intense period of treatment in the intensive care. How do you guys sort of navigate that?

Yeah, that is a, it's a really tricky one. Neonates usually end up with three different weights, which you can imagine becomes quite confusing, so they would usually have their, especially when their fresh to us, they would usually have their birth weight, they would have a current weight and then they would have a dosing weight. So, some babies come to us with sort of massive tumours and stuff that get removed, or they're really fluid overloaded, so their current weight would be much higher than their dosing weight, which is why we would have a current weight and a dosing weight. And Kirsty and I have worked really hard over the last two years. To make sure that all the drugs that we're giving to our patients are given on the dosing weight. Because with all these different numbers bounding around in different areas, things can get prescribed on the wrong weight, they can get administered on the wrong weight and obviously that can have dose implications for those patients, so we've done a lot of work with the team on the floor. We've kind of put prompts into the nursing team for ward rounds and the medical team for ward rounds. We put prompts in to the medical handover sheets and their medical notes. To make sure they're checking essentially every shift with the nursing team, what the dosing weight is. and I think the biggest change we've made is to get our electronic prescribing system team to change it on, on our system for us, so that there is a specific separate dosing weight, which is very clear, and that it's drawn across from the most recent documentation that's gone in from the ward round that when it was discussed that morning.

And how much can this weight vary by? Are we talking a, you know, a few grams or, or, or are we talking actually could be double the body weight and therefore it could

lead to, you know, double the, or even a few hundred grams could lead to an excess of, you know, double or even, one and a half times what they should receive.

Absolutely. I mean, if you think about the fact that some of these patients only weigh 500 grams to begin with, if you are adding an extra 200 to 300 grams onto that, that can significantly change the dose that they're being given. Absolutely. Yeah. Even 50 grams for these tiny ones makes a massive difference. Yeah. And, just to lead on from that, I and so we, we make sure that everything is done to the correct dosing weight, but one of the most important things as well is that we are actually reviewing that dosing weight regularly to make sure that these patients that are growing at a very fast rate compared to the rest of the population actually have sort of their nutrition based on the most appropriate weight for them so they are getting as much nutrition as, as is reasonable for them. So, one part of the project that we've implemented is to make sure that it is reviewed at least once a week at a minimum and most often it is done more than that. Just so we are not falling behind with that and making sure we are up to speed using the most appropriate weight for that child.

Brilliant. It sounds like, really, really hard thing to keep on top of. It sounds really fast paced, but it sounds like you two have, made, made a fantastic start and you've put solutions in place and ultimately we just want to make sure that our patients are receiving the right dose at the right time and it can be challenging, especially in intensive areas, like intensive care where you know. It, it, it can be challenging to keep on top of everything. So, thank you very much for heading up this project and making sure that that initiative is taken forward.

We're going to draw this to a close now, but I just wanted to thank you both for coming on and for giving your insights from NICU in terms of medicine safety. It's medicine safety week this week. So did you have any messages to prescribers, nurses, patients, anyone alike when it comes to medicine safety, just as a final goodbye.

I suppose mine would be as a pharmacist. Please reach out to your friendly pharmacist on your ward for any questions, any advice, any support. We are more than willing to help with any questions, nothing is too small. Great. And Heather, anything from me?

Oh yeah, I think mine would be check, check and triple check.

Brilliant, succinct. I love it. And so, with that, so with that, I'm going to, I'm going to sort of, sadly draw, draw this conversation to a close but once again, thank you both for coming. It's great to see everything that you're doing and, continue what you're doing. Thank you so much both. Bye. Thank you. Thank you. Bye.