PEARSON NEW INTERNATIONAL EDITION

Human Sexuality

Roger R. Hock

Third Edition

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newest version is the female condom 2, brand name *FC2*) is to create a lining on the inside of the vagina to accomplish basically the same results. The female condom consists of a tube (or pouch) made of thin polyurethane, or a new thinner and more flexible material called *nitrile*, with a flexible ring at each end. One end is sealed and the other is open. The flexible ring at the closed end is squeezed in half, inserted into the vagina, and moved up against the cervix, as shown in Figure 1. The internal ring holds the condom in place. The ring at the open end is positioned on the outside of the body, around the opening to the vagina. This type of condom may also be used for STI protection during anal intercourse using the same insertion technique.

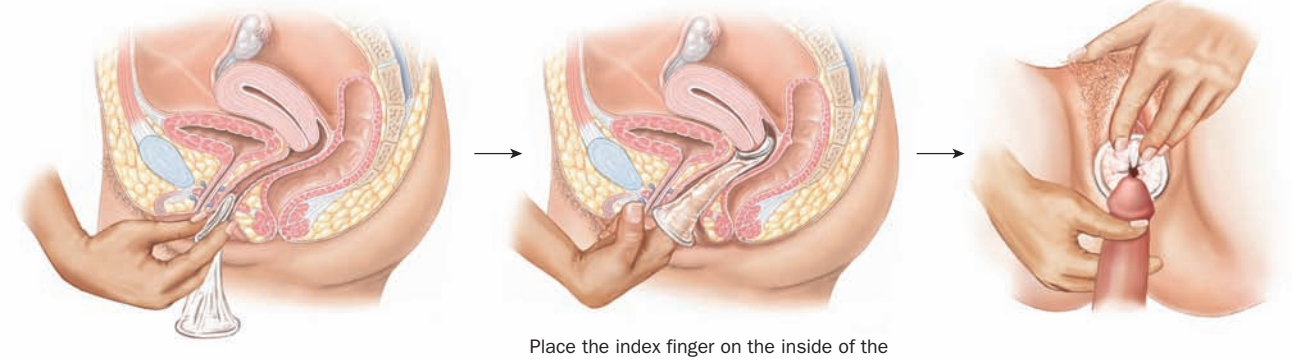
The female condom consists of a tube of thin polyurethane, similar to the polyurethane male condom, but with a flexible ring at each end, as shown in the photo (a). The three-step procedure (b) illustrates how to insert a female condom. Care must be taken when removing the condom to prevent semen from spilling out.

The condom is lubricated (with a nonspermicidal lubricant) and is sold with extra lubricant included, in case it is needed for easier insertion or more comfortable movement. During intercourse, the female condom stays inside the vagina and the penis moves within it. After ejaculation, the condom must be removed by twisting the outside ring to trap the semen inside and gently pulling the condom out of the vagina. This should be done before the woman stands up, to be sure none of the semen spills out of the condom into or around the vaginal area. As with male condoms, each female condom should be used only once.

Since YOU asked

4. Does the female condom work as well as regular male condoms?

(a)



Gently insert the inner ring into the vagina. Feel the inner ring go up and move into place.

Place the index finger on the inside of the condom, and push the inner ring up as far as it will go. Be sure the sheath is not twisted. The outer ring should remain on the outside

Be sure the penis is inserted into condom, not next to it.

FIGURE 1 The Female Condom

The female condom consists of a tube of thin polyurethane, similar to the polyurethane male condom, but with a flexible ring at each end, as shown in the photo (a). The three-step procedure (b) illustrates how to insert a female condom. Care must be taken when removing the condom to prevent semen from spilling out.

Scott Camazine/Photo Researchers, Inc.

The female condom has the advantage of allowing the woman to have more control of contraception and preventing sexually transmitted infections. It also allows for greater spontaneity than the male condom because the female condom may be inserted up to eight hours before intercourse. For greater contraceptive effectiveness, the female condom may be combined with hormonal contraceptives, but it should *not* be used at the same time as a male condom (this can create too much friction and cause the condoms to break). The female condom costs somewhat more than male condoms—approximately $1 to $2 each (depending on where they are purchased and the quantity)—but are often provided free of charge at public health clinics and university health centers.

An additional advantage of the female condom is that, when used correctly, it may provide slightly *greater* protection from some STIs than a male condom. This increased protection is because the polyurethane material does not degrade with the use of oil-based lubricants, and the shape of the external ring of the condom protects a wider area of skin between the base of the penis and the vulva or anus during intercourse, helping to prevent skin-to-skin transmission (Hudson, 2003; Nicolette, 1996). As mentioned, male and female condoms are not designed to be used simultaneously, as the effectiveness of each will be reduced. However, either the male or female condom may be combined with other contraceptive methods (such as hormonal or other barrier methods—see below) for increased protection against pregnancy and STIs.

