

MICROGESTIN®
(Norethindrone Acetate and Ethinyl Estradiol Tablets, USP)

MICROGESTIN® 1/20

(Each white tablet contains 1 mg norethindrone acetate and 20 mcg ethinyl estradiol.)

MICROGESTIN® 1.5/30

(Each green tablet contains 1.5 mg norethindrone acetate and 30 mcg ethinyl estradiol.)

MICROGESTIN® Fe

(Norethindrone Acetate and Ethinyl Estradiol Tablets, USP and Ferrous Fumarate Tablets*)

*Ferrous fumarate tablets are not USP for dissolution and assay.

MICROGESTIN® Fe 1/20

(Each white tablet contains 1 mg norethindrone acetate and 20 mcg ethinyl estradiol. Each brown tablet contains 75 mg ferrous fumarate.)

MICROGESTIN® Fe 1.5/30

(Each green tablet contains 1.5 mg norethindrone acetate and 30 mcg ethinyl estradiol. Each brown tablet contains 75 mg ferrous fumarate.)

Patients should be counseled that this product does not protect against HIV infection (AIDS) and other sexually transmitted diseases.

DESCRIPTION

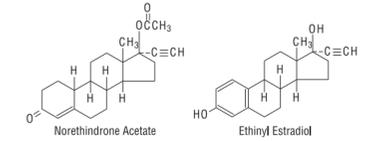
MICROGESTIN and MICROGESTIN Fe are progestogen-estrogen combinations.

MICROGESTIN Fe 1/20 and 1.5/30: Each provides a continuous dosage regimen consisting of 21 oral contraceptive tablets and seven ferrous fumarate tablets. The ferrous fumarate tablets are present to facilitate ease of drug administration via a 28-day regimen, are non-hormonal, and do not serve any therapeutic purpose.

Each white tablet contains norethindrone acetate (17 alpha-ethinyl-19-nortestosterone acetate), 1 mg; ethinyl estradiol (17 alpha-ethinyl-1,3,5(10)-estratriene-3, 17 beta-diol), 20 mcg. Also contains acacia, NF; lactose, NF; magnesium stearate, NF; starch, NF; confectioner's sugar, NF; talc, USP.

Each green tablet contains norethindrone acetate (17 alpha-ethinyl-19-nortestosterone acetate), 1.5 mg; ethinyl estradiol (17 alpha-ethinyl-1,3,5(10)-estratriene-3, 17 beta-diol), 30 mcg. Also contains acacia, NF; lactose, NF; magnesium stearate, NF; starch, NF; confectioner's sugar, NF; talc, USP; D&C yellow No. 10, FD&C yellow No. 6; FD&C yellow No. 1.

The structural formulas are as follows:



Each brown tablet contains ferrous fumarate, USP; mannitol, USP; povidone, USP; polyethylene glycol 400, USP; sodium starch glycolate, NF; magnesium stearate, NF; sucralose, NF; spearmint flavor.

CLINICAL PHARMACOLOGY

Contraceptive oral contraceptives act by suppression of gonadotropins. Although the primary mechanism of action is inhibition of ovulation, other alterations include changes in the cervical mucus (which increase the difficulty of sperm entry into the uterus) and the endometrium (which reduce the likelihood of implantation).

Pharmacokinetics

The pharmacokinetics of MICROGESTIN have not been characterized, however, the following pharmacokinetic information regarding norethindrone acetate and ethinyl estradiol is taken from the literature.

Absorption

Norethindrone acetate appears to be completely and rapidly deacetylated to norethindrone after oral administration, since the disposition of norethindrone acetate is indistinguishable from that of orally administered norethindrone.¹ Norethindrone acetate and ethinyl estradiol are subject to first-pass metabolism after oral dosing, resulting in an absolute bioavailability of approximately 64% for norethindrone and 43% for ethinyl estradiol.^{1,3}

Distribution

Volume of distribution of norethindrone and ethinyl estradiol ranges from 2 to 4 L/kg.^{1,3} Plasma protein binding of both steroids is greater than 95%. Norethindrone binds to both albumin and sex hormone binding globulin, whereas ethinyl estradiol binds only to albumin.¹

Metabolism

Norethindrone undergoes extensive biotransformation, primarily via reduction, followed by sulfate and glucuronide conjugation. The majority of metabolites in the circulation are sulfates, with glucuronides accounting for most of the urinary metabolites.⁴ A small amount of norethindrone acetate is metabolically converted to ethinyl estradiol. Ethinyl estradiol is also extensively metabolized, both by oxidation and by conjugation reactions. Sulfates are the major metabolites in the circulation; conjugates of ethinyl estradiol and glucuronides predominate in urine. The primary oxidative metabolite is 2-hydroxy ethinyl estradiol, formed by the CYP3A4 isoform of cytochrome P450. Part of the first-pass metabolism of ethinyl estradiol is believed to occur in gastrointestinal mucosa. Ethinyl estradiol may undergo enterohepatic circulation.¹

Excretion

Norethindrone and ethinyl estradiol are excreted in both urine and feces, primarily as metabolites.⁴ Plasma clearance values for norethindrone and ethinyl estradiol are similar (approximately 0.4 L/hr/kg).^{1,3}

Special Population

The effect of race on the disposition of MICROGESTIN has not been evaluated.

Renal Insufficiency

The effect of renal disease on the disposition of MICROGESTIN has not been evaluated. In premenopausal women with chronic renal failure undergoing peritoneal dialysis who received multiple doses of an oral contraceptive containing ethinyl estradiol and norethindrone, plasma ethinyl estradiol concentrations were higher and norethindrone concentrations were unchanged compared to concentrations in premenopausal women with normal renal function.

Hepatic Insufficiency

The effect of hepatic disease on the disposition of MICROGESTIN has not been evaluated. However, ethinyl estradiol and norethindrone may be poorly metabolized in patients with impaired liver function.

Drug-Drug Interactions

Numerous drug-drug interactions have been reported for oral contraceptives. A summary of these is found under PRECAUTIONS, Drug Interactions.

INDICATIONS AND USAGE

MICROGESTIN and MICROGESTIN Fe are indicated for the prevention of pregnancy in women who elect to use oral contraceptives as a method of contraception.

Oral contraceptives are highly effective. Table I lists the typical accidental pregnancy rates for users of combination oral contraceptives and other methods of contraception. The efficacy of these contraceptive methods, except sterilization, depends upon the reliability with which they are used. Correct and consistent use of methods can result in lower failure rates.

