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Parental Satisfaction with Rooming-In  
Newborn Hearing Screening Services  
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>> Today I'm going to talk about satisfaction of doing screening in the room with parents. A little background on myself. I previously worked as a private practice audiology with adults and Pediatrics. I ran a hearing screening company in Maryland. We screened for otoacoustic emissions for babies. At that time we had about 18 technicians and two managers. Because we were an outside company, all of the babies had to be tested in the room. None of the technicians were allowed to transport the babies. When I moved to Boston to run the newborn program up here, I was able to take all of that experience and put it in a setting where they had a slightly different method for doing their newborn screenings.

Any infant was eligible for screening any time after four hours of life. We went to the room, introduced ourselves, told them that we were going to do the hearing tests and then transported the baby to the nursery. The parents were allowed to watch from a viewing wov.

The other big thing that, one of the big things that was kind of the talk of the nursery was moving towards something called baby friendly. I don't know if a lot of people know about this, it was completely kind of new to me, coming from a private sector to the hospital area, but...the baby friendly criteria was set up by the World Health Organization. They had a list of these

ten different factors or ten different criteria that the hospitals should meet in order to be deemed baby friendly.

Number seven was the one that applied to me. Meaning the hospital needs to practice. Allowing the infants to remain together 24 hours a day. Removing them for this hearing screening wasn't going to be in line with that. I didn't know a lot about rooming in. Finding out, why are we doing this? What's the benefit of rooming in? There's been a number of reasons rooming in is beneficial for babies and parent as well. Less anxiety of separation, not wondering where baby's going and who's taking baby and what test is being done? Is my baby crying? Less postpartum depression and you know, the real big benefits about breastfeeding. Milk coming in sooner, just mom and parents just getting to know the baby better and bonding more. These have all been shown to be all kind of helpful to the mother, baby and this first couple days relationship together.

So then I said, okay, we know rooming in is beneficial. We know it's part of this baby friendly criteria that we're moving towards, let's look at parental satisfaction. In the hearing screening world, what's this, just in general? In the early 1990s, when newborn hearing screening started to come about, there was a number of authors that raised the issue of, okay, are we causing parents undo stress and anxiety? Because we're telling them their kids didn't pass the screening.

They find by the late 90s, some researchers were showing that most parents are expressing interest in newborn hearing screening. It's really the parents that didn't have a lot of information or ended up with no information.

In 2001, there was a study done that looked at the impact of this information on the maternal attitudes. This isn't a formal kind of survey that the parents filled out or anything. They did sit down and talked to mom and asked mom questions. Did you notice that your baby had the test done? Were you present when the test was done? Did you know the results. They looked at the difference between those moms that didn't notice and they said okay, the moms that did notice, must have had more information about the test. They found that the moms that were present knew the results were more advocates for hearing screening. Finding the more information they had and the more able they were to see these tests go on, the more they thought it was a necessary test, something that should be done.

In 2007, here in Massachusetts, our EHDI program did a study on parental satisfaction with the whole EHDI process. They looked

at a number of different part of the process. But what applied most to me was when they looked at the screening parts. They had three different groups of parents. Those who passed the initial screenings, no follow-up was necessary. The ones that didn't pass, the ones that did pass and similar to a lot of the research, they found that groups one and two who were shown to have normal hearing were pretty much equally satisfied with their hearing screening services, but that group three, one of the nice things in the study, they allowed parents to give helpful answers, things that could be done differently and the most frequent comment that was heard is that the parents would have liked to be present during the hearing screening. All this research backing a bit, this is what parent want, how they are informed, the more they should be satisfied and they weren't as anxious about the process.

Then I had to look, what are my obstacles? What's holding us back? We do all our screenings using an Natus ALGO5. The devices were easy to transport before, this is really big. It's on a nice cart that rolls along, but one of the problems, the machine does need to be shut down and then restarted every time you unplug it. So...that was kind of, that was going to be difficult for us. Not that it took a long time, but it did take a minute or two to reload each time.

The second thing is that all of our infants require a hearing screening form to be filled out before the test can take place and this form listed things like risk factors that we needed to know for follow-up. Was there a family history with hearing loss? Was there any syndromes diagnosed? So, and this needed to be filled out by the nurse before my technicians [indiscernible].

So we did a little survey and found about 35% of these weren't even complete at the time of the tests. And then finally, the technician's comfort level. Most of my technicians are students and usually medical students or nursing students or something. They have experienced the desire to kind of work in the medical setting, but they don't always have experience working with little tiny babies.

So...a lot of time went into kind of talking about okay, how are we going to do this in front of the parent? What are we going to say? Where can we do it? We talked to our clinical engineering department and we were able to obtain a battery pack for us. The battery pack sits on the bottom of the cart, it plugs in, it allows us about a five to ten-minute travel time to improve. Plenty of time to kind of go outside the room, go in, have things ready, bring it in, plug it in, it's there. The

hearing screening questionnaire, we did 35%. Technicians were going to have go back and forth to the nursery. We were able to find out [indiscernible] and then we went back to the nurses, the ones who had frequent or repeated blank forms. Just about the need for us to kind of help make the process run more smoothly, not just for the technicians but for the nurses too.

Before the parents were provided two brochures at the end of the test, we provided them one brochure at the beginning of the test too. We're going to educate them prior and then educate them, in this way, we're hopefully covering both ends. Hopefully they'll read at least one of those.