The main disadvantage of the female condom is that typical-use contraception failure rate is slightly higher than for male condoms. Errors in use include removing the condom incorrectly, allowing semen to spill out in or near the vagina, or mistakenly inserting the penis next to, rather than inside, the condom. However, if used correctly and consistently, the female condom is nearly as effective as the male condom (refer to Table 2).

METHODS FOR PREVENTING PREGNANCY (BUT *NOT* STIs)

All of the remaining methods of contraception discussed in this chapter are designed only to help prevent pregnancy. Although a few of them may offer minimal protection against some STIs, they should not be used for that purpose. However, all of the methods discussed in this section may be combined with the condom for protection from STIs and added insurance against pregnancy.

Withdrawal

withdrawal method Removing the penis from the vagina just prior to ejaculation—a usually unreliable method of contraception; also called *coitus interruptus* and "pulling out."

The **withdrawal method**, in which the penis is withdrawn from the vagina prior to ejaculation (also called *coitus interruptus* or "pulling out"), has been a widely practiced method of birth control for centuries. Many of you may be surprised to see it discussed here because, in general, it has been rejected for decades as being very unreliable and risky for both pregnancy and the transmission of STIs. Although these risks are real, if a couple is able to use the withdrawal method consistently and correctly, it can be an effective way of preventing pregnancy (but *not* STIs) (see Table 2).

Since YOU asked

5. When my girlfriend and I are having intercourse, I always pull out before I ejaculate. That means there's no chance of pregnancy, right?

The fluid produced by the Cowper's glands, well before ejaculation, is likely to contain HIV and other STI microbes if the man is infected. Consequently, this method will not prevent him from infecting a partner, even if he successfully withdraws before orgasm and ejaculation. As for contraception, contrary to previous conventional wisdom, pre-ejaculate fluid does not typically

appear to contain sperm cells, but this does not mean that semen with sperm cannot enter the vagina when a couple decides on the withdrawal method. The main problem for contraception using the withdrawal method is that there are too many ifs. *If* the man withdraws his penis from the woman's vagina before he ejaculates, and *if* he ejaculates well away from the vaginal opening, and *if* no semen enters her reproductive tract, and *if* no infectious microbes are present in the pre-ejaculate, then the method may be fairly effective. All of these ifs, however, combine to make the withdrawal method, in actual use, quite unreliable, with an estimated 22% failure rate (see Kowall, 2008b).

Female Hormonal Contraceptives

Female hormonal methods of contraception prevent pregnancy by altering certain characteristics of a woman's ovulation cycle or reproductive tract. Hormonal contraception prevents ovulation, thickens the cervical mucus to create a barrier against sperm, or changes the lining of the uterus so that even if an egg is fertilized, it will not implant and create a pregnancy. The various hormonal contraceptives on the market differ primarily in the specific hormonal formulation and the method used to deliver the hormone to the body.

At this time, all hormonal methods of contraception are designed for women, but research is being conducted on possible male hormonal contraception methods, which we will discuss later in this chapter. As this text goes to press, five types of hormonal contraceptive delivery systems are on the U.S. market: oral, implant, injection, skin patch, and vaginal ring (and a nasal-spray version is being investigated). All hormonal methods of contraception have both advantages and disadvantages—positive and negative side effects—so women and couples should strive to become as educated as possible about all the methods before selecting one.

Oral Contraceptives

In general, **oral contraceptives**, also referred to as "birth control pills," are among the most popular reversible contraception methods used by women in the United States (Hatcher et al., 2008). The first oral contraceptive appeared on the U.S. market just over 50 years ago. When used correctly, they provide a convenient and extremely effective method of preventing pregnancy. But they offer no protection against STIs. However, we should note that all hormonal contraceptives may be combined with the male or female condom to add protection from sexually transmitted infections and the effectiveness of the prevention of pregnancy.

oral contraceptives Tablets containing female hormones that are ingested every day. They constitute the most popular reversible contraception method used by women in the United States; also known as birth control pills.

combination pill An oral contraceptive containing a combination of estrogen and progestin.

Numerous brands and formulations of oral contraceptives offer a great many options for women who choose this form of hormonal contraception. Bonnie Kamin/PhotoEdit

How Oral Contraceptives Work Combination oral contraceptives contain both estrogen and progestin. The contraceptive effect on a woman taking these hormones is that her body's normal hormonal cycle is altered, and ovulation (the release of an egg) is typically prevented. Different brands of **combination pills** have varying doses of hormones. In general, lower-dose pills are recommended because they are effective in preventing pregnancy and are less likely to produce negative side effects sometimes associated with oral contraceptives, such as spotting between periods, headaches, and breast tenderness. Although serious negative side effects are relatively rare, a woman's decision about combination oral contraceptives should be an informed one made in close consultation with her health care provider.

