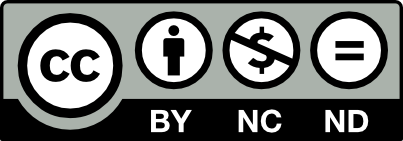
**Script & Timestamp Sheet:**

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**00:00 – 00:10:** *Jacqueline:* Welcome back to “Better Out Than In”; where we talk about all things pregnancy. Whether you're here to gain pregnancy knowledge from experts, hear inspirational stories, or just listen to my voice, we’ve got you covered!

**00:11 – 00:25:**  *Intro song:* When the song come on let me see ya get gone, baby mama’s this yo song. Been pregnant for way too long (too long), now tell the DJ turn it on. If she a baby mama (go head) she gone do that baby mama (work). (ChloeKitty131, 2017).  **00:26 – 00:40:**  *Jacqueline:* All right guys, as you all know, I am your host Jacqueline. I am sitting here today with 3 guests who will discuss our topic of the week: Hemolytic Disease of Newborns or HDN- ABO incompatibility. Before we get into it, I am going to allow our guests to introduce themselves.

**00:41 – 00:53:**  *Esther:* Hi Jacqueline, thank you for having me on the podcast. My name is Esther, and I have been an obstetrics nurse for the past 25 years, and I have seen more births than I can count at this point. Chances are if you’ve had a baby in the past 25 years, I delivered them. *\*\*laughter\*\**

**00:54 – 01:08:** *Jodie:* Hi Jacqueline, thanks so much for inviting me to be here! My name is Jodie, I am a mom to 3 beautiful girls, June, Jewel and Jeorgia (and yes, that is with a J) and I have a very sexy husband Joe. *\*\*laughter\*\** I am a stay-at-home mom, and I’m very busy, but I’m excited to share my story!

**01:09 – 01:24:** *Allison:* Hi everyone, my name is Allison! I’m 28 years old, I work as an accountant and have 2 kids, Amber and Ashton. I can't wait to talk about my experience and get more understanding of what my youngest baby Ashton went through. Thank you for having me on your podcast Jacqueline!

**01:25 – 01:31**: *Jacqueline:* Thank you all. It is my pleasure to have you here! Let's get into it! Allison, what is your experience with ABO incompatibility?

**01:32 – 01:43**: *Allison:* Well, when my son was born, I was told that he had ABO incompatibility. While they tried to explain it to me then, I’m still a bit confused about why it happened. I regret not asking more questions at the time.

**01:44 – 01:50:** *Esther:* It’s completely normal to feel confused and overwhelmed after an experience like that, so let’s talk about it! So you must be type O blood then, right?

**01:51 – 01:53:**  *Allison:* Yes! I’m O-positive and my son is A-positive.

**01:54 – 02:42:** *Esther:* Yeah, that makes sense because ABO incompatibility happens when the fetus has an antigen that the mother does not have, and antigens to keep it simple are just proteins on the red blood cells (Lieberman et al., 2022). This pretty much only happens if the mother has type O blood group and the fetus is either type A, B, or AB (Routray et al., 2022). So since your blood is O, your RBCs have no antigens, and your body produces anti-A and anti-B antibodies, which are proteins in the blood that recognize and attach to any foreign substances (Routray et al., 2022; Aziz et al., 2023). Since people with type O blood have naturally occuring anti-A and anti-B antibodies, if the mother’s antibodies cross the placental barrier, this can cause a reaction when it binds to the fetus’ red blood cells (Routray et al., 2022). The naturally occuring antibodies are also why there is no sensitization period and the potential for a reaction to occur is present with the first pregnancy and all subsequent pregnancies (Hall et al., 2024).

**02:43 – 02:49**: *Allison:* That's really interesting! I know my blood was tested in my first trimester, which is when they found out that this might be an issue (Routray et al., 2022).

**02:50 – 02:59**:  *Esther:* Yeah, exactly. Blood typing the mother in the first trimester is a routine screening for all pregnancies and because you were type O, your baby was most likely monitored for HDN (American College of Nurse Midwives, 2013; Routray et al., 2022). Is that right?

**03:00 – 03:06:** *Allison:* Yeah, there really wasn't much monitoring throughout my pregnancy, but I noticed them monitoring the baby more while we were in the postpartum unit after birth (Hall et al., 2024).

**03:07 – 03:26**: *Esther:* Chances of your blood mixing with your baby’s during pregnancy is unlikely (Stanford Medicine, n.d.). Mixing would most likely happen during the delivery (Stanford Medicine, n.d.). This is why you want to monitor him postpartum. Fun fact, ABO incompatibility occurs in 15-25% of pregnancies but only 1% of these will actually develop HDN due to ABO incompatibility (Hall et al., 2024).

