Jason Anthony: Welcome to Proto, a new podcast that explores the frontiers of medicine. I'm Jason Anthony.

Sarah Alger: And I'm Sarah Alger, and we'll be your hosts. And today, a story about transgender kids.

Jason Anthony: Kids can feel a strong disconnect between the birth gender and their perceived identity as a boy or a girl at a very young age. And those feelings can be very powerful.

Eli: I wasn't really into anything feminine. When My mom would try and put a dress on me, that would be like a hurricane kind of crashing down

Jason Anthony: That's Eli, and we'll visit with him and his mother in just a moment.

Sarah Alger: And we'll also take a look at a medical tradition that is so ubiquitous that you may never have given it a second thought. The white coat, it has not always been the uniform of the MD.

Nancy Etcoff: It both connoted the rigor of science and, also, the purity and the cleanliness of modern medicine.

Jason Anthony: Stories, news, and commentary from the frontiers of medicine. Welcome to Proto.

 Defining transgenders, and it's pretty straightforward, it's when someone who is born into one biological sex doesn't identify with that sex. But understanding transgenderism on a medical level, well that hasn't proven quite so easy. There's no clear biomarker yet that tells a doctor your patient is transgender, here is how that process works in the body, and here is what to expect next. But there has been more research. A recent study in the Journal of Adolescent Health showed that, among 101 participants, gender identity came into focus at quite a young age—eight on average. And another widely publicized study out of the Netherlands in 2014 seemed to show that the earlier transgender patients were allowed to transition, the better their health outcomes eventually are, which makes transgenderism essentially, surprisingly a pediatrics issue.

 But most pediatricians aren't yet prepared for that encounter. The roadmap to what comes next, medically, psychologically, that's very complicated and without any clear consensus. And that's the focus of Proto's feature story, “Crossing Over.” One of the people you'll meet on those pages is Eli who's here in the studio today with his mother Grace. Hello.

Eli: Hello.

Jason Anthony: Hi, Grace.

Grace: Hi.

Jason Anthony: Eli volunteered to be a photo model for the feature and also agreed to come into the studio today to talk with us a little bit about his journey. So Eli, tell us a little about yourself. Do you have any hobbies that take up a lot of your time?

Eli: Well, hockey takes up a lot of time, and I play the drums and guitar.

Jason Anthony: How about school? Any favorite subjects?

Eli: Probably writing.

Jason Anthony: How was it to do our photo shoot the other week? Were they nice to you?

Eli: Yeah, that was really fun. It was-

Jason Anthony: Oh yeah?

Eli: ... a lot of lights in your face. It was very cool.

Jason Anthony: That's great. So, Eli I'll ask you, do you remember starting to think about your gender at all? Do you remember how that sort of occurred to your mind or when you began to sort of puzzle that stuff out?

Eli: In kindergarten. So when I was about five or so, I really started thinking about it, and that was the earliest that I could remember at least.

Jason Anthony: And how do you remember phrasing that to yourself at all? Or how you sort of made sense to it in your own mind?

Eli: Well, I wasn't really into anything feminine. When my mom would try and put a dress on me, that would be like a hurricane kind of crashing down. So that was one of the main things that kind of sparked in my imagination because I didn't like anything that really had to do with being girly or that stuff.

Jason Anthony: Grace, what do you remember about that period of time?

Grace: Eli always... There was always something going on with him from the time he was super little. Putting a dress on him was, it was terrible. I mean, it was really like we were hurting him, it seemed. And it wasn't just like, "No, I don't want to wear this." It was really serious. He never wanted to play. If he did imaginative play, he would never be the mommy or the sister. He was always the brother or the daddy or-

Eli: The dog.

Grace: ... the dog. So he did... There were many, many clues leading up to when he eventually told me that he's a boy.

Jason Anthony: And what age was that? Do you remember?

Grace: He was eight.

Jason Anthony: Eight, Okay.

Grace: He had just turned eight.

Jason Anthony: So Eli, if someone has a question about what transgenderism is, and I'm sure you've run into this, how do you explain it to them?

Eli: Well, I'll explain that. If you're assigned to be, let's say, female at birth, as I was, that means that you feel like you should have been born a boy. So externally, you're a female, but internally you're male, and you could really choose to go whatever way that you feel is best for you and what you want.

