Unit 2 Prenatal Development

- if you are pregnant, you have options for genetic screening / testing:

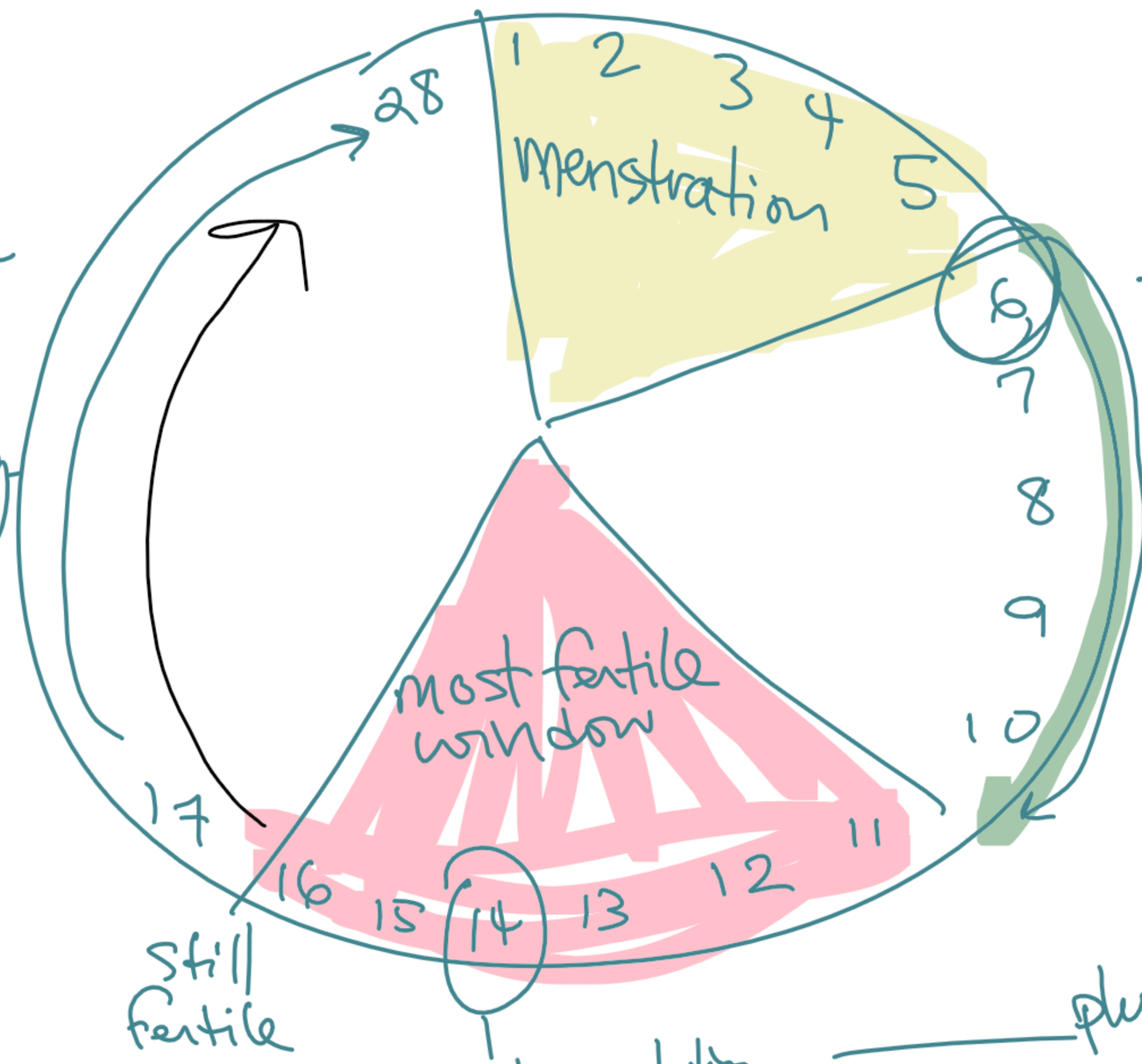
low risk to pregnancy → to high risk to pregnancy

- no prenatal testing
  - only likely answers, not certainty
- screening tests
  - mother's blood test - DNA from placenta with is usually same as fetus!
  - ultrasound
- screening + a diagnostic test.
- a diagnostic test.
  - amniocentesis
    - fluid from womb.
  - diagnosis, nearly for sure.