**03:27 – 03:35**: *Allison*: So because my son is blood type A, his blood has A antigens, and the antibodies in my blood bound to them and triggered a reaction?

**03:36 – 03:47:** *Esther*: That’s right! In your case, your IgG anti-A antibodies bound to the antigens on his red blood cells, which marks them to be destroyed (Routray et al., 2022). This is what causes the reaction, or the breakdown of red blood cells, a process called hemolysis (Routray et al., 2022).

**03:48 – 03:49:** *Jacqueline*: Sorry, what is IgG again?

**03:50 – 04:16**: *Esther*: Oh, it's just an antibody, and because the IgG antibodies are so small, they can cross the placenta (Humphrey, 2024). The IgM antibody is also involved in pregnancy, but those are too big to cross the placenta (Humphrey, 2024). That's why ABO incompatibility is less severe than Rh incompatibility because most naturally occurring anti-A and B antibodies are IgM(Hall et al., 2024). Also, because the fetal ABO system isn’t mature enough to stimulate maternal antibody production (Routray et al., 2022). Even though it is less severe, it is still more common than Rh incompatibility (Hall et al., 2024).

**04:17 – 04:26:** *Allison*: That makes sense, but the nurses were saying my baby was slightly anemic, tired, and looked yellow (Hall et al., 2024). Why would ABO incompatibility make my baby yellow?

**04:27 – 04:52:** *Esther*: Well, when the antibodies mark the red blood cells for death, the broken down red blood cells produce bilirubin, which is a yellow pigment (Routray et al., 2022; Kalakonda et al., 2022). Normally throughout pregnancy, the bilirubin is removed by the placenta and after the baby is born, their liver processes the bilirubin and gets rid of it, but for newborns, especially those who are born prematurely or have hemolysis, their livers aren’t able to get rid of all the excess bilirubin yet (Hall et al., 2024). And this is what causes the appearance of the yellowish tint to their skin and the whites of their eyes (Dzulkifli et al., 2018).

**04:53 – 05:01:** *Allison*: Oh, I remember the doctors mentioning that the bilirubin levels were increasing. I was so worried, but they used phototherapy on him and it seemed to work (Calhoun & Bahr, 2024).

**05:02 – 05:04:** *Esther*: Yeah, phototherapy is usually sufficient therapy for most jaundiced babies (Calhoun & Bahr, 2024).

**05:05 – 05:11:** *Allison*: Is there any way to prevent this from happening if I had another baby with a different blood type from mine?

**05:12 – 05:28**: *Esther*: There is no specific prevention for ABO incompatibility because the antibodies are naturally present (Mironov et al., 2023). The key is just early recognition and close monitoring after birth (Kimball, 2020). This is why we closely watch the newborns with risk factors such as ABO mismatches for signs like jaundice and hemolysis in the first few days of life (Kimball, 2020).

**05:29 – 05:35**: *Allison*: I’m very glad they identified the problem so quickly! It was a lot to process, and it was scary because I didn’t know what to expect.

**05:36 – 05:46:** *Esther*: Mhm. That’s completely understandable! You did everything right. Early interventions, like phototherapy, makes all the difference (Routray et al., 2022). Most babies with ABO incompatibility recover fully with proper treatment, just like your son (Calhoun & Bahr, 2024).

**05:47 – 05:52:**  *Allison*: I feel so much better now that I understand what happened and why. Thank you for explaining it so well, Esther!

**05:53 – 05:57:** *Esther*: Yeah, no worries! If you ever have more questions in the future, just don’t hesitate to reach out.

**05:58 – 06:03:**  *Jacqueline*: Thank you both for sharing. We’ll take a short break here and then we’ll be back to talk with our second guest.

**06:04 – 06:18:** *Breaktime song:* When the song come on let me see ya get gone, baby mama’s this yo song. Been pregnant for way too long (too long), now tell the DJ turn it on. If she a baby mama (go head) she gone do that baby mama (work) (ChloeKitty131, 2017).

**06:19 – 06:21:** *Jacqueline*: Welcome back everyone! Jodie, do you want to share your story?

**06:22 – 06:26:** *Jodie*: Yeah, my experience was such a traumatic one, but I’m glad I have the chance to share my story.

**06:27 – 06:31**: *Jacqueline*: Let’s start from the beginning. When did you first realize that something was wrong with your baby?

**06:32 – 06:45:** *Jodie*: Well, throughout my pregnancy, everything seemed normal. Even though I knew about the chance of ABO incompatibility, I didn't expect anything serious when my daughter Jeorgia was born, but then I saw her skin start turning yellow (Hall et al., 2024). This was when I found out she had hemolytic disease (Calhoun & Bahr, 2024).

