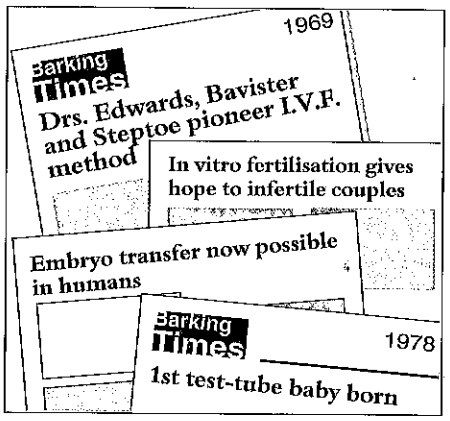
▶ Biology at work : In vitro fertilisation

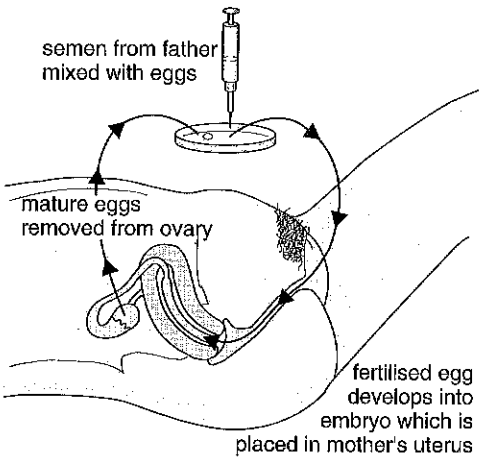
Some couples are unable to have children.
This may be because the man can not make enough sperms.
Another reason may be that the woman's oviducts are blocked.
Both these problems prevent sperms and eggs from meeting.



In vitro fertilisation (often abbreviated to IVF) can often help these couples.
'In vitro' means 'in glass'.
It involves fertilisation of a human egg outside the body.
This used to be called making 'test-tube babies'.

First the woman is injected with FSH.
This makes her produce eggs.
The doctor makes a small incision in the body wall.
A fine tube is then inserted and the eggs are sucked out.

The eggs are kept alive in a solution containing food and oxygen.
Some semen from the father is mixed with the eggs.
The fertilised eggs are kept in the solution for a few days.
They are watched under the microscope as they develop into embryos.



The doctor then places an embryo into the mother's uterus.
The embryo develops normally into a baby.

Why do you think the eggs were placed into a solution containing food and oxygen?

Why do you think that fertilised eggs are left for a few days before implanting them into the uterus?

Sometimes more embryos form than can be used.
Many people think that it is wrong to destroy these extra embryos.
What do you think?

Sometimes these extra embryos have been frozen.
They can then be used later if the first embryos do not grow.
Do you think that it is right to do this?

► Biology at work : Controlling fertility

Fertility drugs

Some couples want to have children but can not.
Couples are regarded as being infertile if they have had regular, unprotected sexual intercourse for 12 months without a pregnancy occurring.
Often the cause of infertility is that the woman's ovaries do not release eggs.
This is due to a lack of FSH production by the pituitary.

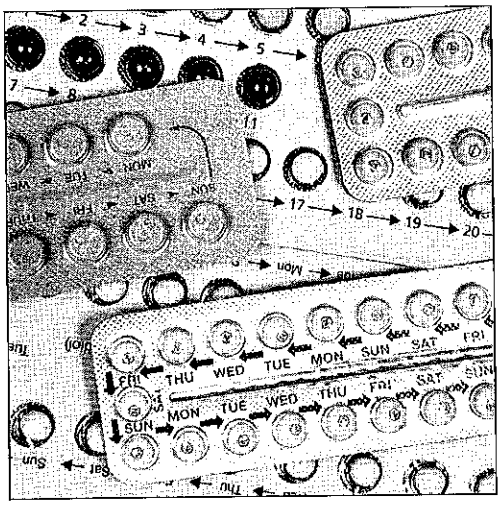
Treatment for this type of infertility involves regular injections of a **fertility drug** containing FSH.
The FSH stimulates the ovaries to release eggs.
Other treatments involve tablets that make the pituitary insensitive to oestrogen.
Remember that oestrogen inhibits the production of FSH.
So if oestrogen production is blocked by the drug, then the pituitary continues to release FSH and ovulation occurs.

Unfortunately fertility treatment does not always work.
On the other hand it can work too well; too many eggs may be released resulting in twins, triplets, quadruplets or even more!

Oral contraception

Quite often couples want to have sexual intercourse but do not want the woman to become pregnant.
Oral (by mouth) **contraceptives** contain oestrogen which inhibits the production of FSH by the pituitary.
As a result, no eggs mature to be released by the ovaries and so pregnancy can not occur.
The woman has to take a pill every day.
For many couples the pill is a very reliable and convenient method of contraception.

Drawbacks are that failure to take the pill regularly can result in a pregnancy.
Also, side effects such as headaches and feeling sick can occur in some women.
In a very small number of women, the pill can be the cause of heart and circulation problems.



Contraceptive pills