

Erin Welsh

My name is Erin Welsh and I am cohost of This Podcast Will Kill You. I have been taking some form of birth control since I was 18 years old, so 15 years now. And I've tried the various ones, I've tried the combination oral contraceptive, I've done NuvaRing, and I currently have a hormonal IUD. I started taking birth control because well it was a combination of things. One was my periods were so bad that I was laid out in my house for two days at least every month just in horrible pain, couldn't leave. And also because I didn't wanna get pregnant.

And as soon as I started taking the oral contraceptive, it was like night and day. The pains were so much less, my periods almost disappeared, it was like I was so, so grateful to be able to just function normally is what it felt like. And I've been really fortunate in that I haven't had very many problems and all these various forms have continued to do the trick for me. So I don't want to get pregnant and the birth control that I have taken has been very effective in that way. And so I'm really grateful for having access to birth control and continued access to birth control. And I hope that it stays that way.

Erin Allmann Updyke

My name is Erin Allmann Updyke and I am the other cohost of This Podcast Will Kill You. And I first started birth control when I was 20 which was about 12 years ago. And I started exclusively to try and prevent getting pregnant, it was very effective, I started on a combination oral pill, I never had any real issues with it, I think I had to increase my dose once. And then I did have one very stressful year where my insurance got wonky and I wasn't able to get access to birth control and that was very stressful because I very much didn't want to become pregnant.

But I was able to get back on until I decided a few years ago to start trying to get pregnant. So I'm really grateful that I was able to make that decision when it was right for me and my partner and our family. And then after I had my baby I got the copper IUD which is a nonhormonal option of contraception and that's been really great for me too. One year in and I'm still not pregnant so that's nice. Yeah, I also am just really grateful I had only one year when I wanted and needed access to birth control and I didn't have it and that was a really, really stressful year. So I can't imagine never having access to it, how different my life could have been.

TPWKY

(This Podcast Will Kill You intro theme)

Erin Welsh

Hi, I'm Erin Welsh again.

Erin Allmann Updyke

I'm Erin Allmann Updyke, one more time.

Erin Welsh

And this is This Podcast Will Kill You.

Erin Allmann Updyke

Those were our birth control stories.

Erin Welsh

It was a strange feeling to be in the firsthand account chair, I don't know if I liked it.

Erin Allmann Updyke

Yeah. Let's not do it again.

Erin Welsh

(laughs) Deal.

Erin Allmann Updyke

Okay. So welcome everyone to our 60th episode.

Erin Welsh

Our 60th episode, it's unbelievable that we've made it this far I feel. And sadly we have to note it is our season finale, so this is the last episode of Season 3.

Erin Allmann Updyke

Not all sad, that's also exciting too. Woo hoo!

Erin Welsh

Yeah, yeah, it's exciting. I look back and I'm like syphilis was a year ago, how?

Erin Allmann Updyke

Wow.

Erin Welsh

It just feels like a lifetime.

Erin Allmann Updyke

Yeah.

Erin Welsh

Yeah.

Erin Allmann Updyke

Hey, that's funny. We started with syphilis and we're ending with birth control. (laughs)

Erin Welsh

I know, I like it.

Erin Allmann Updyke

So this wasn't the episode that we had planned for our season finale, we had planned a very, very different episode.

Erin Welsh

Yes.

Erin Allmann Updyke

But in light of recent events, especially the passing of Justice Ruth Bader Ginsburg and the impact that that's inevitably going to have on reproductive rights in the United States, we decided to focus this episode on birth control.

Erin Welsh

We decided that we wanted to honor the incredible amount of work that the notorious RBG did during her time on the Supreme Court and so yeah, we're really excited for this episode. We had been planning on doing something like this in the future.

Erin Allmann Updyke

Eventually.

Erin Welsh

Yeah but now seemed like as good a time as any if not the most important time.

Erin Allmann Updyke

Yes. But speaking of time, before we jump into the episode it is in fact quarantini time.

Erin Welsh

It is. You are absolutely correct about that, you are exactly right about that. (laughs) What are we drinking this week?

Erin Allmann Updyke

We're drinking Notorious.

Erin Welsh

That's right, in honor of notorious RBG. Erin, what is in Notorious?

Erin Allmann Updyke

Well of course in order to properly honor RBG, it's a wine cooler or wine spritzer, I don't know what you call it. What's the fancy term for it? We aren't using, what is it, Opus One or something is her particular brand of wine? We can't afford that. So just use whatever wine you can afford.

Erin Welsh	Yes. And we will post the recipe for Notorious as well as our nonalcoholic placeborita, that's gonna be another fun one to make, a non alcoholic wine. We'll post those recipes on our website thispodcastwillkillyou.com as well as on all of our social media channels which you can find links to through our website as well.
Erin Allmann Updyke	Yep.
Erin Welsh	Well Erin, do we have more business? Oh actually I don't know why I asked you, I have a couple pieces of business.
Erin Allmann Updyke	Oh, okay.
Erin Welsh	This was more of just like a couple of things that a bunch of people have reached out to us about. So the first part is in relation to our herpes episode and in the episode I have asked about stigma against genital herpes in other countries and whether it existed and multiple people reached out to us from a bunch of different countries and said, 'No, no one even thinks about it here. Like it's not a second thought.'
Erin Allmann Updyke	Wow. Oh gosh.
Erin Welsh	And that if there is any stigma, it seems to be lifted from American TV shows or movies that either joke about it or make fun of it or call it out or something like that.
Erin Allmann Updyke	Wow.
Erin Welsh	So there you go. Cool. I mean it is great that there's no stigma in other countries.
Erin Allmann Updyke	Yeah.
Erin Welsh	So let's just be more like that. And then the other thing is that our last episode was thalidomide and apparently there's a major storyline or plot line on Call The Midwife about thalidomide.
Erin Allmann Updyke	What?
Erin Welsh	And Erin, you and I watched so much of that but I guess we stopped before.
Erin Allmann Updyke	Yeah we must not have made it that far but dang, I can't believe we missed that. Oh my gosh.
Erin Welsh	I know, I know. So I'm gonna have to start watching that again, it's on Netflix, it's a fun show. Okay anyway.
Erin Allmann Updyke	All right. Well then, is that all? Shall we dive in?
Erin Welsh	Let's dive in.
Erin Allmann Updyke	Okay, we'll take a quick break first.
TPWKY	(transition theme)

Erin Allmann Updyke

Erin, you already said that we're excited to talk about this but I have to just say talking about birth control is one of the things that makes me most excited and it's one of the things that I look forward to the most in becoming a doctor is getting to talk about birth control with future patients. I love reproductive health counseling. Okay.

Erin Welsh

I know this about you Erin and I love that about you.

Erin Allmann Updyke

I know you do. I'm so excited I think my breath is gonna be shaky so I need to just calm down.

Erin Welsh

I think it was us having to do the firsthand accounts but I feel like this is our first time podcasting or something.

Erin Allmann Updyke

Yeah, it feels that way. I'm nervous. Okay but before I can start talking about birth control I wanna back up because we have to kinda talk about the menstrual cycle and some general basic anatomy before we can talk about how birth control affects your body. Okay?

Erin Welsh

I love it, foundations.

Erin Allmann Updyke

Foundations. Okay, I'm gonna start off really basic here birth control a lot of people with a uterus don't really know their own anatomy since it's internal. So in general in people with a uterus we have two ovaries and then fallopian tubes which are what kind of collect the eggs, that's connected to the uterus itself. The inside lining of that uterus is called the endometrium and then the bottom of the uterus is called the cervix. I feel like that's an important one. And then you have the vaginal canal and then the outside world. Okay?

Erin Welsh

(laughs) The outside world.

Erin Allmann Updyke

Does that work? All right. So then let's talk about the menstrual cycle birth control this is the thing that happens about every month or so in most people who have a uterus. We're gonna go over the specific phases and hormones that are involved in a second but the cycle essentially begins weirdly with start of menstruation, so the start of vaginal bleeding - isn't that weird that that's where we start it?

Erin Welsh

I mean it's just arbitrary, right?

Erin Allmann Updyke

It's totally arbitrary, that's just where we start it. And then it ends with the kind of resumption of menstruation at the next cycle or with implantation of a blastocyst which would then be called pregnancy. So at the beginning, day one of your menstrual cycle, you're bleeding probably. And at this point in time almost all of the hormone levels in your body are pretty low and there are a complex series of feedback loops between three organs or parts of organs: the hypothalamus in your brain, the pituitary which is also in your brain, and then your ovaries themselves. And all three of these release hormones that result in the endometrial lining, so the lining of your uterus, proliferating and expanding, and then follicles in your ovaries maturing and then eventually egg release, right, ovulation. So if day one is the start of menstruation, that will usually last anywhere from 2-7 days and then the process of follicle maturation, so basically eggs getting ready to be released in your ovary is happening at this time. So your brain is releasing two hormones, FSH and LH that are causing that follicle to mature. This phase is called the follicular phase, get it?

