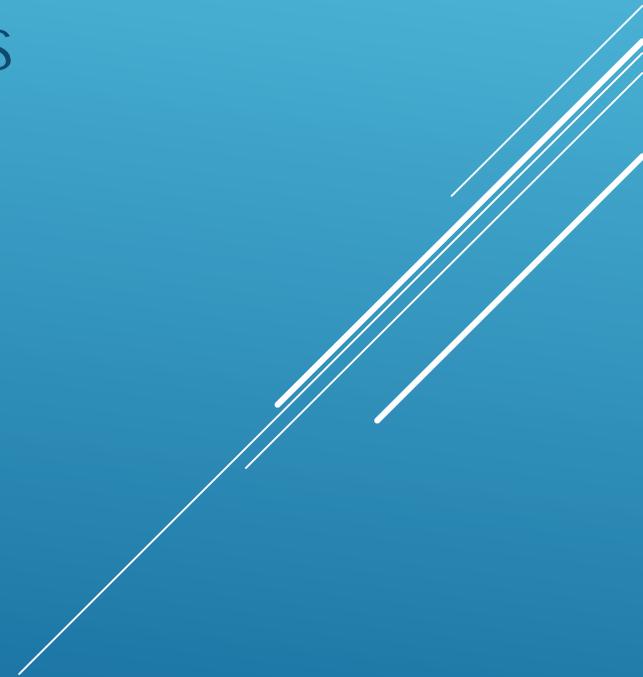


PREGNANCY COMPLICATIONS IN IVF_ET PREGNANCIES

Dr.bakhtiyari

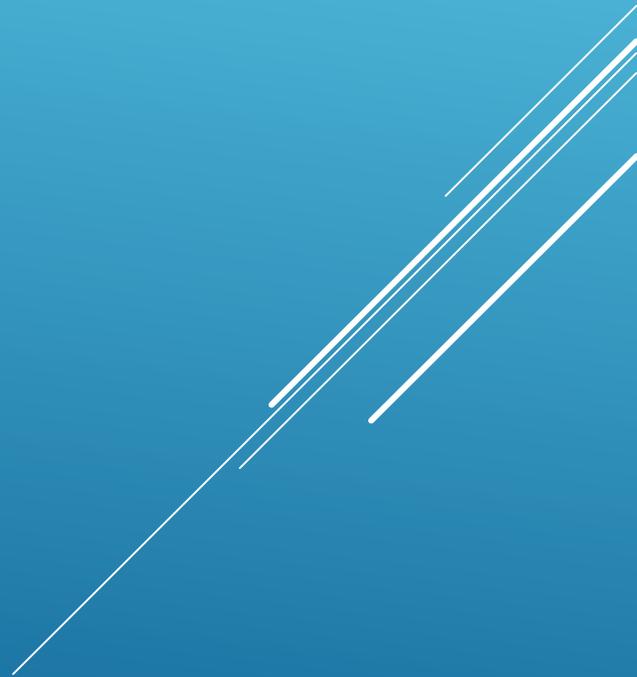
- ▶ Over the past decades, the use of assisted reproductive technology (ART) has increased dramatically worldwide and has made pregnancy possible for many infertile couples



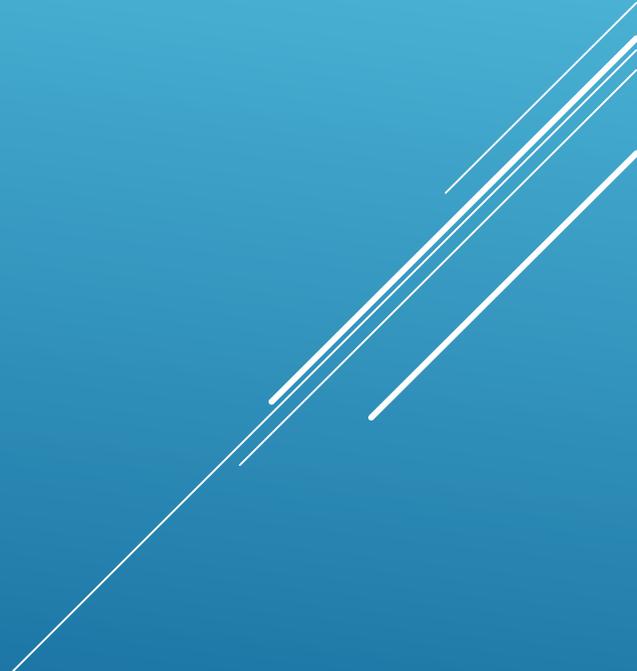
- ▶ Today, more than 1.5% of all infants born in the United States every year are from women who achieved their pregnancies by using ART

