

# ASHLYNA- levonorgestrel and ethinyl estradiol and ethinyl estradiol A-S Medication Solutions

## HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use ASHLYNA safely and effectively. See full prescribing information for ASHLYNA.

**ASHLYNA<sup>®</sup> (levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets), for oral use**

**Initial U.S. Approval: 1982**

### **WARNING: CIGARETTE SMOKING AND SERIOUS CARDIOVASCULAR EVENTS**

*See full prescribing information for complete boxed warning*

- Ashlyna is contraindicated in women over 35 years old who smoke.
- Cigarette smoking increases the risk of serious cardiovascular events from combination oral contraceptive (COC) use.

### **RECENT MAJOR CHANGES**

Contraindications, Pregnancy (4) Removed 01/2023

Warnings and Precautions, Malignant Neoplasms (5.2) 04/2022

### **INDICATIONS AND USAGE**

Ashlynais a combination of levonorgestrel, a progestin, and ethinyl estradiol, an estrogen, indicated for use by females of reproductive potential to prevent pregnancy. (1)

### **DOSAGE AND ADMINISTRATION**

Take one tablet daily by mouth at the same time every day for 91 days in the order directed on the blister pack. (2)

### **DOSAGE FORMS AND STRENGTHS**

Ashlyna<sup>®</sup> (Levonorgestrel and Ethinyl Estradiol Tablets, USP 0.15 mg/0.03 mg and Ethinyl Estradiol Tablets, USP 0.01 mg) consists of 84 light blue to blue tablets containing 0.15 mg levonorgestrel, USP and 0.03 mg ethinyl estradiol, USP and 7 light yellow to yellow tablets containing 0.01 mg ethinyl estradiol, USP. (3)

### **CONTRAINDICATIONS**

- A high risk of arterial or venous thrombotic diseases (4)
- Undiagnosed abnormal uterine bleeding (4)
- Breast cancer (4)
- Liver tumors or liver disease, acute viral hepatitis or decompensated cirrhosis (4)
- Co-administration with Hepatitis C drug combinations containing ombitasvir/paritaprevir/ritonavir, with or without dasabuvir (4)

### **WARNINGS AND PRECAUTIONS**

- Vascular risks: Stop if a thrombotic or thromboembolic event occurs. Stop at least 4 weeks before and through 2 weeks after major surgery. Start no earlier than 4 weeks after delivery, in women who are not breastfeeding. Consider cardiovascular risk factors before initiating in all females, particularly those over 35 years. (5.1)
- Liver disease: Discontinue if jaundice occurs. (5.3)
- Hypertension: If used in females with well-controlled hypertension, monitor blood pressure and stop if blood pressure rises significantly. (5.3)
- Gallbladder disease: May cause or worsen gallbladder disease. (5.6)
- Adverse carbohydrate and lipid metabolic effects: Monitor glucose in prediabetic and diabetic women taking Ashlyna. Consider an alternate contraceptive method for women with uncontrolled dyslipidemias. (5.7)
- Headache: Evaluate significant change in headaches and discontinue if indicated. (5.8)
- Uterine bleeding: May cause irregular bleeding or amenorrhea. Evaluate for other causes if symptoms persist. (5.9)

-----**ADVERSE REACTIONS**-----

The most common adverse reactions ( $\geq 5\%$ ) in clinical trials for Ashlyna are irregular and/or heavy uterine bleeding, weight gain, and acne. (6)

**To report SUSPECTED ADVERSE REACTIONS, contact Glenmark Pharmaceuticals Inc., USA at 1 (888) 721-7115 or FDA at 1-800-FDA-1088 or [www.fda.gov/medwatch](http://www.fda.gov/medwatch).**

-----**DRUG INTERACTIONS**-----

Enzyme inducers (e.g., CYP3A4): May decrease the effectiveness of Ashlyna or increase breakthrough bleeding. Counsel patients to use a back-up method or alternative method of contraception when enzyme inducers are used with Ashlyna. (7.1)

-----**USE IN SPECIFIC POPULATIONS**-----

- Pregnancy: Discontinue if pregnancy occurs. (8.1)
- Lactation: Advise use of another method; Ashlyna is not recommended for nursing mothers; may decrease milk production. (8.2)

**See 17 for PATIENT COUNSELING INFORMATION and FDA-approved patient labeling.**

**Revised: 12/2023**

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## **FULL PRESCRIBING INFORMATION**

### **WARNING: CIGARETTE SMOKING AND SERIOUS CARDIOVASCULAR EVENTS**

**Cigarette smoking increases the risk of serious cardiovascular events from combination oral contraceptives (COC) use. This risk increases with age, particularly in women over 35 years of age, and with the number of cigarettes smoked. For this reason, COCs, including Ashlyna, are contraindicated in women who are over 35 years of age and smoke. [See Contraindications (4), and Warnings and Precautions (5.1)].**

## **1 INDICATIONS AND USAGE**

Ashlynais indicated for use by females of reproductive potential to prevent pregnancy.

## **2 DOSAGE AND ADMINISTRATION**

### **2.1 How to Start and Take Ashlyna**

Begin Ashlyna on the first Sunday after the onset of menstruation. If menstruation begins on a Sunday, take the first light blue to blue tablet that day.

For each 91-day course, take in the following order:

3. Start the first **light blue to blue** tablet on the first Sunday after onset of menstruation. Then take one light blue to blue tablet daily for 84 consecutive days. Use a non-hormonal back-up method of contraception (such as condoms and spermicide) until a light blue to blue tablet has been taken daily for 7 consecutive days.
4. Then take one **yellow** tablet for 7 consecutive days. Bleeding should occur during the 7 days that the yellow tablets are taken.

Begin the next and all subsequent 91-day cycles without interruption on the same day of the week (Sunday) on which the patient began her first dose of Ashlyna, following the same schedule: 84 days taking a light blue to blue tablet followed by 7 days taking a light yellow to yellow tablet. If the patient does not immediately start her next pill pack, instruct her to protect herself from pregnancy by using a non-hormonal back-up method of contraception until she has taken a light blue to blue tablet daily for 7 consecutive days.

**Switching to Ashlyna from another oral hormonal contraceptive or from another contraceptive method (transdermal patch, vaginal ring, injection, intrauterine contraceptive, implant)**

Start on the Sunday after the patient's next period starts. Use additional non-hormonal contraceptive (such as condoms and spermicide) until the patient has taken a light blue to blue tablet for 7 consecutive days.

**Starting Ashlyna after Abortion or Miscarriage**

***First-trimester***

Ashlyna may be started on the Sunday after an abortion or miscarriage. The patient must use additional non-hormonal contraception (such as condoms and spermicide) until the patient has taken a light blue to blue tablet for 7 consecutive days.

***Second-trimester***

Do not start until 4 weeks after a second-trimester abortion or miscarriage, due to the increased risk of thromboembolic disease. Start contraceptive therapy with Ashlyna following the instructions for women not currently using hormonal contraception. Use additional non-hormonal contraception (such as condoms and spermicide) until the patient has taken a light blue to blue tablet for 7 consecutive days [*see Contraindications (4) and Warnings and Precautions (5.1)*].

**Starting Ashlyna after Childbirth**

Do not start until 4 weeks after delivery, due to the increased risk of thromboembolic disease. Start contraceptive therapy with Ashlyna following the instructions for women not currently using hormonal contraception. Use additional non-hormonal contraception (such as condoms and spermicide) until the patient has taken a light blue to blue tablet for 7 consecutive days [*see Contraindications (4) and Warnings and Precautions (5.1)*].

If the woman has not yet had a period postpartum, consider the possibility of ovulation and conception occurring prior to use of Ashlyna [*see Warnings and Precautions (5.1), Use in Specific Populations (8.1)*].

**2.2 Dosing Ashlyna**

Take one tablet by mouth at the same time every day. The dosage of Ashlyna is one light blue to blue tablet daily for 84 consecutive days, followed by one yellow tablet daily for 7 days. To achieve maximum contraceptive effectiveness, Ashlyna must be taken exactly as directed, in the order directed, and at intervals not exceeding 24 hours. The failure rate may increase when pills are missed or taken incorrectly.

## 2.3 Missed Doses

**Table 1. Instructions for Missed Ashlyna Tablets**

If one light blue to blue tablet is missed	Take the missed tablet as soon as possible. Take the next tablet at the regular time. Continue taking one tablet a day until the pack is finished. A back-up birth control method is not required if the patient has sex.
If two light blue to blue tablets in a row are missed	Take the two missed tablets as soon as possible, and the next two tablets the next day. Continue taking one tablet a day until the pack is finished. Use additional nonhormonal contraception (such as condoms and spermicide) until tablets have been taken for 7 days after missing tablets.
If three or more light blue to blue tablets in a row are missed	Throw away the missed pills. Continue taking one tablet every day as indicated on the pack until the pack is finished. Bleeding may occur during the week following the missed tablets. Use additional nonhormonal contraception (such as condoms and spermicide) until tablets have been taken for 7 days after missing tablets.
If any of the seven light yellow to yellow tablets are missed	Throw away the missed tablets. Continue taking the remaining tablets until the pack is finished. A backup birth control method is not needed.

## 2.4 Advice in Case of Gastrointestinal Disturbances

In case of prolonged vomiting or diarrhea, absorption may not be complete and additional contraceptive measures should be taken.

## 3 DOSAGE FORMS AND STRENGTHS

Ashlyna<sup>®</sup> (Levonorgestrel and Ethinyl Estradiol Tablets, USP 0.15 mg/0.03 mg and Ethinyl Estradiol Tablets, USP 0.01 mg) are available in extended-cycle tablet dispensers, each containing a 13-week supply of tablets: 84 light blue to blue tablets, each containing 0.15 mg of levonorgestrel, USP and 0.03 mg ethinyl estradiol, USP and 7 light yellow to yellow tablets, each containing 0.01 mg of ethinyl estradiol, USP. The light blue to blue tablets are round, film-coated, biconvex, unscored tablets debossed with “E1” on one side. The light yellow to yellow tablets are round, biconvex, film-coated, unscored

tablets debossed with “D8” on one side.

