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Sexuality Information and Education
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The Facts: Condoms

Condoms: What Educators and Consumers Should Know

A condom is a sheath or pouch that provides a barrier between penis and vagina, penis and anus, penis and mouth, or penis and another object. Condoms may be made out of latex (a type of rubber), nitrile (a synthetic latex), polyurethane, polyisoprene, or lambskin. The two key types of condoms are **insertive** and **receptive**. The insertive condom fits over the penis and is often called the “male condom.” The receptive condom is a pouch inserted into the vagina or anus and is often called the “female condom.”

A Brief History

Condoms are not a recent invention – for thousands of years, male condoms were made from natural materials such as linen or animal intestines. The modern male condom, made of synthetic rubber, made its U.S. debut in the 1830s. Due to restrictive “Comstock” laws which criminalized the manufacture and sale of contraceptives, in many states the sale of condoms was illegal until the late 1930s. Even after their sale became legal, they were stigmatized due to popular fears that condoms encouraged “promiscuity” and disease. Today, condoms are recognized by most people as a highly effective method for prevention of pregnancy and sexually transmitted infections/diseases (STIs/STDs).¹ A polyurethane female condom was approved for sale by the federal Food and Drug Administration (FDA) in the 1990s. More recently a “second generation” female condom – called FC2 – became available and is made of nitrile instead of polyurethane.

Condom Overview

Compared to other methods of pregnancy or STD prevention, condoms are widely available and relatively inexpensive (typically costing less than \$1 each for a male condoms and less than \$5 each for a female condom).

When used consistently and correctly, condoms act as a barrier to...

- prevent pregnancy by blocking the passage of semen into the vaginal canal
- prevent STD infection by protecting mucous membranes in the vagina, anus, and mouth from exposure to viruses and bacteria

According to the U.S. Centers for Disease Control and Prevention, “Overall, the preponderance of available epidemiologic studies have found that when used consistently and correctly, condoms are highly effective in preventing the sexual transmission of HIV infection and reduce the risk of other STDs.”²

¹ Andrea Tone (2001). *Devices and Desires: A History of Contraceptives in America* (New York: Hill and Wang).

² U.S. Centers for Disease Control and Prevention (2013). Condoms and STDs: Fact Sheet for Public Health Personnel (Atlanta, GA), accessed February 12, 2014 at <http://www.cdc.gov/condomeffectiveness/latex.htm>.



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The U.S. Centers for Disease Control and Prevention (CDC) outlines the increased risk that comes with inconsistent or incorrect use of condoms:

- Inconsistent use increases the risk of STD infection because transmission can occur with a single unprotected sex act with an infected partner.
- Incorrect use can cause condom breakage, slippage, or leakage. Incorrect use often means a failure to use condoms *throughout the entire sex act*, from start (of sexual contact) to finish (after ejaculation).³

The female condom is a pouch with two flexible rings – one at the opening and one at the closed end. For vaginal intercourse, this condom can be inserted up to eight hours in advance, and works by acting as a barrier between the penis and cervix (the opening to the uterus). The flexible ring at the closed end fits behind the pubic bone and holds the condom securely in place. The flexible ring at the opening remains outside the vagina.

For anal intercourse, the female condom is not officially FDA-approved or marketed but sexually active people who engage in anal intercourse sometimes use it in the belief that it can reduce the risk of STDs, including HIV. From a scientific standpoint, however, “the safety and efficacy of the female condom for anal intercourse are still unknown.”⁴ When used for anal intercourse, the flexible ring at the closed end is inserted gently into the anal opening past the sphincter muscle to hold the condom in place. The flexible ring at the opening remains outside the anus.

The male condom is a sheath or pouch that is placed over the erect penis. It is typically sold in a flat square package and must be unrolled correctly over the penis just prior to vaginal, anal, or oral intercourse. People who use insertive sex toys (such as vibrators or dildos) sometimes place male condoms over the toy to reduce risk of STD transmission. To date, no scientific studies have been published to confirm the protective effect of male or female condoms against STD infection with sex toys.