Erin Welsh

Okay.

Erin Allmann Updyke

Follicle, okay. And through this time period your estrogen levels are slowly rising, so they start off kind of low and then they slowly start to rise. Around day 14, but this can vary from 12-20 days, estrogen levels will surge and that causes another hormone, LH, to surge. And those two hormones surging is what triggers ovulation.

Erin Welsh

Okay.

Erin Allmann Updyke

And then after ovulation the egg is released from those ovaries, it has to travel down the fallopian tube and now you're in the next phase or the luteal phase of your menstrual cycle. And what's happening during this phase is that where the egg was released from in your ovary develops into what's called the corpus luteum and this secretes yet another hormone, progesterone. And so now it's also going to be secreting estrogen but progesterone is gonna rise much more than it has up to this point in the cycle. So now you have steadily high progesterone and estrogen. This is going to prevent any further eggs from maturing, it's going to stabilize the lining of your uterus, that endometrium, so that if that egg is fertilized it can implant in the endometrial lining and a pregnancy can take place. If that egg is not fertilized then after 14 days that corpus luteum degenerates essentially, progesterone drops, and the menstrual cycle starts over, aka you bleed from your vagina.

Erin Welsh

Okay so can I start with the questions?

Erin Allmann Updyke

(laughs) Yes.

Erin Welsh

Instead of asking how, even though I really wanna ask how these things work on a molecular and larger I guess level, can you tell me why we have a menstrual cycle?

Erin Allmann Updyke

Oh Erin, I'm so glad that you asked that question.

Erin Welsh

(laughs) Cause some animals don't. Rabbits will ovulate only after copulation.

Erin Allmann Updyke

Erin, not only do some animals don't, the vast majority of other animals do not menstruate.

Erin Welsh

Right!

Erin Allmann Updyke

Erin, if you think I'm excited about birth control, you should not have asked me this question. Let me tell you all about it. Okay that process that I said of building up the endometrial lining, okay, that process where it gets thickened, the blood supply increases, that is called decidualization, okay, that's what that process is called, building up the thickening of that lining in preparation for implantation of an embryo. In humans and a couple of other primate species, four species of bats, one species of spiny mouse, and the elephant shrew, this process happens spontaneously. So the question is not why do we menstruate, we menstruate birth control spontaneously every month our uterus is like, 'Hey, gotta build up this real thick lining, gotta get things ready' before there's an egg that's been released, before there's an embryo that's been created. We do that for no reason, just to get it ready and we don't know exactly why that happens. But that is what then leads to menstruation.

Erin Welsh

Yeah.

Erin Allmann Updyke

Isn't that fascinating? We don't know.

Erin Welsh

Well that's what I mean, why does this buildup happen? Why is it like, 'Oh let's get ready, let's expend all of this energy and stuff into creating this lining and then oh bye'?

Erin Allmann Updyke

Yeah! And then we shed it, we don't even reabsorb it like a lot of other species that have estrous cycles, they'll reabsorb that lining if implantation doesn't happen.

Erin Welsh

Yeah.

Erin Allmann Updyke

It's a really, really good question. Some of the evolutionary hypotheses have to do with how deeply the placenta invades into our endometrium, so having an extra thick lining can help prevent more invasive placentation.

Erin Welsh

Okay.

Erin Allmann Updyke

But it's not entirely clear, we have right now just hypotheses, we don't have solid answers to that question.

Erin Welsh

Okay.

Erin Allmann Updyke

But it is all triggered by those specific hormones, right, so it's all hormonally driven and that whole cycle of menstruation can last anywhere from 25-35 days. And one thing that I think is important about that is that that variation in length occurs in the follicular phase, so that first phase when the follicle is developing, not during the luteal phase. So the period from ovulation to menstruation is almost always right about 14 days, maybe 12-15, it's a much narrower window.

Erin Welsh

Okay.

Erin Allmann Updyke

That's how a normal menstrual cycle pretty much functions. I'm not gonna touch on all the different ways that that can go wonky, there's a lot. But how do oral contraceptive pills, the pill, interact with this cycle? And how do they prevent pregnancy? So fun. So the oral contraceptive pill, the pill that most people are familiar with, is a combination pill that includes both estrogen and progesterone, okay. And there's a lot of different forms of synthetic progesterone, ignore them all for now. Both of these in combination are then going to be present when you take this pill at higher levels than they would be during a normal follicular phase of your cycle. So what they do is by the constant presence of a higher level of especially progesterone, you inhibit ovulation from ever occurring.

Erin Welsh

Right.

Erin Allmann Updyke

Birth control ovulation depends on a surge of estrogen, so a rapid increase in estrogen which triggers a rapid increase in LH, by having relatively higher levels of progesterone and estrogen your body never sees that surge and therefore never ovulates. Isn't that incredible?

Erin Welsh

I guess simplicity may not be the right word but it does seem beautifully obvious.

Erin Allmann Updyke

Yeah, I mean relatively, yeah.

Erin Welsh

Yeah.

Erin Allmann Updyke

And I'm simplifying this cycle but that's fine.

Erin Welsh

Well but I know. I just mean the way the mechanism of action of the birth control pill, it's just like oh we're going to just use this trick that already exists. This is just something that the body already does and we're just gonna kinda lean into it a bit more.

Erin Allmann Updyke

Right, yeah. And so in these combined oral contraceptive pills, it's really the progesterone that's most effective at inhibiting ovulation. The addition of estrogen does help to ensure that ovulation doesn't occur but it also helps to stabilize that endometrium in a way that can prevent irregular bleeding, so like breakthrough bleeding. And so it helps to regulate menstrual cycles birth control you can have this constant level of estrogen and then you take it away for a certain number of days and then boom, you're gonna shed that lining. And so that's kind of the most, in the United States, that's the most commonly used form of contraception is the combined OCP.

Now these pills also do a few other things that become more important in other forms of contraception. The presence of progesterone helps to thicken the cervical mucus, so remember the cervix is the bottom portion of the uterus, it's the top of the vaginal canal, so that's the entryway for sperm to get into the uterus. So by thickening the mucus that's present there it makes it really, really difficult for sperm to actually get into the uterine cavity. And if sperm can't get in, then fertilization can't take place. Now Erin, you said you've used the NuvaRing before. Have you ever used the patch?

Erin Welsh

No, I haven't used the patch. I thought about it for a bit but no.

Erin Allmann Updyke

So the NuvaRing and the patch are basically the same as combination oral contraceptives, they're estrogen and progesterone so they work the same way. Now there are a lot of other forms that I'll go through just really quickly cause I don't wanna spend thousands of years even though I absolutely could.

Erin Welsh

(laughs) We should do a miniseries.

Erin Allmann Updyke

Yeah. So you mentioned Erin progesterone-only pills and those still exist today, it's often called the mini pill which I think is silly birth control I think it's the same size pill.

Erin Welsh

I mean I assume so, yeah.

Erin Allmann Updyke

It's only progesterone instead of progestin and estrogen. Now a question is why would you want this as an option? Well it turns out that even though estrogen is great in a lot of ways and does make cycles more regular and things, estrogen of these two hormones is associated with higher risk of complications, especially a higher risk of blood clots. Now a caveat is that the increased risk of blood clot by taking oral combined contraception is far less than the increase in risk of blood clot that you get by becoming pregnant, like way, way less.

Erin Welsh

Right. Well so that's why blood clots kind of came to the mind first when people were looking at potential side effects birth control they were like oh if this essentially mimics pregnancy in a way then what are some of the things that we see during pregnancy? Do we see that during this pill?

Erin Allmann Updyke

Exactly, right. So there is a small increase in risk of blood clots with combination contraception, so the NuvaRing, the patch, and the pill. Again, it's much less than the risk of pregnancy but for some people, actually myself included, I started having migraines with aura so I am now and future contraindicated from combination therapy. But there are a lot of other options that don't include estrogen and they are just as effective. So the mini pill is just progestin, it usually is lower doses than the amount of progestin in combination pills which I think is interesting. So although they do help to inhibit ovulation, they do so a little less consistently than combination pills do but they do a wonderful job of drastically changing the cervical mucus.

Erin Welsh

Oh, okay. Inhospitable environment.

Erin Allmann Updyke

Exactly. So that the sperm are really unable to penetrate the cervix and make it into the uterus.

Erin Welsh

Okay.

Erin Allmann Updyke

Even if sperm are able to get through this really thick, sticky cervical mucus, their motility is absolutely ruined so that even if they make it into the uterus, they're never gonna be able to fertilize an egg even if you happen to ovulate.

Erin Welsh

That's really cool.

Erin Allmann Updyke

Yeah. One downside with progestin-only pills, cause we always have to talk about downsides, is that it's a narrow window of effectiveness compared to estrogen-containing pills.

