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COURSE TITLE: ENDOCRINE PHYSIOLOGY

Discuss contraception and different types with details of any five

CONTRACEPTION

Contraception, also known as birth control and fertility control, is a method or device used to prevent [pregnancy](https://en.wikipedia.org/wiki/Pregnancy). The most effective methods of birth control are [sterilization](https://en.wikipedia.org/wiki/Sterilization_%28medicine%29) by means of [vasectomy](https://en.wikipedia.org/wiki/Vasectomy) in males and [tubal ligation](https://en.wikipedia.org/wiki/Tubal_ligation) in females, [intrauterine devices](https://en.wikipedia.org/wiki/Intrauterine_device) (IUDs), and [implantable birth control](https://en.wikipedia.org/wiki/Contraceptive_implant). This is followed by a number of [hormone-based methods](https://en.wikipedia.org/wiki/Hormonal_contraceptive) including [oral pills](https://en.wikipedia.org/wiki/Combined_oral_contraceptive_pill), [patches](https://en.wikipedia.org/wiki/Contraceptive_patch), [vaginal rings](https://en.wikipedia.org/wiki/Vaginal_ring), and [injections](https://en.wikipedia.org/wiki/Injectable_contraceptives). Less effective methods include [physical barriers](https://en.wikipedia.org/wiki/Barrier_contraception) such as [condoms](https://en.wikipedia.org/wiki/Condom), [diaphragms](https://en.wikipedia.org/wiki/Diaphragm_%28contraceptive%29) and [birth control sponges](https://en.wikipedia.org/wiki/Contraceptive_sponge) and [fertility awareness methods](https://en.wikipedia.org/wiki/Fertility_awareness_method). The least effective methods are [spermicides](https://en.wikipedia.org/wiki/Spermicide) and [withdrawal by the male before ejaculation](https://en.wikipedia.org/wiki/Withdrawal_method). Sterilization, while highly effective, is not usually reversible; all other methods are reversible, most immediately upon stopping them.[Safe sex](https://en.wikipedia.org/wiki/Safe_sex) practices, such as with the use of male or [female condoms](https://en.wikipedia.org/wiki/Female_condom), can also help prevent [sexually transmitted infections](https://en.wikipedia.org/wiki/Sexually_transmitted_infections).

 Contraception methods include [barrier methods](https://en.wikipedia.org/wiki/Barrier_methods), [hormonal birth control](https://en.wikipedia.org/wiki/Hormonal_birth_control), [intrauterine devices](https://en.wikipedia.org/wiki/Intrauterine_devices) (IUDs), [sterilization](https://en.wikipedia.org/wiki/Sterilization_%28medicine%29), and behavioral methods. They are used before or during sex while [emergency contraceptives](https://en.wikipedia.org/wiki/Emergency_contraceptive) are effective for up to five days after sex.

Hormonal contraception

[Hormonal contraception](https://en.wikipedia.org/wiki/Hormonal_contraception) is available in a number of different forms, including [oral pills](https://en.wikipedia.org/wiki/Oral_contraceptive), [implants](https://en.wikipedia.org/wiki/Contraceptive_implant) under the skin, [injections](https://en.wikipedia.org/wiki/Injectable_contraceptives), [patches](https://en.wikipedia.org/wiki/Contraceptive_patch), [IUDs](https://en.wikipedia.org/wiki/Hormonal_IUD) and a [vaginal ring](https://en.wikipedia.org/wiki/Vaginal_ring). They are currently available only for women, although hormonal contraceptives for men have been and are being clinically tested. There are two types of oral birth control pills, the [combined oral contraceptive pills](https://en.wikipedia.org/wiki/Combined_oral_contraceptive_pill) (which contain both [estrogen](https://en.wikipedia.org/wiki/Estrogen_%28medication%29) and a [progestin](https://en.wikipedia.org/wiki/Progestin)) and the [progestogen-only pills](https://en.wikipedia.org/wiki/Progestogen-only_pill) (sometimes called minipills). If either is taken during pregnancy, they do not increase the risk of [miscarriage](https://en.wikipedia.org/wiki/Miscarriage) nor cause [birth defects](https://en.wikipedia.org/wiki/Birth_defects). Both types of birth control pills prevent [fertilization](https://en.wikipedia.org/wiki/Human_fertilization) mainly by inhibiting [ovulation](https://en.wikipedia.org/wiki/Ovulation) and thickening cervical mucus. They may also change the lining of the uterus and thus decrease implantation. Their effectiveness depends on the user's adherence to taking the pills.

**Injectable depomedroxyprogesterone acetate**

Depomedroxyprogesterone acetate (DMPA) is a suspension of microcrystals of a synthetic progestin that is injected intramuscularly. Pharmacologically active levels are achieved within 24 hours after injection, and serum concentrations of 1 ng/mL are maintained for 3 months. During the fifth or sixth month after injection, the levels decrease to 0.2 ng/mL, and they become undetectable by 7-9 months after injection. DMPA acts by the inhibition of ovulation with the suppression of FSH and LH levels and eliminates the LH surge. This results in a relative hypoestrogenic state. Single doses of 150 mg suppress ovulation in most women for as long as 15 weeks. The contraceptive regimen consists of 1 dose every 3 months.