³ U.S. Centers for Disease Control and Prevention (2013). Condom Fact Sheet in Brief (Atlanta, GA), accessed February 12, 2014 at <http://www.cdc.gov/condomeffectiveness/brief.html>.

⁴ Elizabeth A. Kelvin, Joanne E. Mantell, Norman Candelario, et al. (2011). “Off-Label Use of the Female Condom for Anal Intercourse Among Men in New York City.” *American Journal of Public Health*. December: 101(12), pp2241–2244.



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What Condoms Are Made of

In the U.S., FDA-approved condoms may be made from latex rubber, nitrile (a synthetic latex), polyisoprene, polyurethane or natural lambskin. The FC2 female condom is made of nitrile only. For people who have allergies to latex, nitrile, polyisoprene, or polyurethane condoms can be an effective alternative. Latex and polyurethane are about equally effective in their ability to provide a barrier against sperm, bacteria, and viruses. However, at least one study of polyurethane condoms found a “higher frequency of breakage and slippage [suggesting that this] condom may confer less protection from sexually transmitted infections than does the latex condom.”⁵ No studies have directly evaluated the female nitrile condom's efficacy for STD prevention.⁶ Although natural animal skin condoms can provide a barrier against sperm, and thus reduce the risk of pregnancy during penile-vaginal intercourse, they are not an effective barrier against bacteria and viruses and are therefore not recommended for STD prevention. The small pores in natural animal skin condoms can allow bacteria and viruses to pass through and cause infection.⁷

Reliability of FDA-Approved Condoms

The U.S. Food and Drug Administration classifies condoms as medical devices to be regulated and manufactured according to national standards. The FDA oversees the testing procedures required of manufacturers by periodically inspecting the manufacturing facilities, and tests some condoms in its own laboratories to confirm their quality.⁸ During the manufacturing process, condoms are subject to quality-control procedures. Before being packaged, every condom sold in the U.S. must be electronically tested by its manufacturer for defects such as thinning areas, holes, or creases. Manufacturers may also use quality control measures such as water-leak tests in which randomly-chosen condoms are filled with water and monitored for leakage; other measures may include strength testing using an air-burst method. If FDA inspectors find defects in more than four condoms per 1,000 tested in a given production run, the manufacturer is required to destroy the entire run and address the defect.⁹

⁵ Ron G. Frezieres, Terri L. Walsh, Anita L. Nelson, et al. (1999). “Evaluation of the Efficacy of a Polyurethane Condom: Results from a Randomized, Controlled Clinical Trial.” *Family Planning Perspectives*. March-April: 31(2), pp81-87, accessed February 12, 2014 at <http://www.ncbi.nlm.nih.gov/pubmed/10224546>.

⁶ U.S. Centers for Disease Control and Prevention (2012). Sexually Transmitted Diseases (STDs): Miscellaneous Questions & Answers - 2010 Treatment Guidelines (Atlanta, GA), accessed February 12, 2014 at <http://www.cdc.gov/std/treatment/2010/QandA/misc.htm>.

⁷ Debby Herbenick. “Q&A: Lambskin Condoms vs. Latex Condoms.” Kinsey Confidential: Sexual Health Information from the Kinsey Institute, March 23, 2009, accessed February 12, 2014 at <http://kinseyconfidential.org/lambskin-condoms/>.

⁸ U.S. Food and Drug Administration (2009). Condoms: Barriers to Bad News (Silver Spring, MD), accessed February 12, 2014 at <http://www.fda.gov/ForConsumers/ByAudience/ForPatientAdvocates/HIVandAIDSActivities/ucm126370.htm>.

⁹ Lifestyles Condoms manufacturer's web site. “Condom FAQs,” accessed February 12, 2014 at <http://www.lifestyles.com/condom-fags/#qC5>.



