

## Unnatural selection

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*A study of boys who were surgically turned into girls after a rare birth defect has reopened the nature versus nurture debate about our sexual identity*

WHEN we are born incomplete, we trust medicine to restore our identity. And so, over the past few decades, many boys born without a penis were converted surgically into females soon after birth their diminished phalluses removed and reconstructed as vaginas; their parents encouraged to raise them as girls.

It was seen as the right thing to do in a world that could not countenance men without manhoods, and in a social climate that believed gender was gifted to us mainly by our upbringing.

The benevolent intentions of the past, however, have now turned into one of today's most heartbreaking and complex medical dilemmas. A highly controversial American study of men born with cloacal exstrophy (CE), a rare, severe condition whose symptoms include phallic atresia (no penis), suggests that many of these "women" grow up to shun their adopted gender.

Of the study's 16 genetic males (which means they possessed an XY chromosome pair), 14 had been reassigned as female surgically, socially and legally. The parents of the remaining two had refused to permit reassignment (these two patients declared themselves to be male). Of the 14 "converts", all had typically male hobbies and behaviours and only five truly felt female. Only one ever played with dolls.

Eight felt they were male four before being told of their condition and four afterwards. All eight are attracted to women and now want penises; four of them are actually pursuing penile reconstruction. The remaining one of the 14 refused to discuss gender at all. The study, which appears in this month's *New England Journal of Medicine*, has tremendous implications for the nature versus nurture debate: if boys raised to look and think as girls still view themselves as male, then the argument seems to sway heavily in favour of nature when it comes to sexual identity. Nurture cannot easily subvert nature, it seems, even when it is assisted by major surgery.

"We are challenging the conventional wisdom and urging doctors not to perform conversion surgery as routine," said Dr John Gearhart, director of paediatric urology at Johns Hopkins Children's Centre and co-author of the study.

"Rather, we suggest that they strongly consider counselling families to raise the children as males, and recommend penile reconstruction at a later age.

"Our findings suggest that children who are born genetically and hormonally male may identify themselves as male despite being raised as females and undergoing feminising genitoplasty at birth."

However, Dr Polly Carmichael, a psychologist at Great Ormond Street Hospital, said that the hospital's own study of CE patients who had been surgically altered to become female was much more favourable. "(Gearhart) is saying that these reassigned females are spontaneously saying they are male, but our cohort of ten patients do not have that experience," she says.

The American study involved only 16 patients, and she says that participants might have presented themselves at clinic because they had gender problems which, in other words, possibly meant they were a self-selecting sample at the problematic end of the spectrum.

"The difficulty is that this is a very polarised argument about nature versus nurture. But we need to know that the evidence is very good before we move to a blanket policy of not reassigning gender."

Gearhart's paper, co-authored by William Reiner of Oklahoma University, could have ramifications in intersex conditions, which are situations where the gender of the child is unclear. In the past, the medical belief first put forward by John Money in the 1950s was that nurture determined gender and any corrective surgery should be done quickly after birth.

This crucial time was a window in which gender could be fixed, which would allow better parental bonding. On the basis that it is easier to hollow out a vagina than construct a functioning penis, the trend in the 1960s and 1970s was towards feminising surgery. And, of course, the child was never told the truth.

But now, as those children reach adulthood, the backlash has begun. They are angry at the culture of secrecy and shame, and that something as personal as gender and genitalia was decided without their permission. They talk of having their genitals "butchered" and, where there is nerve damage, being deprived of sexual fulfilment.

At a conference on intersex held in London last week, one of the most moving presentations was given by Melissa Cull, a 35-year-old woman with congenital adrenal hyperplasia, a condition that left her with enlarged female genitals. During childhood, she underwent a number of operations that left her physically and emotionally scarred and unable to have a satisfactory physical relationship (she had to take painkillers before sex). She spoke of doctors warning her not to touch herself, and of a "total loss of ownership of her body". She finished by asking the clinicians to imagine having their own genitalia interfered with: "Would you really put the way you look before your sexual pleasure, wellbeing and your gender just to please society?" The "sex" question has recently been addressed by Sarah Creighton, consultant gynaecologist at University College Hospitals in London, who runs a clinic for intersex adults. Creighton and her colleague, Dr Catherine Minto, found that a quarter of the women who underwent clitoral surgery were unable to achieve orgasm. While every case is different,

Creighton and Minto advocate waiting until the child is older before surgery, partly because revision surgery is often needed at puberty.

That view is opposed by other surgeons. Philip Ransley, consultant paediatric urologist at Great Ormond Street, says that operating later can bring psychological problems of its own, because untreated children can be left questioning their gender. "What happens if a girl has a big penis in the gym?," Ransley asks. "These are the problems they tell us about. The idea that we just sit back and wait for the child to decide seems to me a very poor philosophy."

Creighton, who organised the London conference, says she has noticed a shift in parental attitudes towards later surgery, and parents today are far more ready to accept slight abnormalities. Creighton says: "It is a really hard choice for parents to make. Parents worry about things such as the nanny or childcarer seeing their child naked, and then everybody knowing. And it is little things, such as going to ballet or going swimming, that become difficult. I have to say, many parents are still opting for surgery, although I think there is a trend towards less surgery for the less virilised girls. My view is that surgery on babies could be delayed until their teens, so the child can participate." Interestingly, Creighton believes the growing reluctance to opt for early surgery stems from parents wanting their child to be involved. The current onus on medical disclosure also makes it virtually impossible as well as unethical to conceal such secrets if surgery is done.

Honesty, says Jasmine, a woman born completely female except for the fact that her reproductive organs were male, is the most important contribution a parent can make. Jasmine discovered her condition as a teenager when she failed to start her periods. She also supports later surgery where possible, and believes genital reconstruction for purely cosmetic reasons is rarely justifiable because of the psychosexual damage that can be done. She says: "I have never come across a single person who regretted being told the truth about their past.

"It is important that children don't think it is a secret kept from them by their parents. The best advice for parents is not to rush into a decision about surgery, and not to allow an operation before they have taken their child home."

Adrenal Hyperplasia Network: <http://www.ahn.org.uk>

Androgen insensitivity syndrome support group: <http://www.medhelp.org/www/ais/>

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