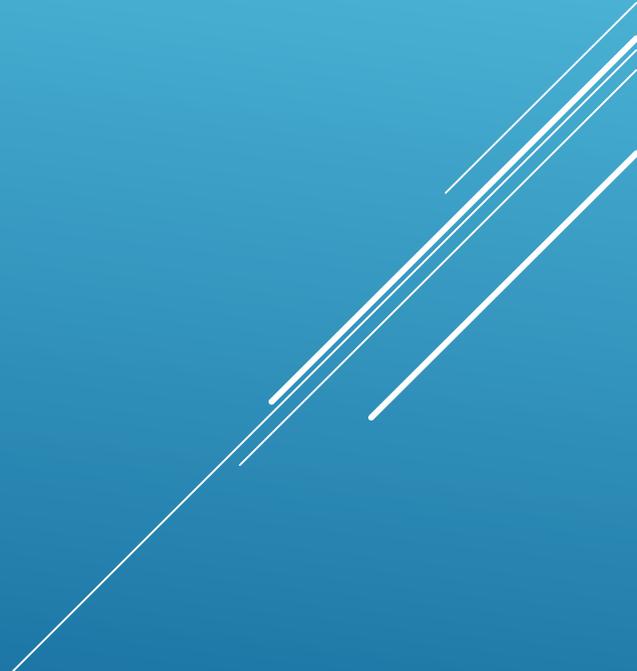


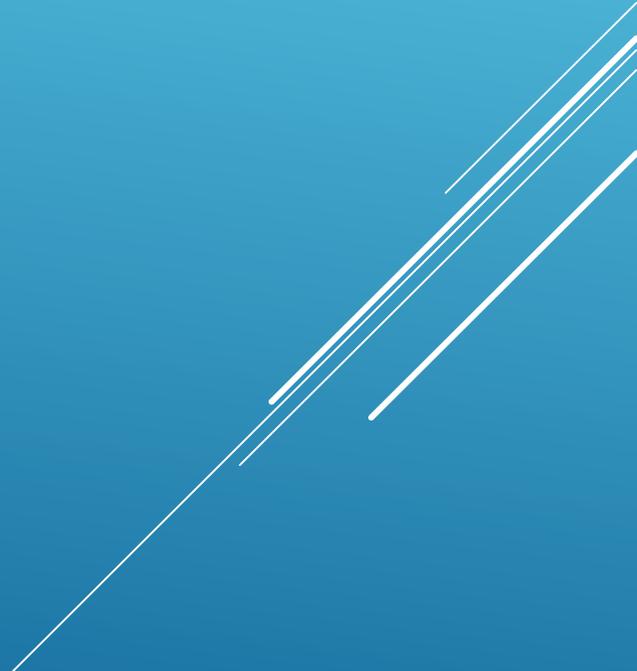
- ▶ EUP
- ▶ INFECTION
- ▶ OHSS
- ▶ BLEEDING



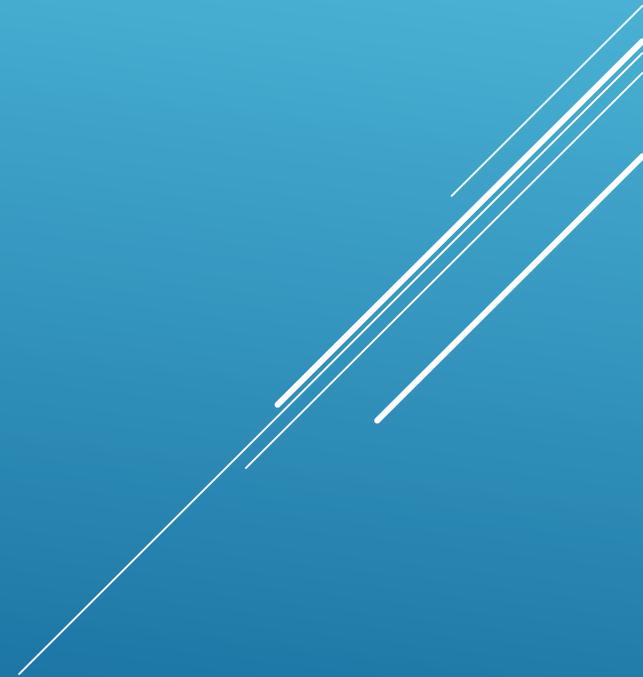
EUP:

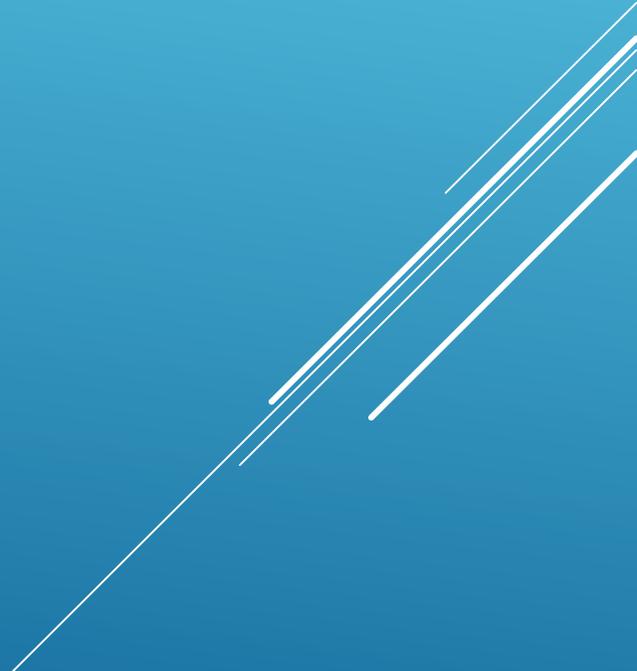
- ▶ Tubal dis.
 - ▶ PID
 - ▶ Higher prog/E2 ration on the day ET
 - ▶ ZIFT
 - ▶ Number of embryo transfer
 - ▶ Volume of media
 - ▶ Transfer closer to the fundus(,10mm)
 - ▶ Live birth history
- 
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- ▶ The increased risk of **maternal and fetal** morbidity and mortality
 - ▶ use of ART techniques has been associated with an increased risk of monozygotic twinning, which brings additional risk of growth abnormalities and twin-to-twin transfusion.
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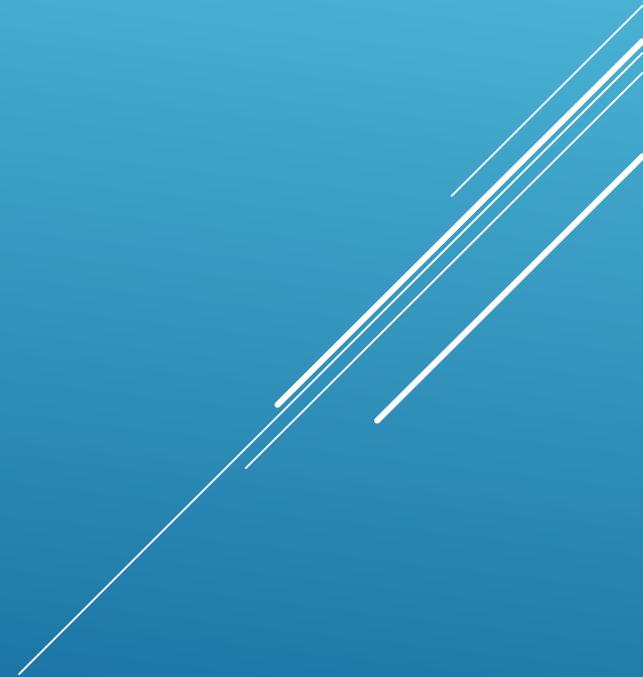
- ▶ Infertility cases are usually **older** and this is one of the reasons for increased complications in pregnancy.
 - ▶ **multiple pregnancies** is the commonest complication
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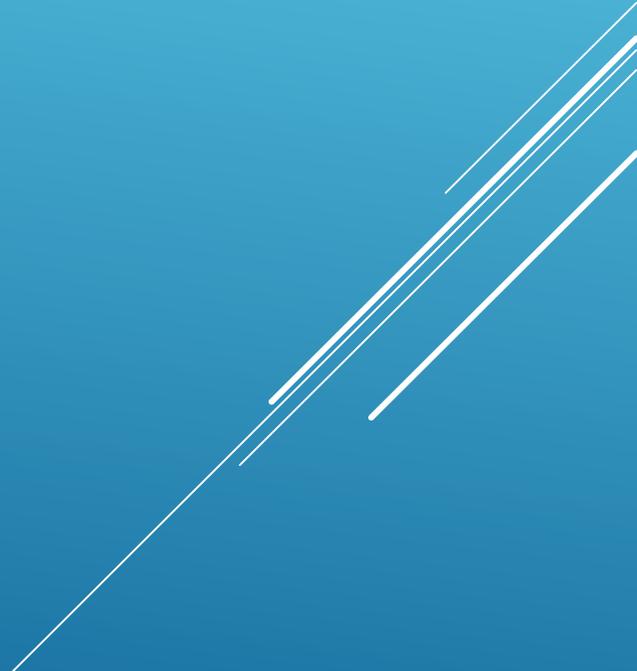
- ▶ even singletons achieved with ART and ovulation induction may be at higher risk than singletons from naturally occurring pregnancies. However, it remains unclear to what extent these associations might be related to the underlying cause(s) of infertility.