= testing for.
- Down Syndrome
- Trisomy 13 + 18 (3rd chromosomes)
- heart defects in the fetus
- neural tube defects

Fertility Treatments

- take birth control to regulate period. (hormones)



the lining of uterus starts deteriorating prepares for next period of bleeding.

first day after period ends, can take fertility drugs for ovulation

- mature an egg follicle to be released by an ovary.

peak ovulation day -

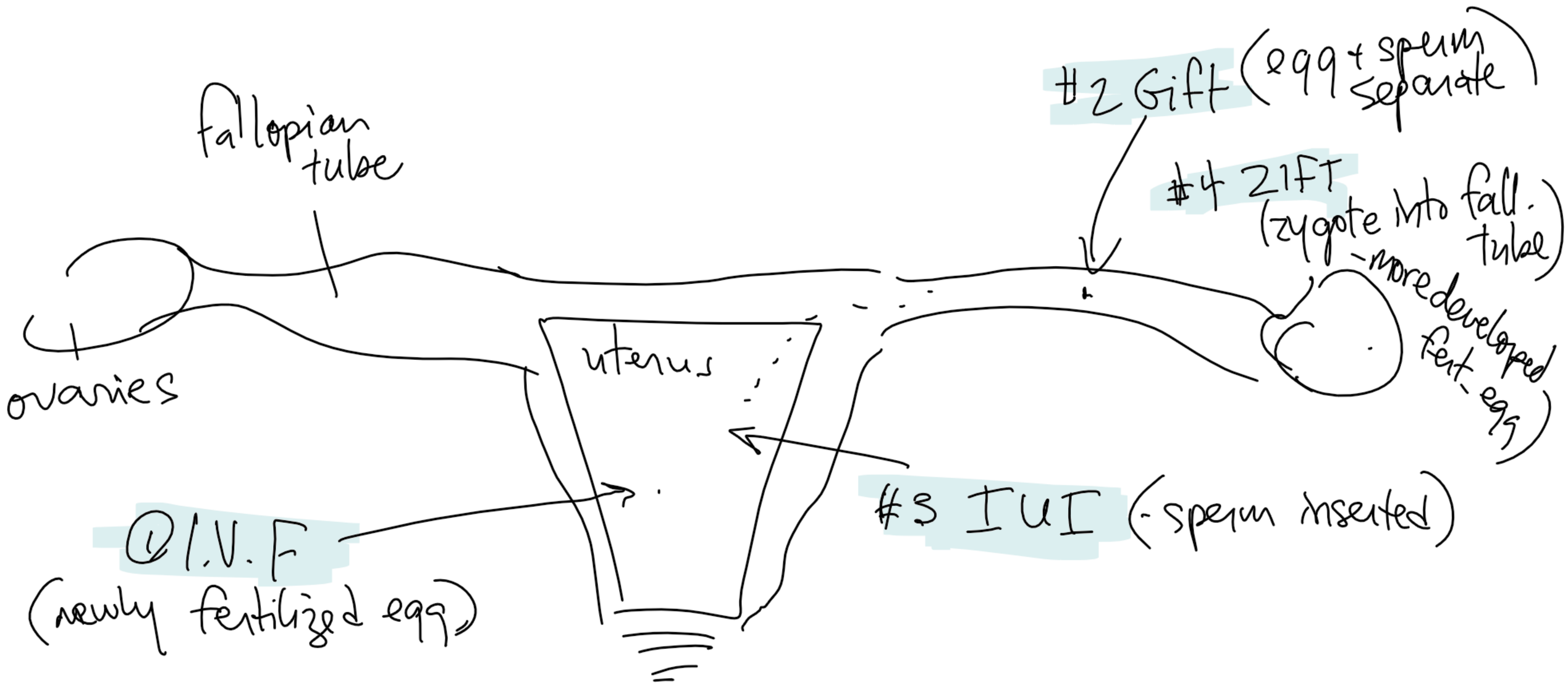
physical characteristic of ovulation:

- basal body temp. change
- cervical mucus or fluid thicken (egg white consistency) (discharge)
- cervix moves position/firms up.

in the fallopian tubes.

fertilized egg

move into the uterus to attach in the lining



#5 ICSI - sperm injected to fertilize an egg.
(→ IVF or with time becomes ZIFT)

#6 egg donation/surrogacy.

Sperm Washing
- sperm sample that is graded/washed
- spun in a machine to separate health from unhealthy sperm
  - healthy sperm are more dense - fall to the bottom
  - leave dead + unhealth floating at top.
  - also separates from sperm the
    - white blood cells
    - mucous
    - seminal fluid

1. IVF - extract + fertilize egg (sperm)
- placed into body
- costly. risk high. invasive
- still doesn't have a high success rate

very newly fertilized egg.

2. GIFT gamete
- egg + sperm placed into fallopian tube

3. IUI - sperm into uterus
- useful method if using sperm donor

4. ZIFT · zygote - fertilized egg.
- more developed fertilized egg.
- 2x more likely to survive than IVF.

5. ICSI - one of the steps before implantation
· sperm injected into an egg by a needle.
* different to IVF or ZIFT because those others can be fertilized naturally by sperm penetrating an egg.

