

(In)Fertility in the Modern Era

The success of fertility procedures has allowed couples, both young and older, to experience the miracle of life when nature otherwise would not allow for it. The availability of these procedures now also secondarily helps us plan our families, in balancing it with careers, household, and other social pressures. However, is there an ethical and biologic limit in terms of how far we should go? Currently, it is a personal and medical decision to be made depending on the state, the doctor, and the circumstances of the individual(s) in question.

Our modern lifestyles are causing us to be out of sync with our biological lifecycles. Despite our emphasis on pro-youth, anti-aging prevention and medical treatments, our bodies still keep track of chronologic time. As women especially spend more time in education, careers, and social development (there has been a fourfold increase since the 1970s in the number of women after age 30 having their first child), our years of prime fertility often slip behind the wayside. When we are emotionally, socially, and economically ready to start families, it can be a shock when our bodies fail to cooperate.

Female fertility is at its peak around the ages of 19-24 years. After the age of 30, our fecundity drops, especially dramatic after age 35, with a concomitant rise in the rate of miscarriages and chromosomal abnormalities. Though infertility issues are half the time caused by male factors, it is the female that is the biologic bottleneck since we are capable of conceiving only 12 times a year for about 30+ years of our lives. Thus, only about 400 of our original one million eggs that we have at birth are ever potentially “usable” due to human female ovulatory cycles. The quantity and quality of those eggs also diminishes greatly after age 30, with about 1,000 eggs lost per month.

At any given time, 11 million of 90 million US couples are trying to conceive, with a success rate of 20% per month. It will take the average fertile couple 5-6 months to conceive before success. 1 out of ten couples will experience infertility as defined as failure to conceive after 12 months of active efforts.

Doctors often start diagnostic testing if the female is over 30 years old, if there is an abnormal medical, reproductive gynecological history such as repeated miscarriages, or if the male undergoes testing and has a low sperm count.

Infertility treatment options currently include medications and medications in conjunction with variations of the following procedures (Assisted Reproductive Technology). The most common are:

- Glucophage to boost ovulation if insulin-resistance is a suspected factor
- Clomiphene therapy to stimulate mature egg production
- Gonadotropin therapy (often follicle- +/- leutenizing stimulating hormone; or gonadotropin releasing hormone) to stimulate increased numbers of eggs produced per cycle
- Human Chorionic Gonadotropin to stimulate release of eggs from follicles

- intrauterine insemination (IUI, aka artificial insemination) where washed sperm is injected into the uterus around the time of ovulation
- In-Vitro Fertilization (IVF) – harvesting the egg and inseminating it in a petri-dish and placing the zygote back in the uterus

The frustrations of infertility treatment aside from cost (often in the tens of thousands of dollars), is that these tests can take many precious months of time, and there can be a significant failure rate. They are also not without their side effects including the probability of multiple births or enlarged ovaries.

Talk to your Ob-Gyn or Urologist if you are concerned about what is the right treatment course. Aside from medical intervention, both the male and female should avoid tobacco, excess alcohol, and perhaps excess caffeine, as well as maintain a normal weight by good nutrition and moderate exercise...and the hardest advice of all to follow: Avoid Stress.

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