## 4 CONTRAINDICATIONS

Ashlyna is contraindicated in females who are known to have or develop the following conditions:

- A high risk of arterial or venous thrombotic diseases. Examples include females who are known to:
  - Smoke, if over age 35 [*see Boxed Warning and Warnings and Precautions (5.1)*].
  - Have current or history of deep vein thrombosis or pulmonary embolism [*see Warnings and Precautions (5.1)*].
  - Have cerebrovascular disease [*see Warnings and Precautions (5.1)*].
  - Have coronary artery disease [*see Warnings and Precautions (5.1)*].
  - Have thrombogenic valvular or thrombogenic rhythm diseases of the heart (for example, subacute bacterial endocarditis with valvular disease, or atrial fibrillation) [*see Warnings and Precautions (5.1)*].
  - Have inherited or acquired hypercoagulopathies [*see Warnings and Precautions (5.1)*].
  - Have uncontrolled hypertension or hypertension with vascular disease [*see Warnings and Precautions (5.3)*].
  - Have diabetes mellitus and are over age 35, diabetes mellitus with hypertension or with vascular disease or other end-organ damage, or diabetes mellitus of > 20 years duration [*see Warnings and Precautions (5.7)*].
  - Have headaches with focal neurological symptoms, migraine headaches with aura, or over age 35 with any migraine headaches [*see Warnings and Precautions (5.8)*].
- Current diagnosis of, or history of, breast cancer, which may be hormone sensitive [*see Warnings and Precautions (5.11)*].
- Liver tumors, acute viral hepatitis, or severe (decompensated) cirrhosis [*see Warnings and Precautions (5.2) and Use in Specific Populations (8.6)*].
- Undiagnosed abnormal uterine bleeding [*see Warnings and Precautions (5.9)*].
- Use of Hepatitis C drug combinations containing ombitasvir/paritaprevir/ritonavir, with or without dasabuvir, due to the potential for ALT elevations [*see Warnings and Precautions (5.4)*].

## 5 WARNINGS AND PRECAUTIONS

### 5.1 Thromboembolic Disorders and Other Vascular Conditions

- Stop levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets if an arterial or deep venous thrombotic/ thromboembolic event occurs.
- Stop levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets if there is unexplained loss of vision, proptosis, diplopia, papilledema, or retinal vascular lesions and evaluate for retinal vein thrombosis immediately.
- Discontinue levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets

during prolonged immobilization. If feasible, stop levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets at least 4 weeks before and through 2 weeks after major surgery, or other surgeries known to have an elevated risk of thromboembolism.

- Start levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets no earlier than 4 weeks after delivery, in women who are not breastfeeding. The risk of postpartum thromboembolism decreases after the third postpartum week, whereas the risk of ovulation increases after the third postpartum week.
- Before starting levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets evaluate any past medical history or family history of thrombotic or thromboembolic disorders and consider whether the history suggests an inherited or acquired hypercoagulopathy. Levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets are contraindicated in women with a high risk of arterial or venous/thromboembolic diseases [see *Contraindications (4)*].

### Arterial Events

COCs increase the risk of cardiovascular events and cerebrovascular events, such as myocardial infarction and stroke. The risk is greater among older women (> 35 years of age), smokers, and females with hypertension, dyslipidemia, diabetes, or obesity.

levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets are contraindicated in women over 35 years of age who smoke [see *Contraindications (4)*]. Cigarette smoking increases the risk of serious cardiovascular events from COC use. This risk increases with age, particularly in women over 35 years of age, and with the number of cigarettes smoked.

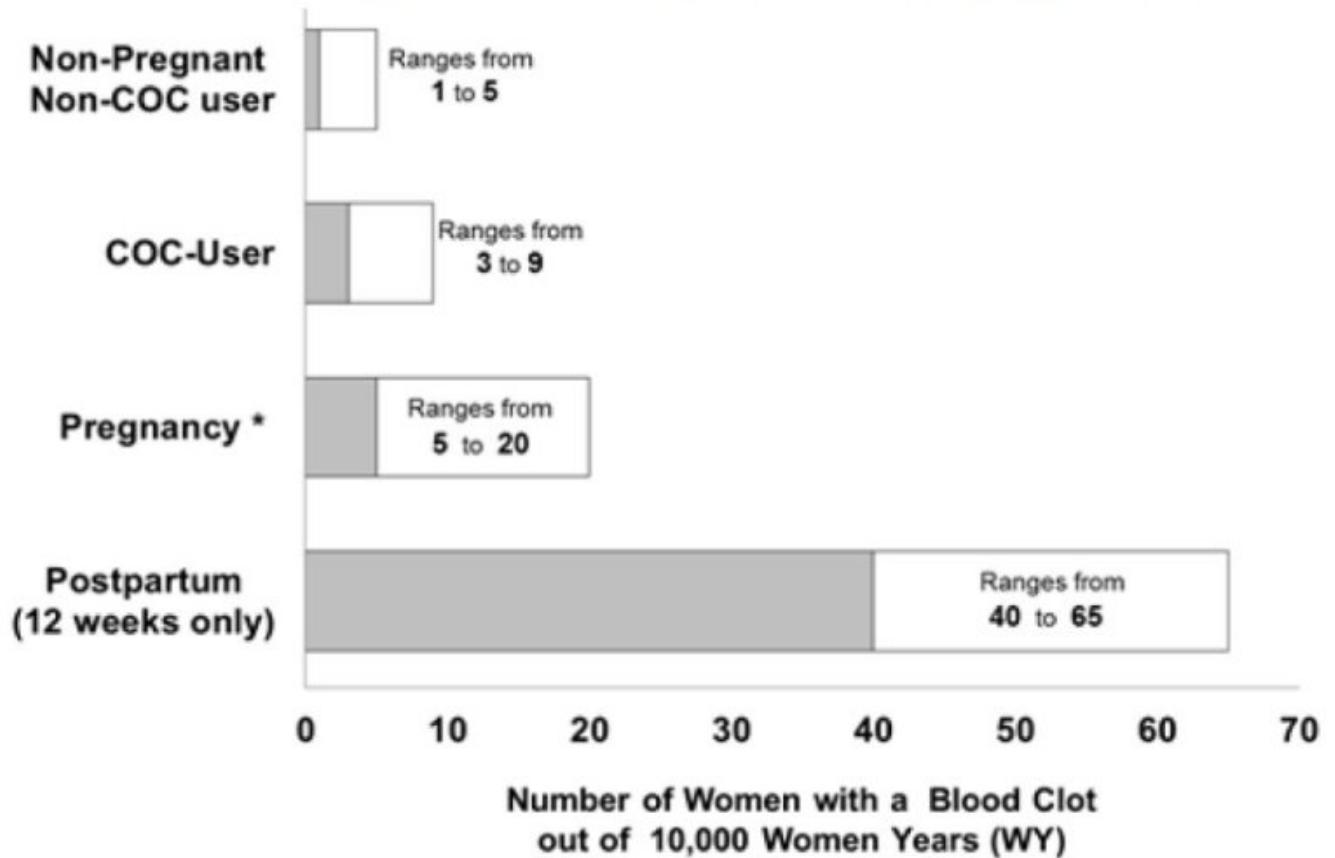
### Venous Events

Use of COCs increases the risk of venous thromboembolic events (VTEs), such as deep vein thrombosis and pulmonary embolism. Risk factors for VTEs include smoking, obesity, and family history of VTE, in addition to other factors that contraindicate use of CHCs [see *Contraindications (4)*]. While the increased risk of VTE associated with use of COCs is well-established, the rates of VTE are even greater during pregnancy, and especially during the postpartum period (see Figure 1). The rate of VTE in females using COCs has been estimated to be 3 to 9 cases per 10,000 woman years.

The risk of VTE is highest during the first year of use of a COC and when restarting hormonal contraception after a break of four weeks or longer. The risk of thromboembolic disease due to COCs gradually disappears after COC use is discontinued.

Figure 1 shows the risk of developing a VTE for women who are not pregnant and do not use oral contraceptives, for women who use oral contraceptives, and for women in the postpartum period. To put the risk of developing a VTE into perspective: If 10,000 women who are not pregnant and do not use oral contraceptives are followed for one year, between 1 and 5 of these women will develop a VTE.

Figure 1: Likelihood of Developing a VTE



\* Pregnancy data based on actual duration of pregnancy in the reference studies. Based on a model assumption that pregnancy duration is nine months, the rate is 7 to 27 per 10,000 WY.

Use of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets provides women with more hormonal exposure on a yearly basis than conventional monthly oral contraceptives containing the same strength synthetic estrogens and progestins (an additional 9 and 13 weeks of exposure to progestin and estrogen, respectively, per year).

## 5.2 Liver Disease

### Elevated Liver Enzymes

Levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets are contraindicated in women with acute viral hepatitis or severe (decompensated) cirrhosis of the liver [see *Contraindications (4)*]. Acute liver test abnormalities may necessitate the discontinuation of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets until the liver tests return to normal and levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets causation has been excluded. Discontinue levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets if jaundice develops.

### Liver Tumors

levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets are contraindicated in women with benign or malignant liver tumors [see *Contraindications*



(4)]. COCs increase the risk of hepatic adenomas. An estimate of the attributable risk is 3.3 cases/100,000 COC users. Rupture of hepatic adenomas may cause death from abdominal hemorrhage.

Studies have shown an increased risk of developing hepatocellular carcinoma in long-term (> 8 years) COC users. The attributable risk of liver cancers in COC users is less than one case per million users.

### **5.3 Hypertension**

Levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets are contraindicated in women with uncontrolled hypertension or hypertension with vascular disease [see *Contraindications (4)*]. For all women, including those with well-controlled hypertension, monitor blood pressure at routine visits and stop levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets if blood pressure rises significantly.

An increase in blood pressure has been reported in women taking COCs, and this increase is more likely in older women and with extended duration of use. The effect of COCs on blood pressure may vary according to the progestin in the COC.

