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Pharmacology

Phs 204

Contraception

Contraception which is also known as birth control or family planning , is a method or device used to prevent pregnancy.

Types of Contraception

1. Cap

2. Combined pill

3. Condoms

4. Contraceptive implant

5. Contraceptive injection

6. Contraceptive patch

7. Diaphragm

8. Female condom

9. Female sterilisation

10. IUD (intrauterine device, coil)

11. IUS (intrauterine system)

12. Progestogen-only pill (pop, mini pill)

13. Vaginal ring

14. Vasectomy

15. Natural family planning, fertility awareness.

Combined pills:- The combined oral contraceptive pill is usually just called "the pill". It contains synthetic female hormones, oestrogen and progesterone. These hormones are produced naturally in woman's ovaries.

The hormones in the pill prevent a woman's ovaries from releasing an egg (ovulating). They also make it difficult for sperm to reach an egg, or for an egg to implant itself in the lining of the womb.

The pill is usually taken to prevent pregnancy, but can also be used to treat painful periods, heavy periods, premenstrual syndrome (PMS) and endometriosis.

At a glance: the combined pill

• When taken correctly, the pill is over 99% effective at preventing pregnancy. This means that fewer than one woman in 100 who use the combined pill as contraception will get pregnant in one year.

• As humans make mistakes, in real world use at least 8 women in 100 a year become pregnant (92% effective).

• You need to take the pill every day for 21 days, then stop for seven days, and during this week you have a period-type bleed. You start taking the pill again after seven days.

• You need to take the pill at the same time every day. You could get pregnant if you don't do this, or if you miss a pill, or vomit or have severe diarrhoea.

• Minor side effects include mood swings, breast tenderness and headaches.

• There is no evidence that the pill makes women gain weight.

• There's a very low risk of serious side effects, such as blood clots and cervical cancer.

• The combined pill is not suitable for women over 35 who smoke, or women with certain medical conditions.

• The pill does not protect against sexually transmitted infections (STIs), so using a condom as well will help to protect you against STIs.

How the combined pill works

The pill prevents the ovaries from releasing an egg each month (ovulation). It also:

• thickens the mucus in the neck of the womb, so it is harder for sperm to penetrate the womb and reach an egg

• thins the lining of the womb, so there is less chance of a fertilised egg implanting into the womb and being able to grow

Although there are many different brands of pill, there are three main types:

Monophasic 21-day pills

This is the most common type. Each pill has the same amount of hormone in it. One pill is taken each day for 21 days and then no pills are taken for the next seven days. Microgynon, Rigevidon, Brevinor and Cilest are examples of this type of pill.

Phasic 21-day pills

Phasic pills contain two or three sections of different coloured pills in a pack. Each section contains a different amount of hormones. One pill is taken each day for 21 days and then no pills are taken for the next seven days. Phasic pills need to be taken in the right order. Binovum and Logynon are examples of this type of pill.

Every day (ED) pills

There are 21 active pills and seven inactive (dummy) pills in a pack. The two types of pill look different. One pill is taken each day for 28 days with no break between packets of pills. Every day pills need to be taken in the right order. Microgynon ED and Logynon ED are examples of this type of pill.

Follow the instructions that come with your packet. If you have any questions about how to take the pill, ask your GP, practice nurse or pharmacist. It's important to take the pills as instructed, because missing pills or taking them at the same time as certain medicines may make them less effective.

How to take 21-day pills

• Take your first pill from the packet marked with the correct day of the week, or the first pill of the first colour (phasic pills).

• Continue to take a pill at the same time each day until the pack is finished.

• Stop taking pills for seven days (during these seven days you will get a bleed).

• Start your next pack of pills on the eighth day, whether you are still bleeding or not. This should be the same day of the week as when you took your first pill.

How to take every day pills

• Take the first pill from the section of the packet marked "start". This will be an active pill.

• Continue to take a pill every day, in the correct order and preferably at the same time each day, until the pack is finished (28 days).

• During the seven days of taking the inactive pills, you will get a bleed.