TABLE I: LOWEST EXPECTED AND TYPICAL FAILURE RATES DURING THE FIRST YEAR OF CONTINUOUS USE OF A METHOD			
% of Women Experiencing an Unintended Pregnancy in the First Year of Continuous Use			
Method	Lowest Expected*	Typical**	
(No contraception).....	(85)	(85)	
Oral contraceptives.....	3	3	
combined.....	0.1	N/A***	
progestin only.....	0.5	N/A***	
Diaphragm with spermicidal cream or jelly.....	6	20	
Spermicides alone (foam, creams, gels, vaginal suppositories, and vaginal film).....	6	26	
Vaginal Sponge.....			
nuliparous.....	9	20	
parous.....	20	40	
Implant.....	0.05	0.05	
Injection: depot medroxyprogesterone acetate.....	0.3	0.3	

Continued on next column.

TABLE I: LOWEST EXPECTED AND TYPICAL FAILURE RATES DURING THE FIRST YEAR OF CONTINUOUS USE OF A METHOD			
% of Women Experiencing an Unintended Pregnancy in the First Year of Continuous Use			
Method	Lowest Expected*	Typical**	
IUD.....			
progestrone T.....	1.5	2.0	
copper T 380A.....	0.6	0.8	
LNg 20.....	0.1	0.1	
Condom without spermicides.....			
female.....	5	21	
male.....	3	14	
Cervical Cap with spermicidal cream or jelly.....			
nuliparous.....	9	20	
parous.....	26	40	
Periodic abstinence (all methods).....	1-9	25	
Withdrawal.....	4	19	
Female sterilization.....	0.5	0.5	
Male sterilization.....	0.10	0.15	

Adapted from RA Hatcher et al, Reference 7.

*The authors' best guess of the percentage of women expected to experience an accidental pregnancy among couples who initiate a method (not necessarily for the first time) and who use it consistently and correctly during the first year if they do not stop for any other reason.

**This term represents "typical" couples who initiate use of a method (not necessarily for the first time), who experience an accidental pregnancy during the first year if they do not stop use for any other reason.

***N/A—Data not available.

CONTRAINDICATIONS			
Oral contraceptives should not be used in women who currently have the following conditions:			
•	Thrombophlebitis or thromboembolic disorders		
•	A past history of deep vein thrombophlebitis or thromboembolic disorders		
•	Cerebral vascular or coronary artery disease		
•	Known or suspected carcinoma of the breast		
•	Carcinoma of the endometrium or other known or suspected estrogen-dependent neoplasia		
•	Undiagnosed abnormal genital bleeding		
•	Cholestatic jaundice of pregnancy or jaundice with prior pill use		
•	Hepatic adenomas or carcinomas		
•	Known or suspected pregnancy		

WARNINGS

Cigarette smoking increases the risk of serious cardiovascular side effects in women who use oral contraceptives. This risk increases with age and heavy smoking (15 or more cigarettes per day) and is quite marked in women over 35 years of age. Women who use oral contraceptives should be strongly advised not to smoke.

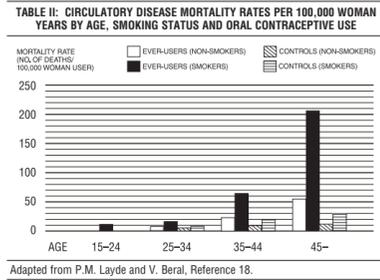
The use of oral contraceptives is associated with increased risks of several serious conditions including myocardial infarction, thromboembolism, stroke, hepatic neoplasia, and gallbladder disease, although the risk of serious morbidity or mortality is very small in healthy women without underlying risk factors. The risk of morbidity and mortality increases significantly in the presence of other underlying risk factors such as hypertension, hyperlipidemias, obesity, and diabetes.

Practitioners prescribing oral contraceptives should be familiar with the following information relating to these risks. The information contained in this package insert is principally based on studies carried out in patients who used oral contraceptives with higher formulations of estrogens and progestogens than those in common use today. The effect of long-term use of the oral contraceptives with lower formulations of both estrogens and progestogens remains to be determined.

Throughout this labeling, epidemiological studies reported are of two types: retrospective or case control studies and prospective or cohort studies. Case control studies provide a measure of the relative risk of a disease, namely, a *ratio* of the incidence of a disease among oral contraceptive users to that among nonusers. The relative risk does not provide information on the actual clinical occurrence of a disease. Cohort studies provide a measure of attributable risk, which is the difference in disease incidence between oral contraceptive users and nonusers. The attributable risk does provide information about the actual occurrence of a disease in the population (adapted from References 8 and 9 with the author's permission). For further information, the reader is referred to a text on epidemiologic methods.

1. Thromboembolic Disorders and Other Vascular Problems
a. Myocardial Infarction
An increased risk of myocardial infarction has been attributed to oral contraceptive use. This risk is greatest for women who use oral contraceptives with higher formulations of estrogens and progestogens than those in common use today. The effect of long-term use of the oral contraceptives with lower formulations of both estrogens and progestogens remains to be determined. Numerous epidemiological studies have been performed on the incidence of breast, endometrial, ovarian, and cervical cancer in women using oral contraceptives. Most of the studies have shown an increased risk of breast cancer in women who use oral contraceptives is not associated with an increase in the risk of developing breast cancer.^{41,48} Some studies have reported an increased risk of developing breast cancer in certain subgroups of oral contraceptive users, but the findings reported in these studies are not consistent.⁴¹⁻⁴⁸

Some studies suggest that oral contraceptive use has been associated with an increase in the risk of cervical intraepithelial neoplasia in some populations of women.^{1,14} However, there continues to be controversy about the extent to which such findings may be due to differences in sexual behavior and other factors. In spite of many studies of the relationship between oral contraceptive use and breast and cervical cancers, a cause and effect relationship has not been established.



Adapted from P.M. Layde and V. Beral, Reference 18.