### **5.4 Risk of Liver Enzyme Elevations with Concomitant Hepatitis C Treatment**

During clinical trials with the Hepatitis C combination drug regimen that contains ombitasvir/paritaprevir/ritonavir, with or without dasabuvir, ALT elevations greater than 5 times the upper limit of normal (ULN), including some cases greater than 20 times the ULN, were significantly more frequent in women using ethinyl estradiol-containing medications, such as levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets. Discontinue levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets prior to starting therapy with the combination drug regimen ombitasvir/paritaprevir/ritonavir, with or without dasabuvir [see *Contraindications (4)*]. Levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets can be restarted approximately 2 weeks following completion of treatment with the Hepatitis C combination drug regimen.

### **5.5 Age-related Considerations**

The risk for cardiovascular disease and prevalence of risk factors for cardiovascular disease increases with age. Certain conditions, such as smoking and migraine headache without aura, that do not contraindicate COC use in younger females, are contraindications to use in women over 35 years of age [see *Contraindications (4)* and *Warnings and Precautions (5.1)*]. Consider the presence of underlying risk factors that may increase the risk of cardiovascular disease or VTE, particularly before initiating a COC for women over 35 years, such as:

- Hypertension
- Diabetes
- Dyslipidemia
- Obesity

### **5.6 Gallbladder Disease**

Studies suggest a small increased relative risk of developing gallbladder disease among COC users. Use of COCs, including levonorgestrel and ethinyl estradiol tablets and

ethinyl estradiol tablets, may also worsen existing gallbladder disease. A past history of COC-related cholestasis predicts an increased risk with subsequent COC use. Females with a history of pregnancy-related cholestasis may be at an increased risk for COC-related cholestasis.

## **5.7 Adverse Carbohydrate and Lipid Metabolic Effects**

### Hyperglycemia

Levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets are contraindicated in diabetic women over age 35, or females who have diabetes with hypertension, nephropathy, retinopathy, neuropathy, other vascular disease, or females with diabetes of > 20 years duration [see *Contraindications (4)*]. Levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets may decrease glucose tolerance. Carefully monitor prediabetic and diabetic women who are taking levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets.

### Dyslipidemia

Consider alternative contraception for women with uncontrolled dyslipidemia. Levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets may cause adverse lipid changes.

Women with hypertriglyceridemia, or a family history thereof, may have an increase in serum triglyceride concentrations when using levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets, which may increase the risk of pancreatitis.

## **5.8 Headache**

Levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets are contraindicated in females who have headaches with focal neurological symptoms or have migraine headaches with aura, and in women over 35 years of age who have migraine headaches with or without aura [see *Contraindications (4)*].

If a woman taking levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets develops new headaches that are recurrent, persistent, or severe, evaluate the cause and discontinue levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets if indicated. Consider discontinuation of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets if there is an increased frequency or severity of migraine during COC use (which may be prodromal of a cerebrovascular event).

## **5.9 Bleeding Irregularities and Amenorrhea**

### Unscheduled Bleeding and Spotting

Women using levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets may experience unscheduled (breakthrough or intracyclic) bleeding and spotting, especially during the first 3 months of use. Bleeding irregularities may resolve over time or by changing to a different contraceptive product. If unscheduled bleeding persists or occurs after previously regular cycles, evaluate for causes such as pregnancy or malignancy.

When prescribing levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets, the occurrence of fewer planned menses (4 per year instead of 13 per year) should be weighed against the occurrence of increased unscheduled bleeding and/or

spotting. The primary clinical trial (PSE-301) that evaluated the efficacy of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets also assessed unscheduled bleeding. The participants in the 12-month clinical trial (N=1,006) completed the equivalent of 8,681 28-day cycles of exposure and were composed primarily of women who had used oral contraceptives previously (89%) as opposed to new users (11%). A total of 82 (8.2%) of the women discontinued levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets, at least in part, due to bleeding or spotting.

Scheduled (withdrawal) bleeding and/or spotting remained fairly constant over time, with an average of 3 days of bleeding and/or spotting per each 91-day cycle. Unscheduled bleeding and unscheduled spotting decreased over successive 91-day cycles. Table 1 below presents the number of days with unscheduled bleeding in treatment cycles 1 and 4. Table 2 presents the number of days with unscheduled spotting in treatment cycles 1 and 4.

**Table 2: Total Number of Days with Unscheduled Bleeding**

91-Day Treatment Cycle	Days per 84-Day Interval				Days per 28-Day Interval
	Q1	Median	Q3	Mean	Mean
1st	1	4	10	6.9	1.7
4th	0	1	4	3.2	0.8

Q1=Quartile 1: 25% of women had this number of days of unscheduled bleeding

Median: 50% of women had  $\leq$  this number of days of unscheduled bleeding

Q3=Quartile 3: 75% of women had  $\leq$  this number of days of unscheduled bleeding

**Table 3: Total Number of Days with Unscheduled Spotting**

91-Day Treatment Cycle	Days per 84-Day Interval				Days per 28-Day Interval
	Q1	Median	Q3	Mean	Mean
1st	1	4	11	7.4	1.9
4th	0	2	7	4.4	1.1

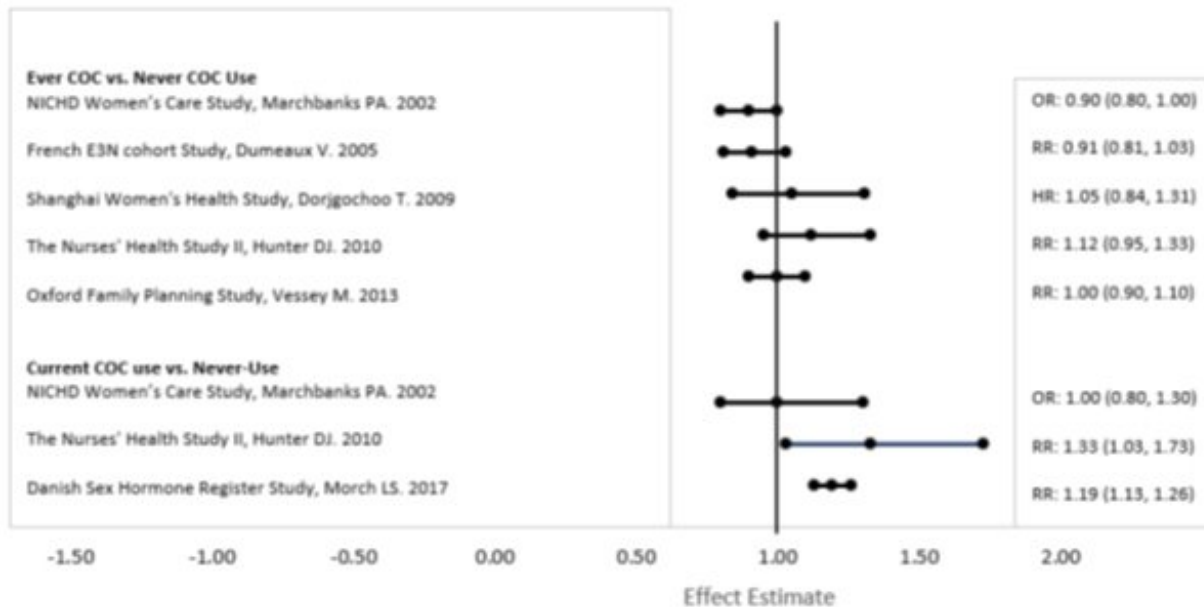
Q1=Quartile 1: 25% of women had  $\leq$  this number of days of unscheduled spotting

Median: 50% of women had  $\leq$  this number of days of unscheduled spotting

Q3=Quartile 3: 75% of women had  $\leq$  this number of days of unscheduled spotting

Figure 2 shows the percentage of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets subjects participating in trial PSE-301 with  $\geq 7$  days or  $\geq 20$  days of unscheduled bleeding and/or spotting, or only unscheduled bleeding, during each 91-day treatment cycle.

**Figure 2: Percent of Women Taking Levonorgestrel and Ethinyl Estradiol Tablets and Ethinyl Estradiol Tablets who Reported Unscheduled Bleeding and/or Spotting or only Unscheduled Bleeding**



If unscheduled spotting or bleeding occurs, instruct the patient to continue on the same regimen. If the bleeding is persistent or prolonged, advise the patient to consult her healthcare provider.

### Amenorrhea and Oligomenorrhea

Women who use levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets may experience absence of scheduled (withdrawal) bleeding, even if they are not pregnant. If scheduled bleeding does not occur, consider the possibility of pregnancy. After discontinuation of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets, amenorrhea or oligomenorrhea may occur, especially if these conditions were pre-existent.

## **5.10 Depression**

Carefully observe women with a history of depression and discontinue levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets if depression recurs to a serious degree. Data on the association of COCs with the onset of depression or exacerbation of existing depression are limited.

## **5.11 Malignant Neoplasms**

### Breast Cancer

Levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets are contraindicated in females who currently have or have had breast cancer because breast cancer may be hormonally sensitive [see *Contraindications (4)*].

Epidemiology studies have not found a consistent association between use of combined oral contraceptives (COCs) and breast cancer risk. Studies do not show an association between ever (current or past) use of COCs and risk of breast cancer. However, some studies report a small increase in the risk of breast cancer among current or recent users (<6 months since last use) and current users with longer duration of COC use [see *Postmarketing Experience (6.2)*].

## *Cervical Cancer*

Some studies suggest that COCs are associated with an increase in the risk of cervical cancer or intraepithelial neoplasia. However, there is controversy about the extent to which these findings are due to differences in sexual behavior and other factors.

### **5.12 Effect on Binding Globulins**

The estrogen component of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets may raise the serum concentrations of thyroxine-binding globulin, sex hormone-binding globulin, and cortisol-binding globulin. The dose of replacement thyroid hormone or cortisol therapy may need to be increased.

### **5.13 Hereditary Angioedema**

In females with hereditary angioedema, exogenous estrogens, including levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets, may induce or exacerbate symptoms of hereditary angioedema.

### **5.14 Chloasma**

Chloasma may occur with levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets use, especially in women with a history of chloasma gravidarum. Advise women with a history of chloasma to avoid exposure to the sun or ultraviolet radiation while using levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets.

