

Once a Male, Always a Male

In the debate over whether nature or nurture holds greater sway over sexual orientation, the balance has tipped in recent years toward genes and the uterine milieu. Now that notion is dramatically bolstered by an unusual study of children born with malformed genitals. Changing the gender of a newborn through surgery, hormonal therapy, and upbringing doesn't reliably change the gender with which the person ultimately identifies.

A rare birth defect called cloacal exstrophy literally turns its victims inside out, and it leaves them with incomplete genitalia. No one knows what causes the condition, but the babies are born with their bladders and intestines hanging out of their body cavity. It hits boys three times more often than girls, and the boys are born with tiny penises. Surgeons can fit the organs back inside, but penile reconstruction is much more difficult. Instead, many surgeons lop off the miniature penis, prescribe estrogen, and advise the parents to raise their child with all the trappings of girlhood.

To determine the outcome of gender reassignment, William Reiner and John Gearhart of Johns Hopkins University in Baltimore, Maryland, followed up on 14 boys born with cloacal exstrophy. All of the boys, aged between 5 and 16 years, had been reassigned as girls at birth. Eight boys now identified themselves as male and had masculine attitudes and interests. For example, they preferred football and ice hockey over dolls. (Four of these eight had claimed maleness spontaneously during childhood, even though they didn't know they had been born male.) Three of the 14 didn't really think of themselves as either boys or girls, and the other five were living as girls, Reiner and Gearhart report in the 22 January issue of *The New England Journal of Medicine*. Gearhart points out that the five who remained female were just entering adolescence, so it may have been too early to say they would remain female to adulthood. Even so, he says, it's "hugely important" that surgeons spare children needless emotional trauma by not reassigning their genders.

The work is "another nail in the coffin" of the idea that gender identity is determined by the environment in which children grow up, says endocrinologist Daniel Federman of Harvard Medical School in Boston. He says the finding lends support to current thinking that aspects of gender identity are set up during intrauterine development.

--MARY BECKMAN

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John Gearhart's site

More on cloacal exstrophy from the Center for Exstrophy and Support Group

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