Jason Anthony: Has there been a sort of conversation about gender issue with your friends at school? How does that work?

Eli: Well, all of my friends have been great. All of my previous friends are still my friends, and all of them are very supportive. They all are very for transgender awareness and they're... I don't know how to put this, but they're all pretty much super supporters and it's really been awesome.

Jason Anthony: That's fantastic to hear. And I don't think we've gotten this out of the way yet, but Eli, how old are you?

Eli: I'm 11.

Jason Anthony: 11, fantastic. So I'm going to ask Grace a couple of questions here. Have you had medical professionals, sort of, in this conversation? And when did that sort of start?

Grace: Yeah, so when Eli was eight, we started, and he told me he was a boy. We Found therapists. So, we sort of went that route for a while. He was still little and didn't need any medical intervention at that point. So, we've dealt with that on that level, the mental health level, for a while. And, I guess about a year ago, we started seeing an endocrinologist just to monitor where Eli was at in puberty and trying to understand our options as puberty was approaching for him.

Jason Anthony: Do you feel comfortable sort of talking about what-

Grace: Yeah.

Jason Anthony: ... some of those options were?

Grace: Yes. Eli and I talked about this in advance, so he's okay with talking about this. So the options that were explained to us for him at the age of 10 were, do nothing or go on a hormone blocker.

Jason Anthony: And to be clear, a hormone blocker is maybe a first step where it sort of prevents puberty from happening. Is that right?

Grace: That's right. That's right. It's a reversible step. It's something that sort of gives kids a chance to just live, and understand themselves; and exist how they want to be, and how they feel they are, and how they understand themselves without having to go through the physical changes of puberty and a sex that they don't identify with. So it's really a lifeline, and it's a lifesaver for some of these kids. It's really important. And then the next step would be to go on what they call cross hormones, which are to actually start taking the hormone of the gender that you've claimed

Jason Anthony: It would be to move onto the cross-gender hormones, which would be a testosterone. Is that right?

Grace: Yes, yeah. And not all trans people want to be on cross hormones, want to go on hormone blockers. This is sort of our experience. Every kid, every person, has their own journey, and their own experience with their bodies, and how they want that to go. So this is sort of specifically our experience and the experience of some others that we know.

Jason Anthony: I have another sort of boring grownup question here. Pardon me, Eli, but the insurance part of things, what does that look like for you? If your doctors are supportive, that's great. But how have your insurers been in sort of covering the hormone blockers and any of the other costs?

Grace: So, we've been really lucky. Part of the reason for us picking Children's Hospital of Philadelphia was that we knew that they would navigate the insurance process for us.

Jason Anthony: So it sounds like the implant that you got at, this hormonal implant, which sort of blocks puberty from going on. That was something that was covered by insurance.

Grace: Yes, that was covered by insurance. It's an expensive medical procedure. The implant itself costs over $20,000, which is impossible for many people to just come up with that kind of money for that.

Jason Anthony: So here's the big question, Eli. What do you want to be when you grow up? Do you know any of that stuff or any big life milestones you want to hit? Any big goals down the road?

Eli: Well, I want to be in NHL. So that's a little... It's going to be hard, but that's a goal of mine. And, hopefully soon, I'll be able to start testosterone, which will be a goal when I get to start, so.

Jason Anthony: Thank you so much. I Really appreciate your coming out today.

Grace: You're welcome. Thank you.

Eli: No problem. Thank you.

Jason Anthony: For more on this subject, you can read our Proto feature, crossingover@protomag.com, and please join the discussion on Facebook and Twitter.

 Eli's encounters with his school mates and the people on his team, as you can hear, have been pretty positive. But, even in the most supportive environments, children who identify as transgender exist in a media landscape that is not always on their side. Parenting a child that is transgender means helping them come to terms with a world that is sometimes outright hostile. Here to talk with us about that is Steven transgender ism, Associate Director of the Clay Center for Healthy Young Minds at Massachusetts General Hospital. Dr. transgender ism has written recently about the effect of news stories about transgenderism on children. Welcome, Steve.

Steven Schlozma...: Thanks very much for having me.

Jason Anthony: So Stephen, what sort of messages are kids getting from the news about transgenderism?

