

By [Stefano Anitei](#), Science Editor

## [Genetic Screening in Embryos Rather Kills Them](#)

*The causes are not clearly understood*

After running through all options, in vitro fertilization (IVF) is the last stop. By then, most women are already around their 40's. But with the increasing age, the chances to give birth to malformed or genetically diseased babies are high. That's why many of these women undergo pre-implantation genetic screening (PGS), which means the removal of one or two cells from the embryo three days after fertilization, to be examined in order to count the number of the chromosomes, which can be higher or lower. For example, an extra 21 chromosome induces the Down syndrome. The technique should increase the chances of delivering healthy babies but it seems that rather decreases the chances of having a baby. PGS is widely recommended for older women undergoing IVF, as they have a high risk of delivering "aneuploid" embryos (with abnormal number of chromosomes); moreover, the procedure does not come cheap at all: it costs \$3000-5000. The team led by Sebastiaan Mastenbroek, at the University of Amsterdam in the Netherlands, monitored 408 women on IVF, 35 to 41 years old. Of them, 206 were given PGS. 12 weeks following the PGS, 25% of these women were pregnant, compared with 37% of the women who did not undergo PGS. The difference in outcomes was the same for live births. "The goal of PGS is to increase pregnancy rates, but we found that it actually decreases it," says Mastenbroek. "Given these findings, PGS for aneuploidy screening should not be performed solely because of advanced maternal age," said John Collins of Dalhousie University in Halifax, Canada. The negative effects on pregnancy rates induced by PGS were caused by several possible factors: removing a cell from an early embryo could decrease its survival capacity; the removed cells could have a number of chromosomes which is different from that of other embryo cells; just 11 of the 23 chromosome can be investigated by PGS, thus, in the end, abnormal embryos can be taken as normal. "From these data it seems that women should just stick to regular IVF treatment where embryos are screened by their morphology," said Mastenbroek. "PGS remains an important technique that should be available to older women, but that it should not be used in isolation to determine whether or not an embryo should be implanted," said Alan Handyside, of the Bridge Fertility Centre in London, UK.