Barrier methods

[Barrier contraceptives](https://en.wikipedia.org/wiki/Barrier_contraceptive) are devices that attempt to prevent [pregnancy](https://en.wikipedia.org/wiki/Pregnancy) by physically preventing [sperm](https://en.wikipedia.org/wiki/Sperm) from entering the [uterus](https://en.wikipedia.org/wiki/Uterus). They include male [condoms](https://en.wikipedia.org/wiki/Condom), [female condoms](https://en.wikipedia.org/wiki/Female_condom), [cervical caps](https://en.wikipedia.org/wiki/Cervical_cap), [diaphragms](https://en.wikipedia.org/wiki/Diaphragm_%28contraceptive%29), and [contraceptive sponges](https://en.wikipedia.org/wiki/Contraceptive_sponge) with [spermicide](https://en.wikipedia.org/wiki/Spermicide).

Globally, condoms are the most common method of birth control. [Male condoms](https://en.wikipedia.org/wiki/Male_condoms) are put on a man's erect [penis](https://en.wikipedia.org/wiki/Human_penis) and physically block ejaculated sperm from entering the body of a sexual partner. Modern condoms are most often made from [latex](https://en.wikipedia.org/wiki/Latex), but some are made from other materials such as [polyurethane](https://en.wikipedia.org/wiki/Polyurethane), or lamb's intestine. [Female condoms](https://en.wikipedia.org/wiki/Female_condom) are also available, most often made of [nitrile](https://en.wikipedia.org/wiki/Nitrile_rubber), latex or polyurethane

Intrauterine devices

The intrauterine device (IUD) is one of the most effective contraceptive devices available with pregnancy rates < 1%. The current [intrauterine devices](https://en.wikipedia.org/wiki/Intrauterine_device) (IUD) are small devices, often 'T'-shaped, containing either copper or [levonorgestrel](https://en.wikipedia.org/wiki/Levonorgestrel), which are inserted into the uterus. They are one form of [long-acting reversible contraception](https://en.wikipedia.org/wiki/Long-acting_reversible_contraception) which are the most effective types of reversible birth control. Failure rates with the [copper IUD](https://en.wikipedia.org/wiki/Copper_IUDs) is about 0.8% while the [levonorgestrel IUD](https://en.wikipedia.org/wiki/Levonorgestrel_intrauterine_system) has a failure rates of 0.2% in the first year of use. Among types of birth control, they, along with birth control implants, result in the greatest satisfaction among users. As of 2007, IUDs are the most widely used form of reversible contraception, with more than 180 million users worldwide.

Evidence supports effectiveness and safety in adolescents and those who have and have not previously had children. IUDs do not affect [breastfeeding](https://en.wikipedia.org/wiki/Breastfeeding) and can be inserted immediately after delivery. They may also be used immediately after an [abortion](https://en.wikipedia.org/wiki/Abortion). Once removed, even after long term use, fertility returns to normal immediately.

Sterilization methods

[Surgical sterilization](https://en.wikipedia.org/wiki/Sterilisation_%28medicine%29) is available in the form of [tubal ligation](https://en.wikipedia.org/wiki/Tubal_ligation) for women and [vasectomy](https://en.wikipedia.org/wiki/Vasectomy) for men. There are no significant long term side effects, and tubal ligation decreases the risk of [ovarian cancer](https://en.wikipedia.org/wiki/Ovarian_cancer). Short term complications are twenty times less likely from a vasectomy than a tubal ligation. After a vasectomy, there may be swelling and pain of the scrotum which usually resolves in one or two weeks. With tubal ligation, complications occur in 1 to 2 percent of procedures with serious complications usually due to the [anesthesia](https://en.wikipedia.org/wiki/Anesthesia). Neither method offers protection from sexually transmitted infections. Although sterilization is considered a permanent procedure, it is possible to attempt a [tubal reversal](https://en.wikipedia.org/wiki/Tubal_reversal) to reconnect the [fallopian tubes](https://en.wikipedia.org/wiki/Fallopian_tubes) or a [vasectomy reversal](https://en.wikipedia.org/wiki/Vasectomy_reversal) to reconnect the [vasa deferentia](https://en.wikipedia.org/wiki/Vasa_deferentia). In women, the desire for a reversal is often associated with a change in spouse. Pregnancy success rates after tubal reversal are between 31 and 88 percent, with complications including an increased risk of [ectopic pregnancy](https://en.wikipedia.org/wiki/Ectopic_pregnancy). The number of males who request reversal is between 2 and 6 percent. Rates of success in fathering another child after reversal are between 38 and 84 percent; with success being lower the longer the time period between the vasectomy and the reversal. [Sperm extraction](https://en.wikipedia.org/wiki/Sperm_extraction) followed by [in vitro fertilization](https://en.wikipedia.org/wiki/In_vitro_fertilization) may also be an option in men.

Behavioural methods

Behavioral methods involve [regulating the timing](https://en.wikipedia.org/wiki/Calendar-based_contraceptive_methods) or method of intercourse to prevent introduction of sperm into the female reproductive tract, either altogether or when an egg may be present.[[81]](https://en.wikipedia.org/wiki/Birth_control#cite_note-Grim2004-81) If used perfectly the first-year failure rate may be around 3.4%, however if used poorly first-year failure rates may approach 85%. There are several methods here: fertility awareness, withdrawal method, abstinence methods.

**Fertility awareness** method  involve determining the most fertile days of the [menstrual cycle](https://en.wikipedia.org/wiki/Menstrual_cycle) and avoiding unprotected intercourse. **Withdrawal methods** is the practice of ending intercourse ("pulling out") before ejaculation. The main risk of the withdrawal method is that the man may not perform the maneuver correctly or in a timely manner. [**Sexual abstinence**](https://en.wikipedia.org/wiki/Sexual_abstinence) may be used as a form of birth control, meaning either not engaging in any type of sexual activity, or specifically not engaging in vaginal intercourse, while engaging in other forms of non-vaginal sex. Complete sexual abstinence is 100% effective in preventing pregnancy.