Oral contraceptives may compound the effects of well-known risk factors, such as hypertension, diabetes, hyperlipidemias, age and obesity.¹⁹ In particular, some progestogens are known to decrease HDL cholesterol and cause glucose intolerance, while estrogens may create a state of hyperinsulinemia.^{20,21} Oral contraceptives have been shown to increase blood pressure among users (see section 9 in WARNINGS). Similar effects on risk factors have been associated with an increased risk of heart disease. Oral contraceptives must be used with caution in women with cardiovascular disease risk factors.

b. Thromboembolism
An increased risk of thromboembolic and thrombotic disease associated with the use of oral contraceptives is well established. Case control studies have found the relative risk of users compared to non-users to be 3 for the first episode of superficial venous thrombosis, 4 to 11 for deep vein thrombosis or pulmonary embolism, and 1.5 to 6 for women with predisposing conditions for venous thromboembolic disease.^{22,23} Cohort studies have shown the relative risk to be somewhat lower, about 1.3 for new cases and about 4.5 for new cases requiring hospitalization.²⁴ The risk of thromboembolic disease due to oral contraceptives is not related to length of use and disappears after pill use is stopped.⁸

A two- to four-fold increase in relative risk of postoperative thromboembolic complications has been reported with the use of oral contraceptives.^{15,24} The relative risk of venous thrombosis in women who have predisposing conditions is twice that of women who do not use oral contraceptives.^{15,24} In addition, oral contraceptives should be discontinued at least four weeks prior to and for two weeks after elective surgery of a type associated with an increase in risk of thromboembolism and during

and following prolonged immobilization. Since the immediate postpartum period is also associated with an increased risk of thromboembolism, oral contraceptives should not be started no earlier than four to six weeks after delivery in women who elect not to breastfeed.

c. Cerebrovascular disease

Oral contraceptives have been shown to increase both the relative and attributable risks of cerebrovascular events (thrombotic and hemorrhagic strokes), although, in general, the risk is greatest among older (greater than 35 years), hypertensive women who also smoke. Hypertension was not a significant risk factor in women who are nonsmokers, for both types of strokes, while smoking interacting to increase the risk for hemorrhagic strokes.^{25,26}

In a large study, the relative risk of thrombotic strokes has been shown to range from 3 for normotensive users to 14 for users with severe hypertension.²⁶ The relative risk of hemorrhagic stroke is reported to be 1.2 for non-smokers who use oral contraceptives, 2.6 for smokers who use oral contraceptives,²⁶ and 7.6 for smokers who used oral contraceptives, 1.8 for normotensive users, and 25.7 for users with severe hypertension.²⁶ The attributable risk is also greater in older women.²⁷

d. Dose-related risk of vascular disease from oral contraceptives
A dose-response relationship has been observed between the amount of estrogen and progestogen in oral contraceptives and the risk of vascular disease.^{27,28} A decline in serum high-density lipoproteins (HDL) has been reported with many progestational agents.²⁹⁻³¹ A decline in serum high-density lipoproteins has been associated with an increased incidence of ischemic heart disease. Because estrogens increase HDL cholesterol, the net effect of an oral contraceptive depends on a balance between doses of estrogen and progestin and the nature of the progestin used in the contraceptives. The amount and activity of both hormones should be considered in the choice of an oral contraceptive.

Minimizing exposure to estrogen and progestogen is in keeping with good principles of therapy. For any particular method, the dosage regimen prescribed should be one which contains the least amount of estrogen and progestogen that is compatible with the needs of the individual patient. New acceptors of oral contraceptive agents should be started on preparations containing the lowest dose of estrogen which produces satisfactory results for the patient.

e. Persistence of risk of vascular disease
There are two studies which have shown persistence of risk of vascular disease for ever-users of oral contraceptives. In a study in the United States, the risk of developing myocardial infarction after discontinuing oral contraceptives persists for at least 9 years for women 40-49 years who had used oral contraceptives for 5 or more years, and for at least 6 years for women age groups 50-59 years.³² In another study in Great Britain, the risk of developing cerebrovascular disease persisted for at least 6 years after discontinuation of oral contraceptives, although excess risk was very small.³³ However, both studies were performed with oral contraceptive formulations containing 50 mcg or higher of estrogens.

2. Estimates of Mortality from Contraceptive Use

One study gathered data from a variety of sources which have estimated the mortality rate associated with different methods of contraception at different ages (Table II). These estimates include the combined risk of death associated with contraceptive methods plus the risk attributable to pregnancy in the event of method failure. Each method of contraception has its specific benefits and risks. The study concluded that, for any particular method, the overall mortality rate for women who smoke and 40 and older who do not smoke, mortality associated with all methods of birth control is low and below that associated with childbirth. The observation of a possible increase in risk of mortality with age for oral contraceptive users is based on data gathered in the 1970's but not reported until 1983.³⁴ However, current clinical practice involves the use of lower estrogen dose formulations combined with careful restriction of oral contraceptive use to women who do not have the various risk factors listed in this labeling.

Because of these changes in practice and, also, because of some limited new data which suggest that the risk of cardiovascular disease with the use of oral contraceptives may now be less than previously observed (Porter JB, Hunter, J., Jick H, et al. Oral contraceptives and nonfatal vascular disease. *Obstet Gynecol* 1985;66:1-4; and Porter JB, Hershel J, Walker AM. Mortality among oral contraceptive users. *Obstet Gynecol* 1987;70:29-32), the Fertility and Maternal Health Drugs Advisory Committee was asked to review the topic in 1988. The Committee concluded that although cardiovascular disease remains a risk among oral contraceptive users after age 40 in healthy non-smoking women (even with the newer low-dose formulations), there are greater potential health risks associated with pregnancy in older women and with the alternative surgical and medical procedures which may be necessary if such women do not have access to effective and acceptable means of contraception.

Therefore, the Committee recommended that the benefits of oral contraceptive use by healthy non-smoking women over 40 may outweigh the possible risks. Of course, older women, as all women who take oral contraceptives, should take the lowest possible dose formulation that is effective.

TABLE III: ANNUAL NUMBER OF BIRTH-RELATED OR METHOD-RELATED DEATHS ASSOCIATED WITH CONTROL OF FERTILITY PER 100,000 NONSTERILE WOMEN BY FERTILITY CONTROL METHOD ACCORDING TO AGE						
Method of control and outcome	15-19	20-24	25-29	30-34	35-39	40-44
No fertility control methods	7.0	7.4	9.1	14.8	25.7	28.2
Oral contraceptives non-smoker**	0.3	0.5	0.9	1.9	13.8	31.6
Oral contraceptives smoker**	2.2	3.4	6.6	13.5	51.1	117.2
IUD**	0.8	0.8	1.0	1.0	1.4	1.4
Condom*	1.1	1.6	0.7	0.2	0.3	0.4
Diaphragm/spermicide*	1.9	1.2	1.2	1.3	2.2	2.8
Other methods (barrier, natural)	2.5	1.6	1.6	1.7	2.9	3.6

*Deaths are birth related.

**Deaths are method related.

Adapted from H.W. Ory, Reference 41.