## **6 ADVERSE REACTIONS**

The following serious adverse reactions with the use of COCs are discussed elsewhere in the labeling:

- Serious cardiovascular events and stroke [*see Boxed Warning and Warnings and Precautions (5.1)*]
- Vascular events [*see Warnings and Precautions (5.1)*]
- Liver disease [*see Warnings and Precautions (5.2)*]

### **6.1 Clinical Trial Experience**

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to the rates in the clinical trials of another drug and may not reflect the rates observed in practice.

The clinical trial that evaluated the safety and efficacy of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets was a 12-month, randomized, multicenter, open-label study, which enrolled women aged 18 to 40, of whom 1,006 took at least one dose of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets.

**Adverse Reactions Leading to Study Discontinuation:** 16.3% of the women discontinued from the clinical trial due to an adverse reaction; the most common adverse reactions ( $\geq 1\%$  of women) leading to discontinuation were irregular and/or heavy uterine bleeding (5.9%), weight gain (2.4%), mood changes (1.5%), and acne (1%).

**Common Treatment-Emergent Adverse Reactions ( $\geq 5\%$  of women):** irregular and/or heavy uterine bleeding (17%), weight gain (5%), acne (5%).

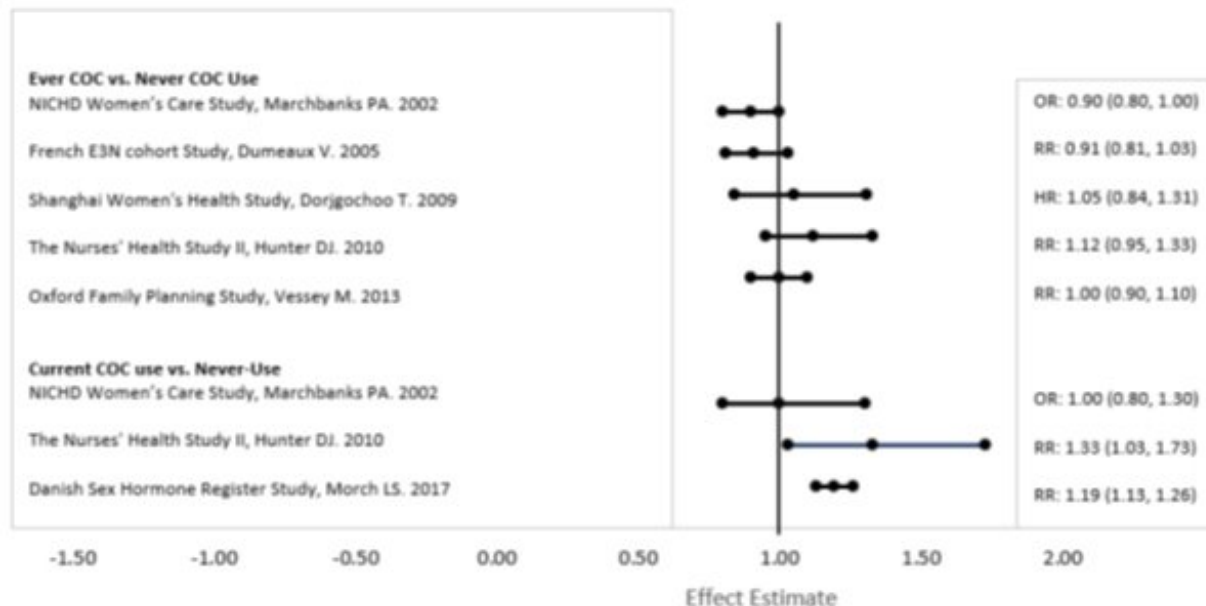
**Serious Adverse Reactions:** migraine, cholecystitis, cholelithiasis, pancreatitis, abdominal pain, and major depressive disorder.

## 6.2 Postmarketing Experience

Five studies that compared breast cancer risk between ever-users (current or past use) of COCs and never-users of COCs reported no association between ever use of COCs and breast cancer risk, with effect estimates ranging from 0.90 to 1.12 (Figure 3).

Three studies compared breast cancer risk between current or recent COC users (<6 months since last use) and never users of COCs (Figure 3). One of these studies reported no association between breast cancer risk and COC use. The other two studies found an increased relative risk of 1.19 to 1.33 with current or recent use. Both of these studies found an increased risk of breast cancer with current use of longer duration, with relative risks ranging from 1.03 with less than one year of COC use to approximately 1.4 with more than 8 to 10 years of COC use.

**Figure 3: Relevant Studies of Risk of Breast Cancer with Combined Oral Contraceptives**



RR = relative risk; OR = odds ratio; HR = hazard ratio. "ever COC" are females with current or past COC use; "never COC use" are females that never used COCs.

The following adverse reactions have been identified during post-approval use of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets. Because these reactions are reported voluntarily from a population of uncertain size, it is not possible to reliably estimate their frequency of establish a causal relationship to drug exposure.

*Gastrointestinal disorders:* abdominal distension, vomiting

*General disorders and administration site conditions:* chest pain, fatigue, malaise, edema

peripheral, pain

*Immune system disorders:* hypersensitivity reaction

*Investigations:* blood pressure increased

*Musculoskeletal and connective tissue disorders:* muscle spasms, pain in extremity

*Nervous system disorders:* dizziness, loss of consciousness

*Psychiatric disorders:* insomnia

*Reproductive and breast disorders:* dysmenorrhea

*Respiratory, thoracic and mediastinal disorders:* pulmonary embolism, pulmonary thrombosis

*Skin and subcutaneous tissue disorders:* alopecia

*Vascular disorders:* thrombosis

## 7 DRUG INTERACTIONS

The sections below provide information on substances for which data on drug interactions with COCs are available. There is little information available about the clinical effect of most drug interactions that may affect COCs. However, based on the known pharmacokinetic effects of these drugs, clinical strategies to minimize any potential adverse effect on contraceptive effectiveness or safety are suggested.

Consult the approved product labeling of all concurrently used drugs to obtain further information about interactions with COCs or the potential for metabolic enzyme or transporter system alterations.

No drug-drug interaction studies were conducted with levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets.

### 7.1 Effects of Other Drugs on Combined Oral Contraceptives

#### Substances Decreasing the Plasma Concentrations of COCs and Potentially Diminishing the Efficacy of COCs:

Table 4 includes substances that demonstrated an important drug interaction with levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets.

**Table 4: Significant Drug Interactions Involving Substances That Affect COCs**

Metabolic Enzyme Inducers	
Clinical effect	<ul style="list-style-type: none"><li>• Concomitant use of COCs with metabolic enzyme inducers may decrease the plasma concentrations of the estrogen and/or progestin component of COCs.</li><li>• Decreased exposure of the estrogen and/or progestin component of COCs may potentially diminish the effectiveness of COCs and may lead to contraceptive failure or an increase in</li></ul>

	breakthrough bleeding.
Prevention or management	<ul style="list-style-type: none"> <li>• Counsel females to use an alternative method of contraception or a backup method when enzyme inducers are used with COCs.</li> <li>• Continue backup contraception for 28 days after discontinuing the enzyme inducer to maintain contraceptive reliability.</li> </ul>
Examples	Aprepitant, barbiturates, bosentan, carbamazepine, efavirenz, felbamate, griseofulvin, oxcarbazepine, phenytoin, rifampin, rifabutin, rufinamide, topiramate, products containing St. John's wort <sup>a</sup> , and certain protease inhibitors (see separate section on protease inhibitors below).
Colesevelam	
Clinical effect	<ul style="list-style-type: none"> <li>• Concomitant use of COCs with colesevelam significantly decreases systemic exposure of ethinyl estradiol.</li> <li>• Decreased exposure of the estrogen component of COCs may potentially reduce contraceptive efficacy or result in an increase in breakthrough bleeding, depending on the strength of ethinyl estradiol in the CHC.</li> </ul>
Prevention or management	Administer 4 or more hours apart to attenuate this drug interaction.

<sup>a</sup> Induction potency of St. John's wort may vary widely based on preparation.

Substances increasing the systemic exposure of COCs:

Co-administration of atorvastatin or rosuvastatin and COCs containing ethinyl estradiol increase systemic exposure of ethinyl estradiol by approximately 20 to 25 percent. Ascorbic acid and acetaminophen may increase systemic exposure of ethinyl estradiol, possibly by inhibition of conjugation. CYP3A inhibitors such as itraconazole, voriconazole, fluconazole, grapefruit juice, or ketoconazole may increase systemic exposure of the estrogen and/or progestin component of COCs.

Human immunodeficiency virus (HIV)/hepatitis C virus (HCV) protease inhibitors and non-nucleoside reverse transcriptase inhibitors:

Significant decreases in systemic exposure of the estrogen and/or progestin have been noted when COCs are co-administered with some HIV protease inhibitors (e.g., nelfinavir, ritonavir, darunavir/ritonavir, (fos)amprenavir/ritonavir, lopinavir/ritonavir, and tipranavir/ritonavir), some HCV protease inhibitors (e.g., boceprevir and telaprevir), and some non-nucleoside reverse transcriptase inhibitors (e.g., nevirapine).

In contrast, significant increases in systemic exposure of the estrogen and/or progestin have been noted when COCs are co-administered with certain other HIV protease



inhibitors (e.g., indinavir and atazanavir/ritonavir) and with other non-nucleoside reverse transcriptase inhibitors (e.g., etravirine).

## 7.2 Effects of Combined Oral Contraceptives on Other Drugs

Table 5 provides significant drug interaction information for drugs co-administered with levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets.