We didn't change when the infants were eligible. We left that at four hours of life. Then we switched where the infants were tested. Now the infant has to be tested in the room, unless for some reason, the baby's already in the nursery.

At the completion of the testing, the technician did the same things, same letter given to the parent, we gave them that brochure that talked about milestones, follow-up and beyond.

We wanted to see, okay, we're going to change these protocols, let's make sure the parents are happy. So...about one to two days a week, usually like a Thursday and Friday, I tried to switch it up with all my technicians. I have about four of them.

So...after the final screen, parents were given a survey and asked to complete it. I didn't know who they were giving it to. The babies tested in the room or in the nursery. And they answered a couple questions about the hearing screening process and kind of graded it on a one to five scale. One, not at all satisfied, or five, extremely satisfied.

We collected about an even amount from each room. 103 from the nursery and 98 from the postpartum. A good even scale with those.

Here's what we found. The questions we asked them, we asked them how satisfied were they with the information prior to the screen? How satisfied were they with the testing process? How satisfied with the information about results, follow-up and then their overall satisfaction. As you can see, parents were more satisfied in all of them and statistically significant differences in almost all of them, except for information about follow-up. Yes parents were happy about this and more satisfied when we were doing it in the room.

We went back and we said, okay, they're more satisfied about this, let's make sure nothing has changed objectively. So...we went and we looked through how many babies we were actually testing in the room.

So we had about 5,000 babies a year in the hospital. We went and looked from September through December, 2013 and I looked at every single screen. Not just the final results, but every screen that we did. And that ended up being about 1600 screens. And then I looked at what percentage of these were done in the room. The nice thing about the ALG05 is it has detailed data on it. My technicians were able to put where they were performing the test and I could gather all the details about that specific test as well.

So, for the objective for this one, I just pulled the percentages of how many babies tested in the rooms. And 36% wasn't really what I was hoping for. A little better for September which is only 10%.

As far as the test itself. We were thinking when we went into this, we're going to be testing in the room, this is where baby is supposed to be happiest, mom and dad are right there, and we went in and we looked at these objective measures and found that that really wasn't the case for at least the babies that we measured. We had higher myogenic noise. The baby was moving more or fussing more and wasn't as quiet. Obviously the duration went up too. The noisier the baby is, the longer it takes to run the test. We found a significant difference there, which we weren't expecting, but it is what it is.

And then we looked at our screen results. Making sure we didn't want to refer more babies than before. That wouldn't be a benefit to the parents.

We gathered all this information together and we sat down and thought okay, what can we do? We looked at this, obviously parents are more satisfied with the satisfaction survey results. And why is that? Because that technician is right there in the room? We were able to see what's gone on? We had more questions about it and the technicians were there. How does the test work? What is it doing?

The other thing, then we looked at specifically, you know, the different [indiscernible] satisfaction survey results. We looked at the information on the results of the screen. And I didn't actually expect it to be different. There was no difference in the results. The parents were perceiving more satisfaction with the results when the test was done.

So, we were kind of thinking this is possibly just because they were more satisfied overall. The whole hearing, screening process and that just instilled into them the more satisfactory results as well.

One thing that didn't come up and made a big difference was their satisfaction and information about follow-up.

And while that's typical and I would have expected that, there was no change in follow-up, they were still getting the same letter about the result of the test, and told that follow-up should occur.

[Captioner is still having a hard to clearly hearing the speaker, voice is very faint].

...the uneasiness of the technicians, they just weren't comfortable with having to pick up the baby when the parents were there. They weren't comfortable using a pacifier. It's all things they could come and talk to us about. Finally, with the percentage of babies that we were testing in the room, our goal is really to get up to 60% in this fiscal year and eventually get to 100. In my latest measurement, we were at about 70%. So we were slowly working from the 36% that we had measured in this kind of data collection, up a little higher.

We also kind of looked at okay, where can we go from here? The current surveys that we did were not. So, I does not know if you filled them out, I don't know anything about the parents or the babies. So we were thinking, you know, is there, there's all this research that, that of course, the babies that end up with hearing and those that end up with hearing loss, does that continue when we look at in-room versus nursery testing. That would be something to look into. We have to make it not anonymous, but something we can definitely measure. And then the testing in the room changed the loss to follow-up rates.

So, we have a pretty low follow-up, loss to follow-up rate here, anyway. It usually has 85 or so babies that refer every year.

Another thing that came about, are we getting any bias with return to surveys? We had a pretty even split there. If you remember when we look back at the percentages of our testing in the room. Somehow I got a pretty even split in my you know, nursery versus postpartum with babies when surveys returned. So, thank you very much, if anybody has any questions, I can go over anything.

So, we talked to somebody in clinical, basically the people who do all the safety checks for all of the equipment in the

hospital. And they were the ones that found the battery pack for us. It happened to be an older one they have, but since that time, the hospital right next door to us, they use the same machines. They actually purchase their own battery pack. It was called, like, it's actually called UPS. Universal Power Supply. They have newer ones that I think are smaller, but that's what we used. The ALGO plugs right in thank you. That plugs into the wall, when you're going, you just unplug the universal power supply from the wall. The computer stays on. It was nice. A couple times, if you don't plug it in for awhile, it makes this really loud sound which makes all the nurses nervous, but...it was a beneficial way to go about this. Any other questions? Thank you, again, everybody.

[Call concluded at 2:02 p.m. ET].

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