

# STEPS

## New Drug Reviews

### Segesterone Acetate and Ethinyl Estradiol Vaginal Ring (Annovera) for Contraception

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Drug	Dosing	Dose form	Cost*
Segesterone acetate and ethinyl estradiol vaginal ring (Annovera)	Insert ring vaginally for 21 days, then remove for seven days†	Vaginal ring: 103 mg/17.4 mg (0.15 mg/0.013 mg per day)	\$2,000 for one ring

\*—Estimated lowest GoodRx price for one year of treatment. Actual cost will vary with insurance and by region. Information obtained at <https://www.goodrx.com> (accessed April 2, 2020; zip code: 66211).

†—Annovera can be used for 13 28-day cycles. Wash and store when not in use.

The segesterone acetate and ethinyl estradiol vaginal ring (Annovera) is a combined progestin/estrogen silicone elastomer device labeled to prevent pregnancy in women of reproductive age with a body mass index less than 29 kg per m<sup>2</sup>. The same ring can be used for one year.

#### Safety

Safety of Annovera has been assessed in 2,308 women, 999 of whom completed a full year of treatment. Serious adverse effects appear to be similar to those of other combined hormonal contraceptives and include thrombosis, myocardial infarction, stroke, carcinoma, gallbladder disease, liver disease, dyslipidemia, and hypertension.<sup>1,2</sup> Because segesterone acetate is a new progestosterone, there are limited safety data, and

postmarketing studies are ongoing. Women older than 35 years who smoke should avoid using Annovera because of the increased risk of serious cardiovascular events. Breastfeeding women should avoid this form of contraception because it can decrease milk production. It should not be used during pregnancy.

#### Tolerability

Adverse effects occur in at least 5% of women and include headache, nausea, vaginal discharge, dysmenorrhea, breast discomfort, and irregular bleeding.<sup>1</sup> Over the course of one year, about one in eight women will discontinue use of Annovera because of adverse effects, which is comparable to the discontinuation rate with other combined hormonal contraceptives. In addition, 25% of women reported at least one complete expulsion of the device during the one-year study cycle, with 1.4% of women discontinuing use because of expulsions.<sup>1,2</sup> This rate is higher than the 6.3% expulsion rate reported for the ethinyl estradiol/etonogestrel vaginal ring (Nuvaring), but it did not lead to a higher discontinuation rate.<sup>3</sup>

#### Effectiveness

Annovera is effective at preventing pregnancy. A one-year study was conducted in the United States and internationally that included 2,265 sexually active women 18 to 40 years of age with a ►

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**Author disclosure:** No relevant financial affiliations.

body mass index less than 29 kg per m<sup>2</sup>.<sup>2</sup> Using the Pearl Index, the authors determined the pooled pregnancy rate to be three per 100 women with one year of typical use. This rate is similar to that of other recently approved combined hormonal contraceptives, for which one to three pregnancies are typically expected per 100 women each year.<sup>4</sup> In comparison, long-acting reversible contraception methods such as an intrauterine device, progesterone implant (Nexplanon), or medroxyprogesterone injection (Depo-Provera) have an expected pregnancy rate of less than one per 100 women in one year. This medication has not been studied for the treatment of dysmenorrhea, menorrhagia, or endometriosis.

### Price

The cost for a one-year supply of Annovera (one ring) is approximately \$2,000. It is much more expensive than a one-year supply of generic combined oral contraceptives or the yearly cost of long-acting reversible contraception methods. It is similar in price to a one-year supply of the monthly Nuvaring, for which a generic is not yet available. Annovera may not be covered by all insurance plans.

### Simplicity

Annovera is inserted vaginally and must remain in place for 21 days, then be removed for seven days. The ring should be washed, dried, and stored at room temperature when not in use. This schedule is repeated every 28 days, and the ring is reused for 13 cycles, equaling one year of use.

When in use, the ring should not be removed for more than two hours.

### Bottom Line

Annovera is an effective combined progestin/estrogen contraceptive device that can be used for one year. It could be considered a convenient option for women who desire a regular menstrual period without requiring medication refills from the pharmacy, but who do not want to use long-acting reversible contraception. However, the safety data on this new progesterone are limited, and it is less effective and more expensive than long-acting reversible contraception methods.

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