3. Carcinoma of the Reproductive Organs

Numerous epidemiological studies have been performed on the incidence of breast, endometrial, ovarian, and cervical cancer in women using oral contraceptives. Most of the studies have shown an increased risk of breast cancer in women who use oral contraceptives is not associated with an increase in the risk of developing breast cancer.^{41,48} Some studies have reported an increased risk of developing breast cancer in certain subgroups of oral contraceptive users, but the findings reported in these studies are not consistent.⁴¹⁻⁴⁸

Some studies suggest that oral contraceptive use has been associated with an increase in the risk of cervical intraepithelial neoplasia in some populations of women.^{1,14} However, there continues to be controversy about the extent to which such findings may be due to differences in sexual behavior and other factors. In spite of many studies of the relationship between oral contraceptive use and breast and cervical cancers, a cause and effect relationship has not been established.

4. Hepatic Neoplasia

Benign hepatic adenomas are associated with oral contraceptive use, although the incidence of benign tumors is rare in the United States. Indirect calculations have estimated the attributable risk to be in the range of 3.3 cases/100,000 for users, a risk that increases after four or more years of use.³⁵ Rupture of rare, benign, hepatic adenomas may cause death through intra-abdominal hemorrhage.^{36,37}

Studies from Britain have shown an increased risk of developing hepatocellular carcinoma^{38,39} in long-term (greater than 8 years) oral contraceptive users. However, this cancer is extremely rare in the U.S., and the attributable risk (the excess incidence) of liver cancers in oral contraceptive users approaches less than one per million users.

5. Ocular Lesions

There have been clinical case reports of retinal thrombosis associated with the use of oral contraceptives. Oral contraceptives should be discontinued if there is unexplained, persistent or complete loss of vision; onset of proptosis or diplopia; papilledema; or retinal vascular lesions. Appropriate diagnostic and therapeutic measures should be undertaken immediately.

6. Oral Contraceptive Use Before and During Early Pregnancy

Extensive epidemiological studies have revealed no increased risk of birth defects in women who have used oral contraceptives prior to pregnancy.^{14,16} Studies also indicate no increased risk of miscarriage or fetal abnormalities. Studies involving limb reduction defects are concerned.^{40,41,42,43} when taken inadvertently during early pregnancy.

The administration of oral contraceptives to induce withdrawal bleeding should not be used as a test for pregnancy. Oral contraceptives should not be used during pregnancy to treat threatened or habitual abortion.

It is recommended that any woman who has missed two consecutive periods, pregnancy should be ruled out before continuing oral contraceptive use. If the patient has not adhered to the prescribed schedule, the possibility of pregnancy should be considered at the time of the first missed period. Oral contraceptive use should be discontinued if pregnancy is confirmed.

7. Gallbladder Disease

Earlier studies have reported an increased lifetime relative risk of gallbladder surgery in users of oral contraceptives and estrogens.⁴⁴ More recent studies, however, have shown that the relative risk of developing gallbladder disease among oral

contraceptive users may be minimal.^{45,46} The recent findings of minimal risk may be related to the use of oral contraceptive formulations containing lower hormonal doses of estrogens and progestogens.

8. Carbohydrate And Lipid Metabolic Effects

Oral contraceptives have been shown to cause glucose intolerance in a significant percentage of users.⁹ Oral contraceptives containing greater than 75 mcg of estrogens cause hyperinsulinism, while lower doses of estrogen cause less glucose intolerance.⁹ Progestogens increase insulin secretion and create insulin resistance, this effect varying with different progestational agents.^{37,73} However, in the non-diabetic woman, oral contraceptives appear to have no effect on fasting blood glucose.⁷⁴ Because of these demonstrated effects, prediabetic and diabetic women should be carefully observed while taking oral contraceptives.

A small proportion of women will have persistent hypertriglyceridemia while on the pill. As discussed earlier (see WARNINGS 1a. and 1d.), changes in serum triglycerides and lipoprotein levels have been reported in oral contraceptive users.

9. Elevated Blood Pressure

An increase in blood pressure has been reported in women taking oral contraceptives⁷⁵ and this increase is more likely in older oral contraceptive users⁷⁶ and with continued use.⁷⁴ Data from the Royal College of General Practitioners⁷⁷ and subsequent randomized trials have shown that the incidence of hypertension increases with increasing concentrations of progestagens.

Women with a history of hypertension or hypertension-related diseases or renal disease⁷⁸ should be encouraged to use another method of contraception. If women elect to use oral contraceptives, they should be monitored closely, and if significant elevation of blood pressure occurs, oral contraceptives should be discontinued. For most women, elevated blood pressure will return to normal after stopping oral contraceptives,⁷⁹ and there is no difference in the occurrence of hypertension among ever and never users.^{74,76,77}

10. Headache

The onset or exacerbation of migraine or development of headache with a new pattern which is recurrent, persistent, or severe requires discontinuation of oral contraceptive agents and evaluation of the cause.

11. Bleeding Irregularities

Breakthrough bleeding and spotting are sometimes encountered in patients on oral contraceptives, especially during the first three months of use. Non-hormonal causes should be considered, and adequate diagnostic measures taken to rule out malignancy or pregnancy in the event of breakthrough bleeding, as in the case of any abnormal vaginal bleeding. If pathology has been excluded, time or a change in formulation may solve the problem. In the event of amenorrhea, pregnancy should be ruled out.

Some women may encounter post-pill amenorrhea or oligomenorrhea, especially when such a condition was preexistent.

PRECAUTIONS

1. Patients should be counseled that this product does not protect against HIV infection (AIDS) and other sexually transmitted diseases.

2. Physical Examination and Follow-Up

It is good medical practice for all women to have annual physical and physical examinations, including women using oral contraceptives. The physical examination, however, may be deferred until after initiation of oral contraceptives if requested by the woman and judged appropriate by the clinician. The physical examination should include, but not be limited to, blood pressure, breasts, abdomen and pelvic organs, including cervical cytology, and relevant laboratory tests. In case of undiagnosed, persistent or recurrent abnormal vaginal bleeding, appropriate measures should be conducted to rule out malignancy. Women with a strong family history of breast cancer or who have breast nodules should be monitored with particular care.

3. Lipid Disorders

Women who are being treated for hyperlipidemia should be followed closely if they elect to use oral contraceptives. Some progestagens may elevate LDL levels and may render the control of hyperlipidemias more difficult.