• Start your next pack of pills after you have finished the first, whether you are still bleeding or not.

Starting the combined pill

Most women can start the pill at any time in their menstrual cycle. There is special guidance if you have just had a baby, abotion or miscarriage. You may need to use additional contraception during your first days on the pill – this depends on when in your menstrual cycle you start taking it.

If you start the combined pill on the first day of your period (day one of your menstrual cycle) you will be protected from pregnancy straight away. You will not need additional contraception.

If you start the pill on the fifth day of your period or before, you will still be protected from pregnancy straight away, unless you have a short menstrual cycle (your period is every 23 days or less). If you have a short menstrual cycle, you will need additional contraception, such as condoms, until you have taken the pill for seven days.

If you start the pill on any other day of your cycle, you will not be protected from pregnancy straight away and will need additional contraception until you have taken the pill for seven days.

Taking pill packs back-to-back (continuously)

For monophasic combined pills (pills all the same colour and with the same level of hormones), it's normally fine to start a new pack of pills straight after your last one – for example, if you want to delay your period for a holiday.

However, avoid taking more than two packs together unless advised to by a doctor or nurse. This is because you may have breakthrough bleeding as the womb lining sheds slightly. Some women find they feel bloated if they run several packs of the pill together.

What to do if you miss a pill

If you miss a pill or pills, or you start a pack late, this can make the pill less effective at preventing pregnancy. The chance of getting pregnant after missing a pill or pills depends on:

• when the pills are missed

• how many pills are missed

A pill is late when you have forgotten to take it at your usual time. You have missed a pill when it is more than 24 hours since the time you should have taken it. Missing one pill anywhere in your pack or starting the new pack one day late isn’t a problem, as you will still be protected against pregnancy (known as having contraceptive cover).

However, missing two or more pills, or starting the pack two or more days late (more than 48 hours late) may affect your contraceptive cover. In particular, if you make the 7-day pill-free break longer by forgetting two or more pills, your ovaries might release an egg and there is a risk of getting pregnant. This is because your ovaries are not getting any effect from the pill during the seven-day break.

If you miss a pill, follow the advice below. If you are not sure what to do, continue to take your pill and use another method of contraception, such as condoms, and seek advice as soon as possible.

If you have missed one pill, anywhere in the pack:

• take the last pill you missed now, even if it means taking two pills in one day

• continue taking the rest of the pack as usual

• you don’t need to use additional contraception, such as condoms

• take your seven-day pill-free break as normal

If you have missed 2 or more pills (you are taking your pill more than 48 hours late) anywhere in the pack:

• take the last pill you missed now, even if it means taking two pills in one day

• leave any earlier missed pills

• continue taking the rest of the pack as usual and use an extra method of contraception for the next seven days

• you may need emergency contraception

• you may need to start the next pack of pills without a break (see missed pills and extra pills)

You may need emergency contraception if you have had unprotected sex in the previous 7 days and have missed 2 or more pills.

Condoms

A woman can get pregnant if a man’s sperm reaches one of her eggs (ova). Contraception tries to stop this happening by keeping the egg and sperm apart or by stopping egg production. One method of contraception is the condom.

There are two types of condoms: male condoms, which are worn on the penis, and female condoms, which are worn inside the vagina. This page is about male condoms, where you can get them and how they work.

Male condoms are made from very thin latex (rubber), polyisoprene or polyurethane, and are designed to stop a man's semen from coming into contact with his sexual partner.

When condoms are used correctly during vaginal, anal or oral sex, they help to protect against pregnancy and sexually transmitted infections (STIs), including HIV.

Condoms are the only contraception that protect against pregnancy and STIs.

At a glance: condoms

• If used correctly every time you have sex, male condoms are 98% effective. This means that two out of 100 women using male condoms as contraception will become pregnant in one year.

• As humans make mistakes, in real world use at least 15 women in 100 a year become pregnant (85% effective).

• You can get free condoms community sexual health clinics and some GP surgeries, pharmacies or young people's clinics.

• Oil-based products, such as moisturiser, lotion and Vaseline, can make latex and polyisoprene condoms less effective, but they are safe to use with condoms made from polyurethane.