Erin Welsh

Oh right. So the exact hour is really important, okay.

Erin Allmann Updyke

Exactly, yeah.

Erin Welsh

That you take the pill.

Erin Allmann Updyke

Right. So with a combination pill, you need to take it every day but if you don't take it at the exact same time every day that's okay. With progestin pills, they really are effective for about 23 hours.

Erin Welsh

Okay.

Erin Allmann Updyke

So you need to take it at the same time every day. So that can be a lot harder to remember.

Erin Welsh

And are you going to later talk about what effective means? Like proper use and effectiveness and blah, blah, blah, break those things down in all different forms of contraception?

Erin Allmann Updyke

Oh yeah, Erin, absolutely.

Erin Welsh

Okay. Okay, perfect.

Erin Allmann Updyke

Okay so there's kind of three other forms of contraception I wanna touch on really briefly and then we'll go through the effectiveness of all these types, okay?

Erin Welsh

Excellent.

Erin Allmann Updyke

So the next one is called Depo-Provera, it's probably a brand name and I wish I would've said the generic but whatever. This is a long-acting injectable form of progestin, progesterone. So it does exactly the same things that the progestin-only pills do. It's better at inhibiting ovulation than progestin-only pills, so depo shots are really good at blocking ovulation so you're not gonna ovulate, they're really great at changing the cervical mucus so that sperm can't get in. And Depo-Provera also, remember that estrogen in the combined pill helps to stabilize the lining of the uterus so that you don't have breakthrough bleeding and that kind of a thing. With Depo-Provera and a lot of the progestin-only contraceptives, it diminishes the proliferation of that uterus so that you're just not building up a lining to begin with.

Erin Welsh

Yeah.

Erin Allmann Updyke

The only downside with the Depo-Provera is that unlike pretty much every other form of contraception, fertility takes longer to increase back to baseline after you stop using it and that's because it's so long-acting. So it inhibits ovulation for a lot longer than the 12-13 weeks in which you should get your shots regularly. Okay?

Erin Welsh

Gotcha.

Erin Allmann Updyke

Okay and then we have my favorite but these are all great options and those are the long-acting reversible contraceptions, LARCs. There's two kinds, there's the IUD and there's the implant. Okay?

Erin Welsh

Gotcha.

Erin Allmann Updyke

You know this already, Erin.

Erin Welsh

I know this.

Erin Allmann Updyke

So the IUD is a little T-shaped plastic device that is inserted through the cervix into the uterus. There are several different brands on the market right now. Erin, we have two different brands in our bodies.

Erin Welsh

We do.

Erin Allmann Updyke

Some of them contain progestin, so again just progesterone, which is going to act to thicken your cervical mucus, inhibit sperm motility, not let them get in, it's gonna thin the lining of the uterus, okay. These ones can also help to suppress ovulation. These ones in the US are approved for either 3 or 5 years, so you put it in and then 3 or 5 years go by, you don't have to think about your birth control. What?

Erin Welsh

Yeah. It's like a slow cooker. Set it and forget it.

Erin Allmann Updyke

And then there's the implant which in the US is Nexplanon I think is the only one we have, it's the same exact thing, it's a little piece of plastic, it's just shaped like a rod and it goes right underneath the skin of your arm. It works literally the exact same way. It releases progestin over time, it does all the same things to your cervix. And then finally there's the copper IUD which is the only non hormonal form of birth control that I've talked about thus far and that is a plastic T-shaped little thing but it's covered in coils of copper wire. I don't know who thought of this, it's incredible. But copper ions happen to cause inflammatory changes in the lining of your uterus, the endometrium, that have spermicidal activity so it kills the sperm if they make it into the uterus and if that's not enough, if not all sperm die, these ions also block the activation of enzymes in the heads of sperm that are necessarily for fertilization to take place.

Erin Welsh

It blew my mind that just a little bit of copper can do all that.

Erin Allmann Updyke

Just a little bit of copper.

Erin Welsh

Blew my mind.

Erin Allmann Updyke

Yeah, it's really incredible. So because the copper IUD doesn't have these hormonal effects, it's not gonna have a big effect on your cervical mucus, it doesn't have an effect on your ovulation cycles, it doesn't have an effect on you building up and endometrial lining cause it's not interfering with your hormones whatsoever. So the biggest downside for a lot of people with copper IUDs is that because you have this kind of constant inflammation in your uterus, it can lead to more bleeding. So if you already have really heavy periods some people don't like the copper IUD cause then they have heavier periods potentially.

Erin Welsh

Right.

Erin Allmann Updyke

Okay, I wanna sum it up a little bit and then we'll talk about the effectiveness of all these different ones, okay.

Erin Welsh

Yeah.

Erin Allmann Updyke

And actually I wanna post this really great graphic that's from reproductiveaccess.org that has all these different forms of contraception and their effectiveness with typical use. So in summary we have the pills as well as the NuvaRing and the patch. With perfect use those options are actually 98-99% effective, they're super effective.

Erin Welsh

That's amazing. Well I mean perfect use, though.

Erin Allmann Updyke

Perfect use, okay. So with typical use they're about 90-93% effective. So that's still pretty dang good especially if you compare that to the condom which with typical use is about 85-87% effective. So you're getting an additional 3-6 percentage points of effectiveness which is pretty great.

Erin Welsh

Important boost, yeah.

Erin Allmann Updyke

Yep. Now Depo-Provera, so the shot, is about 96% effective with typical use, again we're reaching over 98-99 with perfect use so that's if you got it exactly on time every time. The LARCs, so IUDs, Nexplanon, these are over 99% effective.

Erin Welsh

Wow.

Erin Allmann Updyke	They are equivalent to a tubal ligation, so having your tubes tied in forms of effectiveness and they are reversible and don't require surgery. And in the case of the implant, it doesn't even require a pelvic exam. And another thing that I want to really point out and highlight here is that every one of these birth control options that I mentioned are contraceptives, so they are preventing pregnancy from ever happening. These do not serve as abortifacients which means they do not prevent implantation. You can still get pregnant even with an IUD in place, okay.
Erin Welsh	Right.
Erin Allmann Updyke	And there is a lot of misinformation out there right now especially about IUDs saying that they kill embryos which is not true.
Erin Welsh	No.
Erin Allmann Updyke	So an abortifacient is something that we can use to induce an abortion, so terminate a pregnancy, after the point of implantation.
Erin Welsh	Right.
Erin Allmann Updyke	Implantation in the wall of the uterus is the scientific and the legal definition of the start of pregnancy.
Erin Welsh	Right. So the egg has been released and fertilized and implants in the uterus.
Erin Allmann Updyke	Exactly. IUDs do not block implantation, period. Which is why you can still in theory, though it's very rare, get pregnant while using an IUD, while having an IUD in place. All of the IUDs block fertilization from taking place.
Erin Welsh	Right and so it's just preventing the sperm from ever meeting the egg.
Erin Allmann Updyke	Exactly, that's what all of these contraceptive options are doing whether they do that by preventing ovulation so there's no egg there, whether they do that by changing the cervical mucus in a way that makes it impossible for sperm to penetrate the uterus, or whether they do it by changing the environment of the uterus such that the sperm can then basically either die or are so adversely affected that they are unable to fertilize the egg.
Erin Welsh	Okay, gotcha. Yeah, I think that's a really important point to make and clarify.
Erin Allmann Updyke	It is. And that is also true for the last form of contraception I haven't touched on and that is emergency contraception. So this is essentially just a pill that is a high dose of progesterone. It's 58-94% effective, that's a huge range and the reason is because it functions to block ovulation. So if you have already ovulated by the time you take that contraception, it's not going to be effective, it has no effect on fertilization and no effect on implantation which is so important because there was so much misinformation about this out there. And that's why the emergency contraceptive pills that by the way legally should be available over the counter to anyone over I think age 13 in the United States without a prescription, male or female by the way, they are most effective if they're taken as soon after an unprotected sexual encounter as possible. Right?
Erin Welsh	Right. Rather than having to get signed parental permission or a prescription from the doctor or whatever else, yeah.

Erin Allmann Updyke: Right, exactly.

Erin Welsh: Yeah.

Erin Allmann Updyke: So that's it, Erin. That is contraception, how it works. Does that answer your questions? Do you have more?

Erin Welsh: I mean yeah, I probably have more in there but I'm just processing now. Do you wanna hear about the history of birth control?

Erin Allmann Updyke: Yes I do. How did we come up with it? How long have we even had access to it? I don't know the answer to that question.

Erin Welsh: Okay. Let's take a quick break first.

Erin Allmann Updyke: Okay.

TPWKY: (transition theme)

Erin Welsh: The history of birth control or reproductive control is massive as you might expect, like absolutely massive and enormously complicated. And the motivation behind the fight for reproductive rights hasn't always been the same and nor have its opponents always had their same justifications. So what I wanna do, my goal for this section, is to try to understand how we got to where we are today by examining some of the past struggles for reproductive rights, particularly in terms of birth control, and then focusing more narrowly on the development of the hormonal birth control pill.

