

Economic implications of the SART embryo transfer guidelines: healthcare dollars saved by reducing iatrogenic triplets

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Objective: To estimate the national cost savings resulting from reductions in higher order multiple (HOM) livebirths (defined as three or more fetuses) since the publication of the Society for Assisted Reproductive Technology (SART) guidelines on embryo transfer (ET) in 1998.

Design: Descriptive use and cost analysis.

Setting: A review of existing literature to estimate the cost of singleton, twin, and triplet livebirths, as well as national data reported to the U.S. Centers for Disease Control and Prevention from 1996 to 2012.

Patients/Interventions: None

Main Outcome Measures: Estimates of the total number of HOM deliveries prevented (from 1998-2012) following the publication of SART guidelines; the associated healthcare savings (2014 US dollars).

Results: A singleton livebirth was estimated to cost between \$17,100 – \$24,200. A twin livebirth was estimated at \$66,000 – \$117,500. A triplet livebirth was estimated at \$190,800 – \$456,300.

The percentage of HOM gestations among all ART pregnancies decreased from 11.4% in 1997 to 2.0% in 2012, with the sharpest year-over-year decline of 20.3% occurring the year immediately following the publication of the guidelines. The number of prevented HOM deliveries from 1998 through 2012 was estimated at between 13,500 and 16,300, corresponding to cost savings of \$6.02B (range: \$2.35-7.03B, 2014 USD).

Conclusions: Iatrogenic HOM gestations represent a substantial economic burden to our healthcare system. The introduction of guidelines for ET in 1998 coincided with a dramatic decrease in the HOM rate in subsequent years and an associated cumulative cost savings of more than \$6B. Further reductions in HOM gestations could save up to an additional \$2B annually.

Keywords: in vitro fertilization, multiple gestation, embryo transfer, economic, healthcare spending