### SEX, GENDER AND MEDICINE

As a child, Noah Wilson thought *gender* meant *boy or girl*, *the end*. But when they were both 14, Noah's best friend, Rory, came out as nonbinary, a person who feels neither squarely male nor female.

Noah — who had always assumed he was female, since that's what it says on his birth certificate — went home and quietly Googled "nonbinary." (Noah and Rory are identified by pseudonyms in this story.) He was just trying to be a supportive friend to Rory, but soon realized something else was going on. The idea that people could question their gender resonated. A lot.

Maybe I'm not a girl, he remembers thinking. Worried about

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MAKING THE TRANSITION

what his parents would think, he kept quiet and spent months wrestling internally with his gender identity.

"At first, I didn't know that was a thing I was allowed to do and I didn't have the words to describe it," he says. Over time, he became increasingly sure he was mostly male.

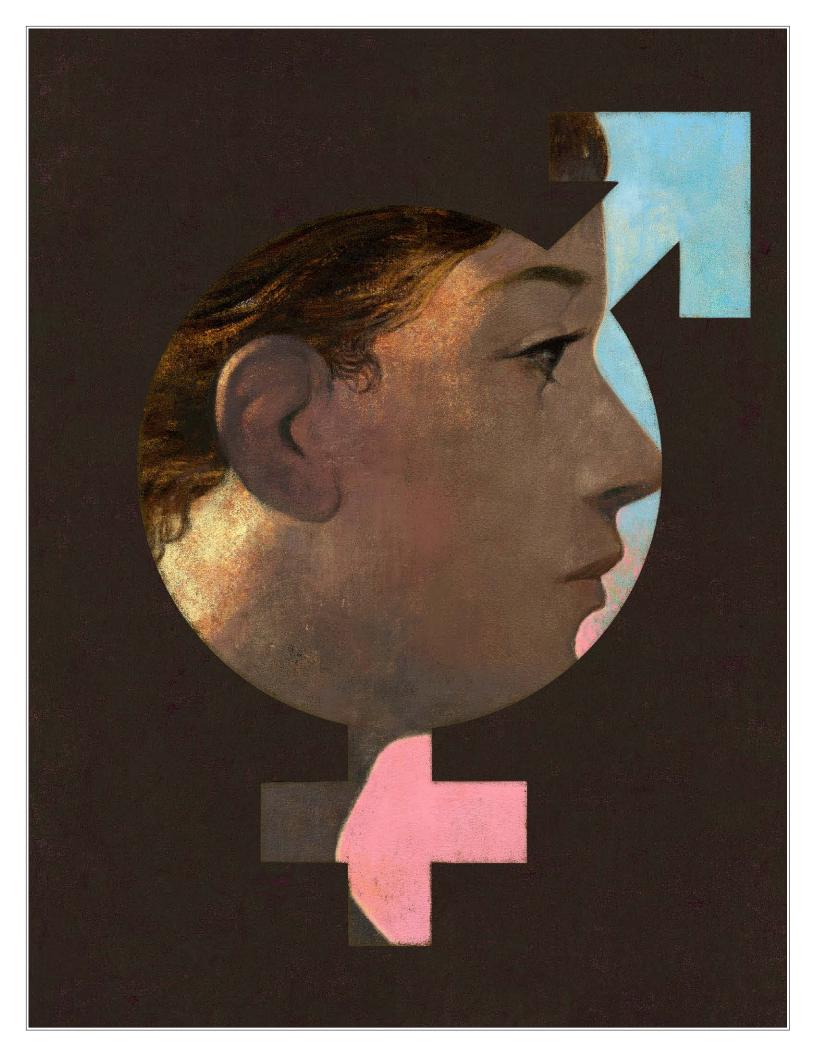
"Girls can be butch, but it's not just that I don't want to be feminine," Noah says. "It's that I feel more comfortable when people refer to me as a guy."

Late in his sophomore year, he asked Rory and a few other close friends to start calling him Noah instead of his female

### BY ERIN DIGITALE

ILLUSTRATIONS BY GÉRARD DUBOIS

18



birth name, and told them he was a nonbinary guy, more male than female.

But he was really afraid to tell his family. Even if his left-leaning parents were OK with it, his maternal grandparents might be unaccepting; they are on the conservative end of the political spectrum and had made derogatory jokes about Caitlyn Jenner when she came out as transgender. Would expressing his identity force his mom to choose between her parents and him? Could it be worse?