**Table 5: Significant Drug Interaction Information for Drugs Co-Administered With COCs**

<b>Lamotrigine</b>	
Clinical effect	<ul style="list-style-type: none"> <li>Concomitant use of COCs with lamotrigine may significantly decrease systemic exposure of lamotrigine due to induction of lamotrigine glucuronidation.</li> <li>Decreased systemic exposure of lamotrigine may reduce seizure control.</li> </ul>
Prevention or management	Dose adjustment may be necessary. Consult the approved product labeling for lamotrigine.
<b>Thyroid Hormone Replacement Therapy or Corticosteroid Replacement Therapy</b>	
Clinical effect	Concomitant use of COCs with thyroid hormone replacement therapy or corticosteroid replacement therapy may increase systemic exposure of thyroid-binding and cortisol-binding globulin [ <i>see Warnings and Precautions (5.12)</i> ].
Prevention or management	The dose of replacement thyroid hormone or cortisol therapy may need to be increased. Consult the approved product labeling for the therapy in use [ <i>see Warnings and Precautions (5.12)</i> ].
<b>Other Drugs</b>	
Clinical effect	Concomitant use of COCs may decrease systemic exposure of acetaminophen, morphine, salicylic acid, and temazepam. Concomitant use with ethinyl estradiol-containing COCs may increase systemic exposure of other drugs (e.g., cyclosporine, prednisolone, theophylline, tizanidine, and voriconazole).
Prevention or management	The dosage of drugs that can be affected by this interaction may need to be increased. Consult the approved product labeling for the concomitantly used drug.

## 7.3 Concomitant Use with Hepatitis C Virus (HCV) Combination Therapy - Liver Enzyme Elevation

Co-administration of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol

tablets with HCV drug combinations containing ombitasvir/paritaprevir/ritonavir, with or without dasabuvir is contraindicated due to potential for ALT elevations [see *Warning and Precautions (5.4)*]. Co-administration of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets and glecaprevir/pibrentasvir is not recommended due to potential for ALT elevations.

## **7.4 Effect on Laboratory Tests**

The use of COCs may influence the results of certain laboratory tests, such as coagulation factors, lipids, glucose tolerance, and binding proteins.

## **8 USE IN SPECIFIC POPULATIONS**

### **8.1 Pregnancy**

#### Risk Summary

There is no use for contraception in pregnancy; therefore, levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets should be discontinued during pregnancy. Epidemiologic studies and meta-analyses have not found an increased risk of genital or non-genital birth defects (including cardiac anomalies and limb-reduction defects) following exposure to COCs before conception or during early pregnancy.

In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2 to 4 percent and 15 to 20 percent, respectively.

### **8.2 Lactation**

#### Risk Summary

Contraceptive hormones and/or metabolites are present in human milk. COCs can reduce milk production in breastfeeding females. This reduction can occur at any time but is less likely to occur once breastfeeding is well-established. When possible, advise the nursing woman to use other methods of contraception until she discontinues breastfeeding [See *Dosage and Administration (2.1)*]. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets and any potential adverse effects on the breastfed child from levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets or the underlying maternal condition.

### **8.4 Pediatric Use**

Safety and efficacy of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets have been established in women of reproductive age. Safety and efficacy are expected to be the same for postpubertal adolescents under the age of 18 as for users 18 years and older. Use of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets before menarche is not indicated.

### **8.5 Geriatric Use**

Levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets has not been studied in postmenopausal women and is not indicated in this population.

## 8.6 Hepatic Impairment

No studies have been conducted to evaluate the effect of hepatic disease on the disposition of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets. However, steroid hormones may be poorly metabolized in patients with impaired liver function. levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets are contraindicated in females with acute hepatitis or severe decompensated cirrhosis [See *Contraindications (4) and Warnings and Precautions (5.2)*].

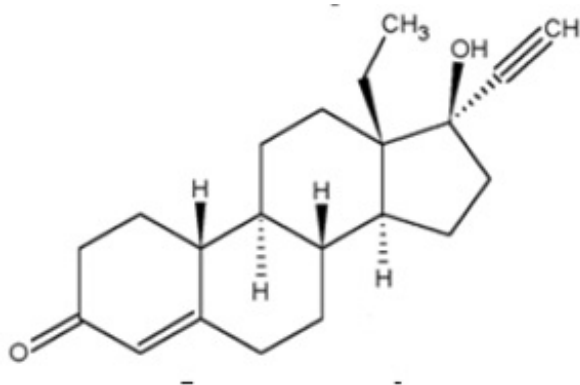
## 10 OVERDOSAGE

There have been no reports of serious ill effects from overdose of oral contraceptives, including ingestion by children. Overdosage may cause uterine bleeding in females and nausea.

## 11 DESCRIPTION

Ashlyna<sup>®</sup> (Levonorgestrel and Ethinyl Estradiol Tablets, USP 0.15 mg/0.03 mg and Ethinyl Estradiol Tablets, USP 0.01 mg) is an extended-cycle oral contraceptive consisting of 84 light blue to blue tablets each containing 0.15 mg of levonorgestrel, USP a synthetic progestogen and 0.03 mg of ethinyl estradiol, USP and 7 light yellow to yellow tablets containing 0.01 mg of ethinyl estradiol, USP.

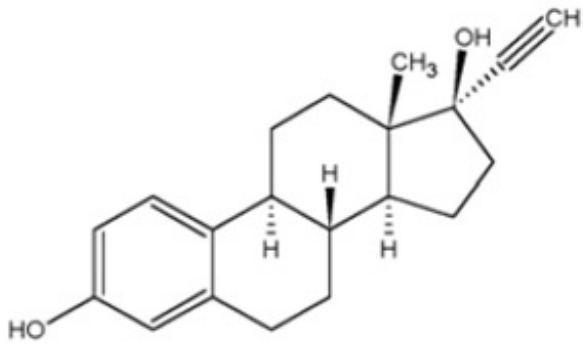
The structural formulas for the active components are:



### Levonorgestrel, USP

**C<sub>21</sub>H<sub>28</sub>O<sub>2</sub> MW: 312.4**

Levonorgestrel, USP is chemically 18,19-Dinorpregn-4-en-20-yn-3-one, 13-ethyl-17-hydroxy-, (17 $\alpha$ )-(-)-.



## Ethinyl Estradiol, USP

**C<sub>20</sub>H<sub>24</sub>O<sub>2</sub> MW: 296.4**

Ethinyl Estradiol, USP is 19-Norpregna-1,3,5(10)-trien-20-yne-3,17-diol, (17 $\alpha$ )-.

*Each light blue to blue tablet contains the following inactive ingredients:* anhydrous lactose, D&C yellow no. 10 aluminum lake, FD&C blue no. 1 aluminum lake, FD&C yellow no. 6 aluminum lake, hypromellose, lactose monohydrate, magnesium stearate, microcrystalline cellulose, talc, titanium dioxide and triacetin.

*Each light yellow to yellow tablet contains the following inactive ingredients:* anhydrous lactose, D&C yellow no. 10 aluminum lake, FD&C yellow no. 6 aluminum lake, hypromellose, lactose monohydrate, magnesium stearate, microcrystalline cellulose, polacrillin potassium, polyethylene glycol 400, polysorbate 80 and titanium dioxide.

## 12 CLINICAL PHARMACOLOGY

### 12.1 Mechanism of Action

COCs prevent pregnancy primarily by suppressing ovulation.

### 12.3 Pharmacokinetics

#### *Absorption*

Ethinyl estradiol and levonorgestrel are absorbed with maximum plasma concentrations occurring within 2 hours after Ashlyna administration. Levonorgestrel is completely absorbed after oral administration (bioavailability nearly 100%) and is not subject to first-pass metabolism. Ethinyl estradiol is absorbed from the gastrointestinal tract but, due to first-pass metabolism in gut mucosa and liver, the bioavailability of ethinyl estradiol is approximately 43%.

The daily exposure to levonorgestrel and ethinyl estradiol on Day 21, corresponding to the end of a typical 3-week contraceptive regimen, and on Day 84, at the end of an extended cycle regimen, were similar. There was no additional accumulation of ethinyl estradiol after dosing a 0.03 mg ethinyl estradiol tablet during Days 84 to 91. The mean plasma pharmacokinetic parameters of Ashlyna following a single dose of one levonorgestrel/ethinyl estradiol combination tablet, for 84 days, in normal healthy women are reported in Table 6.

**Table 6: Mean Pharmacokinetic Parameters for Ashlyna during Daily One Tablet Dosing for 84 Days**

	<b>AUC<sub>0</sub> to 24hr (mean ± SD)</b>	<b>C<sub>max</sub> (mean ± SD)</b>	<b>T<sub>max</sub> (mean ± SD)</b>
<b>Levonorgestrel</b>			
Day 1	18.2 ± 6.1 ng•hr/mL	3 ± 1 ng/mL	1.3 ± 0.4 hours
Day 21	64.4 ± 25.1 ng•hr/mL	6.2 ± 1.6 ng/mL	1.3 ± 0.4 hours
Day 84	60.2 ± 24.6 ng•hr/mL	5.5 ± 1.6 ng/mL	1.3 ± 0.3 hours
<b>Ethinyl Estradiol</b>			
Day 1	509.3 ± 172 pg•hr/mL	69.8 ± 26 pg/mL	1.5 ± 0.3 hours
Day 21	837.1 ± 271.2 pg•hr/mL	99.6 ± 31 pg/mL	1.5 ± 0.3 hours
Day 84	791.5 ± 215 pg•hr/mL	91.3 ± 32 pg/mL	1.6 ± 0.3 hours

The effect of food on the rate and the extent of levonorgestrel and ethinyl estradiol absorption following oral administration of Ashlyna has not been evaluated.

#### *Distribution*

The apparent volume of distribution of levonorgestrel and ethinyl estradiol are reported to be approximately 1.8 L/kg and 4.3 L/kg, respectively. Levonorgestrel is about 97.5 to 99% protein-bound, principally to sex hormone binding globulin (SHBG) and, to a lesser extent, serum albumin. Ethinyl estradiol is about 95 to 97% bound to serum albumin. Ethinyl estradiol does not bind to SHBG, but induces SHBG synthesis, which leads to decreased levonorgestrel clearance. Following repeated daily dosing of levonorgestrel/ethinyl estradiol oral contraceptives, levonorgestrel plasma concentrations accumulate more than predicted based on single-dose pharmacokinetics, due in part, to increased SHBG levels that are induced by ethinyl estradiol, and a possible reduction in hepatic metabolic capacity.

#### *Metabolism*

Following absorption, levonorgestrel is conjugated at the 17β-OH position to form sulfate and to a lesser extent, glucuronide conjugates in plasma. Significant amounts of conjugated and unconjugated 3α,5β-tetrahydrolevonorgestrel are also present in plasma, along with much smaller amounts of 3α,5α-tetrahydrolevonorgestrel and 16β-hydroxylevonorgestrel. Levonorgestrel and its phase I metabolites are excreted primarily as glucuronide conjugates. Metabolic clearance rates may differ among individuals by several-fold, and this may account in part for the wide variation observed in levonorgestrel concentrations among users.

