**Episode 55: Post-Delivery IUDs**

Dr. Joe Chappelle: Hello everyone and welcome back. I'm Joe Chappelle and you're listening to episode 55 of the OB/GYN Podcast. Fist off today, thanks to a great listener we’ll have transcripts for every new episode going forward. They'll be available on the website obgyn.fm on the page for each episode. We will also, over time, be going back to the older episodes to get them transcribed as well. These transcripts are made possible by the Patreon supporters, so thank you so much for helping to keep the show going. And if you love the show and want to help us out, then please head over to the website and click “support”. Myself and everyone else here appreciates every single supporter that we have. And if you can't support the show monetarily, then please just tell a friend or a colleague about the show and help spread the word.

Okay. Onto today’s show. As all of you should know by now, I am a firm supporter of contraception. Contraception adds nothing but good to society. By empowering women to have control over their fertility, we allow them to pursue their passions. And as studies have shown, the more women that participate in business, government, education, whatever, the better it performs. We accomplish this by reducing unintended pregnancies, which also reduces the number of terminations performed. In fact, there is a direct inverse relationship between access to contraception and rates of termination.

The postpartum period is the ideal time to discuss and offer contraception, and yet so many women leave the hospital without a plan and then don’t follow-up for their postpartum visits. These women fall through the crack, and that is a setup for unintended pregnancies and short-interval pregnancies with everything that goes along with that. In the last few years, there's been a surge in immediate post-delivery IUDs, and also some misconceptions around their use.

Today, I and us are lucky to have Dr. Gina Milone with us to break all this down and go through the pros and cons of post-delivery IUD placement. So, without further ado here’s episode 55: Post-Delivery IUD Placement.

Dr. Gina Milone: Hi everyone. I'm Gina Milone, a current second year OB/GYN resident, here today to talk about postpartum IUDs. As do most OB/GYNs, I think IUDs are pretty amazing. I don’t know how often I brag about them in general conversation, but apparently, it's a lot, because one day, my partner, who’s not an OB/GYN, asked me “why doesn’t everyone who wants birth control just have an IUD?” While there are obviously good answers to that question, it became pretty clear that this was something I was excited about.

Reliable contraception at any time, specially after pregnancy is important. As most of us know, the unintended pregnancy rate in the United Stated is about 50%. For a country that has good access the contraceptive resources, this is pretty awful, but that’s a different topic of discussion. When I talk to women about birth control after they’ve just had a baby, I get a mix of responses. Some laugh and question my sanity for suggesting that they’d either be remotely interested in intercourse any time soon, or that they'd want to go through labor and delivery again. Whereas others will mention that they’re not interested in birth control as they want to try to have another baby soon.

The concern for the first group of women comes back to that 50% number. That even if they don't want to get pregnant, there’s a very good chance that they will. The concern for the other group of women is that they may actively start trying. But why do we care? Why do we want them to wait?

Short-interval pregnancy lacks a uniform criteria. The World Health Organization recommends interpregnancy intervals of at least 18 to 24 months following a live birth and at least six months following a miscarriage or induced abortion, due to concern for short-interval pregnancies possibly being at risk for small for gestational age neonates, preterm birth, postpartum weight retention for the mother and, in cases of a prior cesarean section, uterine rupture.

The problem is that a lot of this information comes from observational studies published over 10 years ago or from international studies in lower resource settings, leaving the U.S. without any uniform federal recommendations about what the optimal timing is between deliveries. ACOG advises against becoming pregnant in the first six months postpartum, and state that there are risks before 18 months. But beyond this, fail to further specify. In our practice, most providers recommend patients wait 12 months after a vaginal delivery or 18 months after a C-section before trying to conceive again. Regardless of what numbers you use, there is an argument that reliable postpartum contraception is needed.

So, if we’re offering contraception, we're hopeful that women will want to use as effective a form as possible, therefore leading us to long-acting reversible contraceptives, better known as LARCs. As most of us know, LARCs in the United States include different types of IUDs as well as the implant. The U.S. currently markets one copper IUD, well-known to everyone as the Paragard. And four progesterone levonorgestrel-based IUDs: Mirena, Skyla, Kyleena and Liletta. The implant used in the U.S. is marketed under the name Nexplanon, which is also progesterone-based, containing etonogestrel, but today we're focusing on IUDs.