"I was imagining scenarios where you guys kicked me out," Noah tells his mom and dad as they sit together on their living room sofas. "It has happened to other trans kids with worse parents."

Now 17 and a high school senior, Noah has been out to his parents for almost two years. The three of them are talking about his gender transition the same way they're talking about his college plans — with hope and love, while dinner cooks in a crockpot and the family dog trots around putting her head in the lap of anyone who might scratch her ears.

This support puts Noah in a novel group: For the first time, a cohort of several thousand youths across the country are transitioning from male to female or female to male with the backing of their parents. This is almost certainly a good thing for their psychological well-being: A 2014 report by the American Foundation for Suicide Prevention found that more than 40 percent of transgender adults had attempted suicide, whereas early research suggests transgender kids with supportive parents will grow up with much better mental health.

But even the most welcoming families face big challenges as they navigate life in the vanguard of transgender childhood. That's why a growing group of physicians, social workers, family therapists, schoolteachers and scientists are learning how to help.

"These kids really feel they've been born into the wrong body, and it causes a lot of distress," says pediatric endocrinologist Tandy Aye, MD, who founded the Pediatric and Adolescent Gender Clinic at Stanford Children's Health in 2015. "They've been thinking about this for so long and trying to voice it, and often, people have been dismissive."

Aye, an associate professor of pediatrics at the School of Medicine, first worked with transgender teens as part of her research on the effect of sex hormones on brain development. Families of her research subjects asked if she could provide medical care for their kids, so Aye began seeing patients and established the new clinic. Now one of more than 30 such programs across the country, it provides help with medical and social aspects of gender transition and connects transgender children and their families to community resources, including well-informed primary care physicians.

S NOAH STRUGGLED with how to come out, his parents felt increasingly confused.

"We were kind of told pieces of the story, but I definitely remember feeling like I was missing some information," his mother says. At one point, Noah told her he liked the way he looked with a flat chest.

"Why would a girl want a flat chest? I was teased for having a flat chest when I was that age," she says. "It just didn't quite make sense because I was missing the key piece: Noah is a boy."

"I remember that you had several friends who were LGBT, including one who was nonbinary, and I didn't quite understand what that meant," his father says to Noah. "Several times I thought, 'What exactly is going on here?'"

Early in high school, Noah did tell his parents he was gay, but their support of the person they thought of as their lesbian daughter didn't quell his anxiety about coming out as trans. He tried to keep it a secret.

Then his mother found a binder he had borrowed from Rory in his tote bag. A binder looks similar to a tank top; it's a garment worn around the torso to compress the breasts and make the wearer appear more masculine. But Noah's mom didn't know that.

She said, "What is this?" Noah made an embarrassed grab for the binder, fled to his room and spent half an hour freaking out. "Oh God, they're gonna find out," he remembers thinking. He decided he had to emerge from his room and explain.

After some false starts, Noah finally got the news out. "Kind of panicking, I said, 'I think I might be trans, and oh, by the way, I'm going by Noah and I'm a guy.'"

"When Noah finally told us, I was surprised," his mother says. "But I also thought, 'Oh, that makes a lot more sense. How did I not think about that before?"

His parents saw a certain logic in Noah's coming out and loved him no matter what, but they were filled with worries. Was it safe or wise to help a teen girl live as male? Yet Noah was eager to start taking hormones that would help him develop masculine characteristics.

"Noah wanted us to get on board right away," says his father. "For me, it took a long time to mentally come around to the idea that this is a real thing, and not just something teens are going to change their minds about."

AS DRASTIC AS A GENDER TRANSITION MAY SEEM, FOR CHILDREN WHO ARE SURE THEY'RE in the wrong-gender body the consequences of doing nothing are worse, Aye says.

"If a child has been gender-nonconforming for a long time and is not allowed to transition, going through the wrong puberty can be psychologically devastating," she says. Helping transgender adolescents go through the medical aspects of transition carries a different meaning for Aye than treating kids with medical illnesses. "As you treat transgender teens with hormones, you're affirming who they are," she says. "Each time they come to the clinic, you get to see a reblossoming of this individual."

But early in the process, ambivalence is common. Amy Valentine, the social worker at the Stanford Children's Health gender clinic, observes the mixture of feelings Noah's family describes in many new patients and their families. She's part of a team of about 15, including endocrinologists, pediatricians, adolescent-medicine specialists, ob/gyns, psychiatrists, a psychologist, a urologist and nurses. The clinic is currently serving about 50 patients, with six to eight new patients coming each month.

