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NEW RECOMMENDATIONS TO ASSESS MALE FERTILITY QUESTION PREVIOUS STANDARDS

New recommendations from an NICHD study question current standards for determining whether a semen sample is normal or abnormal. Under the new recommendations, many men formerly considered fertile may, in fact, have difficulty fathering a child. Conversely, men who fall below the threshold of the current standards, may be capable of fathering a child.

The study, based on the most comprehensive analysis of its kind, was conducted by researchers in the NICHD-sponsored National Cooperative Reproductive Medicine Network, and appears in the November 8 "New England Journal of Medicine".

"These recommendations provide a more reliable means for estimating the likelihood of a man's fertility," said Duane Alexander, M.D., director of the National Institute of Child Health and Human Development. "This will prove a valuable tool for specialists treating couples with unexplained infertility, allowing them to make their best judgment on whether it would be more helpful to focus on treatment for the man or the woman."

Current standards for estimating the fertility of semen samples have been established by the World Health Organization (WHO). In the article, the authors noted that two other studies questioned the accuracy of the WHO reference values. Semen analysis is the routine method for estimating a man's chances for establishing a pregnancy. The method consists of counting the number of sperm per milliliter, determining the percentage of sperm that are moving (sperm motility) and assessing the sperm's shape (morphology). Normal sperm are oval shaped.

About 1 in 6 couples have difficulty conceiving a child, said the study's first author, David Guzick, M.D., chairman of Obstetrics and Gynecology at the University of Rochester Medical Center. In 30 to 40 percent of these couples, the males are infertile.

The research team analyzed semen samples from 765 men in infertile couples and 696 samples from men in fertile couples from 9 locations around the country. The men ranged from 20 to 55 years of age. The men were considered fertile if their partner had conceived within the last two years.

According to the WHO criteria, normal semen contains 20 million sperm per milliliter, with at least 50 percent motility. Dr. Guzick and his coworkers found that men were most likely to be fertile if their semen had more than 48 million sperm per milliliter, more than 63 percent motility, and more than 12 percent having a normal appearance. The researchers also identified a "gray zone," in which men had borderline fertility, but yet could still establish a pregnancy. Samples from this group had sperm counts between 13.5 and 48 million sperm per milliliter, more than 63 percent motility, and had more than 12 percent of sperm with a normal shape. Finally, the researchers found that men were most likely to be infertile if their samples contained fewer than 13.5 million sperm per milliliter, less than 32 percent motility, and contained fewer than 9 percent of sperm with a normal shape.

"Every treatment for infertility depends upon first establishing what's normal and abnormal," Dr. Guzick said.

"Up until now, we've just been using guidelines without rigorously testing them. We hope specialists will use these revisions in their counseling of infertile couples and in tailoring treatments to individual patient circumstances."

The NICHD is part of the National Institutes of Health, the biomedical research arm of the Federal government. The Institute sponsors research on development before and after birth; maternal, child, and family health; reproductive biology and population issues; and medical rehabilitation. NICHD publications, as well as information about the Institute, are available from the NICHD website, <http://www.nichd.nih.gov...>

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