• Water-based lubricant, available in pharmacies and sexual health clinics, is safe to use with all condoms.

• It's possible for a condom to slip off during sex. If this happens, you may need emergency contraception, and to get checked for STIs.

• Condoms need to be stored in places that aren't too hot or cold, and away from sharp or rough surfaces that could tear them or wear them away.

• Putting on a condom can be an enjoyable part of sex, and doesn't have to feel like an interruption.

• If you're sensitive to latex, you can use polyurethane or polyisoprene condoms instead.

• A condom must not be used more than once. Use a new one each time you have sex.

• Condoms have a use-by date on the packaging. Don't use out-of-date condoms.

• Always buy condoms that have the BSI kite mark and the CE mark on the packet. This means that they've been tested to high safety standards.

How a condom works

Condoms are a barrier method of contraception. They stop sperm from reaching an egg by creating a physical barrier between them. Condoms can also protect against STIs if used correctly during vaginal, anal and oral sex.

It's important that the man's penis does not make contact with the woman's vagina before a condom has been put on. This is because semen can come out of the penis before a man has fully ejaculated (come). If this happens, or if semen leaks into the vagina while using a condom, seek advice about emergency contraception from your GP or sexual health clinic. You should also consider having an STI test.

Advantages

• When used correctly and consistently, condoms are a reliable method of preventing pregnancy.

• They help to protect both partners from STIs, including chlamydia, gonorrhoea and HIV.

• You only need to use them when you have sex – they do not need advance preparation and are suitable for unplanned sex.

• In most cases, there are no medical side effects from using condoms.

• Male condoms are easy to get hold of and come in a variety of shapes, sizes and flavours.

Disadvantages

• Some couples find that using condoms interrupts sex. Communicating about sex and with your partner can help avoid embarrassment and make sex better.

• Condoms are very strong, but may split or tear if not used properly.

• Some people may be allergic to latex, plastic or spermicides – you can get condoms that are less likely to cause an allergic reaction.

• When using a male condom, the man has to pull out after he has ejaculated and before the penis goes soft, holding the condom firmly in place.

If male condoms aren't used properly, they can slip off or split. Practice and communication with your partner can help avoid this.

• Female condoms:- If used correctly and consistently, female condoms are 95% effective. This means that five out of 100 women using female condoms as contraception will become pregnant in a year.

• Using female condoms protects against both pregnancy and STIs, including HIV.

• A female condom needs to be placed inside the vagina before there is any contact between the vagina and the penis.

• Female condoms need to be stored in places that aren't too hot or too cold, and away from sharp or rough surfaces that could tear them or wear them away.

• Always buy condoms that have the CE mark on the packet. This means they've been tested to European safety standards.

• A female condom can get pushed too far into the vagina, but it's easy to remove it yourself.

• Female condoms may not be suitable for women who are not comfortable touching their genital area.

• Do not use a female condom more than once. If you have sex again, use a new female condom.

How female condoms work

The female condom is worn inside the vagina to stop sperm getting to the womb.

It is important to use condoms correctly, and to make sure the penis doesn't make contact with the vagina before a condom has been put in. This is because semen can come out of the penis before a man has fully ejaculated (come). A female condom can be put in up to eight hours before sex.

How to use a female condom

• Take the female condom out of the packet, taking care not to tear the condom – do not open the packet with your teeth.

• Squeeze the smaller ring at the closed end of the condom and insert it into the vagina.

• Make sure that the large ring at the open end of the female condom covers the area around the vaginal opening.

• Make sure the penis enters into the female condom, not between the condom and the side of the vagina.

• Remove the female condom immediately after sex by gently pulling it out – you can twist the large ring to prevent semen leaking out.

• Throw the condom away in a bin, not down the toilet.

• Vaginal ring:- If used correctly, the vaginal ring is more than 99% effective. This means that fewer than one woman out of every 100 who use the vaginal ring as contraception will become pregnant in one year.

• As humans make mistakes, in real world use at least 9 women in 100 a year become pregnant (91% effective).