"We want Stanford Children's Health to be a safe haven for patients and families who are working through genderidentity issues," says Dennis Lund, MD, chief medical officer of Lucile Packard Children's Hospital and Stanford Children's Health. "Helping transgender or genderquestioning children and teens is a natural goal for our children's hospital. It's our job to take care of patients in need."

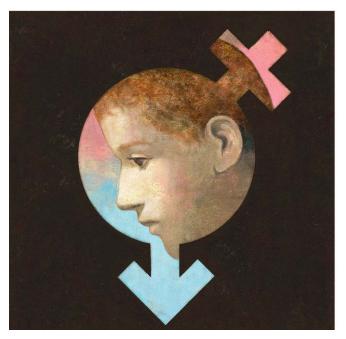
Before families visit the clinic, Valentine gets a comprehensive history by phone and assesses which steps the Valentine wants to know how the parents interpret what's happening, too.

"Kids really want to be understood by their parents," she says. "They want to feel loved and accepted for who they are and they need help from their parents to move forward. And parents come in a lot of times in disbelief, saying, 'How did this happen all of a sudden?'"

Parents often need education in the basics of being transgender. They may not know that gender identity — one's innate sense of being male, female, neither or in between — exists on a spectrum, and can differ from the sex on one's birth certificate. They may confuse gender identity, an aspect of one's self-perception, with sexual orientation, which is based on feelings of attraction to others. (Children begin forming their sense of gender identity in the preschool years, long before they give any thought to romantic relationships,

and transgender people can have any sexual orientation.) Parents may also wonder how common it is to be transgender. While statistics for children are hard to come by, one 2013 survey found that 1 percent of San Francisco middle- and high school students identify as transgender. A much more comprehensive 2016 report based on Centers for Disease Control and Prevention data found that 0.6 percent of the adult population, or around 1.4 million U.S. adults, are transgender.

Many parents also worry,



## 'WHY WOULD A GIRL WANT A FLAT CHEST? I WAS TEASED FOR HAVING

# A FLAT CHEST WHEN I WAS THAT AGE. IT JUST DIDN'T QUITE MAKE SENSE BECAUSE I WAS MISSING THE KEY PIECE: NOAH IS A BOY.'

child may or may not have taken toward a gender-identity transition. For instance, she asks if the child has socially transitioned, which is the first step in living as their identified gender, by using a gender-congruent name, switching pronouns, and changing their hair and clothing. Therapists look for three characteristics to distinguish transgender youth: They are insistent, persistent and consistent in their genderidentity expression.

as Noah's father did, that their child is going through a period of temporary confusion or has been influenced by peers.

Is it ever just a phase? That's tricky to answer, and depends on the age of the child. Many preschoolers don't fit into traditional gender categories but also don't feel that they inhabit the wrong body. "Sometimes they seem boylike, sometimes they seem girllike, and their parents may want them to come down on one side or the other," says Maureen Johnston, a family therapist in private practice who works with many of the gender clinic's patients and families. Most don't ultimately come out as transgender; some later realize they are gay. "With kids who appear to be nonbinary or gender-fluid, it's very, very hard on the parents because they get a lot of pressure from outside," Johnston says. Yet squashing children into rigid gender categories can hurt them.

In contrast, many teens who have come out as transgender — and even some younger children — are certain they are in the wrong-gender body.

Though sometimes parents think their child's gender switch is about being cool, that's rarely the case, says Johnston. Teenagers are acutely aware of the stigma still attached to being transgender.

"Dyeing my hair purple — I did *that* because it was cool and my friends did it," Noah says. "But people still get bullied or killed for being trans. I don't think most people see it as cool."

S THEY SEEK MEDICAL CARE FOR
GENDER-IDENTITY CONCERNS, MANY
families find that their pediatrician has
never been trained on the topic.

Medical support for transgender
children is uneven across the country,
notes Aye. While most urban areas now

have well-established clinics, parents and children in rural locations may face long trips to access medical care and endure more prejudice in their communities. At a minimum, all doctors should know how to have a respectful and productive initial conversation with patients who are questioning their gender identity, Aye says. For pediatricians, that means asking children what they're feeling, what gender they identify as, and whether they have a preferred name and pronouns,

group there, his father had his first opportunity to talk with a large group of other fathers of transgender kids. "It was really awesome," he says. The other dads helped him empathize with Noah in a new way, asking him to consider how it would feel to experience a constant mismatch between his internal sense of himself and the way he looks on the outside. It transformed how he thought about his — now — son.