In the general population, not specifically the postpartum population, LARC use has increased dramatically in the last 10 to 20 years. Data from the National Survey for Family Growth repots LARC use of only 2.4% in 2008. Now, up to 11.6% as of 2012. Use is one thing, but the success of this is seen in the reduction in unintended pregnancy rates. During this time, there has been an 18% decrease in unintended pregnancy rates in the United States, going from 51% in 2008 to 45% in 2011. While this is likely multifactorial, I think a large part of the credit can go to LARCs.

Bringing this back to the postpartum patient, let's review what we know so far. One, reliable contraception is needed in the postpartum period to prevent short-interval pregnancies. And, two, LARCs are a highly effective and reversible way to do this. ACOG recommends that the discussion about birth control and contraception counseling should occur during prenatal visits. In our practice, I think our providers do a great job of this, and as a resident who postpartum rounds, I appreciate this. Waking a patient up at 5 or 6 o’clock in the morning to discuss birth control after they’ve likely been awake most of the night either having their vitals taken or breastfeeding, is hardly ideal. Not to mention they're preoccupied with the million things related to their new baby, making birth control seem to fall low on the list of priorities.

That being said, I always enquire and I'm happy to here that many patients have had a discussion and have an idea of what they would like to use. For those who haven’t had the discussion previously, you have a good client to sell to in front of you. You have a woman who is staying in the hospital for several days, who is likely motivated to begin birth control after just having a baby, and someone you know for a fact is not currently pregnant.

ACOG recommends that all women should be offered a postpartum LARC before discharged from the hospital. I'll get to this point later in my talk, but an interesting time could be at the time of admission to the hospital or during early labor. But let's put a pin in that for right now, and just remember that all women should be offered a postpartum LARC. Why not wait until the postpartum visit, you ask? Well, about 40% of women will not attend a postpartum visit, and about 40 to 50% of women will have unprotected intercourse before coming for a six-week postpartum visit, further emphasizing the importance of addressing birth control both prenatally and in the hospital.

Now that I've convinced you that this is important, you're probably wondering “what IUD should I place and when should I place it?” Logically, it seems like the easiest time to place an IUD is immediately after delivery. The patient is likely occupied by her new baby and may have regional anesthesia, alleviating some of the patient concern about painful insertion. Historically, the concern has been that placement at this time is associated with a higher rate of IUD expulsion as compared to waiting for an interval insertion. However, we can’t forget that number that 40% of women will not present for a postpartum visit, therefore creating a risk-benefit scenario where the benefit of immediate placement may outweigh the risk of expulsion for certain patients.

A recent meta-analysis published in the Green Journal in October 2018, looked into what the expulsion rates were for different placement times. They found 48 studies from all over the world between 1974 and 2018 that met their inclusion criteria for a total of about 8,500 women receiving IUDs at some point in the postpartum period. A similar number of vaginal deliveries and C-sections were studied. They broke the time into three categories: placement immediately postpartum, which was defined as being within 10 minutes of delivery of the placenta; delayed placement, which was classified as greater than 10 minutes from placental delivery but less than 4 weeks postpartum; and interval placement, which was greater than four weeks postpartum.

Immediate placement, within 10 minutes reported an expulsion rate of 10%. Delayed placement, between 10 minutes and 4 weeks had the highest rate of expulsion at 30%. And interval placement, beyond 4 weeks, seemed to be the safest, with an expulsion rate of 1.9%. The takeaway that I gathered from this: place it immediately if you can, but if not, you should consider placing it postpartum unless you have a known highly unreliable and poorly compliant patient who won’t come back for that visit.

