Birth Control (Contraception) for Adolescent Girls — Common Methods

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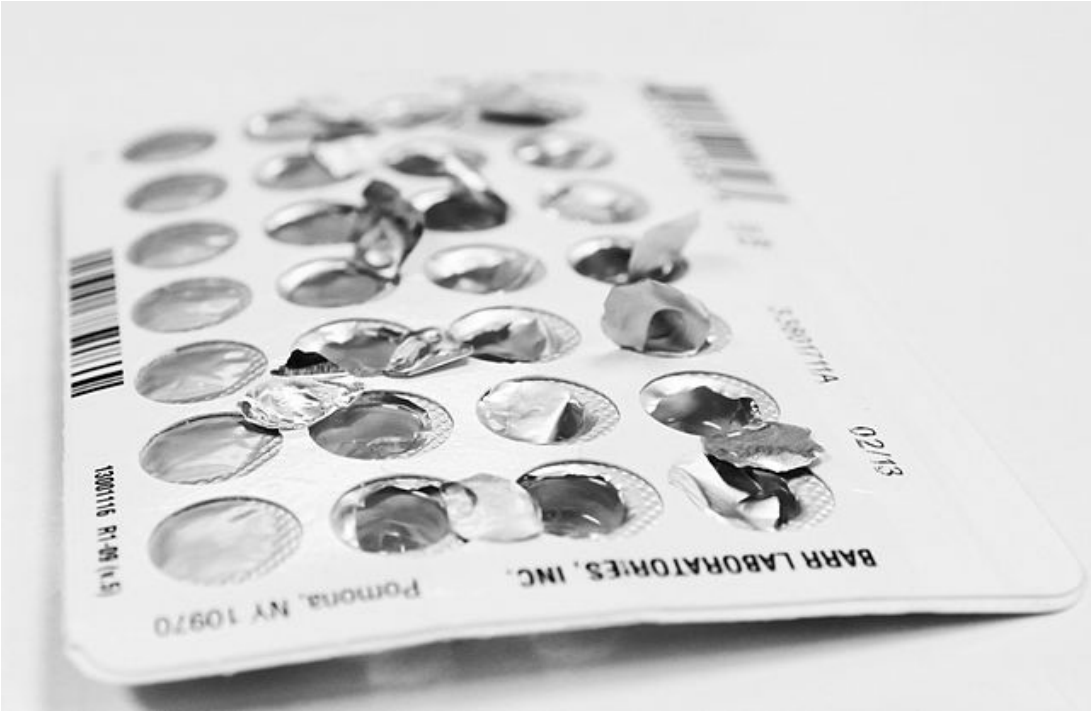
Contraception refers to the process/methods that allow one to have children by choice other than by chance. These methods can be based on certain behaviors, physical barriers, chemical compounds, or hormonal therapies.



Overview and Epidemiology

Pregnancy in adolescents is quite common with an estimated incidence of 69 per 1000 in girls aged between 15 and 19 years in the U.S. This can be explained by the nature of sexual behavior in this age group, the poor compliance with the use of contraception, and the imperfect use of the different methods of contraception.

Image: “Teenage birth rate per 1000 women aged 15–19, 2000-2009.” Source: Live births by age of mother and sex of child, general and age-specific fertility rates: latest available year, 2000-2009 — United Nations Statistics Division – Demographic and Social Statistics. License: Public Domain

Approximately 78 % of adolescents report the use of some form of contraception in their first intercourse. This figure increases to 86 % when an adolescent is questioned about the most recent intercourse.

The **most common form of contraception used by adolescent girls in the United States is the oral contraceptive pill** (approximately half of the cases). 20 % of adolescent girls reported the use of male or female condoms as the main method of contraception. Injection contraceptives, contraceptive patches and contraceptive implants are used by 16 % of adolescents who use contraception. Finally, the use of intrauterine devices is uncommon in this age group, only 3 %.

The use of dual contraception in adolescents is less common compared to adult women. Additionally, the rate of contraception discontinuation is higher in this age group.