Erin Allmann Updyke: Awesome.

Erin Welsh: And a quick caveat before I begin, there are a million different ways to tell this story but no one wants to sit here for a million years and so I'm gonna focus primarily on the US for birth control history. And I would love to talk about the global history of each and every contraceptive but nobody wants an episode that long, nobody. Okay so I think there's this common misconception that birth control methods emerged out of the 20th century as a result of an increase in scientific technology and a loosening of the puritanical morals that had shaped many of our earlier policies and laws. But not so.

Erin Allmann Updyke: Really, not so?

Erin Welsh: Not so. In fact up until the 1950s the most common methods of birth control had been with us for hundreds if not thousands of years.

Erin Allmann Updyke: Is it pulling out?

Erin Welsh: Well okay, that is one of them but there are other ones too. Vaginal sponges, condoms, withdrawal methods, diaphragms, even early forms of IUDs had all been in use since the ancient world.

Erin Allmann Updyke: Also fertility tracking is another effective method.

Erin Welsh

Exactly, although it took a really long time for that to emerge in medicine because doctors never wanted to study women's periods because they were yucky.

Erin Allmann Updyke

They're so yucky, bloody, ew.

Erin Welsh

(laughs) There's a famous quote by Robert Heinlein which is that every generation thinks it invented sex, each generation is totally mistaken. And I think the same could be said for birth control. And I think the other thing that's really important is that the sheer variety of all of these different methods and the ingenuity, the creativity that went into making them shows just how important birth control has always been to humans.

Erin Allmann Updyke

Yeah.

Erin Welsh

Birth control was not invented by the scientists and doctors of the 20th century, it was tested and practiced by women who passed their knowledge of folk medicine from generation to generation. Early in human history when humans lived primarily in small nomadic groups, family size was really important because it was much easier to feed and pack up and move a small family compared to a large one. And so it's not surprising that these groups regularly practiced various forms of contraception and abortion. And then with the Agricultural Revolution, one of our favorite themes to discuss on the podcast, larger family sizes were not only more possible to support but they were even economically advantageous because more people then could work the land.

Erin Allmann Updyke

More hands, yeah.

Erin Welsh

Yeah. And then combined with the high infant mortality due to the increase in infectious diseases that the Agricultural Revolution brought on, this led to many of these agricultural societies producing ideologies that banned birth control entirely.

Erin Allmann Updyke

Wow.

Erin Welsh

Isn't that interesting? I never really thought about it that way.

Erin Allmann Updyke

It is absolutely fascinating.

Erin Welsh

Yeah.

Erin Allmann Updyke

And horrifying.

Erin Welsh

And horrifying. In the last 500 years or so, the growth of cities and industrialization meant that in many places large families no longer held the same economic advantage as they had in early farming societies.

Erin Allmann Updyke

Yeah.

Erin Welsh

Children started to cost more than they contributed which I know sounds like a very horrible way to look at it but this is just sort of sociologically the trend in what happened.

Erin Allmann Updyke

Yeah. Also they're very expensive.

Erin Welsh
Children are expensive, they're very expensive. And this shift, the increasing cost of children is reflected in a slow decline of the birth rate, particularly in urbanized areas. But this drop in the birth rate did not correspond to a loosening of those ideological standards. If anything things became even stricter during the Victorian era which sharply defined how proper women should behave. Then there were moralistic policies such as the Comstock law enacted in 1873 which forbade sending obscene matter through US mail including but not limited to birth control devices or even information about birth control.

Erin Allmann Updyke
What?

Erin Welsh
Side note, and I know that this episode is long and I should probably just cut this but I really wanted to tell you that the namesake of the law, Anthony Comstock, as a teenager masturbated so obsessively that he thought he might be driven to suicide by it and he blamed it on the magazines and postcards, the sexy magazines and postcards. And so he made it his life's mission to prevent their distribution.

Erin Allmann Updyke
Oh my god. Just because he couldn't stop masturbating?

Erin Welsh
Yeah.

Erin Allmann Updyke
Geez Louise.

Erin Welsh
And was probably told that it was wrong to masturbate.

Erin Allmann Updyke
Yes, was told that it's immoral and blah, blah, blah.

Erin Welsh
Right.

Erin Allmann Updyke
That is so awful.

Erin Welsh
I know. But these types of policies like the Comstock law, they weren't just a relic of the times, they were a response to a growing rebellion against this type of thought and they were fighting a losing battle. So the roots of the modern birth control movement really began in voluntary motherhood which is a concept and movement that originated out of the women's suffrage movement of the late 19th century. And at its outset it opposed all methods of birth control devices, behavior and restraint were the only approved, proper methods. But this movement also dared to suggest that women could be sexual subjects rather than objects, that women were capable of sexual desire for pleasure itself, not just to become pregnant. At the heart of it the voluntary motherhood movement was about a woman's right to say no, to refuse her husband her wifely duty.

Erin Allmann Updyke
I hate that term.

Erin Welsh
I know, I know. And this movement was preceded by an already existing drop in birth rates in the US. So in the late 1700s, American women had on average 8 live births. Yeah.

Erin Allmann Updyke
I'm sorry, my face just like... Oh no.

Erin Welsh
It's a lot, that's a lot of pregnancies to go through, yeah.

Erin Allmann Updyke
I'm squeezing my vagina.

Erin Welsh: 100 years later that number was 3, was down to 3.

Erin Allmann Updyke: Wow.

Erin Welsh: So what can explain this? It's not restraint. The answer is birth control, it's contraception, it's abortion.

Erin Allmann Updyke: Yep.

Erin Welsh: And sure, some methods or devices were improved during that time but it was not really about a lack of technology but rather a suppression of that technology. Nevertheless people found a way around that. For instance, euphemistic advertisements that warned 'Portuguese female pills not to be used during pregnancy for they will cause miscarriage' or 'stimulates menstruation when late or irregular'. Those were hidden messages to those in the know.

Erin Allmann Updyke: Yep.

Erin Welsh: Okay so rolling into the 1900s morality ruled over medicine at least in the US. Physicians saw themselves as guardians over the sexual purity of their patients.

Erin Allmann Updyke: Gross.

Erin Welsh: Absolutely disgusting.

Erin Allmann Updyke: I am infuriated.

Erin Welsh: Yep.

Erin Allmann Updyke: That sentence, Erin, is one of the most gross.

Erin Welsh: Is it worse than 'the female organism'?

Erin Allmann Updyke: I don't know if it's worse than the female organism but it's up there, it might be worse.

Erin Welsh: Oh my gosh.

Erin Allmann Updyke: Okay.

Erin Welsh: Well and this inflated self importance of theirs led them to make decisions for their patients not just based on medical reasoning but also morals. A break from the dominant stance on 'birth control is bad' came in 1912 from the president of the American Medical Association, Abraham Jacobi. He advocated for a campaign for industrial health, access to birth control, and requiring STI testing before marriage which is problematic.

Erin Allmann Updyke: Very.

Erin Welsh: There had been growing support for birth control throughout the US including from the medical community but the fact that the president of this moral, respected institution was calling for the separation of sex from reproduction was both sort of this culmination of decades of debate as well as a revitalization of the birth control movement or what would become the birth control movement.

Erin Allmann Updyke: Okay.

Erin Welsh: People were also simply talking about sex more, for its concept that sex was good and repression was bad had reached the US and had led people to question their assumptions about sex. And a new set of beliefs unfortunately housed in the objective terminology of biology began to take hold.

Erin Allmann Updyke: Uh oh.

Erin Welsh: Eugenics.

Erin Allmann Updyke: Oh yeah.

Erin Welsh: Yeah. Real quick just in case people haven't heard of eugenics or have heard of it but don't know what it is, it has really old roots but the modern eugenics movement began around the late 1800s and was a set of beliefs or policies which stated that people can be classified as having either superior or inferior genetics, just incredibly subjectively, and that those deemed inferior should not be allowed to reproduce.

Erin Allmann Updyke: Right.

Erin Welsh: If it sounds like nazi talk, it's because it is.

Erin Allmann Updyke: It is!

Erin Welsh: Nazis got many of their ideas from US eugenics policies. Cool.

Erin Allmann Updyke: Yeah.

Erin Welsh: Eugenics became popular when it did because with the incredible advancements in medical science and technology, people were living much longer and the global population had greatly expanded. And so this led to a lot of fears and talk of overpopulation and discussion about what to do with it. Okay, back to birth control. Eugenics had a complicated relationship with birth control. It was pro in some cases and anti in others. Essentially who should be able to use birth control was a concern of the whole society and not for an individual to decide.

Erin Allmann Updyke: Oh dear god.

Erin Welsh: So Teddy Roosevelt was a huge eugenicist and very anti birth control.