Steven Schlozma...: Well, as you point out, it's not always positive. In fact, it's rarely positive, especially in the ears of a kid who might already feel that they're somehow getting singled out as different. I mean, contrary to what a lot of people believe, a lot of kids with transgender issues don't want to be singled out. They want to fit in. So when these laws, and especially the vitriol connected to the dialogue around these laws, show up on the news, these kids really can feel pretty alone. Some do absolutely fine with that, but a lot of kids feel like they're being, again, singled out as something odd, something kind of freakish. It's not good for them.

Jason Anthony: Are there positive stories about transgenderism that kids are also hearing?

Steven Schlozma...: There are absolutely positive stories that kids are hearing. It's a great question. It turns out that most of the time it's the adults who have a hard time with these big social changes. Kids are pretty resilient. No matter where in the country they are, they tend to roll with these changes fairly well. So you try to have an in-depth conversation with, especially, pre-adolescents and maybe early adolescents. It doesn't bother them that much, but it's when the adults get all bent out of shape that the kids have all sorts of different reactions. So despite the positive stories they're getting, when adults push back... It might be their parents more often than somebody they hear on the news, the kids themselves start to question their own kind of rolling with this punch, and wonder whether this is something they ought to be more worked up about.

Jason Anthony: So, what can parents do to sort of best message what's happening in the media to kids that might be questioning their own gender?

Steven Schlozma...: So best messaging the media, as we know from the media, is a really tricky tight wire to walk on. A lot of it has to do with your child's, both, exposure to and understanding of what they hear on the news. And nobody knows that better than parents. So the first part of that is just have parents ask their kids, whether it's a child who is transgender or not, just say, "What have you heard on the news lately?" You want to foster a culture of conversation within the house so that if your child then says, "Well, I've been hearing things that make me feel pretty bad about who I think I am or who I'm trying to be," then you can help to correct it by saying, "You know, people have lots of different opinions, but they're not talking about you personally. It's not addressed to you as an individual. These are strongly held opinions that your dad and I, your mom and I, whatever, don't agree with." And that part is super important because kids can get through an awful lot if they know that their parents support them.

Jason Anthony: These stories are obviously coming to all kids. Both kids who are questioning their own gender and kids who may not have thought about it at all. What is the new openness about this topic doing to the conversation among the pediatric set?

Steven Schlozma...: It's really, that's a cool question. I have kids myself. If it comes up, and it has come up recently, they're a little perplexed by everyone getting so worked up about it. I think the confusion comes, to some extent, on the difference between gender dysphoria and transgendered states. That's because the medical community is still a little bit confused about this. We're working this out in this big cultural change. Just because you want to be a gender that doesn't correlate with your chromosome or biological sex, that doesn't mean that you're dysphoric about it, that you feel badly. And that's, I think, where a lot of kids are getting tripped up by this conversation outside of the political realm.

Jason Anthony: Thank you so much, Steven. Really appreciate your being on the phone with us today.

Steven Schlozma...: Oh, it's my pleasure. Thank you.

Sarah Alger: So Jason, how unified are pediatricians and child psychologists in managing the care of a transgender child?

Jason Anthony: The field is very divided. We talk about this a bit in the feature, but there are pediatricians who feel strongly that helping these children with their decision to be nonconforming to their biological gender is just wrong. The American College of Pediatricians in particular has been quite outspoken against hormone treatments like the ones that we mentioned.

Sarah Alger: And there are clearly physicians like Steve transgender ism who feel the opposite.

Jason Anthony: Yes, and that school of thought is evolving a lot of protocols and doing a lot of studies on, well, those other questions. How and when do you help these children adjust to the gender in their minds rather than the one that they were born with?

Sarah Alger: I can't recommend the feature enough. It explains a number of these complexities, and you can see it at protomag.com. And as an added bonus, you get to see Eli in his hockey uniform.

Jason Anthony: Yes. Eli was so happy with that shot.

Sarah Alger: He looks great. Well, shifting gears to another type of uniform. There's been some controversy in recent years about one of the most storied uniforms in history. The doctor's white coat.

Jason Anthony: I remember a study from a few years ago that said students were more likely to perform better on certain tests when they wore a white lab coat. So this is a garment that not only has a long history, but also, apparently, magical powers.

Sarah Alger: I don't know about that.

Jason Anthony: But you did sit down with one of our favorite thinkers, Nancy Etcoff, to talk about the history and the psychology of the white coat.