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Protection against STDs

Consistent and correct use of non-lambskin condoms can reduce the risk of HIV and other STD transmission.¹⁰ However, condom use cannot provide 100% protection against any STD. The most reliable ways to avoid transmission of STDs are to abstain from all vaginal, anal, or oral sexual contact with other people, or to be in a long-term, mutually-monogamous sexual relationship with a partner who is known to be uninfected. Because STDs are often asymptomatic or not visible to the infected person or their partner, many people are unaware they have an infection. Therefore, monogamy alone is not protective unless both partners have verified their status through HIV and other STD testing.

Non-lambskin condoms provide different levels of protection for different STDs, because some STDs are more infectious than others or transmit in different ways. Condoms may not cover all areas of the body vulnerable to infection. They provide better protection against STDs transmitted mainly through bodily fluids (such as gonorrhea, chlamydia, trichomoniasis, or HIV). They provide less reliable protection against infections transmitted mainly by skin-to-skin contact (such as genital herpes, HPV, syphilis, and chancroid).¹¹

Protection against Pregnancy

Consistent and correct use of latex male condoms results in 98% effectiveness at preventing pregnancy. This is often called *perfect use* and means that if 100 couples had penile-vaginal intercourse over the course of a year and used latex male condoms correctly every single time, 2 of them would experience a pregnancy. Because many people do not use contraceptive methods consistently or correctly, *typical use* of latex male condom results in 82% effectiveness at preventing pregnancy. *Perfect use* of female condoms results in 95% effectiveness at preventing pregnancy. *Typical use* of female condoms results in 79% effectiveness at preventing pregnancy. Compared to using male or female condoms, using *no* method of contraception results in 15% effectiveness at preventing pregnancy. This means that if 100 couples had penile-vaginal intercourse over the course of a year but used no contraceptive method, 85 of them would experience a pregnancy.¹²

¹⁰ U.S. Centers for Disease Control and Prevention (2013). Male Latex Condoms and Sexually Transmitted Diseases: Selected References (Atlanta, GA), accessed February 12, 2014 at <http://www.cdc.gov/condomeffectiveness/references.html>.

¹¹ CDC, "Condom Fact Sheet in Brief."

¹² James Trussell (2011). "Contraceptive Failure in the United States." *Contraception*. May: 83(5), pp397–404, accessed February 12, 2014 at <http://www.ncbi.nlm.nih.gov/pubmed/21477680>.



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This table summarizes the data:

Pregnancy Prevention, 100 couples over 12 months			
	Female condom	Male latex condom	No method
Perfect use	95% effective	98% effective	15% effective
Typical use	79% effective	82% effective	

Oral Sex and Condoms

The female condom is not designed for use during mouth-to-penis or mouth-to-vulva sexual contact. Several varieties of male condoms are marketed for mouth-to-penis sexual contact (often flavored and non-lubricated). Check the packaging before purchasing. Some safer-sex advocates also recommend the non-lambskin male condom for mouth-to-vulva contact as a dental dam, which requires cutting the condom so that it becomes a flat sheet that can be placed over the vulva. Scientific data on the protective effect of condoms during oral sex is still very limited, but there is some evidence to support the theory that a latex barrier between a mouth and penis can reduce the risk for STD infection.¹³

Lubricants, Spermicides, and Condoms

Many types of condoms come pre-lubricated in their package (check the package to verify). If you want to use extra lubricant with a latex condom, it is safest to use only water-based lubricants and look for the words “water-based” on the package. Do not use oil-based lubricants with latex condoms, (e.g., petroleum jelly, massage oils, body lotions, or edible oils) because these can weaken latex, causing condom breakage.¹⁴ Female condoms, made of nitrile, can be used with water- or oil-based lubricants. Avoid lubricants that contain spermicides such as Nonoxynol-9. These are detergents which kill sperm but can cause irritation of the skin. Irritated skin in the vagina or rectum can increase the risk of STD infection.