Birth control pills are sold in various types of packages that number and label each pill so that it is easier to keep track of the pills taken and whether a pill has been missed. Oral contraceptives must be taken for 21 consecutive days and then stopped for seven days (called a "hormone-free interval, or HFI), during which time the woman will usually have her period (for an exception to this rule, see the discussion on "90-day pills"). Most popular brands of combined pills actually provide pills for all 28 days of the cycle, but the last seven pills in the pack contain no hormones and are supplied as "placeholders" during the HFI so that the habit of taking a pill every day will not be interrupted.

The progestin-only "**minipill**" has approximately the same low failure rate as the combination (progestin and estrogen) pill (Hatcher & Trussell, 2008; De Melo, 2010). The main advantage of the progestin-only oral contraceptive pill is that it avoids some of the potential negative side effects associated with estrogen in the combination pill. However, many of the health benefits associated with the estrogen in the combined pill are also not present in the progestin-only pill. The pros and cons of oral contraceptives will be discussed shortly.

The contraceptive effect of progestin-only oral contraceptives (the minipill) not only interferes with ovulation but also causes a thickening of the mucus secreted by the cervix (Hatcher & Nelson, 2004). This thickening of the mucus sets up a barrier that is very difficult for sperm to penetrate. In addition, if some sperm were to get through this barrier, the lining of the uterus that develops to support a fertilized egg is thinner in a woman taking the minipill and is therefore less receptive to implantation and pregnancy.

Extended-Dosage Contraceptive Pills

Recently, a new way of taking oral contraceptives was approved by the Food and Drug Administration and introduced to the U.S. market under the brand names Seasonale and Seasonique. Instead of the traditional 21-day hormone regimen, these pills provide a daily dose of hormones for 84 consecutive days, during which a woman is protected against pregnancy and does not menstruate. With Seasonale, after the 84 pills the woman takes the usual placebo pills for the seven-day HFI, during which she will typically have her period. The hormonal formulation in Seasonale is basically the same as for standard 28-day oral contraceptives, but by taking the hormone pills continuously for 84 days, a woman will have only four menstrual periods per year instead of the average of 13 (Mangan, 2003; Sulak, 2007). Seasonique is also a "90-day" pill, but differs from Seasonale in that, instead of the typical seven-day break in hormones, it provides the standard hormonal dose for 84 days, but then continues with a reduced dose of estrogen for the usual seven-day HFI, reducing the length of a woman's period to four days, four times a year.

Expanding the concept of extended-dosing hormonal contraception to its logical endpoint is Lybrel, a new 365-day oral contraceptive approved by the FDA in 2007. Lybrel has a lower dose of hormones compared to most other contraceptive pills and is taken on a continuous basis. A woman takes one Lybrel pill every day and virtually eliminates her periods. The safety and effectiveness of Lybrel approximates that of other oral contraceptives. Nearly all women using Lybrel no longer experienced monthly bleeding, although some experienced minor spotting or breakthrough bleeding, but this number decreases significantly during the first year of use (from 47% of women during the first three months to 20% at the end of the year). **Amenorrhea** (the cessation or suppression of a woman's period) rates increased during the first year from 27% to 59% (Casey & Pruthi, 2008). Current research has found no evidence of health dangers from menstrual suppression (see Casey & Pruthi, 2008; Hicks, 2010).

minipill An oral contraceptive containing progestin only.

amenorrhea Cessation of a woman's period.

Some studies have shown beneficial effects from Lybrel, including decreased hormonally related headaches, reduced feelings of menstrual bloating, and less menstrual pain compared to standard 28-day cyclic pills (Hicks, 2010).

All of these newer, extended-dose oral contraceptives offer several potential advantages for some women. Doctors and many women have been aware for decades that menstrual periods could be delayed or reduced in frequency if a woman skipped the placebo pills in the pack of oral contraceptives and went to a new pack immediately upon completing the 21 days of hormonal pills. This strategy has been recommended by doctors for women with menstruation-related health problems and has been used by women themselves to delay or skip a period that was due to come at an inconvenient or inopportune time (vacation, sports competition, honeymoon, etc.).

For many women, reducing the number of periods has various advantages beyond the convenience of less frequent menstruation. Women who experience especially painful periods, heavy bleeding, cycle-related migraine headaches, endometriosis, or other debilitating menstruation-related symptoms may benefit from reducing the annual number of periods. Moreover, many medical researchers contend that having fewer periods may actually be healthy (Kalb, 2003). In modern society, women have, on average, 450 periods during their lifetime. This is nearly three times as many as humans during the early hunter-gatherer era, when women spent far more time either pregnant or nursing their young. This has led some researchers to conclude that nature did not intend for women to have as many lifetime periods as they do today.