4. Liver Function

and contraception. A possible adverse effect of the pill. *Lancet*, 2:930, 1983. 53. Britton, L.A., G.R. Huggins, H.F. Lehman, K. Malli, D.A. Savitz, E. Trapido, J. Rosenblatt, and R. Hoover. Long-term use of oral contraceptives and risk of invasive cervical cancer. *Int. J. Cancer*, 38:339-344, 1986. 54. WHO Collaborative Study of Neoplasia and Steroid Contraceptives: Invasive cervical cancer and combined oral contraceptives. *Brit. Med. J.*, 290:961-965, 1985. 55. Rooks, J.B., H.W. Ory, K.G. Ishak, L.T. Strauss, J.R. Greenspan, A.P. Hill, and C.W. Tyler. Epidemiology of hepatocellular adenoma: The role of oral contraceptives. *J.A.M.A.*, 242:644-648, 1979. 56. Bein, N.N., and H.S. Goldsmith: Recurrent massive hemorrhage from benign hepatic tumors secondary to oral contraceptives. *Brit. J. Surg.*, 64:433-435, 1977. 57. Katsinos, G.: Hepatic tumors: Possible relationship to use of oral contraceptives. *Gastroenterology*, 73:388-394, 1977. 58. Henderson, L.E., S. Preston-Martin, H.A. Edmondson, R.L. Peters, and M.C. Pike. Hepatocellular carcinoma and oral contraceptives. *Brit. J. Cancer*, 48:437-440, 1983. 59. Neuberger, J., D. Forman, R. Doll, and R. Williams: Oral contraceptives and hepatocellular carcinoma. *Brit. Med. J.*, 292:1355-1357, 1986. 60. Forman, D., T.J. Vincent, and R. Doll: Cancer of the liver and oral contraceptives. *Brit. Med. J.*, 292: 1357-1361, 1986. 61. Harlap, S., and J. Eldor: Births following oral contraceptive failures. *Obstet. Gynecol.*, 55:447-452, 1980. 62. Savolainen, E., E. Saksela, and L. Saven: Teratogenic hazards of oral contraceptives analyzed in a national malformation register. *Amer. J. Obstet. Gynec.*, 140:521-524, 1981. 63. Jensen, D.T., J.M. Piper, and D.M. Glebatis: Oral contraceptives and birth defects. *Am. J. Epidemiol.*, 112:73-79, 1980. 64. Ferencz, C., G.M. Matanoski, R.D. Wilson, J.J. Rubin, C.A. Neill, and R. Gutberlet: Maternal hormone therapy and congenital heart disease. *Teratology*, 21:225-239, 1980. 65. Rothman, K.J., D.C. Tyler, A. Goldberg, and M.B. Kreidberg: Exogenous hormones and other drug exposures in children with congenital heart disease. *Am. J. Epidemiology*, 109:433-439, 1979. 66. Boston Collaborative Drug Surveillance Program: Oral contraceptives and venous thromboembolic disease, surgically confirmed gallbladder disease, and breast tumors. *Lancet*, 1:1399-1404, 1973. 67. Royal College of General Practitioners: *Oral Contraceptives and Health*. New York, Pitman, 1974. 100. B. Layde, F.M., M.P. Vessey, and D. Yeates: Risk of gallbladder disease: A cohort study of young women attending family planning clinics. *J. of Epidemiol. and Comm. Health*, 36: 274-278, 1982. 68. Rome Group for the Epidemiology and Prevention of Cholelithiasis (GNEPCO): Prevalence of gallstone disease in an Italian adult female population. *Am. J. Epidemiol.*, 119:796-805, 1984. 70. Strom, B.L., R.T. Tamragrut, M.L. Morse, E.L. Lazar, S.L. West, P. D. Stolley, and J.K. Jones: Oral contraceptives and other risk factors for gallbladder disease. *Clin. Pharmacol. Ther.*, 39:335-341, 1986. 71. Wynn, V., P.W. Adams, I.F. Godsland, J. Melrose, R. Nithiyanyanathan, N.W. Oakley, and A. Stead: Comparison of effects of different combined oral contraceptive formulations on carbohydrate and lipid metabolism. *Lancet*, 1:1045-1049, 1979. 72. Wynn, V.: Effect of progesterone and progestins on carbohydrate metabolism. In *Progesterone and Progestin*. Edited by G. Bardin, E. Milgrom, P. Mauvis-Jarvis. New York, Raven Press, pp. 355-410, 1983. 73. Periman, J.A., G. G. Roussel-Briefel, T.M. Ezzi, and G. Lieberknecht: Oral contraceptives and the potency of oral contraceptive progestogens. *J. Chronic Dis.*, 38:857-864, 1985. 74. Royal College of General Practitioners' Oral Contraception Study: Effect on hypertension and benign breast disease of progestogen component in combined oral contraceptives. *Lancet*, 1:924, 1977. 75. Fischl, C., and J. Frank: Oral contraceptives and blood pressure. *J.A.M.A.*, 237:2499-2503, 1977. 76. Laragh, J.H.: Oral contraceptive induced hypertension: Nine years later. *Amer. J. Obstet. Gynecol.*, 126:141-147, 1976. 77. Ramcharan, S., E. Peritz, F.A. Pellegrin, and W.T. Williams: Incidence of hypertension in the Walnut Creek Contraceptive Drug Cohort. In *Pharmacology of Steroid Contraceptive Drugs*. Edited by S. Sarraf and H.W. Berendes. New York, Raven Press, pp. 277-288, 1977. (Monographs of the Mario Negri Institute for Pharmacological Research, Milan.) 78. Back DJ, Orme MLE. Drug interactions, in *Pharmacology of the Contraceptive Steroids*. Goldzieher JW, Fotherby K (eds). Raven Press, Ltd., New York, 1984. 407-425. 79. The Cancer and Steroid Hormone Study of the Centers for Disease Control and the National Institute of Child Health and Human Development: Oral contraceptive use and the risk of ovarian cancer. *J.A.M.A.*, 249:1596-1599, 1983. 80. The Cancer and Steroid Hormone Study of the Centers for Disease Control and the National Institute of Child Health and Human Development: Combination oral contraceptive use and the risk of endometrial cancer. *J.A.M.A.*, 257:796-800, 1987. 81. Ory, H.W.: Functional ovarian cysts and oral contraceptives: Negative association confirmed surgically. *J.A.M.A.*, 228:68-69, 1974. 82. Ory, H.W., P. Cole, B. Macmahon, and R. Hoover: Oral contraceptives and risk for missed pills, you could also feel a little sick to your stomach. 83. Ory, H.W.: The noncontraceptive health benefits from oral contraceptive use. *Fam. Plan. Perspectives*, 14:182-184, 1982. 84. Ory, H.W., J.D. Forrest, and R. Lincoln: *Making Choices: Evaluating the health risks and benefits of birth control methods*. New York, The Alan Guttmacher Institute, p.1, 1983. 85. Miller, D.R., L. Rosenberg, D.W. Kaufman, P. Stolley, M.E. Warshawer, and S. Shapiro: Breast cancer before age 45 and oral contraceptive use: new findings. *Am. J. Epidemiol.*, 129:269-280, 1989. 86. Kay, C.R., and P.C. Hannaford: Breast cancer and the pill: a further report from the Royal College of General Practitioners Oral Contraception Study. *Br. J. Cancer*, 58:675-680, 1988. 87. Stadel, B.V., S. Lai, J.J. Schlesselman, and P. Murray: Oral contraceptive use and breast cancer in a case-control study in multiparous women. *Contraception*, 38:287-299, 1988. 88. UK National Case—Control Study Group: Oral contraceptive use and breast cancer risk in young women. *Lancet*, 397:982, 1989. 89. Romieu, I., W.C. Willett, G.A. Colditz, M.J. Stampfer, B. Rosner, C.H. Hennekens, and E. Speizer: Prospective study of oral contraceptive use and risk of breast cancer in women. *J. Natl. Cancer Inst.*, 81:1313-1321, 1989.