Failure Rates for Contraception Methods in Adolescents

A failed contraception attempt is defined as when the adolescent gets pregnant without planning. Before we discuss the failure rates for the different contraception methods that are used by adolescents in the United States, it is important to define what is perfect use and what is a typical use of contraception.

Perfect use is defined as the use of a given contraception method correctly and consistently. Unfortunately, this is very uncommon in adolescents. Therefore, whenever discussing failure rates with the adolescent, it is always important to use the rates provided for typical use and not perfect use. Typical use means that the woman or the couple uses a certain contraception method but not consistently or with few mistakes.

The most common forms of contraceptive methods used by adolescents can be classified into oral contraceptive pills, male condoms, and levonorgestrel intrauterine devices. The failure rate with perfect use of oral contraceptives is 0.3 %, with a male condom is 2 % and with levonorgestrel intrauterine devices is estimated to be around 0.1 %.

On the other hand, the failure rate with the typical use of oral contraceptive pills is around 9 %, with male condoms is around 15 % and with levonorgestrel intrauterine devices is 0.1 %. Therefore, the only method that is not dependent on the adolescent's compliance is the use of intrauterine devices. The issue with intrauterine devices is that they are a bit invasive and rarely used by adolescents.

Counseling about Contraception in an Adolescent

In many cases, the adolescent girl is accompanied by her parents. In that scenario, it might seem that she is **seeking medical attention for mild dysmenorrhea or dysfunctional uterine bleeding**. Careful and meticulous history taking skills can reveal the real reason behind her visit is to inquire about the available methods of contraception for her.

When obtaining the sexual history from an adolescent, it is important to **define the adolescent's age, cognitive, and socio-behavioral maturity**. Adolescents usually care about their confidentiality and might find it difficult to discuss their needs and concerns in front of their parents. Therefore, questionnaires should be provided for the adolescent to fill whenever appropriate for her, i.e., at home. The main goal in this part of your history is to determine the nature of sexual behavior the adolescent is engaged into and the type of contraception she seeks if any.

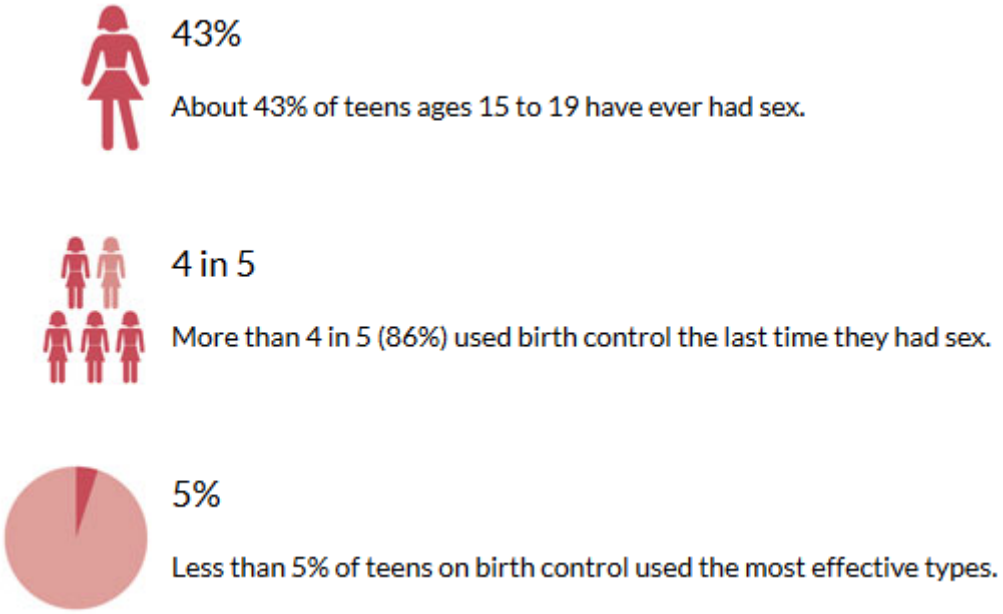


Image: "These are CDC stats about teenager sexual behavior in the United States." by Centers for Disease Control and Prevention. License: Public Domain

The next step in your assessment should be **taking a full medical history of the patient**. Perhaps the patient is seeking contraception for other causes or concerns and not for simply preventing pregnancy. For instance, many adolescent girls with dysfunctional uterine bleeding need oral contraceptive pills even if they do not engage in any sexual activity. Additionally, adolescent girls with thrombotic disorders or those with acne might need special consideration when determining the type of contraception to be used.