In studies of extended oral contraceptives, the most serious side effect was an increase in bleeding or spotting between periods. In one major study, 7.5% of women discontinued use of Seasonale due to breakthrough bleeding, compared to only 1.8% using standard 28-day birth control pills (Kalb, 2003). In addition, these oral contraceptives carry all the same health risks as other combination pills with similar formulations, discussed earlier.

Effectiveness of Oral Contraceptives. Oral contraceptives ("birth control pills") offer one of the most effective methods of preventing pregnancy. Nevertheless, a very small percentage of women have become pregnant while taking oral contraceptives either because of the very unlikely event of inherent failure or, more often, due to incorrect use (such as skipping pills). However, when used correctly, as explained in the next section, only the hormonal implant and sterilization have lower failure rates than oral contraceptives. With conscientious and careful use of the pill (meaning never accidentally forgetting to take a pill and being sure to take it at approximately the same time each day), the effectiveness rate is 0.3%, meaning that only three woman in 1,000 should expect to experience an accidental pregnancy.

Even with less-than-perfect use, such as the occasional missed pill, all oral contraceptives have high effectiveness rates. The pill's failure rate in the average user is about 9% (mostly due to inconsistent dosing). As with nearly all forms of contraception, the most important factor in effectiveness is correct and consistent use (Hatcher & Trussell et al., 2011).

Since YOU asked

6. My girlfriend was on the pill, but she still got pregnant. How did that happen?

Using Birth Control Pills Correctly. The most common incorrect use of oral contraceptives is forgetting to take them every day. Just how serious a problem is it to miss a pill or two? Potentially very serious, if the goal is to prevent conception. Over the years since birth control pills first appeared on the market, the dose of hormones contained in them has been steadily reduced. This decrease has made the pill much safer in terms of negative side effects, but it has also increased the importance of regular doses. Women using oral contraceptives must take one pill every day of the 21-day course (in the 28-day pack, as noted earlier, the last seven pills do not contain hormones and are there as "placeholders" to maintain the habit of taking one pill each

day). Furthermore, women should try to take a pill at approximately the same time each day. This will maintain constant hormone levels in the bloodstream. Even the most conscientious of women may forget to take a pill. Because of this, and because the pill does not protect against STIs, most sexuality educators and health care professionals strongly recommended that women who choose oral contraception keep an STI-fighting backup method of contraception (such as condoms) readily available. If a woman misses a pill, she need not panic, but she should be aware of the steps to take to maintain maximum contraception protection. "In Touch With Your Sexual Health: Missed Your Pill? Here's What You Should Do" summarizes the steps a woman should take if she misses one or more pills during a cycle.

The start of protection depends on when in her cycle a woman begins taking oral contraception. The time after beginning birth control pills until she is safe from

IN TOUCH WITH YOUR SEXUAL HEALTH

Missed Your Pill? Here's What You Should Do

Oral contraceptives are most effective when taken regularly, at about the same time each day. If you miss a pill, the effect on fertility depends on many factors, such as when in your cycle the pill was missed, how many pills during a cycle were missed, and the timing of intercourse relative to the missed pill(s). Usually, pregnancy can be avoided even if pills have been missed through use of a backup barrier method or by taking emergency contraception pills, *especially if intercourse has occurred in the past five days.* The following chart offers recommendations about exactly what actions should be taken in the event of missed pills to maintain effective contraception.

Number of Pills Missed	When Pills Missed	What to do…	Seven-Day Backup Needed?
First 1–2 pills	Beginning of pack	– Take a pill as soon as you remember. – Take the next pill at the usual time.*	Yes
1–2 pills	Day 3–day 21	– Take a pill as soon as you remember. – Take the next pill at the usual time.*	No
3 or more pills	First two weeks	– Take a pill as soon as you remember. – Take the next pill at the usual time.*	Yes
3 or more pills	Third week	– Do not finish pack. Throw away remaining pills. – Start next pack.	Yes
1–7 reminder pills	Fourth week	– Throw away the missed reminder pill(s). – Take next reminder pill at the usual time.	No

*This means you may take two pills in one day

Progestin-Only Pills

You could become pregnant if you take your progestin-only pill more than three hours past your regular time. If you do

- Take a pill as soon as you remember.
- Take the next pill at the usual time.
- Continue to take the rest of the pack on schedule.
- Use a backup method for 48 hours after taking the late pill. Some backup methods are the condom, female condom, diaphragm, sponge, or emergency contraception. Emergency contraception is a great backup method if you had vaginal intercourse before you realized you missed pills.

Many women have spotting or light bleeding when they miss a birth control pill—even if they make it up later. Women also sometimes feel a little sick to their stomachs if they take two pills to make up for a missed pill. If you do feel a bit sick after taking two pills in a day, don't worry: the nausea won't last long.

Source: www.plannedparenthood.org (2010).