

## Antibiotics and hormonal birth control effectiveness <sup>[1]</sup>

(1) Dear Alice,

I heard that while it's generally not advised to take antibiotics while on the birth control pill, it's still okay to take tetracycline. Is this true?

(2) Dear Alice,

I have heard many many times that antibiotics interfere with the effectiveness of oral contraceptives, but what about the depo-provera shot? Is there any research showing decreased effectiveness of Depo-Provera when using anti-biotics?

### Answer

Dear Readers,

It's great that you both are being proactive about your physical and reproductive health! To answer both of your questions generally: there's not sufficient evidence to suggest that the use of broad-spectrum antibiotics (which include tetracycline, Reader #1) decreases the effectiveness of hormonal birth control methods including the combination [pill](#) [2], [patch](#) [3], [ring](#) [4], [progestin-only pills](#) [5], [implant](#) [6], [injection](#) [7] (Depo-Provera), and [intrauterine devices](#) [8] (IUDs). However, it has been established that the effectiveness of some hormonal contraceptives (not including Depo-Provera) can be compromised, thus increasing the risk of unintended pregnancy, by two other types of antibiotics: rifampin and rifabutin. And, though there is no conclusive evidence thus far that broad-spectrum antibiotics pose a significant risk to the hormonal contraceptive efficacy, some studies have noted that more research may be needed to further clarify whether there is a link or not.

Broad-spectrum antibiotics, such as tetracycline and penicillin, are used to treat a number of bacterial infections (including sexually transmitted ones) and help control [acne](#) [9] for some; whereas, the antibiotics that have been found to lower the effectiveness of hormonal birth control are used to treat specific conditions. Rifampin helps treat tuberculosis and rifabutin helps treat Mycobacterium avium complex (MAC) infection in individuals with the human immunodeficiency virus (HIV). There's sufficient evidence to suggest that both lower the effectiveness of hormonal contraceptives, including combined and progestin-only birth control pills, the contraceptive patch,

and ring by decreasing the estrogen and progestin levels in the body. If a person is prescribed these drugs, the use of back-up forms of contraception, particularly barrier methods, such as [condoms](#) [10], [diaphragms, and cervical caps](#) [11] are recommended for the duration of the indicated course of medication.

Though these medications are the ones generally recognized to pose a risk to lowered effectiveness of hormonal contraceptives, some research has attempted to further investigate whether there's potential for other antibiotics, including the broad-spectrum variety, to interfere with hormonal contraceptive efficacy. For example, two more recent, large-scale studies (conducted in the United States and the Netherlands) have not conclusively found an association between antibiotic use and combined oral contraceptive (COC) failure, but both sets of researchers indicate that there were limitations to each of the studies — both in study design and the inability to control some variables specific to the users (e.g., missed birth control pills, other medications taken at the same time, and frequency of sex during use). Any of these issues may have made it difficult to more clearly demonstrate a link between antibiotic use and the risk of pregnancy due to lowered COC effectiveness. Additionally, the researchers in both studies stated that there may be a possibility that some women are more susceptible to the interaction between the two types of medications. In any case, more research is needed to establish whether there's a clear link between pregnancy risk and the use of both medications at the same time.

Outside of these studies, it's been noted that women who experience irregular periods, diarrhea, vomiting, or gastrointestinal disorders when taking any antibiotics may also want to consider using back-up options, as these factors may reduce the efficacy of oral contraceptives.

Lastly, it isn't only antibiotics that pose a drug interaction risk; other medications may decrease the effectiveness of some hormonal contraceptives as well, including certain antiretroviral drugs, antiseizure drugs, supplements such as St. John's Wort, and antifungal medications. As such, it's wise to keep your health care provider in the loop about any over the counter (OTC) and prescription medications, particularly when you're being prescribed antibiotics. That way they will be able to best advise you on what medications to take and how to prevent any risks involved with potential drug interactions. Speaking with a pharmacist and reading the information that comes with your medications will also help inform how best to minimize the effects of drug interactions. For even more information about hormonal methods of birth control, check out the [Contraception](#) [12] category in the *Go Ask Alice!* archives. Remember — when in doubt, call for back-up!

Alice!

Alice!

Category:

[Sexual & Reproductive Health](#) [13]

[Contraception](#) [14]

[Birth Control Pills](#) [15]

[Non-hormonal Options & Choices](#) [16]

[Other Hormonal Options & Choices](#) [17]

## Related questions

[Probiotics and birth control effectiveness](#) [18]

[Grapefruit juice and drug interactions?](#) [19]

[The pill and Zantac?](#) [20]

## Resources

[Medical Services \(Morningside\)](#) [21]

[Medical Services \(CUIMC\)](#) [22]

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## Footer menu

- ▼ [Contact Alice!](#)
  - [Content Use](#)
  - [Media Inquiries](#)
  - [Comments & Corrections](#)
- ▼ [Syndication & Licensing](#)
  - [Licensing Q&As](#)
  - [Get Alice! on Your Website](#)
  - [Full Site Syndication](#)
  - [Link to Go Ask Alice!](#)

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### Links

[1] <https://goaskalice.columbia.edu/answered-questions/antibiotics-and-hormonal-birth-control-effectiveness>

[2] <http://goaskalice.columbia.edu/answered-questions/how-do-birth-control-pills-work>

[3] <http://www.goaskalice.columbia.edu/answered-questions/contraceptive-patch-ortho-evra>

[4] <http://goaskalice.columbia.edu/answered-questions/puttin-ring-it-nuvaring>

[5] <http://goaskalice.columbia.edu/answered-questions/what-are-differences-among-birth-control-pills>

[6] <http://goaskalice.columbia.edu/answered-questions/implanon-and-nexplanon-contraceptive-implant>

[7] <http://www.goaskalice.columbia.edu/answered-questions/takin-shot-depo-provera>

[8] <http://goaskalice.columbia.edu/answered-questions/iud-intrauterine-device-another-birth-control-option>

- [9] <http://goaskalice.columbia.edu/answered-questions/antibiotics-and-acne>
- [10] <http://goaskalice.columbia.edu/answered-questions/five-kinds-condoms-guide-consumers>
- [11] <http://goaskalice.columbia.edu/answered-questions/diaphragm-and-cervical-cap-effectiveness>
- [12] <http://goaskalice.columbia.edu/category/contraception>
- [13] <https://goaskalice.columbia.edu/category/sexual-reproductive-health>
- [14] <https://goaskalice.columbia.edu/category/contraception>
- [15] <https://goaskalice.columbia.edu/category/birth-control-pills>
- [16] <https://goaskalice.columbia.edu/category/non-hormonal-options-choices>
- [17] <https://goaskalice.columbia.edu/category/other-hormonal-options-choices>
- [18] <https://goaskalice.columbia.edu/answered-questions/probiotics-and-birth-control-effectiveness>
- [19] <https://goaskalice.columbia.edu/answered-questions/grapefruit-juice-and-drug-interactions-0>
- [20] <https://goaskalice.columbia.edu/answered-questions/pill-and-zantac>
- [21] <https://goaskalice.columbia.edu/resource/medical-services-morningside>
- [22] <https://goaskalice.columbia.edu/resource/medical-services-cuimc>