This group also looked at if the expulsion rates differed between vaginal and caesarean deliveries. The expulsion rate following a vaginal delivery was 14.9%, and reported at only 3.6% following a caesarean, overall showing a five-fold higher expulsion rate for vaginal deliveries. I think this makes sense. First of all, if you're physically in the uterus, you can hopefully ensure that the IUD is placed appropriately. Furthermore, we just learned that expulsion rates are lower if the IUD is placed within 10 minutes of placental delivery. I hope that in most C-sections, your hysterotomy will be closed within 10 minutes of the placenta coming out, and if it's not, then there's likely something else going on that may preclude you from placing a postpartum IUD. A last thought is that this review didn’t report on what time in the postpartum period IUDs were most commonly expelled. It can be argued that the expulsion rate is lower following a C-section, as many of these will be scheduled procedures with a non-laboring uterus and cervix.

Now that we have an idea of when to place the IUD, the next question is: what IUD are you going to place? While this decision will obviously also take into account the patient’s menstrual history, it would be helpful to know if one type is more likely than the other type to expel. In terms of what our options are, the postpartum patient is really in consideration for Paragard, Mirena or Liletta, as Skyla and Kyleena are marketed for nulliparous patients due to their size and slightly lower hormone dose. Research is mostly about the Paragard, other copper IUDs not available in the U.S. and the Mirena, as Liletta was only FDA approved in 2015.

The meta-analysis previously mentioned included studies that looked at the Paragard, other copper IUDs and the Mirena, looking at expulsion rates in the immediate and delayed postpartum groups. In terms of what’s relevant for our practices here in the U.S., the Mirena had a higher expulsion rate, at 15.5%, as compared to the Paragard, with an expulsion rate of only 6.7%. Expulsion rates were the highest for one of the copper IUDs not available in the US, with a rate of 22.8%.

My first thought was that this IUD must be a different shape, however it's also one of the T-shaped IUDs. So, why the major difference? Is there really even a major difference? Part of the problem is that postplacental Mirena insertion has historically been poorly studied. While more work has been done in recent years, a review completed in 2009 by members of the World Health Organisation and the CDC could not identify any eligible studies using levonorgestrel IUDs at that time. They thought that work was limited due to concerns that the effects of progesterone may have on the involuting uterus and breastfeeding. And now, go forward 10 years to the 2018 meta-analysis I keep referring to: over 90% of the 8,500 plus patients had copper IUDs.

The medical eligibility criteria for contraceptive use weighed on this. Just to review, this is a group through the CDC that categorizes health risks for specific conditions with differing contraceptive methods. Category one means that there are no associated risks between the condition and the type of birth control, and that it can safely be used. Category two means that the birth control method can most likely be safely used as the benefit of birth control likely outweighs any risk, but closer follow-up may be warranted. Category three suggests that risk typically outweighs the benefits of this type of birth control and it shouldn’t be used unless nothing else is available. And category four means absolutely don’t use it.

The MEC called Mirena category two for women who are breastfeeding and have an immediate placement within 10 minutes. This recommendation comes from two randomized controlled trials that found conflicting results on breastfeeding outcomes when levonorgestrel IUDs were used immediately postpartum as compared to six to eight weeks. In all other scenarios, the Mirena was called category one in the postpartum period. For those placing it immediately who are not breastfeeding suggesting that the MEC Isn’t concerned about any potential effects on uterine involution, as well as category one for all those in the delayed or interval postpartum period, breastfeeding or not.

Paragard was category one for breastfeeding and non-breastfeeding women at all times postpartum. But again, the issue to come back to is that postpartum Mirena has been far less studied than Paragard, leaving us with the question of if we can make accurate assumptions about the higher postpartum Mirena expulsion rate.

My takeaway thought for this: when choosing postpartum or postplacental IUDs, choose as you would for any other patient you see in the office. Unfortunately, a barrier to my own advice right there exists in my own practice, as our hospital pharmacy doesn’t carry Paragard, only Mirena, making it difficult to plan for a postplacental Paragard. For patients who want one, it has to be ordered ahead of time and sent to the hospital to the patient, basically making this method effective only for those who come in for a scheduled C-section or induction. While this is a unique institutional issue, it got me thinking about what other places are doing.