Erin Allmann Updyke: Great.

Erin Welsh: He said that smaller families were a sign of moral disease and that women who avoided having children were criminal against the race, the object of contemptuous abhorrence by healthy people.

Erin Allmann Updyke

Erin, I have so many feelings right now I honestly can't deal with them.

Erin Welsh

I know. Just sit back, let it wash all over you, and then take a nap.

Erin Allmann Updyke

Oh god.

Erin Welsh

Well it's gonna get worse.

Erin Allmann Updyke

I know, it always does with you.

Erin Welsh

It always does. "Race suicide" quote unquote became a talking point and a passion of his for the next 5 or so years. Which race was the one committing suicide wasn't specified but it's pretty implied that Roosevelt and others wanted wealthy, educated white people to have more children and poorer people, especially people of color, to have fewer. This is eugenics. Following birth rates particularly among the wealthier and more educated was attributable to birth control because the most effective methods were the most expensive and required seeing a doctor. And so women using birth control were specifically condemned as selfish or displaying unladylike ambition, denying their true purpose in life which was motherhood.

Erin Allmann Updyke

Oh.

Erin Welsh

I know, rage noises. But this didn't result in the proponents of the birth control movement championing it as an inherent right of women to have agencies over their own bodies, nor were they shamed into giving it up. Rather this resulted in an unfortunate alliance between the birth control movement and the eugenics movement.

Erin Allmann Updyke

Oh no.

Erin Welsh

Yeah. Oh yes.

Erin Allmann Updyke

Oh god.

Erin Welsh

The answer to quote "race suicide" they said was greater access to birth control by the poorer classes. This provided a more palatable reason for people, particularly people in power, to support birth control rather than hey, women like sex too and may not wanna be continuously pregnant but honestly it's none of your business so I'm gonna do what I wanna do. That was not what they wanted to hear.

Erin Allmann Updyke

Right.

Erin Welsh

They wanted to hear, 'here's the solution to the problem that you see.' And it's important to note that the eugenics movement in the early 1900s in the US was not some fringe group, it was also global, like a lot of countries had eugenics movements-

Erin Allmann Updyke

Oh yeah.

Erin Welsh

It was huge and it greatly impacted policy. For instance by 1915, 13 states had compulsory sterilization laws. By 1932, 27 states had them.

Erin Allmann Updyke

Erin, this just sounds like you're talking about 2020 quite honestly, like it doesn't sound any different and I'm getting really...

Erin Welsh

Oh absolutely. I mean forced or coerced sterilizations have been happening for as long as the first person was able to figure out how to remove-

Erin Allmann Updyke

Sterilize.

Erin Welsh

Yeah, to figure out how to sterilize. And these policies were by no means limited to the US, there were plenty of international organizations seeking to reduce birth rates in other countries, particularly developing ones. During this time, the rise of eugenics, the birth control movement gained an outspoken leader. Enter Margaret Sanger. Growing up Sanger had been taught to speak her mind and when she moved to New York City after finishing nursing school, she met people whose radical ideas, at least radical during the time, would completely change her life. In particular the socialist leader Eugene Debs and the famous feminist Emma Goldman who became her mentor and from whom she would learn so much more about the voluntary motherhood movement.

As a nurse in New York City, Sanger spent much of her time serving poverty-stricken regions where there was a lot of overcrowding, there were high rates of infectious disease, and no one was getting adequate nutrition. And one experience in particular made a huge impact on Sanger. There was a woman named Sadie who had been told by her doctor that she shouldn't get pregnant again because she would likely die and so as a solution her doctor recommended that she sleep on the roof so her husband wouldn't bother her. Sadie got pregnant, because who's gonna sleep on a roof for your whole life, and then died after an abortion attempt.

Erin Allmann Updyke

Jesus.

Erin Welsh

This death was a pivotal moment for Sanger. She vowed that she would do whatever she could to ensure that women had the right to contraception. The next year in 1913 she began writing a series of educational articles about sex and reproduction titled, 'What every girl should know'. Of course the Comstock Act prevented the distribution of many of these articles and Sanger was arrested for her involvement. But instead of showing up to court she skipped town, went to Europe for a couple years where her radical education continued. And her time there also led to her narrowing her focus on contraceptives rather than women's liberation overall which at the beginning she was much more about equality in the workplace and equal rights. And then she was persuaded to just focus on contraception. In the books I read for this Sanger is described as being kind of in the right place at the right time. She was a huge fighter, she was very outspoken but this fight, the fight for access to contraceptives, seemed to be simply waiting for a leader to head the charge. Sanger coined the term 'birth control' in 1915 and in 1916 she opened the first birth control clinic in Brooklyn.

Erin Allmann Updyke

Wow.

Erin Welsh

There she and her sister and a team of nurses handed out condoms and what were essentially early diaphragms. And the clinic was under constant threat of closure because it was illegal and it did get closed a few times. But Sanger wasn't discouraged easily and for a few years she continued the operation of her birth control clinics and the grassroots movement to increase awareness of birth control. But beginning in the 1920s she began to form some powerful allies with physicians, politicians, and eugenicists.

Erin Allmann Updyke

Oh gosh.

Erin Welsh

Sanger is painted alternatively as being a eugenicist herself or just someone who saw the value in this powerful alliance. Based on her own writings I'm inclined to believe the former. She had written that certain people should be sterilized and that criminals, illiterates, sex workers, and drug addicts should be separated from the rest of society.

Erin Allmann Updyke

Oh dear.

Erin Welsh

Mm-hmm. Throughout the 1920s and 30s the birth control movement gained a lot of momentum, more clinics were opened and more people got behind the idea that perhaps women should have some control over their family size. The Great Depression also played a role in this. Women were increasingly seeking out employment to help support their family and for many of them this meant moving out of the home and into big cities, becoming financially independent. The idea of 'hey, maybe I don't want kids right now and that's okay' was becoming more and more common. And during this time eugenics fell out of favor in the US as it rose to prominence in Nazi Germany. It was replaced or maybe just repackaged as population control with both international and national programs offering incentives for those willing to have an IUD put in or to be sterilized and finders fees for those who could find someone willing to have either procedure done.

But generally speaking, at least privately, people were finding that they didn't need as much of a justification for birth control for themselves. WWII and then the threat of nuclear holocaust during the Cold War lent a sort of 'get it while the getting's good' vibe to the times. And Alfred Kinsey's titillating research began making headlines and got people talking even more about sex even though his findings were super flawed and biased but they were a crucial step forward in chipping away some of the shame associated with sex in the US. And during these decades Sanger was still hard at work on her goal of making birth control accessible to women. The first clinic from 1916 had grown into many more across the country, organized first as the American Birth Control League which later became the Birth Control Federation of America which then changed its name to the Planned Parenthood Federation of America in 1942. There you go.

Erin Allmann Updyke

Wow.

Erin Welsh

Though Planned Parenthood began as a place where contraceptives or info about contraceptives could be obtained, it gradually turned into a medical facility that provided much, much more: counseling, family planning, medical procedures, etc. And by making contraception more accessible it basically paved the way for the feminist movement of the 1960s which I also think is ironic because at the beginning they would only provide contraceptives to married women.

Erin Allmann Updyke

Married, mm-hmm.

Erin Welsh

Yeah. But this brings me to one of the biggest developments in birth control history and the main focus of this episode, the birth control pill.

Erin Allmann Updyke

The pill!

Erin Welsh

Erin, you talked a bit about different classifications of birth control based on how they work. But there's another way that you could group them. Which person in a sexual relationship was responsible for its use.

Erin Allmann Updyke

Oh yeah.

Erin Welsh

And whether using it is obvious to the other person or if its use could be concealed if necessary.

Erin Allmann Updyke

Oh my gosh, yeah!

Erin Welsh

A magic bullet contraceptive had been dreamt about by Margaret Sanger for decades, something 100% effective with minimal side effects that could be easily obtainable, affordable, and allowed a woman to be completely in control of her body. She had also listed the help of a philanthropist and feminist named Katharine McCormick who graduated from MIT in 1904 with a biology degree.

Erin Allmann Updyke

What?

Erin Welsh

The second woman ever I think to graduate from MIT.

Erin Allmann Updyke

That's incredible.

Erin Welsh

And McCormick would essentially fund the entire creation of the pill, it was basically all from her.

Erin Allmann Updyke

Wow.

Erin Welsh

Sanger had approached researchers to try to realize her dream but she was repeatedly turned down because it was disreputable work.

Erin Allmann Updyke

Disreputable.

Erin Welsh

That is until she met Gregory Pincus in winter 1950. Pincus was a bit of, I don't know if iconoclast is the right word, he was a brilliant scientist with a bad reputation. His work on in vitro fertilization in rabbits had led to him being compared to Victor Frankenstein and basically any reputable research institution refused to hire him. So he started his own research center.

Erin Allmann Updyke

Like you do.