6. Ovum Donation
· egg donation - 2 kinds
- surrogacy - a woman could volunteer to become fertilized herself (her egg)
she carries it.
- a woman could be implanted with the egg/sperm of others. (their egg/sperm)

1 gametes - a sex cell - m. = sperm (holds 23 chromosomes)
f. = egg (hold 23 chr.)

pre.conception

also called haploids b/c they have only on set of 23 chromomes.

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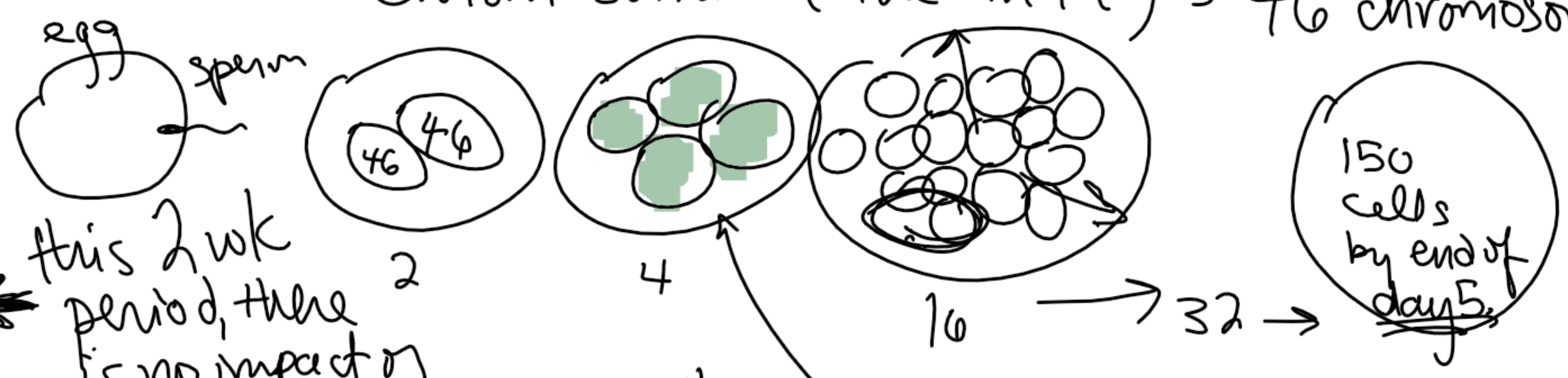
2 Zygote · a fertilized cell.

fertilized egg.

now a diploid b/c it contains 2 sets of chromosomes (the m + f) = 46 chromosomes



14 days (2 wks)

Germinal Period.

this 2 wk period, there is no impact on danger

teratogens
these are external factors that can impact development of an embryo
- chemical smells
- carpets/paints.

these are stem cells.

- Cell divide to 150 cells - by day 5
- cells are dividing
- implantation in uterin wall happens.

this is pregnancy (2 wks)

by 2 wks: implantation in uterus wall happens. = pregnacy.

Blastocyst - fertilized egg cell divided
- zygote's next stage of development.

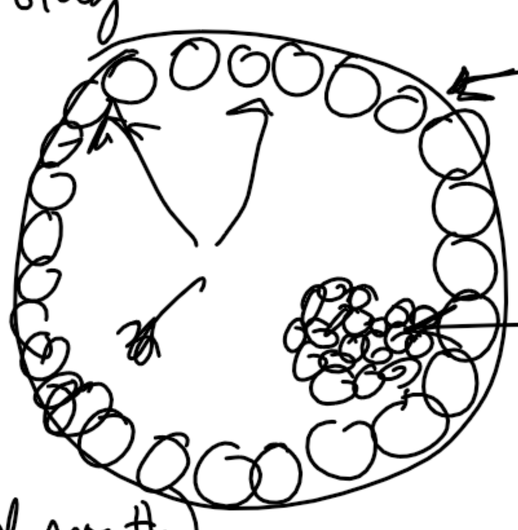
wk 3

when those cells become types of cells. (have a purpose in their development)

Embryonic Period.

3

· major congenital abnormalities likely at this stage include:
- heart
· CNS central nervous system
- eyes/limbs.
· ears
- palate (roof of mouth)
- external genitalia
- brain.



outter mass/layer — becomes placenta
Trophoblast

inner mass - becomes fetus.
Inner cells

wk 8

by wk 8 key features include:
· heartbeat size movement of fetus
✓ better chance of survival.

wk 9
wk 38

Fetal Period