• One ring will provide contraception for a month, so you don’t have to think about it every day.

• It doesn’t interrupt sex, because you can have sex with the ring in place.

• Unlike the pill, the ring is still effective if you have vomiting or diarrhoea.

• The ring may ease premenstrual symptoms, and bleeding will probably be lighter and less painful.

• Some women have temporary side effects, including more vaginal discharge, breast tenderness and headaches.

• A few women develop a blood clot (thrombosis) when using the ring, but this is rare.

• The ring can sometimes come out on its own, but you can rinse it in warm water and put it back in as soon as possible. You might need emergency contraception, depending on how long it has been out.

• The vaginal ring doesn’t protect against sexually transmitted infections (STIs). By using condoms as well as the ring, you’ll protect yourself against STIs.

How the ring works

The ring continually releases oestrogen and progestogen, which are synthetic versions of the hormones that are naturally released by the ovaries. This:

• reduces ovulation (the release of an egg)

• thickens vaginal mucus, which makes it more difficult for sperm to get through

• thins the lining of the womb so that an egg is less likely to implant there

Using the vaginal ring

You can start using the vaginal ring at any time during your menstrual cycle. You leave it in for 21 days, then remove it and have a seven-day ring-free break. You’re protected against pregnancy during the ring-free break. You then put a new ring in for another 21 days.

The licence for the vaginal ring states that:

• you will be protected against pregnancy straight away if you insert it on the first day of your period (the first day of your menstrual cycle)

• you won't be protected from pregnancy if you start using it at any other time in your menstrual cycle, and you'll need to use additional contraception (such as condoms) for the first seven days

You can discuss this with your doctor or nurse to decide when might be the best time for you to start using the ring.

To insert the ring:

• with clean hands, squeeze the ring between your thumb and finger, and gently insert the tip into your vagina

• gently push the ring up into your vagina until it feels comfortable

Unlike a diaphragm or cap, the ring does not need to cover your cervix (the entrance to your womb) to work.

If you can feel the ring and it is uncomfortable, push it a bit further into your vagina. There isn’t a right or wrong place for it to be, as long as it isn’t uncomfortable.

You should be able to check that the ring is still there using your fingers. If you can’t feel it, but you’re sure it’s there, see your doctor or nurse. The ring cannot get "lost" inside you.

After the ring has been in your vagina for 21 days (three weeks), you remove it. This should be on the same day of the week that you put it in.

To remove the ring:

• with clean hands, put a finger into your vagina and hook it around the edge of the ring

• gently pull the ring out

• put it in the special bag provided and throw it in the bin – don’t flush it down the toilet

Removing the ring should be painless. If you have any bleeding or pain, or you can’t pull it out, tell your doctor or nurse immediately.

When you’ve taken the ring out, you don’t put a new one in for seven days (one week). This is the ring-free interval. You might have a period-type bleed during this time.

After seven days without a ring in, you need to insert a new one. Put the new ring in even if you’re still bleeding. Leave this ring in for 21 days, then repeat the cycle.

You can have sex and use tampons while the ring is in your vagina. You and your partner may feel the ring during sex, but this isn’t harmful.

If you forget to take the ring out

If you forget to take the ring out after 21 days, what you should do depends on how much extra time the ring has been left in.

If the ring has been in for up to seven days after the end of week three:

• take the ring out as soon as you remember

• don’t put a new ring in – start your seven-day interval as normal

• begin your new ring after your seven-day interval as normal

• you’re still protected against pregnancy, and you don’t need to use additional contraception

If the ring has been in for more than seven extra days (more than four weeks in total):

• take the ring out as soon as you remember

• put a new ring in straight away

• Vasectomy:- In most cases, vasectomy is more than 99% effective. Out of 2,000 men who are sterilised, one will get a woman pregnant during the rest of his lifetime.

• Male sterilisation is considered permanent – once it's done, you don't have to think about contraception again.

• You need to use contraception for at least eight weeks after the operation, because sperm stay in the tubes leading to the penis.