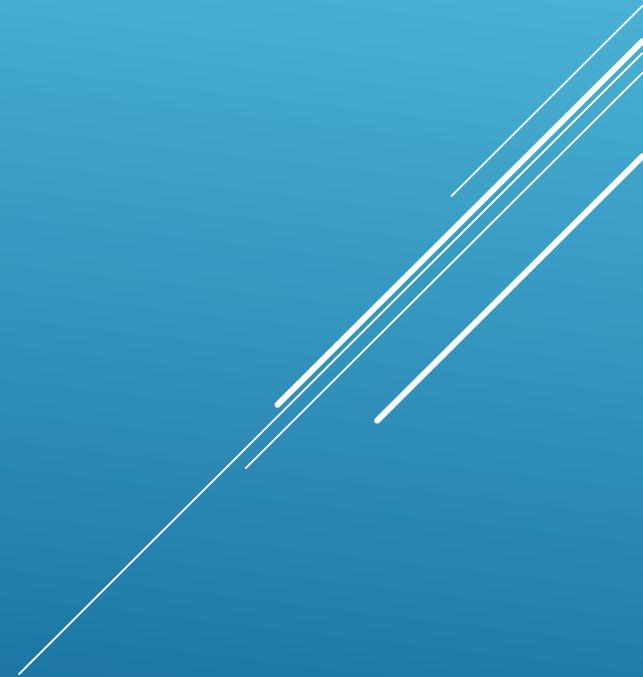
- ▶ Couples at risk of passing **genetic** conditions on to their offspring, including those due to infertility-associated conditions, should be counseled appropriately.
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- ▶ Patients who plan to use assisted reproductive technologies should be counseled about using this information.



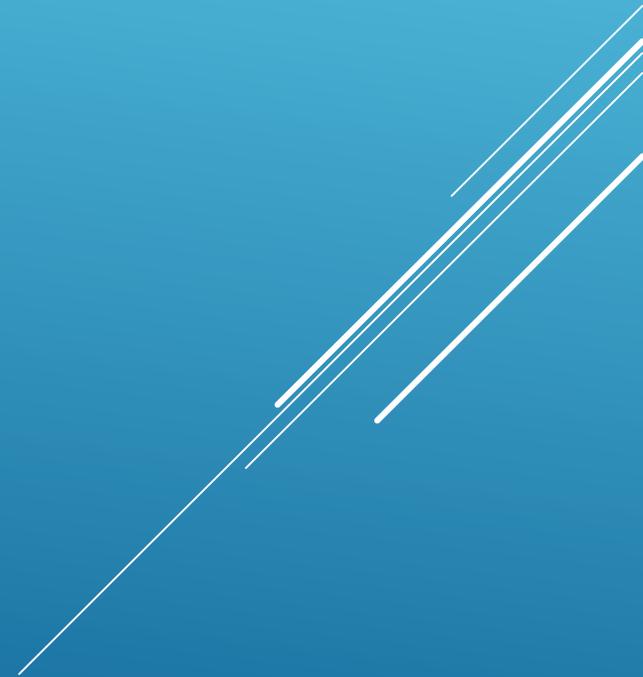
- ▶ Before initiating ART or induction ovulation, GYN and other providers should complete a thorough **medical evaluation** to ensure that patients are in good health and should counsel these women about the **risks** associated with treatment.
 - ▶ Any maternal health problems, **inherited** conditions should be addressed.
- 
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- ▶ Studies that compare obstetric outcome of singleton ART and naturally occurring pregnancies suggest that the former are at increased risk of preterm birth, low birth weight, and perinatal mortality rate, even after adjusting for age, parity, and multifetal gestations

