

STATE OF THE ART

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Fertility Gone Mad

Pregnancy After Menopause, IVF Birth Defects & More

Anthropologists have long been fascinated by fertility rituals—the homage paid to gods and goddesses, the special potions brewed, the prayers and incantations said, all with the hope of increasing one's odds of bearing children. We postmodern, postindustrial societies have equally earnest, if slightly more technical, fertility rites of our own, focused on harnessing the power of science to overcome biological limits.

For example, menopause need no longer prevent a woman from bearing a child. In a report published in the November 13, 2002 issue of the *Journal of the American Medical Association*, researchers concluded that post-menopausal women ages 50 and older have success rates similar to those of younger women when they become pregnant through in vitro fertilization (IVF) using donor eggs. Although the study did note that postmenopausal women face greater risk of complications during pregnancy than their younger counterparts, the researchers concluded that “there does not appear to be any definitive medical reason

for excluding these women from attempting pregnancy on the basis of age alone.”

As is their wont, the professional bioethicists weighed in—on both sides. “Simply because we find we can and want to do something doesn't mean we ought to do it,” said Roberta Springer Loewy of the University of California-Davis. “We're trying to improve people's quality of life as they age on every dimension. Why should the reproductive arena be different?” argued Ruth Faden, a bioethicist at Johns Hopkins University. The American Society for Reproductive Medicine tried to have it both ways, noting that such cases “should be discouraged” even while saying the practice is “not unethical in all cases” and commending the research for discovering new “options” for older women.

Meanwhile, the potential risks of IVF are coming under increased scrutiny, and questions are being raised about its long-term effects on the health of children created using various assisted reproduction techniques. A study published in the January issue of the *American Journal of*

Human Genetics by researchers at Johns Hopkins University and Washington University School of Medicine in St. Louis found that “IVF appears to be associated with a rare combination of birth defects characterized by excessive growth of various tissues.” The condition, Beckwith-Wiedemann syndrome, causes cancer and developmental problems and was six times more common in IVF-initiated conceptions than in the general population. For now, researchers are calling the finding a case of correlation, not causation, and given the small number of children conceived through IVF (currently about .8 percent of births in the U.S. occur as a result of assisted reproductive technologies) they consider the risk too small to discourage the continued use of IVF techniques. Another study, conducted by researchers in England and published recently in the *Journal of Medical Genetics*, has confirmed the findings of the American researchers. The British study of 149 children with Beckwith-Wiedemann syndrome found that children conceived using IVF were four times more likely to have the condition.

The risk of human error during the IVF process is also a problem. Last fall, an administrative mix-up at St. George’s Hospital in London led to the wrong IVF-created embryos being implanted into two women, both of whom ended their pregnancies when notified. A few months earlier, a mistake with sperm samples at a fertility clinic in Leeds led to the birth of mixed-race twins to a white couple. And in Southampton, England, fertility expert Paul Fielding was convicted of three counts of assault and eight counts of false accounting for subjecting female patients to regimens of fertility drugs and invasive surgery while only pretending to implant

fertilized embryos. He apparently faked the procedures to collect fees to pay off personal debts. After Fielding was sentenced to 18 months of prison, the judge said to him, “You have betrayed the blind trust of these vulnerable women. Your crimes were despicable.” That such troubling episodes occurred in Britain, where the fertility industry is highly regulated by the Human Fertilisation and Embryology Authority, raises questions about possible dangers and abuses in the virtually unregulated American IVF market.

Fertility experts are also beginning to pay attention to male infertility—and the possibility that it is not only women who hear the chiming of their biological clocks. Researchers at the University of Washington in Seattle found that men over the age of 35 are more likely to have “compromised” sperm. “Older men had lower sperm mobility, more highly damaged DNA and tended to have fewer apoptotic cells than younger men,” they reported at the 2002 meeting of the American Society for Reproductive Medicine. (Apoptotic cells are those that seek out and destroy damaged sperm.) And in the September 7, 2002 issue of *Lancet*, researchers studying the genetic code of sperm cells reported advances which they hope will help pinpoint causes of male infertility. A study published in the February 2003 issue of *Human Reproduction* reaffirmed these findings, suggesting a male biological clock that begins ticking before a man reaches the age of 30. Researchers charted a steady decline in semen volume and sperm motility in men beginning in their twenties and increasing in severity as they age.

For men who prefer to assess their fertility in the privacy of their own homes, there is now an over-the-counter male infertility test called FertilMarq (suggest-

ed retail price: \$39.99), which measures sperm concentration and motility. Apparently men living in cities are more likely to score better on such tests than their country cousins. A study published by an epidemiologist in the December 2002 issue of *Environmental Health Perspectives* found that men living in agricultural areas have lower sperm density and motility than their urban counterparts. Researchers suspect that certain chemicals used in agricultural work in rural areas might act as endocrine inhibitors, altering the functioning of male

hormones and thus fertility.

Those who work the flip side of the fertility coin—contraception—will soon be targeting men with their wares as well. Schering, a German pharmaceutical company, recently announced that it is joining with Dutch drug manufacturer Akzo Nobel to develop a contraceptive pill for men that they hope to make available in five to seven years. Whether or not men will cotton to the idea of taking birth control pills is another question—no doubt one that Schering will leave to its marketing department to answer.