Seeing as their included studies came from all over the world, the meta-analysis mentioned earlier also looked at how expulsion rates differed in different regions. Sadly, the United States was on the slightly higher end, with an expulsion rate of 11.3% being reported for all of North America. Africa and Europe had the lowest expulsion rates at 2.2 and 3.8% respectively. Apparently postpartum IUDs are fairly common practice in Southeast Asia, with their expulsion rates being reported at 6.4%. The only reported area in their paper that had a higher expulsion rate than North America was South America at 32.7%. Again, a lot of this might be due to practitioner experience in these areas, which wasn’t something that could be controlled for in the review.

Other things that we don’t know how they affect the IUD expulsion could be parity, breastfeeding status, ultrasound use during insertion, all things that may differ geographically. And again, all things not controlled for in most research that has been done.

So, what happens to patients who have an expulsion? One group showed that pregnancy rates were very low among patients after an expulsion. Usually because patients initiated another highly effective contraceptive method, oftentimes opting for IUD replacement, actually. Another group showed that although continuation rates of the original device in the postpartum period were higher for the Nexplanon than for the IUD, because it's pretty hard to expel a Nexplanon, the two groups overall had similar continuation rates when accounting for IUDs that had been replaced after being expelled. Again, showing that an expulsion isn’t necessarily turning patients off to an IUD altogether.

And a point I’d like to reinforce, even though everyone is worked up about expulsion, there are other important things to take into account that we know to be safe. Groups have reported that there is no difference in infection, perforation, pain or bleeding following a postpartum IUD insertion at any time interval, and also compared to placement unrelated to the postpartum period in the general population.

Taking it down a slightly different route, something that I had noticed was that all these studies included in the meta-analysis mentioned earlier used research where insertion assistance devices were excluded. Basically, they didn’t look at expulsion rates for providers who were using specifically made tools to help place a postplacental or postpartum IUD. What I thought was really cool, though, was that these tools do exist and are starting to become popular in other parts of the world. Some of this work has been done for frameless IUDs. In the U.S., we're used to the copper or plastic T-shape for an IUD. So much so that lots of patients don’t event know the term IUD and ones that just say, “I want the T”. “The T”, however, is not a universal term or shape for the IUD. Some countries use loops or rings, and others use completely frameless IUDs.

A frameless IUD is basically pieces of copper or pieces of levonorgestrel-containing substance strung or attached to a non-absorbable filament, like a suture, that is anchored to the fundus of the uterus. So, instead of the arms of the T extending up to keep the IUD in place, the top of this linear rod-like filament goes into the fundus itself to anchor the IUD in place, making it more like an intrauterine implant.

A lot of this development came from the University of Ghent, in Belgium, where, in 1985 a research group developed the GyneFix, a frameless IUD anchored to the fundus of the uterus that was initially marketed for interval and post-abortive contraception. Now, the label warns against immediate or delayed postpartum placement, and cautions to wait until three months postpartum. But this same group has developed a new device called the GyneFix-CS, which is a similar frameless IUD made specifically for use during a C-section.

In 2018, this group in Belgium published a randomized controlled trial where one arm had 70 women during a C-section who received a postplacental Paragard inserted using ring forceps, and the other arm had 70 women receive a GyneFix-CS IUD. I don’t know how well to explain this. The article showed a lot of confusing pictures of how the GyneFix-CS IUD is actually inserted, but the idea that I got was that it uses an applicator that enters the uterus through the hysterotomy and is then advanced to the fundus. This applicator then deploys and a very small stylet carrying the superior end of the IUD filaments intentionally perforates the fundus and these filaments are then anchored to the serosa of the fundus using absorbable suture like Vicryl. The idea is that this anchors the IUD in place while the uterus is involuting and then by the time the uterus has involuted, the Vicryl has dissolved and the device is implanted in the fundus. It's pretty cool. And even cooler, they did find a statistically significant difference in the rate of expulsion between the two groups. Paragard had an 11.4% expulsion rate and the GyneFix-CS only had a 1.4% expulsion rate. The sample size is fairly small in the two arms with only 70 patients each, but I still thought it was pretty interesting.

