Another Pathway to Parenthood

Fertility Preservation Program Offers Options to Trans Patients

Growing up, Mary Jackson* loved being surrounded by siblings in her large Irish-Catholic family. That's why the mom of four wanted her transgender daughter to have the opportunity to have her own biological child when she's an adult.

As her daughter approached adolescence, Mary began researching ways to preserve her fertility for possible later use.

"It was about having options and keeping pathways open," says Mary. "I wanted to ensure she could have children from her own genetic material later on, if that becomes important to her in the future."

Her research led her to the UPMC *Magee-Womens Hospital's* Center for Reproduction and Transplantation and its pioneering Fertility Preservation Program where researchers have developed a technique to freeze, or cryopreserve, immature reproductive tissues and cells. Originally offered to young patients undergoing cancer treatment, it has now been expanded to provide future fertility options to trans kids.

Healthy, Smart, and Thriving

By the time their youngest child could talk, Mary and her husband Dan* knew she identified as a girl and not the gender assigned at birth. "We listened and she was very clear. By age 4, she was adamant that she was a girl," says Mary. "We followed her lead."

Avery* socially transitioned and entered school as a girl. She later began taking blockers to delay the onset of male puberty, which would lead to a deeper voice, Adam's apple, facial hair, and bone and muscle mass development.

"This was the healthiest way for her to be herself," says Mary. Today at age 13, Avery is "healthy, thriving, smart, and funny," she adds.

The next step in Avery's transition will involve taking estrogen to develop female characteristics. It's at this point that doctors often recommend that trans patients preserve sperm or eggs.
While adults can freeze their eggs or sperm before treatment begins, it's more complicated for adolescents because their reproductive system hasn't matured. Delaying or stopping the transition process and allowing puberty to progress can be psychologically damaging.

Fertility Options for Trans Youth

Kyle Orwig, PhD, director of the UPMC Center for Reproduction and Transplantation and the Fertility Preservation Program, says freezing ovarian tissue or testicular tissue provides a much-

needed fertility option for trans children. “Families came to us and said, ‘We have a child who is ready to start hormonal treatments. Can you save testicular or ovarian tissue for our child before starting treatment?’” he says. “After careful consideration and with approval of the institutional review board (IRB), we concluded that the psychological risk of delaying or interrupting transgender treatments is greater than the surgical risk associated with testicular tissue and ovarian tissue freezing.” Orwig cautions that techniques to use the immature tissues for reproduction are still experimental, but his team is working hard to develop those next generation technologies and bring them to the clinic.

For transgender males, the procedure involves removing an ovary, then freezing and storing tissue until it can be matured in the future to produce eggs. For transgender females, the procedure involves a biopsy of the testicle, then freezing and storing tissue until it can be matured in the future to produce sperm.

Mary says she knows older transgender teens and young adults who have expressed regret that they did not take steps to preserve their fertility. Not wanting Avery to experience the same regret, she and Dan sat down with Avery to talk about the UPMC program.

“I was surprised by her smile. We could tell she was relieved,” says Mary. “She was very clear that she absolutely wanted to do it.”

In January, Avery traveled to Pittsburgh to have testicular tissue removed and frozen. “I was kind of nervous, but it ended up good. It went well,” says Avery. “I’m glad I had it done. I don’t know what I want to do in the future, but this gives me options.”

For Mary, the procedure gave her a feeling of relief. “It was the one thing that I felt was a loss if she wanted children of her own one day and couldn’t have them. It’s part of the human experience and it’s something she can experience if she chooses.

“We don’t know what the future holds, but at least we can say we did everything we could to make this possible for her in the future.”

** Names have been changed to protect the privacy of the patient and family.*