First-pass metabolism of ethinyl estradiol involves formation of ethinyl estradiol-3-sulfate in the gut wall, followed by 2-hydroxylation of a portion of the remaining untransformed ethinyl estradiol by hepatic cytochrome P-450 3A4 (CYP3A4). Levels of CYP3A4 vary widely among individuals and can explain the variation in rates of ethinyl estradiol hydroxylation. Hydroxylation at the 4-, 6-, and 16-positions may also occur, although to a much lesser extent than 2-hydroxylation. The various hydroxylated metabolites are subject to further methylation and/or conjugation.

#### *Excretion*

About 45% of levonorgestrel and its metabolites are excreted in the urine and about 32% are excreted in feces, mostly as glucuronide conjugates. The terminal elimination half-life for levonorgestrel after a single dose of Ashlyna was about 34 hours.

Ethinyl estradiol is excreted in the urine and feces as glucuronide and sulfate conjugates, and it undergoes enterohepatic recirculation. The terminal elimination half-life of ethinyl estradiol after a single dose of Ashlyna was found to be about 18 hours.

### *Race*

The effect of race on the pharmacokinetics of Ashlyna has not been evaluated.

## **13 NONCLINICAL TOXICOLOGY**

### **13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility**

*[See Warnings and Precautions (5.2, 5.11)].*

## **14 CLINICAL STUDIES**

In a 12-month, multicenter, randomized, open-label clinical trial, 1,006 women aged 18 to 40 were studied to assess the safety and efficacy of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets, completing the equivalent of 8,681 28-day cycles of exposure. The racial demographic of those enrolled was: Caucasian (80%), African-American (11%), Hispanic (5%), Asian (2%), and Other (2%). There were no exclusions for body mass index (BMI) or weight. The weight range of those women treated was 91 to 360 lbs., with a mean weight of 156 lbs. Among the women in the trial, 63% were current or recent hormonal contraceptive users, 26% were prior users (who had used hormonal contraceptives in the past but not in the 6 months prior to enrollment), and 11% were new starts. Of treated women, 14.8% were lost to follow-up, 16.3% discontinued due to an adverse event, and 12.9% discontinued by withdrawing their consent.

The pregnancy rate (Pearl Index [PI]) in women aged 18 to 35 years was 1.34 pregnancies per 100 women-years of use (95% confidence interval 0.54 to 2.75), based on 7 pregnancies that occurred after the onset of treatment and within 14 days after the last combination pill. Cycles in which conception did not occur, but which included the use of backup contraception, were not included in the calculation of the PI. The PI includes patients who did not take the drug correctly.

## **16 HOW SUPPLIED/STORAGE AND HANDLING**

Product: 50090-2097

NDC: 50090-2097-0 1 KIT in a KIT

## **17 PATIENT COUNSELING INFORMATION**

Advise the patient to read the FDA-Approved Patient Labeling (Patient Information and Instructions for Use).

Counsel patients about the following information:

### Cigarette Smoking

Cigarette smoking increases the risk of serious cardiovascular events from COC use. Women who are over 35 years old and smoke should not use levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets [see *Boxed Warning and Warnings and Precautions (5.1)*].

### Venous Thromboembolism

Increased risk of VTE compared to non-users of COCs is greatest after initially starting a COC or restarting (following a 4-week or greater interruption in intake) the same or a different COC [see *Warnings and Precautions (5.1)*].

### Use during Pregnancy

Instruct females to stop further intake of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets if pregnancy is confirmed during treatment.

### Sexually Transmitted Infections

Levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets does not protect against HIV-infection (AIDS) and other sexually transmitted infections.

### Dosing and Missed Pill Instructions

Patients should take one tablet daily by mouth at the same time every day.

Instruct patients what to do in the event pills are missed. See, “**What to do if you miss pills**” section of FDA-Approved Instructions for Use [see *Dosage and Administration (2.3)*].

### Need for Additional Contraception

Postpartum females who have not yet had a period when they start levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets need to use an additional method of contraception until they have taken a light blue to blue tablet for 7 consecutive days [see *Dosage and Administration (2.1)*]. There is a need to use a back-up or alternative method of contraception when enzyme inducers are used with levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets [see *Drug Interactions (7.1)*].

### Lactation

Levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets may reduce breast milk production. This is less likely to occur if breastfeeding is well established. When possible, nursing women should use other methods of contraception until they have discontinued breastfeeding [see *Use in Specific Populations (8.2)*].

### Amenorrhea and Possible Symptoms of Pregnancy

Amenorrhea may occur. Advise patients to contact a healthcare provider in the event of amenorrhea with symptoms of pregnancy, such as morning sickness or unusual breast tenderness [see *Warnings and Precautions (5.9)*].

### Fertility Following Discontinuation of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets

Resumption of pre-treatment ovarian function is expected, generally within 8 weeks

after discontinuation of levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets.

### Depression

Depressed mood and depression may occur. Women should contact their healthcare provider if mood changes and depressive symptoms occur, including shortly after initiating the treatment [see *Warnings and Precautions (5.10)*].

Manufactured by:

#### **Glenmark Pharmaceuticals Limited**

Colvale-Bardez, Goa 403513, India

Manufactured for:



#### **Glenmark Pharmaceuticals Inc., USA**

Mahwah, NJ 07430

Questions? 1 (888) 721-7115  
[www.glenmarkpharma-us.com](http://www.glenmarkpharma-us.com)

March 2023

### **FDA-Approved Patient Labeling**

#### **PATIENT INFORMATION**

#### **Ashlyna(ash-lee-na)**

**(levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets)**

#### **WARNING TO WOMEN WHO SMOKE**

**Do not use Ashlyna if you smoke cigarettes and are over 35 years old. Smoking increases your risk of serious cardiovascular side effects from birth control pills, including death from heart attack, blood clots or stroke. This risk increases with age and the number of cigarettes you smoke.**

#### **What is the most important information I should know about Ashlyna?**

**Do not use Ashlyna if you smoke cigarettes and are over 35 years old.** Smoking increases your risk of serious cardiovascular side effects from birth control pills, including death from heart attack, blood clots or stroke. This risk increases with age and the number of cigarettes you smoke.



## **What is Ashlyna?**

Ashlyna is a birth control pill (hormonal contraceptive) used by women to prevent pregnancy. It contains two female hormones, an estrogen called ethinyl estradiol, and a progestin called levonorgestrel.

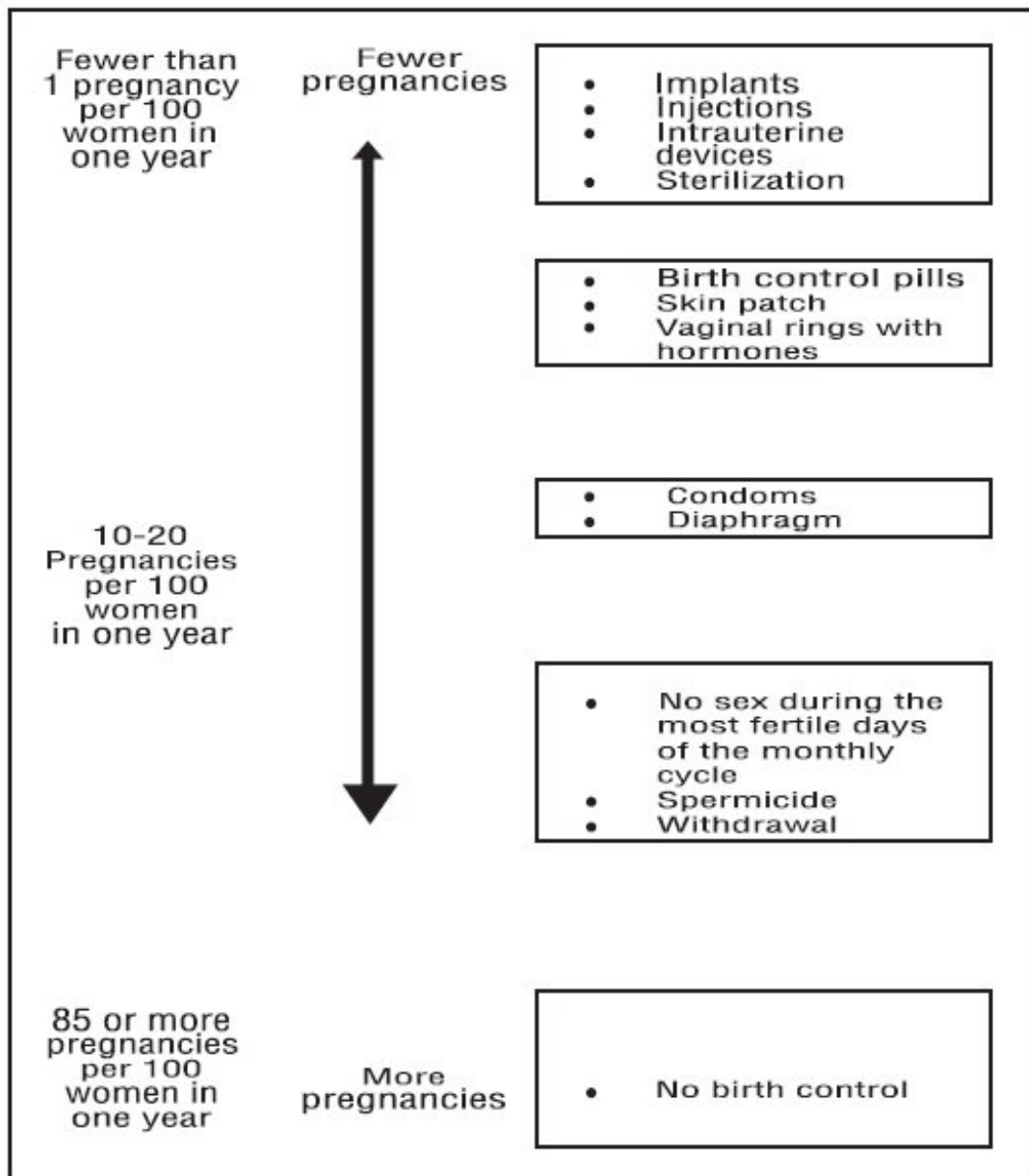
Ashlyna does not protect against HIV infection (AIDS) and other sexually transmitted infections.