A slightly simpler idea, where you're not actually suturing something into the uterus, is the idea of using a different applicator designed used just for the postpartum uterus. Instead of using ring forceps or the traditional applicator that IUDs come with. Population Services International and the Stanford Program for International Reproductive Education and Services made one. The applicator is extra-long, allowing the device to actually reach the fundus. And it is stiff yet flexible enough to accommodate the shape of a postpartum uterus and minimize risk of perforation.

The IUD is preloaded in the applicator. Again, decreasing the risk of infection by manual manipulation of the device, and it has longer strings than the traditional IUD, again, accommodating the size of a postpartum uterus. A randomized controlled trial took place in India from 2015 to 2016 comparing the use of ring forceps and this modified applicator, with about 240 women in each group. They found a higher rate of complete expulsion with the applicator at 7.9% as compared to 5.4% with ring forceps. However, this was not statistically significant. Interestingly, fewer IUD strings were seen at the time of follow-up for patients in the forceps group, and in this population, a higher IUD continuation rate was noted when the strings were visible versus not visible.

As a result of this study, the device was approved for use in the general population in India with hopes that it would increase postpartum IUD placement rates. They argued that the success of good continuation rates were more beneficial than the possibly slightly higher expulsion rates. Part of this argument was driven by the high need for effective contraception in India, and the fact that not all areas have access to the appropriate tools or ring forceps for postpartum placement. Again, interesting, but likely not applicable to our practice, where fortunately we do have access to such tools.

So, to finish, let's bring it back to some other reminders of things that are applicable to our practice. One, all patients should be offered a postpartum LARC before leaving the hospital, ideally earlier and during their prenatal care. We have such a unique opportunity in pregnancy where we see women more times than the total number of times some of them have been to a doctor in their entire life. We need to maximize the chance we have to develop a relationship with them and talk to them about birth control. Other than expulsion, no additional risks exist for placing a postpartum IUD as compared to and IUD for the general population.

Two, coming back to when to place the IUD. If you can't place it within the first 10 minutes of delivery, it's not a bad idea to wait until four to six weeks postpartum for an interval placement. The exception to consider is if you have a patient who has been unreliable throughout the pregnancy and you know is not coming back for postpartum care. Remember, even though the expulsion rate after 10 minutes is about 30%, 40% of women won't show up to the postpartum visit at all.

Three, at this time, I would choose a Mirena or Paragard based on patient preference in the same way you would decide for any other patient. More research needs to be done about Mirena to see if there really is a reason why the limited reports we have show a higher expulsion rate.

Four, placement after a C-section seems to have a lower chance of expulsion than after a vaginal delivery. Again, I wouldn’t use this information as a reason not to place one after a vaginal delivery, but it can be good when counseling patients.

Five, just like we need more research about the postplacental Mirena, we need more information about all postpartum IUDs in regards to certain factors. The work that exists doesn’t tell us about how things like provider experience, ultrasound use, parity, breastfeeding status, use of additional tools and applicators, help or change the rate of expulsion.

Six, and lastly, don’t forget about counseling and follow-up. Patients will be more understanding if an expulsion occurs if they knew the chances that it could happen. Another silly but important thing to counsel about is the strings, and how long they will be. I got a call the other day from a patient who was convinced that her postplacental IUD was falling out because she could feel the strings between her thighs. But remember, even though this patient was worried about her IUD coming out, a lot of women won't be, and follow-up is important. It's been shown that 11% of women who have an expulsion won't know that their IUD came out and may be sexually active as though they have a LARC in place. Another patient I saw recently came in with no complaints, and her IUD was sitting in the posterior fornix. Encourage patients to come in for follow-up.

And so, that concludes our talk for today. I hope you all enjoyed listening and learned a little something about postpartum IUDs.

Dr. Joe Chappelle: Thank you, Gina, for that excellent walk through the world of post-delivery IUDs. Remember, if you want to find the show notes or the transcripts, they're available on the website obgyn.fm. And as always, you can send your questions, comments or suggestions to feedback@obgyn.fm. Until next time, thanks for listening.