• Up to three semen tests are done after the operation, to ensure that all the sperm have gone.

• Your scrotum (ball sack) may become bruised, swollen or painful – some men have ongoing pain in their testicles.

• As with any surgery, there's a slight risk of infection.

• Reversing the operation isn't easy, and is not available on the NHS.

• Vasectomy doesn't protect against sexually transmitted infections (STIs). Use a condom to protect yourself and your partner against STIs.

How vasectomy works

Vasectomy works by stopping sperm from getting into a man’s semen. This means that when a man ejaculates, the semen has no sperm and a woman’s egg cannot be fertilised.

How vasectomy is carried out

Vasectomy is a quick and relatively painless surgical procedure. The vas deferens (tubes that carry sperm from a man's testicles to the penis) are cut, blocked or sealed with heat. In most cases, you will be able to return home the same day.

Most vasectomies are carried out under local anaesthetic. This means that only your scrotum and testicles will be numbed, and you will be awake for the procedure. You will not feel any pain, although it may feel slightly uncomfortable.

Less often, a general anaesthetic may be required. This means that you will be asleep during the procedure. A general anaesthetic may be used if you are allergic to local anaesthetic or have a history of fainting easily. However, most people will only need a local anaesthetic.

Depending on where you live in Scotland, you may get a vasectomy at:

• your local GP surgery

• a hospital as a day-patient appointment

• a sexual health clinic

You can also go to a private clinic.

No-scalpel vasectomy

This is a newer technique but is now the commonest method. No-scalpel vasectomy is carried out under local anaesthetic.

The doctor will feel the vas deferens underneath the skin of your scrotum and then hold them in place using a small clamp. A special instrument makes a tiny puncture hole in the skin of the scrotum allowing the surgeon to access the vas deferens without needing to cut the skin with a scalpel. The vas deferens are then closed either by being tied or sealed with heat.

During a no-scalpel vasectomy, there will be little bleeding and no stitches. The procedure is less painful and less likely to cause complications than a conventional vasectomy.

Conventional vasectomy

During a conventional vasectomy, the skin of your scrotum is numbed with local anaesthetic. The doctor makes two small cuts, about 1cm long, on each side of your scrotum.

The incisions allow your surgeon to access the vas deferens. Each tube is cut and a small section removed. The ends of the tubes are then closed, either by tying them or sealing with heat.

The incisions are stitched, usually using dissolvable stitches, which will disappear naturally within about a week.

Before you decide to have a vasectomy

Your doctor will ask about your circumstances and provide information and counselling before agreeing to the procedure.

You should only have a vasectomy if you are certain that you do not want to have any, or any more, children. If you have any doubts, consider another method of contraception until you are completely sure.

You shouldn't make the decision about having a vasectomy after a crisis or a big change in your life – for example, if your partner has just had a baby, or has just terminated a pregnancy.

If you have a partner, discuss it with them before deciding to have a vasectomy.

You can have a vasectomy at any age. However, if you are under 30, particularly if you do not have children, your doctor may be reluctant to perform the procedure as people under 30 have higher rates of regret about having the procedure.

A doctor has the right to refuse to carry out the procedure if they do not believe that it is in your best interests. You have the right to ask for a second opinion.

Advantages and disadvantages of vasectomy

Advantages

• The failure rate is only one in 2,000 – out of 2,000 men who have a vasectomy, only one will get a woman pregnant in the rest of his lifetime.

• There are rarely long-term effects on your health.

• Vasectomy does not affect your hormone levels or sex drive.

• It will not affect the spontaneity of sex or interfere with sex.

• Vasectomy may be chosen as a simpler, safer and more reliable alternative to female sterilisation.

Disadvantages

• Vasectomy doesn’t protect against STIs

• It’s difficult to reverse, and reversal may not be available on the NHS.

• You need to use contraception after the operation until tests show your semen is free of sperm – if your semen contains sperm, you could make your partner pregnant.

• Complications can occur – the risks are listed

Most men feel sore and tender for a few days after the operation, and will usually experience some bruising and swelling on or around their scrotum.