## **How Does Ashlyna Work for contraception?**

Your chance of getting pregnant depends on how well you follow the directions for taking your birth control pills. The more carefully you follow the directions, the less chance you have of getting pregnant.

Based on the results of a single clinical study lasting 12 months, 1 to 3 women, out of 100 women, may get pregnant during the first year they use Ashlyna.

The following chart shows the chance of getting pregnant for women who use different methods of birth control. Each box on the chart contains a list of birth control methods that are similar in effectiveness. The most effective methods are at the top of the chart. The box on the bottom of the chart shows the chance of getting pregnant for women who do not use birth control and are trying to get pregnant.



## Who Should Not Take Ashlyna?

Do not take Ashlyna if you:

- smoke and are over 35 years of age
- have or had blood clots in your arms, legs, eyes or lungs
- had a stroke
- had a heart attack
- have certain heart valve problems or heart rhythm abnormalities that can cause blood clots to form in the heart
- have or had a problem with your blood that makes it clot more than normal
- have high blood pressure that cannot be controlled by medicine or have high blood pressure with blood vessel problems
- have diabetes and are over the age of 35; have diabetes with high blood pressure; kidney, eye, nerve, or blood vessel damage; or for more than 20 years
- have certain kinds of severe migraine headaches with aura, numbness, weakness or changes in vision, or any migraine headaches if you are over the age of 35

- have or had breast cancer
- have liver disease, including liver tumors
- have unexplained vaginal bleeding
- take any Hepatitis C drug combination containing ombitasvir/paritaprevir/ritonavir, with or without dasabuvir. This may increase levels of the liver enzyme “alanine aminotransferase” (ALT) in the blood.

Birth control pills may not be a good choice for you if you have ever had jaundice (yellowing of the skin or eyes) caused by pregnancy.

**If any of these conditions happen to you while you are taking Ashlyna, stop taking Ashlyna right away and talk to your healthcare provider. Use non-hormonal contraception when you stop taking Ashlyna.**

**What should I tell my healthcare provider before taking Ashlyna?**

**Tell your healthcare provider if you:**

- are pregnant or think you may be pregnant
- are scheduled for surgery. Ashlyna may increase your risk of blood clots after surgery. You should stop taking Ashlyna at least 4 weeks before you have surgery and not restart Ashlyna until at least 2 weeks after your surgery.
- are depressed now or have been depressed in the past
- had yellowing of your skin or eyes (jaundice) caused by pregnancy (cholestasis of pregnancy)
- are breastfeeding or plan to breastfeed. Ashlyna may decrease the amount of breast milk you make. A small amount of the hormones in Ashlyna may pass into your breast milk. Talk to your healthcare provider about the best birth control method for you while breastfeeding.

Tell your healthcare provider if you have ever had any of the conditions listed in, “**Who should not take Ashlyna**” **above**. Your healthcare provider may recommend another method of birth control.

Tell your healthcare provider about all medicines and herbal products that you take. Some medicines and herbal products may make birth control pills less effective, including:

- barbiturates
- bosentan
- carbamazepine
- felbamate
- griseofulvin • oxcarbazepine
- phenytoin
- rifampin
- St. John’s wort
- topiramate

Use a back-up or alternative birth control method when you take medicines that may make birth control pills less effective.

Birth control pills may interact with lamotrigine, an anticonvulsant used for epilepsy. This may increase the risk of seizures, so your physician may need to adjust the dose of

lamotrigine.

Women on thyroid hormone replacement therapy may need increased doses of thyroid hormone.

Know the medicines you take. Keep a list of them to show your healthcare provider and pharmacist when you get a new medicine.

### **How should I take Ashlyna?**

Read the **Instructions for Use** at the end of this Patient Information.

### **What are the most serious risks of taking birth control pills?**

Like pregnancy, birth control pills increase the risk of serious blood clots, especially in women who have other risk factors, such as smoking, obesity, or age over 35 years old. It is possible to die from a problem caused by a blood clot, such as a heart attack or a stroke. Some examples of serious blood clots are blood clots in the:

- Legs (thrombophlebitis)
- Lungs (pulmonary embolus)
- Eyes (loss of eyesight)
- Heart (heart attack)
- Brain (stroke)

Women who take birth control pills may get:

- High blood pressure. You should see your healthcare provider to check your blood pressure regularly.
- Gallbladder problems
- Rare cancerous or noncancerous liver tumors

All of these events are uncommon in healthy women.

Call your healthcare provider right away if you have:

- Persistent leg pain
- Sudden shortness of breath
- Sudden blindness, partial or complete
- Severe pain in your chest
- Sudden, severe headache unlike your usual headaches
- Weakness or numbness in an arm or leg, or trouble speaking
- Yellowing of the skin or eyeballs

### **What are common side effects of birth control pills?**

The most common side effects of birth control pills are:

- Spotting or bleeding between menstrual periods
- Nausea
- Breast tenderness
- Headache

These side effects are usually mild and usually disappear with time.

Less common side effects are:

- Acne
- Less sexual desire
- Bloating or fluid retention
- Blotchy darkening of the skin, especially on the face
- High blood sugar, especially in women who already have diabetes
- High fat levels in the blood
- Depression, especially if you have had depression in the past. Call your healthcare provider immediately if you have any thoughts of harming yourself.
- Problems tolerating contact lenses
- Weight changes

This is not a complete list of possible side effects. Talk to your healthcare provider if you develop any side effects that concern you. You may report side effects to the FDA at 1-800-FDA-1088.

No serious problems have been reported from a birth control pill overdose, even when accidentally taken by children.

### **What else should I know about taking Ashlyna?**

- If you are scheduled for any lab tests, tell your healthcare provider you are taking Ashlyna. Certain blood tests may be affected by Ashlyna.
- Do not skip any pills, even if you do not have sex often.
- Birth control pills should not be taken during pregnancy. However, birth control pills taken by accident during pregnancy are not known to cause birth defects.
- You should stop Ashlyna at least four weeks before you have major surgery and not restart it for at least two weeks after the surgery, due to an increased risk of blood clots.
- If you are breastfeeding, consider another birth control method until you are ready to stop breastfeeding. Birth control pills that contain estrogen, like Ashlyna, may decrease the amount of milk you make. A small amount of the pill's hormones pass into breast milk.
- If you have vomiting or diarrhea, your birth control pills may not work as well. Use another birth control method, like condoms or a spermicide, until you check with your healthcare provider.

### **How should I store Ashlyna?**

- Store Ashlyna at room temperature between 68°F to 77°F (20°C to 25°C).
- Keep Ashlyna and all medicines out of the reach of children.

### **General information about Ashlyna**

Medicines are sometimes prescribed for purposes other than those listed in a Patient Information leaflet. Do not use Ashlyna for a condition for which it was not prescribed. Do not give Ashlyna to anyone else.

This Patient Information summarizes the most important information about Ashlyna. If you have concerns or questions, ask your healthcare provider. You may also ask your healthcare providers for a more detailed label written for medical professionals.

### **Do birth control pills cause cancer?**

It is not known if hormonal birth control pills cause breast cancer. Some studies, but not all, suggest that there could be a slight increase in the risk of breast cancer among current users with longer duration of use.

If you have breast cancer now, or have had it in the past, do not use hormonal birth control because some breast cancers are sensitive to hormones. Women who use birth control pills may have a slightly higher chance of getting cervical cancer. However, this may be due to other reasons such as having more sexual partners.

### **What if I want to become pregnant?**

You may stop taking the pill whenever you wish. Consider a visit with your healthcare provider for a pre-pregnancy checkup before you stop taking the pill.

### **What should I know about my period when taking Ashlyna?**

When you take Ashlyna, which has a 91-day extended dosing cycle, you should expect to have 4 scheduled periods per year (bleeding when you are taking the 7 light yellow to yellow pills). Each period is likely to last about 3 days. However, you will probably have more bleeding or spotting between your scheduled periods than if you were using a birth control pill with a 28-day dosing cycle. During the first Ashlyna 91-day treatment cycle, about 3 in 10 women may have 20 or more days of unplanned bleeding or spotting. This bleeding or spotting tends to decrease with time. Do not stop taking Ashlyna because of this bleeding or spotting. If the spotting continues for more than 7 consecutive days or if the bleeding is heavy, call your healthcare provider.

### **What if I miss my scheduled period when taking Ashlyna?**

You should consider the possibility that you are pregnant if you miss your scheduled period (no bleeding on the days that you are taking light yellow to yellow tablets). Since scheduled periods are less frequent when you are taking Ashlyna, notify your healthcare provider that you have missed your period and that you are taking Ashlyna. Also notify your healthcare provider if you have symptoms of pregnancy such as morning sickness or unusual breast tenderness. It is important that your healthcare provider evaluates you to determine if you are pregnant. Stop taking Ashlyna if it is determined that you are pregnant.

### **What are the ingredients in Ashlyna?**

#### **Active ingredients:**

Light blue to blue tablets: levonorgestrel and ethinyl estradiol

Light Yellow to Yellow tablets: ethinyl estradiol

#### **Inactive ingredients:**

Each light blue to blue tablet contains the following inactive ingredients: anhydrous lactose, D&C yellow no. 10 aluminum lake, FD&C blue no. 1 aluminum lake, FD&C yellow no. 6 aluminum lake, hypromellose, lactose monohydrate, magnesium stearate, microcrystalline cellulose, talc, titanium dioxide and triacetin.

Each light yellow to yellow tablet contains the following inactive ingredients: anhydrous lactose, D&C yellow no. 10 aluminum lake, FD&C yellow no. 6 aluminum lake, hypromellose, lactose monohydrate, magnesium stearate, microcrystalline cellulose, polacrillin potassium, polyethylene glycol 400, polysorbate 80 and titanium dioxide.