Sarah Alger: In my line of work at the Museum at Mass General, I often show people a painting of a surgery that took place in 1846. And what a number of visitors will say to me is, "They're all wearing black suits. They're not wearing gowns or white coats." But what's interesting is that once you approach 1900, you do start to see the white coat in portraits and in photographs. And they seem to signify this magical moment when you arrive at modern medicine. Someone who has thought a lot about the coming of the white coat is Nancy Etcoff. She's probably best known for her wonderful book, Survival of the Prettiest: The Science of Beauty. And she is also the director of the Program in Aesthetics and Well Being in Mass General Psychiatry department. Nancy, welcome.

Nancy Etcoff: Thank you. My pleasure to be here.

Sarah Alger: What happened when we crossed that line around 1900? Why did doctors start to wear the white coat?

Nancy Etcoff: So, prior to that time, doctors often wore black suits. It connoted seriousness and also an air of melancholy. A lot of medical procedures were done in the home, often in the dark. They had to reach under cover lifts to find the patient. And, often, the diagnosis was quite gloomy. As we got germ theory, and as doctors began to understand the underlying causes of disease, we morphed into the great white machine of healing. And doctors assumed the white coat, which they've actually borrowed from lab scientists. So it both connoted the rigor of science, and also the purity, and the lack of germs and the cleanliness of modern medicine.

Sarah Alger: Now I know that it sounds like doctors in the UK are no longer wearing the white coat. Why is that?

Nancy Etcoff: Yes, well recently there's been a bit of a rebellion against the white coat, in part, because it seemed to harbor germs. So here we have the emblem of cleanliness, and in fact, they're not laundered nearly enough. Their touch, as people go from patient to patient, to actually a vector of germs. And so there's been a move towards more disposable, easily cleaned materials.

Sarah Alger: That's interesting. So do you think that in the U.S., is this same move happening or do you think we're sort of waiting for those new materials to arrive?

Nancy Etcoff: It's not clear. I think there's two reasons why the white coat has lasted, and one is its emblem of cleanliness, and the other is its life as a symbol of authority. And I think both are entering into why there might be a change. Medicine is morphing from the hero, and the doctor who knows everything, and the authority to someone who works with you. And so if the white coat is seen additionally as something that separates the patient and the doctor, and intimidates the patient, we've heard about white coat hypertension. Perhaps a uniform or just street clothes that convey more of an equality might also come into popularity now.

Sarah Alger: I've read that, conversely, some patients aren't happy with doctors who will just wear their regular business attire. What power, what sort of positive power is there in the white coat?

Nancy Etcoff: Yes, and I think here psychology comes to the side of the white coat because it has some placebo effects. The white coat connotes someone you can trust, someone who has the learning and the knowledge to help you. Perhaps we don't look at it in the same heroic way, but in fact, it can promote healing. It can promote healing by our sense that the person who is helping us knows what they are doing. We feel assured. We feel that we are going to get the best treatment, and that is part of healing.

Sarah Alger: Now, to get back to the future of doctor's garb. So do you think, is it going to be a matter of new materials? Is it going to be new design? Do you have any sense?

Nancy Etcoff: My sense is the white coat will persist. But my sense is, perhaps, the new design brief will bring it up with modern technology. Why not have a white coat that is anti-microbial, so you get beyond the germ issue? Why not have, perhaps, a white coat that is smart in the sense of smart technology? We have watches, and Fitbit and all kinds that embed new knowledge in them. Perhaps the white coat can help diagnose. Perhaps a white coat can read a facial expression. Perhaps a white coat can have lots of new functions to help the doctor and help the patient.

Sarah Alger: Well, this has been fascinating. Thank you so much, Nancy.

Nancy Etcoff: Thank you.

Sarah Alger: Something I also learned about white coats. You know Pavlov's dogs?

Jason Anthony: Of course. They were conditioned to salivate at the sound of a bell.

Sarah Alger: Eventually, but the first breakthrough really happened when Ivan Pavlov noticed that the dog salivated at the sight of a white coat. They associated it with the lab technicians who brought their food.

Jason Anthony: How could the UK turn their backs on such a storied garment?

Sarah Alger: Indeed

Jason Anthony: For more details about white coats, red blood cells, lasers, pig organs.

Sarah Alger: The peta scope.

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