Erin Welsh

The Worcester Foundation for Experimental Biology. After his meeting with Sanger he realized that creating a birth control pill could not only get him the scientific respect he felt he deserved but it would also earn him fame for tackling what he felt was a pressing global issue: overpopulation. He readily agreed to look into the possibility of a birth control pill and he even knew where to start. Back in 1937 a few researchers from the University of Pennsylvania had published a paper titled 'The effect of progestin and progesterone on ovulation in the rabbit' which described how progesterone injections could prevent ovulation.

Pincus and another researcher at the lab named M. C. Chang set out by first repeating the experiment described in the paper. Things went as expected, so then they started to play around a bit. What if a progesterone pellet was lodged under the skin of the rabbit? And does this also work in rats who ovulate spontaneously like humans as opposed to rabbits who ovulate after copulation? Yes it does indeed. All told, things were looking very promising for Pincus and Chang. The next step was simply to test out the procedure on humans. So Pincus teamed up with a doctor who specialized in infertility named John Rock. Together they sought out dozens of women seeking help for difficulty in conceiving. They didn't tell them about the study that they were to be a part of which was not required by US law at the time, nor did they ask for any kind of consent, nor did they pay the women.

Erin Allmann Updyke

Oh my god.

Erin Welsh: They just told them to take pills, take their temperature daily, collect their urine, and take some vaginal smears.

Erin Allmann Updyke: So they took women who were actively wanting to become pregnant and having difficulty and they made it to make sure that they were not going to become pregnant.

Erin Welsh: So they were told that the pills that they were taking would prevent them from becoming pregnant but what it might do afterwards was regulate their ovulation such that their likelihood of getting pregnant is increased following the end of the study.

Erin Allmann Updyke: Okay, some tiny relief.

Erin Welsh: Yeah, yeah. Well okay, scratch that relief because-

Erin Allmann Updyke: Yeah, of course.

Erin Welsh: They also went to asylums to bump up their studies.

Erin Allmann Updyke: Great. Cool, cool, cool. Yep, sounds about right.

Erin Welsh: Mm-hmm. Like lots of them and no one was informed outside of the head of the asylum.

Erin Allmann Updyke: Of course, yeah.

Erin Welsh: Cool.

Erin Allmann Updyke: Cool, cool.

Erin Welsh: And so Pincus loaded up these women with extremely high doses of progesterone, so I don't think you mentioned what a pill consists of.

Erin Allmann Updyke: Yeah, hat the dosage is now.

Erin Welsh: But this is because 250-300 milligrams daily.

Erin Allmann Updyke: Erin, that's a lot.

Erin Welsh: What's in a pill today?

Erin Allmann Updyke: They vary a lot depending on the synthetic progesterone used but it's like 1, maybe 2 depending on the type.

Erin Welsh: Yep.

Erin Allmann Updyke: Yeah.

Erin Welsh: Of the 60 women who were enrolled in the study without their knowledge, about half dropped out due to the demanding requirements or because the side effects were just too much.

Erin Allmann Updyke

Yeah.

Erin Welsh

The result of the study were mixed, so 4 women became pregnant after it was over suggesting that it might help people who have difficulty in conceiving but about 15% of the participants continued to ovulate during the study which was too high to be an effective method of contraception in Pincus' eyes. More research needed to be done to bring down that number to make it more effective but where were they going to get the sample sizes that they needed to do these studies?

Erin Allmann Updyke

Somewhere terrible, Erin.

Erin Welsh

Mm-hmm. For Pincus the answer was Puerto Rico. So Puerto Rico had already been subjected to extensive medicalized torture from the US in the post-WWII years. Thousands upon thousands upon thousands of sterilizations were performed both with and without consent, it was in fact one of the most common procedures after a delivery was sterilization.

Erin Allmann Updyke

Probably without ever consent.

Erin Welsh

Yeah, so it was like the most common form of birth control essentially.

Erin Allmann Updyke

Yeah. Well you had a baby, you're done. Clip clip.

Erin Welsh

Yeah. And these were policies implemented by the US and it was an active program to try to...

Erin Allmann Updyke

Oh yeah.

Erin Welsh

Yeah. But it wasn't just an annoying amount of urine collecting that the women would have to face. In their preliminary study, only 5 of the 70 women involved reported no side effects, the rest experienced things ranging from breast soreness, change in pigment or size of nipples, nausea, vomiting, vaginal discharge, increased or decreased libidos, lactation, etc.

Erin Allmann Updyke

These are all pregnancy complications. Shocker.

Erin Welsh

No one involved in the research seemed to really care about these side effects so he proceeded with the studies, also beginning to experiment with synthetic progestins which were more powerful than natural progesterone and worked better than progesterone when taken orally. But despite the initial promising results of the pill, Pincus was still facing difficulties in retaining people in the study so he decided to change things up a bit. Maybe instead of just keeping people in the dark and not telling them anything about what they were involved with, what if we actually recruit women who want to try out a contraceptive pill? What a concept.

Erin Allmann Updyke

(laughs) What if we try informed consent?

Erin Welsh

What about that?

Erin Allmann Updyke

Is that the conclusion he came to?

Erin Welsh

Yeah. And it turned out that was a way to get people involved.

Erin Allmann Updyke

Wow.

Erin Welsh

People were like, 'Oh yeah, I actually am interested in this and not having to be sterilized after I give birth.'

Erin Allmann Updyke

Jesus.

Erin Welsh

But still the participants experienced unpleasant or severe side effects which caused many to drop out. And even though Pincus was convinced that the side effects were mostly in the women's heads, they were severe enough to be costing him a good sample size. So he started to play around with combinations. So first he added an antacid or changed the dose but it didn't really make a difference. And then he and Chang made a discovery. The progestin that the pharmaceutical company Searle had provided was actually contaminated by a small amount of estrogen and it had just slipped under the cracks. So that must be causing the side effects, right? So then when he gave women the pure progestin, nausea and breakthrough bleeding became even worse. Okay, so let's add a little bit of that estrogen back in. Too much and there'll be breast tenderness and nausea, too little and you're back to breakthrough bleeding. Eventually he found a sweet spot. They were back on track to getting this pill to market. Searle, the company that had produced the synthetic progestin applied for FDA approval to market this birth control pill that they were calling Enovid but not for contraception, for infertility and menstrual irregularities.

Erin Allmann Updyke

Interesting.

Erin Welsh

Mm-hmm. And in July 1957 the first packs of Enovid were prescribed to women for those purposes but also for whatever the doctor wanted to give them for, whatever off label use.

Erin Allmann Updyke

Yeah, I mean that's how it works, off label use.

Erin Welsh

And so that included contraception. In 1958 there was still 17 states in the US that had laws banning the sale, distribution, or advertisement of any kind of contraception. In Massachusetts where the pill was developed, it was a felony to sell or prescribe or hand out or provide information about contraceptives.

Erin Allmann Updyke

What? Oh my gracious.

Erin Welsh

But things were changing and part of that change was not just the early signs of the sexual revolution which I talked a little bit about in the herpes episode, it was politicians realizing that their voters wanted access to birth control. It was also corporations like Searle realizing how much profit they could make through the legal sale of contraceptives, it was an untapped market. And socially what had in previous decades been a moral majority had decreased to a small but vocal minority, largely made up of the Catholic church. When articles published in popular magazines such as time or life highlighted the drug, there wasn't the roaring backlash that they had expected to accompany this news. They merely presented this drug as almost a welcome innovation. Of course these articles barely mentioned the side effects or long term safety but following their publication there was a rush for the pill. So by 1959 which is when Enovid is on the market only as a treatment for infertility or irregular periods, an estimated 500,000 women were taking the drug.

Erin Allmann Updyke

Wow.

Erin Welsh

So word had gotten out.

Erin Allmann Updyke

Yeah.

Erin Welsh

Though there may not have been a lot of outcry directly on the pill's release, there was still plenty of debate about contraception in politics. Some advocated for funds to be used in international aid programs to supply contraception which of course smacks of eugenics particularly because in one proposal for instance, the reasoning was that otherwise we face quote "communist political and economic domination".

Erin Allmann Updyke

Oh my god.

Erin Welsh

Gross. Meanwhile the pill was up for approval at the FDA, not for its sale which it already had but to be able to advertise for it as a contraceptive pill, as a birth control pill. This was a totally different process and a very new one because rather than the pill being used to treat a condition, it was being taken by healthy people and so its safety standards were totally different. The FDA agent handling their application took his time with it à la Frances Kelsey. He wanted to know whether there was an elevated risk of cancer or blood clots associated with long term use. And so he decided to send out a questionnaire to 61 doctors that had experience prescribing the drug. Ultimately even though some doctors said, 'I don't think it's ready, I think there are too many side effects,' the decision that most doctors came to was that the pill had far fewer side effects and was much safer than an unwanted pregnancy.