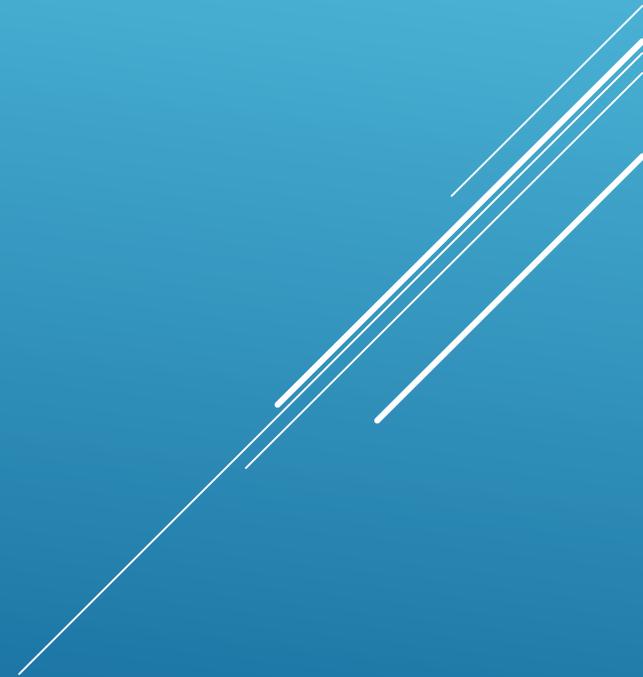


- ▶ ectopic pregnancy including heterotopic
 - ▶ pregnancy loss
 - ▶ multiple pregnancy
 - ▶ pre-eclampsia, gestational diabetes, placenta praevia, and perinatal mortality.
 - ▶ higher relative risks of having induction of labor and Cesarean section (CS), both emergency and elective
 - ▶ high blood pressure, growth retardations.
 - ▶ postpartum hemorrhage
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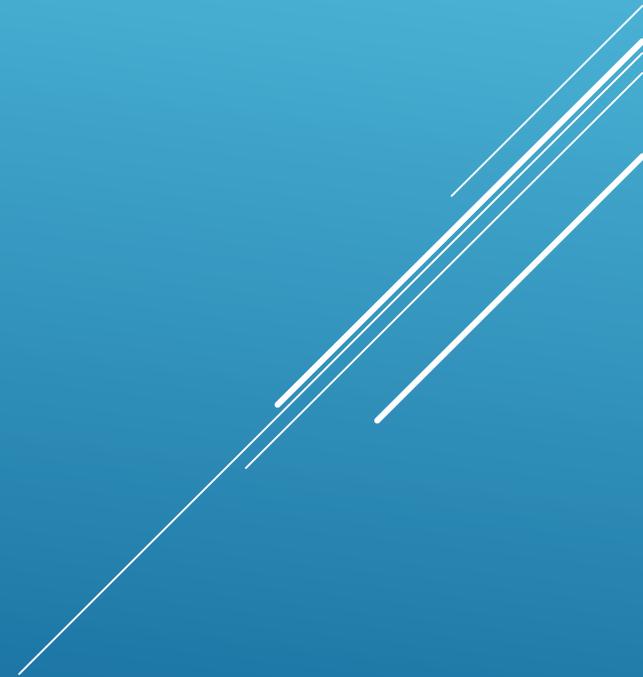
encourage and expand use of single-embryo transfer. Patients and couples should be counseled about the risks of multifetal gestation with these techniques



- ▶ When a higher-order (triplet or more) multifetal pregnancy is encountered, the option of multifetal reduction should be discussed.