Before Noah's junior year of high school began in August 2015, he emailed his teachers to explain that he was transgender and ask them to use his male name in class.

His teachers agreed; other kids mostly seemed at ease. When one boy he'd gone to school with for years greeted Noah by his birth name, Noah said, "I'm going by Noah this year." The boy said, "Oh, OK, cool." Another classmate was genuinely confused at first, but soon adjusted. "No one's been mean or rude on purpose," Noah says.

During the school year, Noah and other students in the school's queer-student union asked the principal to designate a bathroom on campus as gender-neutral. "The only gender-neutral bathroom was a tiny one-stall thing in the nurses' office," Noah says. To the students' surprise, the principal quickly agreed to switch two large, centrally located restrooms to gender-neutral.

Planning how to share the news with Noah's mother's parents was a much bigger concern. His mother was worried that her parents might sever their relationship with her, or tell her she had been a bad mother to Noah. She worried about the ripple effects, too: If her parents cut ties, she'd be unable to help them as they aged, and those duties would instead fall to her brother, who lives farther away.

And Noah's parents still ask themselves what will happen when their son ventures outside the protective environment of a supportive high school in a liberal community. "I

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she says. "Allow that conversation to begin and don't be dismissive. Let the child express it and listen in a welcoming way." Doctors can refer their patients to specialized gender clinics and point them to local and online resources.

Not long after Noah came out, his whole family — including his parents and his older sibling — went to a conference hosted by Gender Spectrum, a Bay Area-based advocacy organization for transgender people. At a dads'

feel pretty safe in the Bay Area but there are places I really wouldn't want Noah to go," his mother says.

Their fears aren't unfounded. *Injustice at Every Turn*, the 2011 report on the findings of the National Transgender Discrimination Survey, found that of the 6,450 U.S. transgender adults who responded, 63 percent had experienced a serious act of discrimination, including bias-related job loss, eviction, harassment at school so severe that the respondent

had to drop out, bullying by teachers, physical assault, sexual assault, homelessness, loss of relationship with a partner or children, denial of medical services and incarceration. And more than half of respondents had experienced discrimination in public settings such as retail stores, restaurants and health care facilities. (The survey was conducted by the National Center for Transgender Equality, a social-justice and advocacy organization.)

Nevertheless, Noah expects to be well-supported when he goes away to college next year — he has deliberately chosen a school known to welcome transgender students. Although he's nervous about life in a college dorm, he expects to be able to be open about his identity, a far cry from what earlier generations of transgender college students experienced.

PSYCHOLOGICAL RESEARCHERS ARE BEGINNING TO NOTE THE BENEFITS OF WIDENING FAMILY and societal support on young transgender individuals.

"We have this huge cohort of gender pioneers who are doing something we haven't done in this culture before," says Kristina Olson, PhD, associate professor of psychology at the University of Washington in Seattle. Prior generations of kids were almost universally encouraged to suppress behavior that failed to conform to their gender. Those who didn't "received incredible amounts of bullying," Olson says. "It's a unique thing that we now have kids who are openly transgender and *haven't* experienced lots of bullying."

In the past, some clinicians tried to influence gendernonconforming children to change their behavior to meet traditional expectations, but this approach is now in disrepute. Standards of care from the World Professional Association for Transgender Health state that such treatment has been shown to be unsuccessful and is no longer considered ethical.

To figure out how social support changes the picture for younger transgender kids, Olson runs the TransYouth Project, which has recruited about 300 children aged 3 to 12 who have socially transitioned to live as their identified gender, as well as a large group of kids who are gendernonconforming but haven't made any type of transition, and age-matched controls who are not transgender or questioning their gender. She is planning to follow them through adolescence and into adulthood.

"In past studies, gender-nonconforming kids had pretty high rates of anxiety and depression, and by the time they were teens or adults, high rates of suicidality," Olson says. A 2016 study of a national cohort of U.S. young adults followed over time found that among transgender and gendernonconforming individuals, 52 percent met clinical criteria for depressive symptoms and 38 percent met criteria for anxiety. In cisgender subjects — those whose gender identity matches the gender on their birth certificate — the rates were 27 percent and 30 percent for females, and 25 and 14 percent for males, respectively. Another 2016 study of more than 500 children with gender dysphoria found that they were 5.1 times more likely than cisgender children to talk about suicide and 8.6 times more likely to engage in self-harm behaviors.