Erin Allmann Updyke

Than any pregnancy.

Erin Welsh

Than any pregnancy.

Erin Allmann Updyke

Especially an unwanted pregnancy.

Erin Welsh

Right.

Erin Allmann Updyke

Or an unplanned pregnancy.

Erin Welsh

And also the FDA was not there to decide whether a drug should be approved or rejected based on moral, religious, or political grounds. Their job was simply to decide whether it did what it was supposed to do and whether it was safe while it was doing it. And so for this Enovid was approved as the first oral contraceptive on May 9, 1960.

Erin Allmann Updyke

Wow.

Erin Welsh

Its use grew steadily and within a few years it was not known as Enovid but just 'the pill' which with that simple name highlighting just how incredibly important it had become.

Erin Allmann Updyke

Yeah.

Erin Welsh

The pill.

Erin Allmann Updyke

The pill.

Erin Welsh

I mean everyone knows.

Erin Allmann Updyke

Everyone knows when you say 'the pill'.

Erin Welsh

Yeah.

Erin Allmann Updyke	Yeah.
Erin Welsh	By 1965, so 5 years after its release as a contraceptive, an estimated 6.5 million American women were using it.
Erin Allmann Updyke	Wow.
Erin Welsh	And lower dose pills became available and more affordable. The pill didn't start a movement but it surely played a role. Women were able to have greater agency over their own bodies than they ever had before, they were free to pursue a greater variety of career opportunities and they were also free to not do those things. The pill simply gave them the choice. In 1970 women made up 10% of first year law students and 4% of first year business students. In 1980 those numbers jumped up to 36% and 28%.
Erin Allmann Updyke	Wow.
Erin Welsh	In large part a lot of people reason is because of the pill.
Erin Allmann Updyke	Yeah.
Erin Welsh	And also overall the second wave feminist movement. Okay, a quick note about the timing of our episode, I just wanted to say. In 1959, so the same year that the birth control pill was up for approval to be advertised as a contraception, thalidomide was also up for approval. And it made me think about whether the birth control pill would have been approved so quickly if it had happened a year after thalidomide for instance.
Erin Allmann Updyke	Very interesting.
Erin Welsh	Yeah. Also a listener commented on one of our Instagram posts that she's doing a thesis in which she talks about how apparently in the Soviet Union during this time they tried to recreate the birth control pill there but they didn't put enough resources into its development and so there were some horrible side effects associated with it. And a lot of women confused that birth control pill with thalidomide and so they assumed that they were the same. And so the use of hormonal birth control pill really dropped and abortion became the main form of birth control.
Erin Allmann Updyke	Oh wow, that's so fascinating.
Erin Welsh	So she's still writing the thesis but she said she's gonna send it to us when she's done.
Erin Allmann Updyke	Oh my gosh, I'll be so interested to read that.
Erin Welsh	I know. Okay so despite - wrapping up here - despite the open arms with which many people welcomed the birth control pill, it did not stop being controversial. Long term health risks such as blood clots, heart attacks, strokes, and cancer were found to be associated with high doses of estrogen in early versions of the pill. And people advocated for safer doses and pointed out that these side effects would never have been deemed acceptable in a version of male birth control.
Erin Allmann Updyke	Oh we can talk more about that if you want later.

Erin Welsh

Oh good. And then there was the enormously racist practices that emerged from the development of family planning clinics in predominantly black neighborhoods. For instance incentivizing these long acting reversible contraceptive implants or shots or the IUDs, so a lot of those were preferentially given to black women than they were to white women. Later analysis showed that there was disproportionate prescription of those forms of birth control pill between black people and white people or people of color and white people. And that's not even to mention the forced sterilization of thousands upon thousands of black and Native American women. Yes and there's some more bad news. So the Dalkon Shield IUD scandal in which many women were hospitalized or died due to infections related to that IUD. And the Dalkon Shield was pulled from the market way too long after it should have been. And this led to enormous decline in other IUDs as well out of fear of lawsuits and out of fear of the women who were like, 'Well if I put this in here, is this going to hurt me?'

Erin Allmann Updyke

Right.

Erin Welsh

But throughout the 1970s there were some positive developments. In 1972 the Supreme Court legalizes birth control for unmarried people.

Erin Allmann Updyke

Ugh.

Erin Welsh

I know. (laughs) Loretta Lynn's song The Pill is released in 1975 and sterilization procedures become stricter, requiring informed consent and a waiting period.

Erin Allmann Updyke

Oh, do they?

Erin Welsh

1975!

Erin Allmann Updyke

Except in 2020 if you're in Georgia at an ICE detention facility?

Erin Welsh

I mean at least nowadays it's illegal. Then it wouldn't have been.

Erin Allmann Updyke

Right, yeah.

Erin Welsh

Which is so depressing. I mean it's depressing, it's layers of depressing upon depressing upon rage and nihilism. Since the release of the first birth control pill there has been overall incredible progress made both in terms of technology like better IUDs and emergency contraceptives as well as in social perspectives on the right to access contraceptives. The birth control movement became more about the individual rights of a woman to have agency over her body rather than a tool for eugenics or population control. That's not to say that those perspectives are gone, nor should the origin story of the birth control movement be forgotten. But even more important to remember or pay attention to is the justifications that people use to restrict access to birth control.

Erin Allmann Updyke

Yes.

Erin Welsh
Only when birth control became a representation of women's liberation and a woman's right to decide for herself what to do with her life and was no longer a justification for racist population control programs did the outcry against it begin to grow. I think there's a very unusual timing there. Birth control doesn't go against nature, we have been practicing it for thousands upon thousands of years. Hormonal birth control pills mimic what our bodies do during pregnancy. Why not a similar outcry against condoms? If there was a male birth control pill would there be as much debate over whether it was natural or moral? I highly doubt it. Restriction of reproductive rights isn't about what's natural or healthy, it's about control. It's about putting people in boxes narrowly defined by those in charge. This pushback against reproductive rights has picked up a terrifying amount of momentum in these past few years. Erin, why don't you bring us up to speed on birth control today?

Erin Allmann Updyke
Okay. I think I'm gonna need a quick break first.

Erin Welsh
Same, same.

TPWKY
(transition theme)

Erin Allmann Updyke
So we can touch briefly on male contraception if you like just to kind of get started.

Erin Welsh
Yeah, I'm very curious about this.

Erin Allmann Updyke
Yeah, there are currently two forms of contraception available that target males and that is the condom and a vasectomy. That's it.

Erin Welsh
Cool, cool.

Erin Allmann Updyke
Condoms I mentioned briefly earlier, they're about 87% effective with typical use. The biggest benefit of condoms is that they protect against other STIs as well which the vast majority of other contraception option don't, so that's a real huge benefit of condoms.

Erin Welsh
Right, important thing to remember also.

Erin Allmann Updyke
Yes, definitely. Vasectomy, it's very effective but it's a little bit invasive and for the most part at this point at least it's not reversible, at least not reliably so.

Erin Welsh
Okay. So there's not like the snip, snip, snip-snap, snip-snap from The Office?

Erin Allmann Updyke
(laughs) Yeah, not quite. There has been a lot of research to try and develop injectable gels that would then be able to be reversible, like you inject a gel that causes occlusion of the vas deferens which is where the sperm would exit and then be able to inject something else to dissolve that essentially. But they're not on the market at this point or anything.

Erin Welsh
Okay.

Erin Allmann Updyke
There aren't a lot of nonhormonal male contraceptive options that have really been under that advanced level of clinical investigation, so not large scale studies of those yet, they're mostly in animal models.

Erin Welsh
Okay.

Erin Allmann Updyke

Now hormonal male contraception methods including androgen, so testosterone administration with or without the addition of a progestin in various forms, so like short acting injectables, long acting injectables, little subcutaneous implants kind of like Nexplanon as well as pill forms have all been studied. They are in fact very effective.

Erin Welsh

So what's the hold up?

Erin Allmann Updyke

However they have the risk of certain side effects. There was actually I think one of the largest studies of this and I will link to a review article that kind of updates all of the research on male contraception that's from 2019 so it's a really comprehensive, up to date article. But in 2008-2012 there was a really long term phase 2 clinical trial of an injectable combination of testosterone and progestin, so 4 year study that was found to be very effective and 74% of male participants and 80% of their female partners said that they were satisfied or very satisfied with their birth control method, so this injectable, and 85% and 88% respectively said that they would use this method of contraception if it was available.

Now the side effect profile included weight gain, changes in libido either increased or decreased, an increase in acne, an increased risk of hypertension, so high blood pressure, and increases in abnormal liver function tests as well as a slight increase in moderate to severe depression. Now one thing to point out is that those are essentially exactly the same side effects as female targeted combination oral contraceptive pills, okay. Another thing to point out is that in this study only 6% of participants discontinued the study due to these side effects.

Erin Welsh

Which is a far cry from, at least in the early years of birth control studies, like 50% or more.