The patient labeling for oral contraceptive drug products is set forth below:

This product (like all oral contraceptives) is intended to prevent pregnancy. It does not protect against transmission of HIV (AIDS) and other sexually transmitted diseases.

BRIEF SUMMARY PATIENT PACKAGE INSERT

Oral contraceptives, also known as "birth control pills" or "the pill," are taken to prevent pregnancy and, when taken correctly, have a failure rate of about 1% per year when used without missing any pills. The typical failure rate of large numbers of pill users is less than 3% per year when women who miss pills are included. For most women oral contraceptives are also free of serious or unpleasant side effects. However, forgetting to take pills considerably increases the chances of pregnancy. For the majority of women, oral contraceptives can be taken safely. But there are some women who are at high risk of developing certain serious diseases that can be life-threatening or may cause temporary or permanent disability. The risks associated with taking oral contraceptives increase significantly if you:

- Smoke
- Have high blood pressure, diabetes, high cholesterol
- Have or have had clotting disorders, heart attack, stroke, angina pectoris, cancer of the breast or sex organs, jaundice, or malignant or benign liver tumors.

You should not take the pill if you suspect you are pregnant or have unplanned vaginal bleeding.

Cigarette smoking increases the risk of serious cardiovascular side effects from oral contraceptive use. This risk increases with age and with heavy smoking (15 or more cigarettes per day) and is quite marked in women over 35 years of age. Women who use oral contraceptives are strongly advised not to smoke.

Most side effects of the pill are not serious. The most common side effects are nausea, vomiting, bleeding between menstrual periods, weight gain, breast tenderness, and difficulty wearing contact lenses. These side effects, especially nausea, vomiting, and breakthrough bleeding may subside within the first three months of use.

The serious side effects of the pill occur very infrequently, especially if you are in good health and are young. However, you should know that the following medical conditions have been associated with or made worse by the pill:

- Blood clots in the legs (thrombophlebitis), lungs (pulmonary embolism), stoppage or rupture of a blood vessel in the brain (stroke), blockage of blood vessels in the heart (heart attack or angina pectoris) or other organs of the body.
- As mentioned above, smoking increases the risk of heart attacks and strokes and subsequent serious medical consequences.

- Liver tumors, which may rupture and cause severe bleeding. A possible but not definite association has been found with the pill and liver cancer. However, liver cancers are extremely rare. The chance of developing liver cancer from using the pill is thus even rarer.

- High blood pressure, although blood pressure usually returns to normal when the pill is stopped.
- The symptoms associated with these serious side effects are discussed in the detailed leaflet given to you with your supply of pills. Notify your doctor or healthcare provider if you notice any unusual physical disturbances while taking the pill. In addition, drugs such as rifampin, as well as some anticonvulsants and some antibiotics, may decrease oral contraceptive effectiveness.

Most of the studies to date on breast cancer and pill use have found no increase in the risk of developing breast cancer, although some studies have reported an increased risk of developing breast cancer in certain groups of women. However, some studies have found an increase in the risk of developing cancer of the cervix in women taking the pill, but this finding may be related to differences in sexual behavior or other factors not related to use of the pill. Therefore, there is insufficient evidence to rule out the possibility that the pill may cause cancer of the breast or cervix.

WHEN TO START THE FIRST PACK OF PILLS

You have a choice of which day to start taking your first pack of pills. Decide with your doctor or clinic which day is the best day for you. Pick a time of day which will be easy to remember.

DAY-1 START:

- Pick the day label strip that starts with the first day of your period. (This is the day you start bleeding or spotting, even if it is almost midnight when the bleeding begins.)
- Place this day label strip on the tablet dispenser over the area that has the days of the week (starting with Sunday) printed on the plastic.
- Take the first "active" white or green pill of the first pack during the first 24 hours of your period.

4. You will not need to use a back-up method of birth control, since you are starting the pill at the beginning of your period.

SUNDAY START:

- Take the first "active" white or green pill of the first pack on the **Sunday after your period starts**, even if you are still bleeding. If your period begins on Sunday, start the pack that same day.
- Use **another method of birth control** as a back-up method if you have sex anytime from the Sunday you start your first pack until the next Sunday (7 days). Condoms or foam are good back-up methods of birth control.

WHAT TO DO DURING THE MONTH

1. TAKE ONE PILL AT THE SAME TIME EVERY DAY UNTIL THE PACK IS EMPTY.

Do not skip pills even if you are spotting or bleeding between monthly periods 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 PACK OR SWITCH YOUR BRAND OF PILLS:

21 pills: Wait 7 days to start the next pack. You will probably have your period during that week. Be sure that no more than 7 days pass between 21-day packs.

28 pills: Start the next pack on the day after your last "reminder" pill. Do not wait any days between packs.

WHAT TO DO IF YOU MISS PILLS

If you **MISS 1** white or green "active" pill:

- 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.

- You do not need to use a back-up birth control method if you have sex.

If you **MISS 2** white or green "active" pills in a row in **WEEK 1 OR WEEK 2** of your pack:

- Take 2 pills on the day you remember and 2 pills the next day.
- Then take 1 pill a day until you finish the pack.
- You **COULD GET PREGNANT** if you have sex in the 7 days after you miss pills. You **MUST** use another birth control method (such as condoms or foam) as a back-up method of birth control until you have taken a white or green "active" pill every day for 7 days.

If you **MISS 2** white or green "active" pills in a row in the **3rd WEEK**:

- If you are a Day-1 Starter:** THROW OUT the rest of the pill pack and start a new pack that same day. **If you are a Sunday Starter:** Keep taking 1 pill every day until Sunday. On Sunday, **THROW OUT** the rest of the pack and start a new pack of pills that same day.
- MANY WOMEN HAVE SPOTTING OR LIGHT BLEEDING, OR MAY FEEL SICK TO THEIR STOMACH DURING THE FIRST 1-3 PACKS OF PILLS.** If you do have spotting or light bleeding or 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 doctor or clinic.