In contrast, in research published in *Pediatrics* in 2016 and in the *Journal of the American Academy of Child & Adolescent Psychiatry* in 2017, Olson's team found that well-supported transgender kids had similar feelings of self-worth and rates of depression to age-matched control kids, and only slightly higher rates of anxiety. The data suggest that psychological distress is not an inevitable aspect of being transgender, Olson and her co-authors conclude.

A separate group of Dutch researchers reached similar conclusions in a 2014 longitudinal study of the psychological health of 55 transgender young adults who had gone through social, medical and surgical gender transitions in adolescence and early adulthood. A year after they completed gender reassignment surgery, the gender dysphoria that subjects had experienced before transitioning was gone. Their psychological well-being was as good as or better than that of cisgender young people in the control group.

NCE THE TEAM AT STANFORD'S GENDER CLINIC DETERMINED that Noah had good support from his family and school, they asked for a "letter of readiness" from a mental health provider. Adolescents who want to start taking cross-sex hormones need a letter to attest

that they are insistent, consistent and persistent in their gender identity; have been living as a member of their identified gender for a while; and understand the ramifications of the medical treatments.

Mental health providers also help kids untangle other problems. Noah's counselor helped him sort through his anxiety and figure out how much was due to pressures at school — despite being an excellent student, he worried he was not learning what he needed to succeed in college and adulthood — and how much came from being closeted.

"Gender does not happen in a vacuum," says family therapist Johnston, who did not treat Noah but sees teens in similar situations. Like any kid, a transgender teen may experience anxiety or depression, struggle with substance abuse or

# gender spectrum

A FREE ONLINE COURSE EXPLAINS THE BASICS OF TRANSGENDER CHILDREN'S NEEDS

In 2011, Stanford Medicine lecturer Maya Adam, MD, had just finished teaching her undergraduate course on critical issues in child health when a student approached her with some feedback. "I loved your class, but you are missing one issue," the student said. "You need a lecture on transgender children's health."

DAM'S RESPONSE was "You're right ... but I know so little about that." Her own medical training had never mentioned transgender children; she was unsure what challenges they faced. Adam soon realized this knowledge gap was common, not just among physicians but also among teachers and other professionals who work with kids.

In March, Stanford launched a free online course that Adam created to fill the gap. Anyone can participate in the course, which is called "Health Across the Gender Spectrum" and is available at https://www.coursera.org/learn/health-gender-spectrum. In 18 short videos, Adam interviews Stanford experts and gives basic explanations of concepts relevant to gender identity. In addition, several videos showcase interviews with transgender children and their families. Among the conversations: A young child tells his mom that it took four tries for him to muster the courage to tell her he was really a boy, a girl describes how she feels about looking out for her transgender little sister, a dad shares his concerns that his beloved transgender child won't be accepted by society and a mom talks about how she feels blessed to raise a transgender teenager.

"There is something magical that happens when you meet a real family and see similarities between that parent and you, between

that child and yours," Adam says. Viewers hear parents' and kids' voices under cartoon animation; the families' anonymity is preserved, but their emotions come through.

"There are themes of hope and incredible love in these stories," Adam says. "Every parent we interviewed has gone above and beyond to create an environment that will allow their child to thrive."

The course also includes interviews with two Stanford researchers who are transgender: Asian studies expert Alice Lyman Miller, PhD, a fellow at the Hoover Institution; and neuroscientist Ben Barres, MD, PhD, a professor of neurobiology, of developmental biology and of neurology and neurological sciences at the School of Medicine. They speak about their academic work and their experiences of being transgender. "We need mainstream, highly accomplished transgender role models to be more visible," Adam says.

Ultimately, she hopes the course will show that placing less emphasis on gender leaves all young people — anywhere on the gender spectrum — freer to express themselves, grow and thrive.

"We can do all our kids a service by backing off from the tyranny of the pink and blue," she says. "If you're playing a part that doesn't feel like who you really are, how can you possibly be your best self?"

have parents who are in the midst of a divorce. Such struggles don't necessarily preclude starting hormone treatments, especially if a child's distress about gender underlies their psychological symptoms, Johnston says. "So often, depression is a result of gender dysphoria, or gender dysphoria is exacerbating anxiety or depression."

Johnston sometimes must mediate situations in which a parent strongly resists the idea that his or her child is transgender. She has occasionally felt compelled to remind parents of the high suicide rates among transgender individuals who are rejected by their families.

"A lot of what it comes down to is parents saying, 'I love my child and even though I don't agree with this, I would rather have an alive, happy trans daughter than a dead son,'" she says.