Erin Allmann Updyke

Yeah, yeah. But especially because of the increase of moderate to severe depression this study was ended a bit early and it was not approved. Now one big difference that I do have to mention is that in females because contraceptives are actively preventing pregnancy and pregnancy itself is an extremely risky state of being, not just during pregnancy but childbirth and postpartum, there are so many increased risks that increases your risk of hypertension, preeclampsia, stroke, gosh, you could die by hemorrhage. There are so many ways that you can die, blood clots, everything, right. So in preventing pregnancy you have a bit more risk that you might be willing to take before you exceed the benefit if that makes sense. So your risk-benefit profile is different when you are targeting females preventing pregnancy vs preventing males from getting somebody pregnant because they're not directly affected by pregnancy.

Erin Welsh

That's interesting.

Erin Allmann Updyke

Yes.

Erin Welsh

Yeah, I hadn't really considered that.

Erin Allmann Updyke

Right. I think that that's really important to keep in mind. But in terms of what people want, males are very interested in contraceptive methods that they would be able to take, overwhelmingly.

Erin Welsh

Yeah.

Erin Allmann Updyke

So I think that that's important too. Okay so that's that. Globally IUDs are by far the most common method of contraception, reversible female contraception in the globe. Over 168 million people worldwide use an IUD as their form of contraception. In the US that's not the case, combination oral contraception is the most common by far. And for a really long time like you mentioned especially after those lawsuits in the 80s, IUDs got a really bad rap in the United States. But in the last few years the rates of long acting reversible contraception use has been steadily increasing. So in 2008 the overall LARC use was about 6% and in 2014 that had increased to 14% which is really incredible because again these are much more effective forms of contraception. Okay. And over roughly that same time period, so from 2008-2011 when we saw this increase in long acting reversible contraception use, that is the first time in recent decades that the unintended pregnancy rate actually declined.

Erin Welsh

Really?

Erin Allmann Updyke

In 2011 it had declined to 45% from 51% in 2008. And 2011 is the most recent data I could find on this. So that also means that 45% of pregnancies in this country are unintended which either means unwanted or wanted later, like not wanted right now.

Erin Welsh

That is a higher number than I thought.

Erin Allmann Updyke

And 40% of unintended pregnancies end in abortion in this country. So in 2014 the availability of family planning services including contraceptive coverage helped to avoid over 2 million unintended pregnancies that would have occurred without access to contraceptive coverage. Additionally public funding for contraception in 2010 resulted in 10.5 billion dollars of cost savings, that's nearly \$6 of savings per \$1 spent on contraceptive coverage. And if you take into account additional family planning services like STI screenings, HIV screenings, cervical cancer screenings, it's like 13 billion dollars of saving by investing in family planning services.

Erin Welsh

Wow.

Erin Allmann Updyke

Yeah. Contraceptive use is linked to increases in educational attainment and wage earning and coverage of this contraception by insurance companies saves women over a billion dollars a year in out of pocket spending.

Erin Welsh

That's a lot of money.

Erin Allmann Updyke

Yeah, yeah. So even though we've seen some improvement in terms of the uptake of long acting reversible contraceptive use and in 2011 a reduction in the rate of unplanned pregnancies, reproductive rights in this country are not just on the ballot, they're being actively stripped away.

Erin Welsh

Oh yeah.

Erin Allmann Updyke

So in 2010 is when Obama signed the Affordable Care Act which required coverage of preventable health services and screenings like STI screenings and cervical cancer screening and then the next year it also required that employers and insurers provided women with coverage at no cost for all FDA approved contraception, all of those ones that we talked about. So the first time that this law was challenged it went up to the Supreme Court in 2014, you probably remember everyone, the Hobby Lobby case.

Erin Welsh

Oh god.

Erin Allmann Updyke

Okay. In that case the Supreme Court ruled in favor of Hobby Lobby in a 5-4 decision saying that in a family-owned company with particular religious beliefs, they could deny coverage of their employees' contraception. Then in 2018 Trump issued an even broader ruling saying that almost any organization including nonprofits, private companies, non governmental institutions, anyone who claims a religious or moral objection to birth control is not required to provide it to their employees. And here's what I think is really important, two things. First of all under the original ACA, the original Affordable Care Act, religious entities like churches or mosques were already exempt from having to provide contraceptive coverage. So religiously-affiliated nonprofit institutions like universities, hospitals, and charities were not exempt but under the original ACA they could issue a formal request for exemption to the government or their insurance provider so that it would be the insurance company itself that would have to front the cost and cover the contraceptives for employees, okay.

Erin Welsh

Okay.

Erin Allmann Updyke

So a religious university or hospital wouldn't have to pay for its employees to have birth control but those employees could still be covered directly from the insurance provider.

Erin Welsh

Right.

Erin Allmann Updyke

But somehow that was considered unacceptable and so this new Trump ruling insisted that these organizations had the right based on religious or moral grounds to completely deny access to contraceptive coverage for their employees. And in July of this year the Supreme Court ruled essentially in favor and punted it back to lower courts of this extremely broad-based restriction. There were only two voices in dissent and guess what? They were both women.

Erin Welsh

Shocking.

Erin Allmann Updyke

The late Justice Ruth Bader Ginsburg and Justice Sonia Sotomayor. And what's very frustrating is not I think just that this happened but also that these companies were allowed to cite blatantly untrue statements as their reasoning for objecting to birth control, not only claiming that birth control itself is against their particular religious beliefs but claiming that the forms of birth control they were objecting to are capable of destroying embryos and causing abortions which is simply not true, again.

Erin Welsh

How was that allowed?

Erin Allmann Updyke

I truly don't know, Erin. Again, there has been extensive research on this and nothing to support the idea that emergency contraceptives, oral contraceptive pills, hormonal IUDs or implants ever act as an abortifacient. And the only circumstances under which copper IUDs may be is if they are used in the context of emergency contraception and even then they act to prevent implantation which is the scientific and legal definitely the start of pregnancy. So yeah, not only are contraceptives not acting as abortifacients but access to contraceptive coverage reduces the rates of abortions.

Erin Welsh

All of these rulings, all of the quote unquote "logic" just reveals one thing, that it's only ever been about control over people's bodies.

Erin Allmann Updyke

Yeah.

Erin Welsh

Period.

Erin Allmann Updyke

Because the thing is that allowing people to choose when and if to have children and this doesn't get enough coverage but how far apart to space their pregnancies which is really important and what form of contraception they want to use, allowing people to have these options, it has benefits for moms, it has benefits for babies, it has benefits for families, it has helped to further women's equality, educational attainment, wage earning, it results in better pregnancy and neonatal outcomes and again it reduces abortion rates. So there truly is no reason to hinder or block access to safe and effective, comprehensive - that means all the options that are available - contraceptive coverage. So one of the things that we hoped to do in this episode was to provide you all with information about how these birth control options work because I think that it's hard to know that information sometimes, you know. So because I know you care about the people in your life that can benefit from access to contraceptives and comprehensive reproductive healthcare, I think the most important thing that we all need to do is please vote.

Erin Welsh

Vote.

Erin Allmann Updyke

This is a long episode to ask you to vote.

Erin Welsh

It's the most important thing right now is to vote.

Erin Allmann Updyke

Mm-hmm. Anyways that's all I got, Erin.

Erin Welsh

I mean we got a lot, Erin.

Erin Allmann Updyke

We sure do.

Erin Welsh

Oh man.

Erin Allmann Updyke

You wanna do sources?

Erin Welsh

Yes, I do have a couple of sources. So I read a couple of books, one is the 'The moral property of women: A history of birth control politics in America' by Linda Gordon and that has gone through several revisions and iterations and I read the one from 2002. And then by Jonathan Eig, 'The birth of the pill: How four pioneers reinvented sex and launched a revolution', that's from 2016. And then finally the ourbodiesourselves.org website has a brief history, a brief timeline of birth control and so I extracted especially some of the later points from there.

Erin Allmann Updyke

Awesome. I have a number of articles about the mechanism of action of contraception as well as that review article on developments in male contraception which was from 2019. And also on the Guttmacher Institute website, that is an organization that does a lot of research on reproductive rights and they have some great stats, so I have a link to a couple of their articles as well. You can find all of our sources from this episode and every single one of our episodes from all three seasons, that's 60 episodes, on our website thispodcastwillkillyou.com.

Erin Welsh

Thank you to Bloodmobile for providing the music for this episode and all of our 60 episodes.

Erin Allmann Updyke

And thank you to you, listeners. This has been a fun three seasons, we will be coming back with Season 4 in a few weeks, we don't have a particular date. So make sure that you're subscribed so that you don't miss it when we drop the new season.

Erin Welsh

Yes, absolutely. Well until next season, wash your hands.

Erin Allmann Updyke

You filthy animals!

Erin Welsh

And vote.

Erin Allmann Updyke

And vote.