- MISSING PILLS CAN ALSO CAUSE SPOTTING OR LIGHT BLEEDING,** even when you make up these missed pills. On the days you take 2 pills to make up for missed pills, you could also feel a little sick to your stomach.

- IF YOU HAVE VOMITING OR DIARRHEA,** for any reason, or **IF YOU TAKE SOME MEDICINES,** including some antibiotics, your birth control pills may not work as well. Use a back-up birth control method (such as condoms or foam) until you check with your doctor or clinic.

- IF YOU HAVE TROUBLE REMEMBERING TO TAKE THE PILL,** talk to your doctor or clinic about how to make pill-taking easier or about using another method of birth control.

- IF YOU HAVE ANY QUESTIONS OR ARE UNSURE ABOUT THE INFORMATION IN THIS LEAFLET,** call your doctor or clinic.

BEFORE YOU START TAKING YOUR PILLS

- DECIDE WHAT TIME OF DAY YOU WANT TO TAKE YOUR PILL.** It is important to take it at about the same time every day.

- LOOK AT YOUR PILL PACK TO SEE IF IT HAS 21 OR 28 PILLS:**

The **21-Day pill pack** has 21 "active" white or green pills (with hormones) to take for 3 weeks, followed by 1 week without pills.

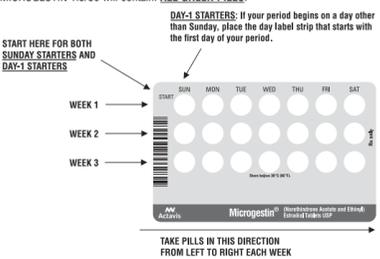
The **28-Day pill pack** has 21 "active" white or green pills (with hormones) to take for 3 weeks, followed by 1 week of reminder brown pills (without hormones).

ALSO FIND:

- where on the pack to start taking pills,
- in what order to take the pills (follow the arrows), and
- the week numbers as shown in the following pictures:

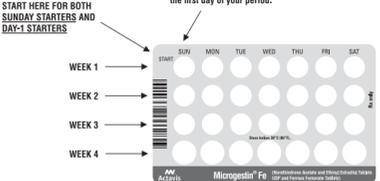
MICROGESTIN 1/20 will contain: **ALL WHITE PILLS**

MICROGESTIN 1.5/30 will contain: **ALL GREEN PILLS**



MICROGESTIN Fe 1/20 will contain: **21 WHITE PILLS FOR WEEKS 1, 2, and 3**
WEEK 4 will contain **BROWN PILLS ONLY**

MICROGESTIN Fe 1.5/30 will contain: **21 GREEN PILLS FOR WEEKS 1, 2, and 3**
WEEK 4 will contain **BROWN PILLS ONLY**



- BE SURE YOU HAVE READY AT ALL TIMES:**

ANOTHER KIND OF BIRTH CONTROL (such as condoms or foam) to use as a back-up in case you miss pills.

AN EXTRA, FULL PILL PACK.

WHO SHOULD NOT TAKE ORAL CONTRACEPTIVES

Cigarette smoking increases the risk of serious cardiovascular side effects from oral contraceptive use. This risk increases with age and with heavy smoking (15 or more cigarettes per day) and is quite marked in women over 35 years of age. Women who use oral contraceptives are strongly advised not to smoke.

Some women should not use the pill. For example, you should not take the pill if you are pregnant or think you may be pregnant. You should also not use the pill if you have any of the following conditions:

- A history of heart attack or stroke
- Blood clots in the legs (thrombophlebitis), lungs (pulmonary embolism), or eyes
- A history of blood clots in the deep veins of your legs
- Chest pain (angina pectoris)
- Known or suspected breast cancer or cancer of the lining of the uterus, cervix or vagina

- Unexplained vaginal bleeding (until a diagnosis is reached by your doctor)
- Yellowing of the whites of the eyes or of the skin (jaundice) during pregnancy or during previous use of the pill
- Liver tumor (benign or cancerous)
- Known or suspected pregnancy

Tell your healthcare provider if you have ever had any of these conditions. Your healthcare provider can recommend a safer method of birth control.

OTHER CONSIDERATIONS BEFORE TAKING ORAL CONTRACEPTIVES

Tell your healthcare provider if you have:

- Breast nodules, fibrocystic disease of the breast, an abnormal breast x-ray or mammogram

- Diabetes
- Elevated cholesterol or triglycerides
- High blood pressure
- Migraine or other headaches or epilepsy
- Mental depression
- Gallbladder, heart, or kidney disease
- History of scanty or irregular menstrual periods

Women with any of these conditions should be checked often by their healthcare provider if they choose to use oral contraceptives.

Also, be sure to inform your doctor or healthcare provider if you smoke or are on any medications.

RISKS OF TAKING ORAL CONTRACEPTIVES

1. Risk of Developing Blood Clots

Blood clots and blockage of blood vessels are the most serious side effects of taking oral contraceptives. In particular, a clot in the legs can cause thrombophlebitis, and a clot that travels to the lungs can cause a sudden blocking of the vessel carrying blood to the lungs. Rarely, clots occur in the blood vessels of the eye and may cause blindness, double vision, or impaired vision.

If you take oral contraceptives and need elective surgery, need to stay in bed for a prolonged illness, or have recently delivered a baby, you may be at risk of developing blood clots. You should consult your doctor about stopping oral contraceptives three to four weeks before surgery and not taking oral contraceptives for two weeks after surgery or during bed rest. You should also not take oral contraceptives soon after delivery of a baby. It is advisable to wait for at least four weeks after delivery if you are breastfeeding. If you are breastfeeding, you should wait until you have weaned your child before using the pill. (See also the section on Breastfeeding in GENERAL PRECAUTIONS.)

2. Heart Attacks and Strokes

Oral contraceptives may increase the tendency to develop strokes (stoppage or rupture of blood vessels in the brain) and angina pectoris and heart attacks (blockage of blood vessels in the heart). Any of these conditions can cause death or disability.

Smoking greatly increases the possibility of suffering heart attacks and strokes. Furthermore, smoking and the use of oral contraceptives greatly increase the chances of developing and dying of heart disease.

3. Gallbladder Disease

Oral contraceptive users probably have a greater risk than nonusers of having gallbladder disease, although this risk may be related to pills containing high doses of estrogen.

4. Liver Tumors

In rare cases, oral contraceptives can cause benign but dangerous liver tumors. These benign liver tumors can rupture and cause fatal internal bleeding. In addition, a possible but not definite association has been found with the pill and liver cancers (blockage of blood vessels in the liver). However, liver cancers are extremely rare. The chance of developing liver cancer from using the pill is thus even rarer.

