Biology

Controlling fertility

pregnancy happens if sperms needs and egg
Contraception stop this from happening

Hormones can reduce the fertility

Estrogen can stop eggs from being released

- Normally estrogen helps release egg
- But if estrogen is taken everyday the body stops making FSH
- Then eggs stop developing and being released

Progesterone can also reduce fertility

- It makes thick mucus that blocks the sperm from reaching the egg

Pills containing hormones

Combined pill

- It contains estrogen and progesterone
- more than 99% effective at preventing pregnancy
- it causes headache and nausea

- does not protect against sexually transmitted diseases

Progesterone only pill

- fewer side effects
- just as effective as combined pill

Other hormonal contraceptives

Patch

- Contains oestrogen and progesterone
- it stuck on the skin and it is about
- 5 cm x 5cm
- It lasts one week

Implant

- Inserted under the skin of the arm
- releases progesterone
- It stops egg release blocks the sperm stops fertilized egg from implanting
- it lasts at least 3 years

Injection

- Contains progesterone
- last 2 to 3 months per dose

Intrauterine device

T shaped put in the uterus

It will kill the sperm and stops fertilized egg implanting

There are two types

plastic iud, it releases progesterone

copper iud, its stop sperm surviving in the uterus

Non hormonal contraceptives

Diaphragm

- **plastic Cup over cervix**
- **Used with spermicide to stop the sperm**

Spermicide

- **Kills sperm**
- **can be used alone but only 70 to 80% effective**

Other ways to avoid pregnancy

Sterilization

Female, fallopian tubes are cut or tied

Male, sperm ducts are cut or tied

Permanent, but tubes can very rarely rejoin

Natural methods

Natural method is not very effective

Avoid the interaction on fertile days

Abstinence

- No intercourse or interaction
- only 100% safe method

Hormones can increase fertility

- some women have low FSH
- Eggs do not mature
- and they do not get pregnant
- FSH and LH can be given as drugs to make eggs release
- It help the women get pregnant

it may not work and can be expensive
it can cause multiple pregnancy is like twins triplets

IVF In vitro fertilization

- If fertility drugs do not work IVF can help
- egg taken from the woman and fertilized in the lab
- Sometimes sperm is injected directly into the egg
- Fertilized eggs grow into embryos
- 1-2 embryos are placed in women's uterus
- fsh and LH are given before a collection to get more eggs

Advantages are that it helps infertile couples have the children

Disadvantages are very high

- multiple Births can be risky
- success rate is very low around 26% in the UK
- physically stressful for women like vomiting pain and dehydration
- emotionally stressful can fail multiple Times

Technology improvement

Better microscopes and micro tool helps embryos grow

time lapse imaging checks embryo for best chance of success

Ethics

Unused embryos are destroyed some say it wrong

Genetic testing can select trials with some people oppose

Adrenaline and thyroxine

Adrenaline

- It is released by adrenal glands above the kidney
- it happens in stress or fear
- it prepare body for fight or flight

- it increases the heart rate Oxygen and glucose to muscles and brain

Thyroxin

- released by thyroid gland in neck
- controls metabolism and speed of chemical reactions are at rest
- it helps growth by making the proteins
- thyroid releases thyroxin when TSH is present

Negative feed

if thyroxin is high TSH will stop

this lowers thyroxine back to normal

If thyroxin is low TSH starts again