Common Myths about Contraception in Adolescents

Whenever the topic of contraception is opened with an adolescent or her parents, many misconceptions and myths about contraception use arise. These myths might be the reason behind poor compliance and the increased failure rate seen in adolescents.

Firstly, the use of **intrauterine devices is quite uncommon in adolescents because of several myths**. Many women believe that the insertion of an intrauterine device in an adolescent or a nulliparous woman is very difficult which is not true. Additionally, many doctors prefer to not insert an intrauterine device in an adolescent because of the increased risk of sexually transmitted diseases in this age group.

Recent data showed that intrauterine devices can be kept in place even if the adolescent develops a sexually transmitted disease if the adolescent girl receives the appropriate treatment.

Another common myth is that **adolescents should not be on depot medroxyprogesterone if they are obese** and they should not use this method of contraception for more than two years because of the increased risk of decreased bone mass density. In reality, the use of depot medroxyprogesterone is safe in obese women and adolescents and prolonged use of this method of contraception is not associated with an increased risk of decrease in bone mass density.

Many adolescents believe that they should **not use oral contraceptive pills if they are smokers** or if they have a family history of idiopathic deep venous thrombosis or pulmonary embolism. This is wrong and the use of oral contraceptive pills in these adolescents is safe and effective. Additionally, many believe that the **use of oral contraceptive pills should be delayed up to six weeks postpartum or after abortion**, which is again not true. Most forms of contraception, except for intrauterine devices, can be used immediately after abortion or postpartum.

The last myth that we will discuss here is more common among the caregivers of the adolescent girl. Some parents believe that the **use of oral contraceptive pills, especially estrogen-based contraceptives, are linked to an increased risk of unsafe sexual behavior**. This observation was not confirmed or backed up by any research.

Available Methods of Contraception for Adolescents

Method	Hormone in method	How used
OCPs	Estrogen, progesterone	Daily pill
Transdermal patch	Estrogen, progesterone	Adhesive patch
Vaginal ring	Estrogen, progesterone	Flexible ring inserted into vagina
Condom	N/A	Used at time of sex
UID		Inserted by health care professional into uterus Leave in for up to 5 years
Etonogestrel implant		Inserted by health care professional into uterus Leave in for up to 3 years
DMPA	Progesterone	Intramuscular injection every 3 months

The available methods of contraception for adolescents can be classified into **long-acting, intermediate-acting and short-acting methods**. Long-acting methods of contraception include **intrauterine devices and etonogestrel (ENG) implants**. These two methods have the advantage of being independent on the adolescent's compliance. They are highly effective and have been considered as very safe in adolescents.

Unfortunately, due to the common myths surrounding these methods, they are rarely used by adolescents. The most common contraindications for long-acting contraceptive methods are pregnancy, active sexually transmitted infections, current pelvic inflammatory disease, and anatomic abnormalities. Adolescents with severe liver cirrhosis, breast cancer or endometrial cancer should not receive an ENG implant.

Depot medroxyprogesterone acetate (DMPA) is an injectable contraceptive that has an intermediate-acting duration. The estimated failure rate of typical use of DMPA in adolescents is 6 % whereas it is 0.1 % with intrauterine devices. DMPA is commonly associated with irregular vaginal bleeding which can lead to the discontinuation of this method. Weight gain is also reported in up to half of the adolescents who use DMPA.

Short-acting methods of contraception include the **combined oral contraceptive pills, the contraceptive vaginal ring, the contraceptive patch, and progestin-only pills**.