## **INSTRUCTIONS FOR USE**

### **Ashlyna (ash-lee-na)**

### **(levonorgestrel and ethinyl estradiol tablets and ethinyl estradiol tablets)**

#### **How do I take Ashlyna?**

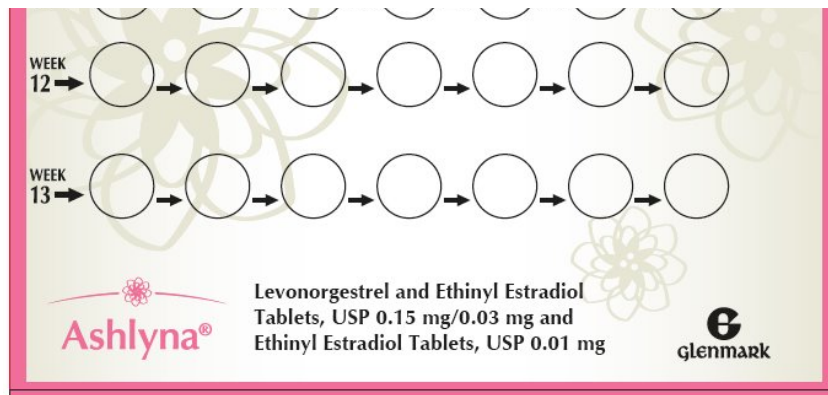
1. Take one pill every day at the same time. If you miss pills you could get pregnant. This includes starting the pack late. The more pills you miss, the more likely you are to get pregnant.
2. Many women have spotting or light bleeding or may feel sick to their stomach during the first few months of taking Ashlyna. If you feel sick to your stomach, do not stop taking the pill. The problem will usually go away. If it doesn't go away, check with your healthcare provider.
3. Missing pills can also cause spotting or light bleeding, even when you take the missed pills later. On the days you take 2 pills to make up for missed pills, you could also feel a little sick to your stomach.
4. If you have trouble remembering to take Ashlyna, talk to your healthcare provider about how to make pill-taking easier or about using another method of birth control.

#### **Before you start taking Ashlyna**

1. Decide what time of day you want to take your pill. It is important to take it at about the same time every day.
2. Look at your extended-cycle tablet dispenser. Your tablet dispenser consists of 3 blister cards that hold 91 individually sealed pills (a 13-week or 91-day cycle). The 91 pills consist of 84 light blue to blue and 7 light yellow to yellow pills. Blister cards 1 and 2 each contain 28 light blue to blue pills (4 rows of 7 pills). Blister card 3 contains 35 pills consisting of 28 light blue to blue pills (4 rows of 7 pills) and 7 light yellow to yellow pills (1 row of 7 pills).







### 3. Also find:

- Where on the first blister card in the pack to start taking pills (upper left corner at the start arrow) and
- In what order to take the pills (follow the weeks and arrow).

4. Be sure you have ready at all times another kind of birth control (such as condoms or spermicides), to use as a back-up in case you miss pills.

### **If you are switching from another birth control method:**

If you have been using a different hormonal method of birth control (such as a different pill, the “patch,” or the “vaginal ring”), you need to use another method of birth control (such as condoms or spermicides) each time you have sex after stopping your old method of birth control until you have taken Ashlyna for 7 days.

**If you have recently given birth and have not yet had a period,** use another method of birth control if you have sex (such as condoms and spermicides) as a back-up method until you have taken Ashlyna for 7 days.

### **When to start Ashlyna**

1. Take the first light blue to blue pill on the Sunday after your period starts, even if you are still bleeding. If your period begins on Sunday, start the first light blue to blue pill that same day.

2. Use another method of birth control (such as condoms or spermicides) as a back-up method if you have sex anytime from the Sunday you start your first light blue to blue pill until the next Sunday (first 7 days). If you have been using a different hormonal method of birth control (such as a different pill, the “patch,” or the “vaginal ring”), you need to use another method of birth control (such as condoms or spermicides) each time you have sex after stopping your old method of birth control until you have taken Ashlyna for 7 days.

### **How to take Ashlyna**

1. Take one pill at the same time every day until you have taken the last pill in the tablet dispenser.

- Do not skip pills even if you are experiencing spotting or bleeding or feel sick to your stomach (nausea).
- Do not skip pills even if you do not have sex very often.

## 2. When you finish a tablet dispenser

- After taking the last light yellow to yellow pill, start taking the first light blue to blue pill from a new extended-cycle tablet dispenser the very next day (this should be on a Sunday) regardless of when your period started.

3. If you miss your scheduled period when you are taking the light yellow to yellow pills, contact your healthcare provider because you may be pregnant. If you are pregnant, you should stop taking Ashlyna.

### **What to do if you miss pills**

If you **MISS 1** light blue to blue pill:

1. Take it as soon as you remember. Take the next pill at your regular time. This means you may take 2 pills in 1 day.
2. You do not need to use a back-up birth control method if you have sex.

If you **MISS 2** light blue to blue pills in a row:

1. Take 2 pills on the day you remember, and 2 pills the next day.
2. Then take 1 pill a day until you finish the pack.
3. You could become pregnant if you have sex in the 7 days after you miss two pills. You **MUST** use another birth control method (such as condoms or spermicide) as a back-up for the 7 days after you restart your pills.

If you **MISS 3 OR MORE** light blue to blue pills in a row:

1. Do not take the missed pills. Keep taking 1 pill every day as indicated on the pack until you have completed all of the remaining pills in the pack. For example: If you resume taking the pill on Thursday, take the pill under "Thursday" and do not take the missed pills. You may experience bleeding during the week following the missed pills.
2. You could become pregnant if you have sex during the days of missed pills or during the first 7 days after restarting your pills.
3. You **MUST** use a non-hormonal birth control method (such as condoms or spermicide) as a back-up when you miss pills and for the first 7 days after you restart your pills. If you do not have your period when you are taking the light yellow to yellow pills, call your healthcare provider because you may be pregnant.

If you **MISS ANY** of the 7 light yellow to yellow pills:

1. Throw away the missed pills.
2. Keep taking the scheduled pills until the pack is finished.
3. You do not need a back-up method of birth control.

### **Finally, if you are still not sure what to do about the pills you have missed**

1. Use a back-up method anytime you have sex.
2. Keep taking one pill each day until you contact your healthcare provider.

This Patient Information and Instructions for Use has been approved by the U.S. Food

and Drug Administration.

Manufactured by:

**Glenmark Pharmaceuticals Limited**

Colvale-Bardez, Goa 403513, India

Manufactured for:



**Glenmark Pharmaceuticals Inc., USA**

Mahwah, NJ 07430

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March 2023

## Levonorgestrel and Ethinyl Estradiol and Ethinyl Estradiol



### ASHLYNA

levonorgestrel and ethinyl estradiol and ethinyl estradiol kit

#### Product Information

<b>Product Type</b>	HUMAN PRESCRIPTION DRUG	<b>Item Code (Source)</b>	NDC:50090-2097(NDC:68462-646)
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#### Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
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1	NDC:50090-2097-0	1 in 1 KIT; Type 0: Not a Combination Product	10/12/2015
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### Quantity of Parts

Part #	Package Quantity	Total Product Quantity
Part 1		84
Part 2		7

### Part 1 of 2

## LEVONORGESTREL AND ETHINYL ESTRADIOL

levonorgestrel and ethinyl estradiol tablet, film coated

### Product Information

**Route of Administration** ORAL

### Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
<b>LEVONORGESTREL</b> (UNII: 5W7SIA7YZW) (LEVONORGESTREL - UNII:5W7SIA7YZW)	LEVONORGESTREL	0.15 mg
<b>ETHINYL ESTRADIOL</b> (UNII: 423D2T571U) (ETHINYL ESTRADIOL - UNII:423D2T571U)	ETHINYL ESTRADIOL	0.03 mg

### Inactive Ingredients

Ingredient Name	Strength
<b>LACTOSE MONOHYDRATE</b> (UNII: EWQ57Q8I5X)	
<b>MICROCRYSTALLINE CELLULOSE</b> (UNII: OP1R32D61U)	
<b>HYPROMELLOSE, UNSPECIFIED</b> (UNII: 3NXW29V3WO)	
<b>ANHYDROUS LACTOSE</b> (UNII: 3SY5LH9PMK)	
<b>TALC</b> (UNII: 7SEV7J4R1U)	
<b>MAGNESIUM STEARATE</b> (UNII: 70097M6I30)	
<b>TITANIUM DIOXIDE</b> (UNII: 15FIX9V2JP)	
<b>TRIACETIN</b> (UNII: XHX3C3X673)	
<b>FD&amp;C BLUE NO. 1</b> (UNII: H3R47K3TBD)	
<b>FD&amp;C YELLOW NO. 6</b> (UNII: H77VEI93A8)	
<b>D&amp;C YELLOW NO. 10</b> (UNII: 35SW5USQ3G)	

### Product Characteristics

<b>Color</b>	BLUE (light blue to blue)	<b>Score</b>	no score
<b>Shape</b>	ROUND (biconvex)	<b>Size</b>	6mm
<b>Flavor</b>		<b>Imprint Code</b>	E1
<b>Contains</b>			

## Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
ANDA	ANDA203163	02/23/2015	

## Part 2 of 2

### ETHINYL ESTRADIOL

ethinyl estradiol tablet, film coated

## Product Information

Route of Administration ORAL

## Inactive Ingredients

Ingredient Name	Strength
POLYETHYLENE GLYCOL 400 (UNII: B697894SGQ)	
POLACRILIN POTASSIUM (UNII: 0BZ5A00FQU)	
POLYSORBATE 80 (UNII: 6OZP39ZG8H)	

## Product Characteristics

Color	YELLOW (light yellow to yellow)	Score	no score
Shape	ROUND (biconvex)	Size	6mm
Flavor		Imprint Code	D8
Contains			

## Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
ANDA	ANDA203163	02/23/2015	

## Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
ANDA	ANDA203163	02/23/2015	

**Labeler** - A-S Medication Solutions (830016429)

## Establishment

Name	Address	ID/FEI	Business Operations
A-S Medication Solutions		830016429	RELABEL(50090-2097) , REPACK(50090-2097)

Revised: 12/2023

A-S Medication Solutions