Once Noah had his "letter of readiness" and had received insurance approval, he began receiving a puberty blocker, Lupron, which prevented him from going through further maturation as a female. (It is also used to temporarily halt maturation in kids who have a condition known as precocious puberty.)

"If they identify really young as transgender, kids can receive a pubertal blocker as soon as any signs of puberty start," says Aye. "If they suppress puberty and later change their minds, they can stop taking Lupron and continue to develop their own biological puberty; there's no harm to it."

For those who transition, avoiding the wrong puberty means they will look more like members of their identified gender as adults. With the medication, trans boys won't develop breasts, for example, and trans girls won't grow as tall or develop deep voices or facial hair.

Around age 16, transgender teens can begin receiving estrogen (for those transitioning to female) or testosterone (if they're transitioning to male). "They get cross-sex hormones

so that they're going through one puberty and it's appropriate," Aye says. The patient's levels of psychological readiness and family support are always important considerations in starting cross-sex hormones, she adds. "Noah has had an easier time than many kids because of what an amazing family he has — they're so supportive."

Although the first dose of cross-sex hormones isn't a huge step medically, since the hormones' effects are slow and cumulative, the emotional significance of the first dose can be enormous for patients, Aye says. Often, at her initial meeting with a family, she feels a cloud of tension looming over everyone. Weeks or months later, when the teens receive their first hormones, the shift—the kids' relief and hopefulness at having their identity recognized by their families, and the families' happiness, too—is palpable. "I've seen so many people with tears of joy," Aye says.

Noah started taking testosterone in November 2016. His voice has already become deeper, which he likes. With continued use, he'll grow a beard and develop more malelike body composition. The hormones Noah's taking have rendered him infertile, which was a trade-off he felt comfortable making. Some transgender youth choose to pursue fertility options by freezing eggs or sperm, but they can't do this unless they have gone at least partway through the "wrong" puberty.

In adulthood, some transgender individuals also choose to have gender-affirming surgery; trans men may have "top surgery" (a double mastectomy), trans women may undergo breast augmentation or facial feminization surgery, and both men and women may have genital surgery. But many transgender people decide not to undergo surgery; the degree of function that can be obtained from genital surgery varies, and there is growing acceptance of the idea that

one can live as a member of one's identified gender without it.

Aye's research team is studying the effects of pubertal blockers and cross-sex hormones in teenagers, asking what the medications do to bone, brain and body composition, and trying to determine how the hormones will affect transgender individuals' health in the long run. A recent study by researchers in Cincinnati, Texas and Maryland found that transgender people taking testosterone had increased body mass index and hemoglobin/

# WEB EXTRA

DANI'S JOURNEY

Meet another

transgender teen

and his family in

our video:

http://stan.md/2paeSxb



hematocrit (higher red blood cell count, because testosterone promotes red blood cell formation), as well as decreased highdensity lipoprotein ("good") cholesterol levels. Those taking estrogen did not experience significant changes in their metabolic parameters.

"I've told Noah a lot of times that I'm still very concerned about the hormones and medical issues," Noah's father says. To Noah, he adds, "I'm OK with the idea of changing how you dress and how you present but I get really nervous about signing up for taking medication for the rest of your life. And I know not everyone takes it forever and ever, but it makes me really nervous because you're messing with the way your body normally works."

OOKING BACK ON THE PAST THREE YEARS, NOAH'S FAMILY HAS some advice for other families in their shoes.

"For parents, you need to educate yourself as quickly as possible, and you need to process your own feelings away from your kid," his mother says. Your child needs your support, no matter what worries you have along the way, she adds.

"If you know that your parents are probably going to be accepting, come out sooner," Noah says, adding that he thinks talking with a therapist as he questioned his gender might have helped him feel less lonely. "I felt like I had to get everything exactly figured out. And yet I definitely felt relief once everyone started calling me Noah; it was a lot better."

But the whole family was still on edge about whether they would ever hear Noah's new name said in a welcoming way by his maternal grandparents.

Noah's mother worried not just about a political or philosophical gap, but also the generation gap. Had her parents ever heard of transgender people who were just regular folks, not reality TV stars or drag queens? Would old stereotypes cloud their perception of their grandchild?

However, when she explained the situation to her parents on the phone, she got a surprise. "My mom took it really well," she says. "My dad has had a little more trouble understanding it, but he has been reading about it, and he also appreciates how hard this has been on Noah and our family. They are definitely being supportive."

On her parents' first visit after they heard the news, "as soon as she got out of the car, Grandma gave him a big hug," she says.

The first words out of her mouth? "Hi, Noah." SM

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