**06:46 – 06:53**: *Jacqueline*: That must have been so frightening. I can’t imagine. Can you explain more about what they told you was happening with Jeorgia at the time?

**06:54 – 07:16:** *Jodie*: Yeah, for sure. After Jeorgia was born, they performed a Direct Coombs Test, and the results came back positive (Porter & Dennis, 2002). This happened because my antibodies were attacking her red blood cells causing them to die faster than they could be replaced (Porter & Dennis, 2002). Her red blood cells were being destroyed so quickly that she was becoming anemic (Porter & Dennis, 2002). We could tell the phototherapy was not effectively treating her high bilirubin levels because her serum bilirubin levels kept increasing (Porter & Dennis, 2002).

**07:17 – 07:24**: *Jacqueline*: Maybe Esther can shed some more light on other signs and symptoms of a more severe case of HDN ABO incompatibility?

**07:25 – 08:07:** *Esther*: Yeah, for sure. In severe cases like this, there is potential for it to cause serious damage to your baby (Hall et al., 2024). If someone's baby has severe hemolytic anemia, this can end up causing hydrops fetalis (Hall et al., 2024). This would present as skin edema, pericardial effusions, pleural effusions, and ascites (Hall et al., 2024). Usually this is diagnosed with an ultrasound (Hall et al., 2024). This can also end up causing respiratory distress due to fluid build up (Hall et al., 2024). As well, untreated hemolytic anemia can lead to kernicterus due to bilirubin build up in the basal ganglia (Reddy & Pandey, 2023). This causes neuron death, which can potentially result in cerebral palsy, sensorineural deafness, and neurodevelopmental issues, or in worst cases, death (Reddy & Pandey, 2023). This is why rapid treatment is crucial for the baby (Reddy & Pandey, 2023).

**08:08 – 08:13:** *Jacqueline*: Wow, thank you for that information Esther! Jodie, how did the doctors decide to treat Jeorgia?

**08:14 – 08:21:** *Jodie*: When her serum bilirubin levels kept climbing, the doctors said the next step was IVIG (Lieberman et al., 2022). She got a single dose, and luckily it was effective (Lieberman et al., 2022).

**08:22 – 08:32**: *Esther*: Yeah, the IVIG works to decrease hemolysis by blocking the Fc receptors on the macrophages, preventing the antibody covered red blood cells from bursting (Lieberman et al., 2022). The last resort would’ve been an exchange transfusion (Lieberman et al., 2022).

**08:33 – 08:35**: *Jacqueline*: What is an exchange transfusion?

**08:36 – 08:56:** *Esther*: Well, this is when they would take some of the baby’s destroyed blood and replace it with donor blood to remove the mother’s antibodies (Okulu et al., 2021). We can prevent hemolytic transfusion reactions with hemovigilance, which is just a surveillance procedure that tracks transfusion information from both donors and recipients (Jain & Kaur, 2012). It can also detect where errors might occur and prevent them from happening in the future (Jain & Kaur, 2012).

**08:57 – 09:26**: *Jodie*: I was just so glad that Jeorgia started getting better after her serum bilirubin decreased to 12 by the time she was 48 hours old (Porter & Dennis, 2002). Her hemoglobin levels remained the same, indicating that her anemia was not getting worse, and the hemolysis had stopped (Porter & Dennis, 2002). The doctors stressed how important it was to provide Jeorgia with enough hydration through breastfeeding and supplemental formula to promote the excretion of bilirubin through the GI tract (Terrell et al., 2023). While I was happy to hear she did not need a transfusion, it was not the end of the story. Jeorgia needed close monitoring for the next few days to make sure that her levels did not rise again (Hall et al., 2024).

**09:27 – 09:29:**  *Jacqueline*: And when did they let you go home from the hospital?

**09:30 – 09:42**: *Jodie*: They were checking her bilirubin and hemoglobin levels often to make sure that they were in the normal range (Hall et al., 2024). After the 2 weeks and multiple treatments, she was stable and we were allowed to take her home (Hall et al., 2024). I’m just so grateful that she’s okay now, and I couldn’t be happier!

**09:43 – 09:49:** *Jacqueline*: Well, thank you so much Jodie. We really appreciate you coming here to tell everyone your story. And thank you to our guests Esther and Allison as well!

**09:50 – 09:51:**  *Esther and Allison*: Thank you!

**09:51 – 09:57:** *Jacqueline*: Well, that is it for today, folks! Make sure to tune in to next week's episode of “Better Out Than In”.