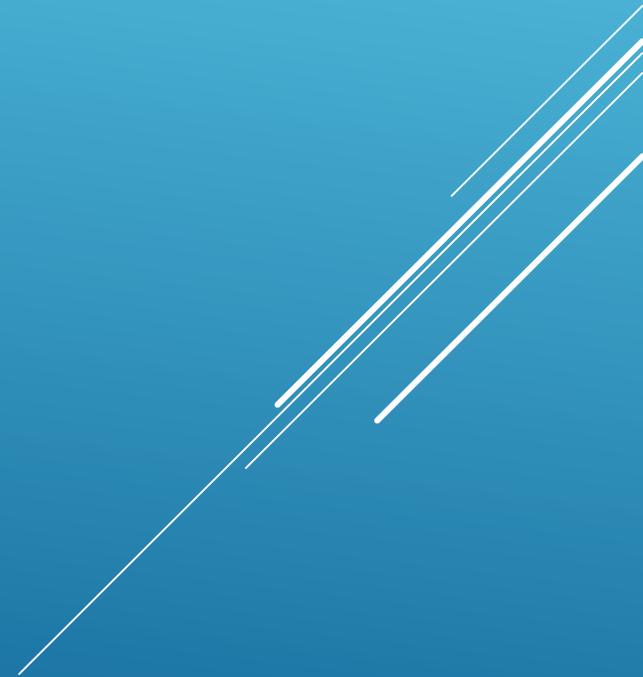


- ▶ . A 2016 analysis of Massachusetts State data found an elevated risk of **severe maternal morbidity--blood transfusion** was the most common indicator of severe maternal morbidity--among women who became pregnant through ART even when those outcomes were compared with a subfertile population



- ▶ A meta-analysis of 15 studies comprising 12,283 singleton infants of women who underwent IVF and 1.9 million singleton infants of women who had naturally occurring pregnancies showed higher odds of **perinatal mortality** (odds ratio [OR], 2.2; 95% confidence interval [CI], 1.6–3.0), **preterm delivery** (OR, 2.0; 95% CI, 1.7–2.2), **low birth weight** (OR, 1.8; 95% CI, 1.4–2.2), **very low birth weight** (OR, 2.7; 95% CI, 2.3–3.1), and small-for-gestational-age status (OR, 1.6; 95% CI, 1.3–2.0) in IVF pregnancies, after adjusting for maternal age and parity .

- ▶ The higher incidence of complications in OD cycles could be due to advanced maternal age, different placentation, and immune tolerance.



- ▶ One possible explanation is that ART procedures or maternal factors associated with infertility or a combination of these bring about increased risks of adverse outcomes in the ART pregnancies. Some studies have shown that factors associated with ART procedures themselves, such as the **medications used** to induce ovulation or to maintain the pregnancy in the early stages, the **culture media** composition, the **length of time in culture**, the **freezing and thawing** of embryos, the potential for polyspermic fertilization, the delayed fertilization of the oocyte, altered **hormonal environment** at the time of implantation, and **the manipulation of gametes** and embryos or a combination of these, may increase the risk of adverse outcomes .

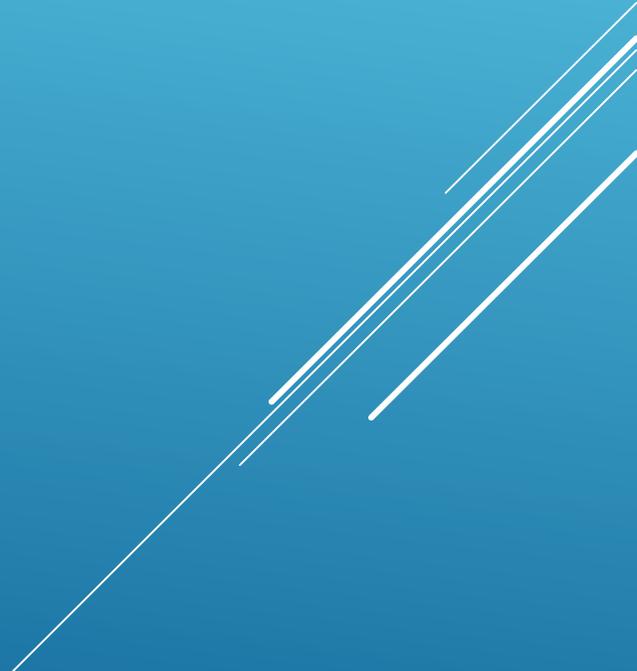
- ▶ subfertile women who conceived **without** the aid of ART and yet exhibited an **increased risk** of PTB , LBW , perinatal mortality , CM , pregnancy-induced hypertension or preeclampsia , gestational diabetes , and cesarean delivery.