Start OCPs in 1 of 3 ways

⇓	⇓	⇓
Sunday start • Begin on Sunday after next menses	1st-day start • Begin on the first day of next menses	Quick start • Reduces chance of becoming pregnant before next period

These methods are highly dependent on the adolescent's compliance, hence the higher failure rate with typical use. The main advantages of these methods are the absence of weight gain association, improved acne symptoms, reduced and more regular menstrual bleeding, improved premenstrual symptoms, reduced risk of ectopic pregnancy, and reduced risk of ovarian and endometrial cancer. Most formulations of combined oral contraceptives have estrogen.

Advantages	**Disadvantages**
OCPs	
• Menses shorter, lighter, predictable • Decreased acne • Ovarian cyst suppression	• No STD prevention • Daily adherence difficult for teens • Estrogen related side effects: Nausea, breast tenderness, headaches. risk of thrombosis
Transdermal Patch	
• Menses shorter, lighter, predictable • Decreased acne • Ovarian cyst suppression • Weekly dose	• No STD prevention • Lacks privacy • Skin irritation • Estrogen-related side effects
Vaginal Ring	
• Menses shorter, lighter, predictable • Decreased acne • Ovarian cyst suppression • Very private • Monthly dosing	• No STD prevention • Requires patient comfort • Vaginal discharge • Estrogen-related side effects
DPMA	
• Amenorrhea • Very private • Infrequent dosing	• No STD prevention • Weight gain • Irregular periods for first few months • Decreased bone mineral density
UID	
• No maintenance • Lasts up to 5 years, remove when childbearing is wanted • Most effective form of birth control	• Does not prevent STDs • Rare risk of infection • Cramping/ bleeding
Etonogestrel Implant	
• No maintenance • Low risk • 99 % effective	• No STD prevention • Minor surgery to implant/remove • Cramping/ bleeding

Picture: "Birth Control Pills." by BruceBlaus.

Picture: "Vaginal birth

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control device NuvaRing" by Sakky – → This file has been extracted from another file: Real nuvaring.jpg. License: Public Domain

Picture: "An Ortho Evra birth control patch with the plastic backing still on." by James Heilman, MD. License: CC BY-SA 3.0

Adolescents with a **recurrent history of migrainous headaches should not receive estrogen-containing contraceptives**. Additionally, adolescents with the previous history of deep venous thrombosis or pulmonary embolism should not receive estrogen-based contraceptives. The family history of deep venous thrombosis or pulmonary embolism is not a contraindication to the use of estrogen-containing oral contraceptives.

Male condoms are the second most common form of contraception used by adolescents. Unfortunately, the failure rate with the typical use of male condoms in adolescents is very high, 15 %. The main advantage of male condoms compared to all the other forms of contraception discussed so far is that they protect against of sexually transmitted infections.

Advantages	Disadvantages
• Use only when needed • Minimal side effects • Prevents many STDs	• Interferes with spontaneity • Need to remember • May break or tear • Latex allergies

Emergency contraception can be used up to 120 hours after unprotected sexual intercourse to prevent pregnancy. The safety and efficacy of emergency contraception in adolescents are good. In 2013, Plan B One-Step emergency contraception became available over the counter.

Image: “Prezerwatywa, z angielskiej wiki” by Flegmus. License: CC BY-SA 3.0

Image: “Emergency contraceptive pills” by Anka Grzywacz. License: CC BY 2.5 pl

Choosing a Method

- Minors consent for health care related to sexual health and birth control
- Consideration of factors:

1. Privacy
2. Adherence to regimen
3. Tolerance of side effects
4. Contraindications
5. Noncontraceptive benefits

- Determine patient understanding

References

Truehart, A., & Whitaker, A. (2015). Contraception for the Adolescent Patient. Obstetrical & Gynecological Survey, 70(4), 263–273. http://doi.org/10.1097/OGX.0000000000000168 Available at: https://www.ncbi.nlm.nih.gov/pubmed/25900526

Notes