

# Study finds low rate of complications with assisted reproductive technology procedures

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In the United States from 2000-2011, autologous (woman uses her own egg) and donor assisted reproductive technology procedures were associated with low complication risks, according to a study in the January 6 issue of *JAMA*.

Use of assisted [reproductive technology](#) (ART) continues to increase in the United States and globally. In an effort to improve patient safety, stimulation protocols (medication regimens used for ovulation induction) have become less aggressive, oocyte (the egg before it is released at ovulation) retrieval has transitioned from laparoscopic to transvaginal, and overall pregnancy rates have improved. However, limited data exist regarding the incidence of [maternal complications](#), according to background information in the article.

Jennifer F. Kawwass, M.D., of the Emory University School of Medicine, Atlanta, and colleagues examined the incidence and trends in reported patient and donor complications in fresh (non-frozen) ART cycles using the U.S. Centers for Disease Control and Prevention National ART Surveillance System (NASS), a federally mandated reporting system. Reported complications (defined as having been directly related to ART and occurring within 12 weeks of cycle initiation) include infection, hemorrhage requiring transfusion, moderate or severe ovarian hyperstimulation syndrome (OHSS; an over-response to ovarian stimulation), medication adverse event, anesthetic complication, hospitalization, patient death within 12 weeks of stimulation, and other complications.

Among 1,135,206 autologous cycles, the most commonly reported patient complications were OHSS (peak of 153.5/10,000 autologous cycles) and hospitalizations (peak of 34.8/10,000 autologous cycles); rates of other complications remained below 10/10,000 cycles. Rates declined from 2000-2011 for reported medication [adverse events](#) and hospitalizations; no other significant trends were detected among reported infections, hemorrhages, OHSS, severe OHSS, anesthetic-related complications, and deaths within 12 weeks of stimulation start or during pregnancy.

Fifty-eight total deaths were reported (18 stimulation-related and 40 maternal deaths prior to infant birth). The maternal death rate ranged from 1.6 per 100,000 ART-conceived live births in 2008 to 14.2 in 2004. Reported [complications](#) following donor ART cycles were less frequent; none showed a significant trend. No donor deaths were reported; 13 [maternal deaths](#) prior to infant birth were reported among oocyte donor recipients.

"Increased awareness of the most common complication, OHSS, may prompt additional study to characterize predictors of this and other adverse events to inform the development of effective approaches necessary to decrease complication occurrence," the authors write.

**More information:** [DOI: 10.1001/jama.2014.14488](https://doi.org/10.1001/jama.2014.14488)

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