▶ Send to

▶ Reprod Biol Endocrinol. 2017 May 4;15(1):36. doi: 10.1186/s12958-017-0255-4.

▶ Comparative neonatal outcomes in singleton births from **blastocyst transfers or cleavage-stage** embryo transfers: a systematic review and meta-analysis.

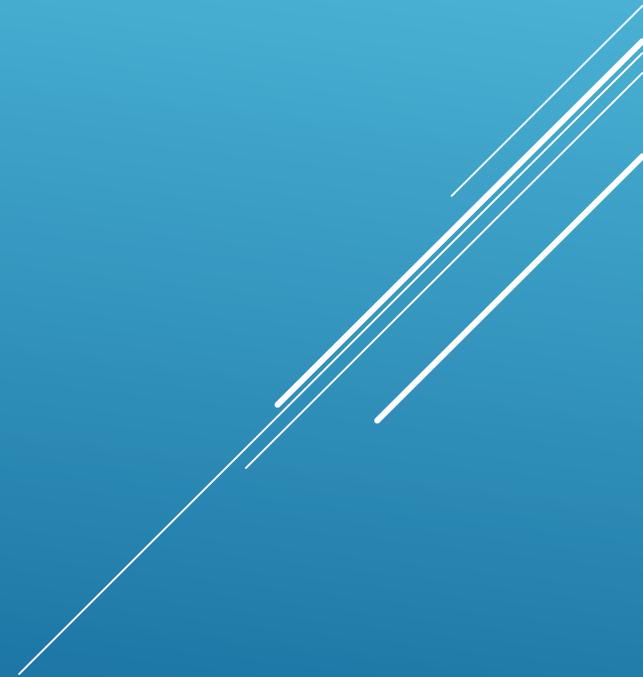
- ▶ The risks of preterm and very preterm births **increased** after **fresh blastocyst** transfers versus the risks after **fresh cleavage-stage** embryo transfers. However, in **frozen** embryo transfers, there were **no differences**. Blastocyst embryo transfers resulted in high risks of infants who were large for gestational age, and cleavage-stage embryo transfers resulted in high risks of infants who were small for gestational age.

- ▶ Risk of **PTB** in IVF singleton pregnancies is significantly **higher** following **blastocyst** transfer compared with cleavage stage transfer. Risk of congenital anomalies may also be higher but further studies are needed to confirm this finding and to identify reasons for such outcomes.
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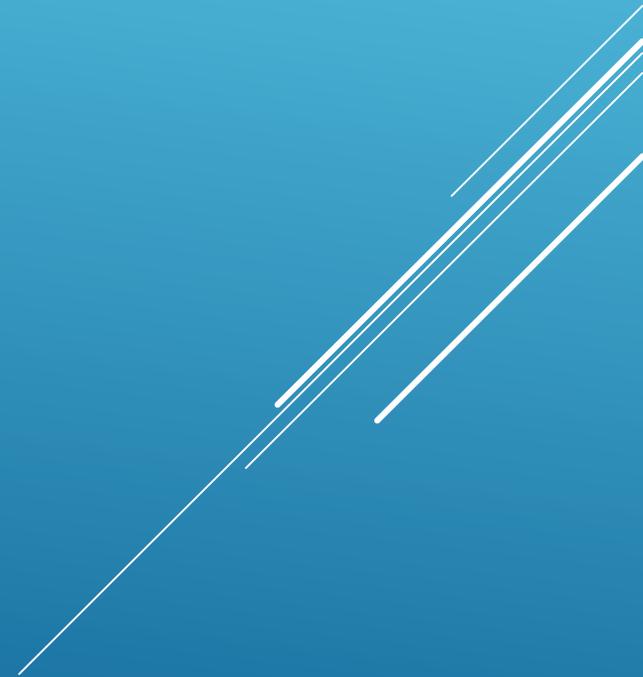
- ▶ We found a significantly higher risk of **preterm birth** (<37 weeks) in singletons after extended embryo culture (Day 5/6) compared with cleavage stage (Day 3) transfer, even when adjusting for confounding factors