5. Cancer of the Reproductive Organs and Breasts

There is, at present, no confirmed evidence that oral contraceptive use increases the risk of developing cancer of the reproductive organs. Studies to date of women taking the pill have reported conflicting findings on whether pill use increases the risk of developing cancer of the breast or cervix. Most of the studies on breast cancer and pill use have found no overall increase in the risk of developing breast cancer, although some studies have reported an increased risk of developing breast cancer in certain groups of women. Women who use oral contraceptives and have a strong family history of breast cancer or who have breast nodules or abnormal mammograms should be closely followed by their doctors.

Some studies have found an increase in the incidence of cancer of the cervix in women who use oral contraceptives. However, this finding may be related to factors other than the use of oral contraceptives.

ESTIMATED RISK OF DEATH FROM A BIRTH CONTROL METHOD OR PREGNANCY
All methods of birth control and pregnancy are associated with a risk of developing certain diseases which may lead to disability or death. An estimate of the number of deaths associated with different methods of birth control and pregnancy has been calculated and is shown in the following table.

METHOD OF CONTROL AND OUTCOME	15-19	20-24	25-29	30-34	35-39	40-44
No fertility control methods*	7.0	7.4	9.1	14.8	25.7	28.2
Oral contraceptives non-smoker**	0.3	0.5	0.9	1.9	3.8	31.6
Oral contraceptives smoker**	2.2	3.4	6.6	13.5	51.1	117.2
IUD**	0.8	0.8	1.0	1.0	1.4	1.4
Condom*	1.1	1.6	0.7	0.2	0.3	0.4
Diaphragm/spermicide*	1.9	1.2	1.2	1.3	2.2	2.8
Periodic abstinence**	2.5	1.6	1.6	1.7	2.9	3.6

*Deaths are birth related.
**Deaths are method related.

In the above table, the risk of death from any birth control method is less than the risk of childbirth, except for oral contraceptive users over the age of 35 who smoke and pill users over the age of 40 even if they do not smoke. It can be seen in the table that for women aged 15 to 39, the risk of death was highest with pregnancy (7-26 deaths per 100,000 women, depending on age). Among pill users who do not smoke, the risk of death was always lower than that associated with pregnancy for any age group, although over the age of 40, the risk increases to 32 deaths per 100,000 women, compared to 28 associated with pregnancy at that age. However, for pill users who smoke and are over the age of 35, the estimated number of deaths exceeds those for other methods of birth control. If a woman is over the age of 40 and smokes, her estimated risk of death is four times higher (117/100,000 women) than the estimated risk associated with pregnancy (28/100,000 women) at that age group.

The suggestion that women over 40 who don't smoke should not take oral contraceptives is based on information from older higher dose pills and on less selective use of pills than is practiced today. An Advisory Committee of the FDA discussed this issue in 1989 and recommended that the benefits of oral contraceptive use by healthy, non-smoking women over 40 years of age may outweigh the possible risks. However, all women, especially older women, are cautioned to use the lowest dose pill that is effective.

WARNING SIGNALS

If any of these adverse effects occur while you are taking oral contraceptives, call your doctor immediately:

- Sharp chest pain, coughing of blood, or sudden shortness of breath (indicating a possible clot in the lung)
- Pain in the calf (indicating a possible clot in the leg)
- Crushing chest pain or heaviness in the chest (indicating a possible heart attack)

- Sudden severe headache or vomiting, dizziness or fainting, disturbances of vision or speech, weakness, or numbness in an arm or leg (indicating a possible clot in the brain)

- Breast lump or complete loss of vision (indicating a possible clot in the eye)

- Stead pulses (indicating possible breast cancer or fibrocystic disease of the breast; ask your doctor or healthcare provider to show you how to examine your breasts)

- Severe pain or tenderness in the stomach area (indicating a possibly ruptured liver tumor)
- Difficulty in sleeping, weakness, lack of energy, fatigue, or change in mood (possibly indicating severe depression)
- Jaundice or a yellowing of the skin or eyeballs, accompanied frequently by fever, fatigue, loss of appetite, dark colored urine, or light colored bowel movements (indicating possible liver problems)

SIDE EFFECTS OF ORAL CONTRACEPTIVES

1. Vaginal Bleeding

Irregular vaginal bleeding or spotting may occur while you are taking the pills. Irregular bleeding may vary from light staining between menstrual periods to breakthrough bleeding which is a few much like a regular period. Irregular bleeding occurs most often during the first few months of oral contraceptive use, but may also occur after you have been taking the pill for some time. Such bleeding may be temporary and usually does not indicate serious problems. It is important to continue taking your pills on schedule. If the bleeding occurs in more than one cycle or lasts for more than a few days, talk to your doctor or healthcare provider.

2. Contact Lenses

If you wear contact lenses and notice a change in vision or an inability to wear your lenses, contact your doctor or healthcare provider.

3. Fluid Retention

Oral contraceptives may cause edema (fluid retention) with swelling of the fingers or ankles and may raise your blood pressure. If you experience fluid retention, contact your doctor or healthcare provider.

4. Melasma

A spotty darkening of the skin is possible, particularly of the face.

5. Other Side Effects

Other side effects may include change in appetite, headache, nervousness, depression, dizziness, loss of scalp hair, rash, and vaginal infections.

If any of these side effects bother you, call your doctor or healthcare provider.

GENERAL PRECAUTIONS

1. Missed Periods and Use of Oral Contraceptives Before or During Early Pregnancy

There may be times when you may not menstruate regularly after you have completed taking a cycle of pills. If you have taken your pills regularly and miss one menstrual period, continue taking your pills for the next cycle but be sure to inform your healthcare provider before doing so. If you have not taken the pills as instructed and missed a menstrual period, or if you missed two consecutive menstrual periods, you may be pregnant. Check with your healthcare provider immediately to determine whether you are pregnant. Do not continue to take oral contraceptives until you are sure you are not pregnant, but continue to use another method of contraception.

There is no conclusive evidence that oral contraceptive use is associated with an increase in birth defects, when taken inadvertently during early pregnancy. Previously, a few studies had reported that oral contraceptives might be associated with birth defects, but these studies have not been confirmed. Nevertheless, oral contraceptives or any other drugs should not be used during pregnancy unless clearly necessary and prescribed by your doctor. You should check with your doctor about risks to your unborn child of any medication taken during pregnancy.

2. While Breastfeeding

While breastfeeding, consult your doctor before starting oral contraceptives. Some of the breast milk will be passed on to the child in the milk. A few adverse effects on the child have been reported, including