Using Two Condoms at Once (“Double-Bagging”)

In the early years of the AIDS epidemic, some people believed that doubling-up on condoms would provide extra protection from HIV, but many sexual health experts warned that this could increase friction, slippage, and breakage of condoms and therefore *increase* risk of infection. Little scientific evidence existed to confirm one view or the other. Now, based on very limited evidence, some experts are saying that double-bagging does not harm condoms, and might possibly help increase protection.¹⁵

¹³ Mee Lian Wong, Roy K.W. Chan, David Koh (2002). “Promoting Condoms for Oral Sex: Impact on Pharyngeal Gonorrhoea among Female Brothel-Based Sex Workers.” *Sexually Transmitted Diseases*. June: 29(6), pp311-318, accessed February 12, 2014 at <http://www.ncbi.nlm.nih.gov/pubmed/12035019>.

¹⁴ CDC, “Condom Fact Sheet in Brief.”

¹⁵ *Contraceptive Technology Update* (2011). “What’s the Evidence for Using Two Condoms?” January: pp8-9.



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Using Condoms Correctly

For all condoms

- Store condoms in a cool place out of direct sunlight. Do not store condoms in wallets or glove compartments, which can cause crushing or overheating. Condoms will become brittle from changes in temperature, rough handling, or age. Don't use damaged, discolored, brittle, or sticky condoms.
- Have at least one extra condom handy as a backup in case the first one breaks or gets contaminated.
- Check the expiration date. Don't use if out of date.
- Carefully open the condom package—teeth or fingernails can tear the condom.
- Roll-on the male condom, or insert the female condom, before it touches any part of a partner's body.
- Use a new condom for each act of vaginal, anal and oral penetration and use it throughout the *entire* sexual encounter (from start to finish). Use another new condom for repeated acts of intercourse or when switching between types of penetration. In other words, use one condom for oral intercourse and then switch to a new condom for anal or vaginal intercourse even if you are doing these during the same sexual encounter.
- Ensure that adequate lubrication is used during vaginal and anal intercourse. If you think the condom might have broken at any point during sexual activity, stop immediately, withdraw, remove the broken condom, and replace it with a new one. If this occurred during penile-vaginal intercourse and you are not using other contraception, consider obtaining emergency contraception (EC – also sometimes called the “morning-after” pill). Males and females can legally purchase EC without a prescription at many drug stores. The Emergency Contraception Website can help you find a location: <http://ec.princeton.edu/>.



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Using Condoms Correctly

For male (insertive) condoms

- A male non-lambskin condom can be placed on a vibrator, dildo, or other insertive sex toy to reduce the risk of STD infection if more than one person is using the same toy.
- If the male condom does not already have a “reservoir tip” to collect semen after ejaculation, pinch enough of the tip when rolling it on to the penis to leave some space for this.
- If you want additional lubricant, you can apply water-based lubricant to the outside surface of the male condom after putting it on a penis or sex toy.
- After ejaculation and before the penis gets soft, grip the rim of the male condom at the base of the penis, and carefully withdraw. Then gently pull the male condom off the penis, making sure that semen doesn’t spill out.
- Wrap the male condom in a tissue and throw it in the trash (not into the toilet, since condoms can clog plumbing).

For female (receptive) condoms

- If you want additional lubricant, you can apply water-based or oil-based lubricant to the inner or outer surface of the female condom before inserting it.
- To insert the female condom, first find a comfortable position such as standing with one foot on a chair, sitting on the edge of a chair, lying down, or squatting. Squeeze together the sides of the inner ring at the closed end of the female condom. Then, insert into the vagina or anus.
- If inserting the female condom vaginally, push the inner ring as far as it can go until it reaches the cervix (feels like touching the tip of the nose). If inserting the female condom anally, the inner ring should be inserted past the sphincter muscle for maximum protection.
- Remove your finger and let the female condom’s outer ring hang about an inch outside the vagina or anus.
- During penile-vaginal or penile-anal intercourse, it is normal for the female condom to move from side to side. However, if the penis slips between the female condom and the walls of the vagina or rectum, or if the outer ring is pushed into the vagina or rectum, stop intercourse, remove the female condom, and start over with a new one.
- After intercourse, remove the female condom by squeezing and twisting the outer ring to keep semen inside the pouch. Then gently pull the female condom out of the vagina or anus.
- Wrap the female condom in a tissue and throw it in the trash (not into the toilet, since condoms can clog plumbing).