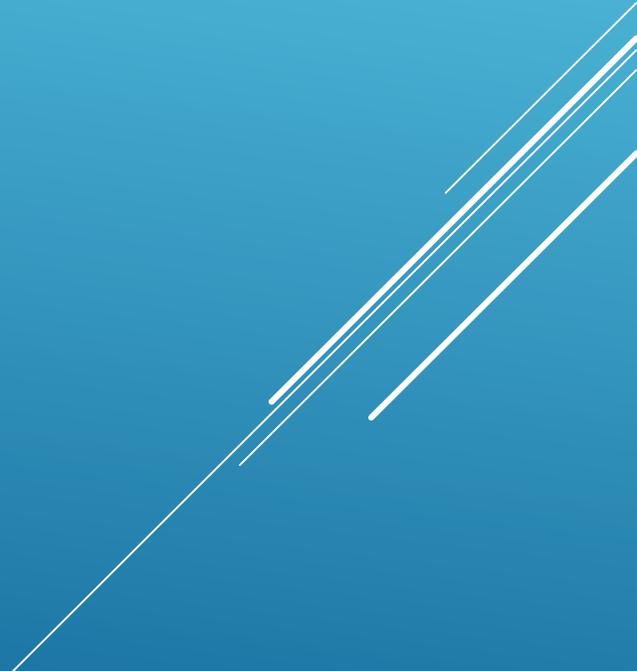
- ▶ The risks of preterm and very preterm births increased after fresh blastocyst transfers versus the risks after fresh cleavage-stage embryo transfers. However, **in frozen embryo transfers, there were no differences.**

- ▶ To evaluate the effect of **embryo quality** on pregnancy outcomes:



- ▶ The obstetric and neonatal outcomes of live births between the poor- and good-quality embryo transfers **were equivalent**.

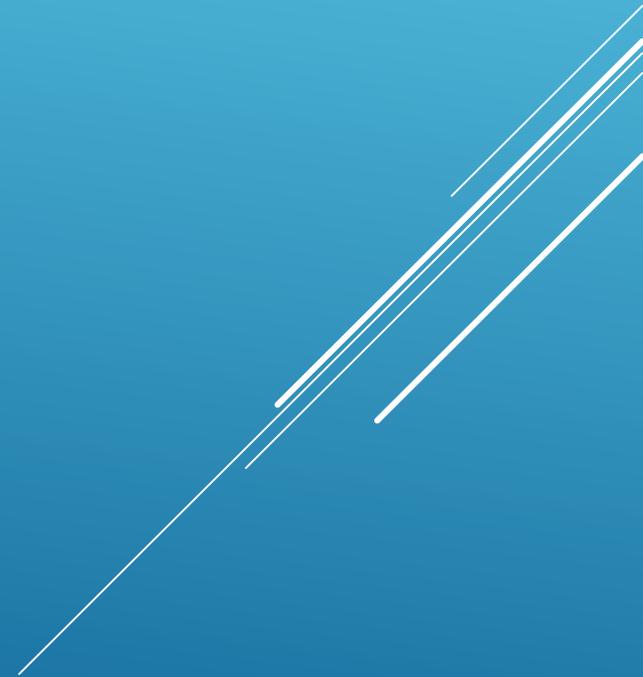


- ▶ Send to
 - ▶ Fertil Steril. 2018 Feb;109(2):330-342.e9. doi: 10.1016/j.fertnstert.2017.10.019. Epub 2018 Jan 11.
 - ▶ Pregnancy-related complications and perinatal outcomes resulting from transfer of **cryopreserved versus fresh** embryos in vitro fertilization: a meta-analysis.
 - ▶ Sha T¹, Yin X², Cheng W¹, Massey IY³.
- 

- ▶ Pregnancies resulting from FET were associated with lower relative risks of placenta previa, placental abruption, low birth weight, very low birth weight, very preterm birth, small for gestational age, and perinatal mortality compared with fresh ET.

- ▶ Pregnancies occurring from FET were associated with increased risks of pregnancy-induced hypertension, postpartum hemorrhage, and large for gestational age compared with fresh ET.

- ▶ The risks of gestational diabetes mellitus, preterm premature rupture of the membranes, and preterm birth (PTB) showed no differences between the two groups.



DONATION!!!!!!

