Levonorgestrel Intrauterine System (LNG IUS)
Patient Information Sheet

Product Description

The levonorgestrel intrauterine system (LNG-IUS) was developed by Bayer Schering Pharma and is currently distributed internationally, in both developed and developing country settings for women who want to limit or space their births. The LNG-IUS is a T-shaped plastic device placed in the uterus that steadily releases small amounts of Levonorgestrel, a progesterin hormone, each day. The T-body adjusts the system to the shape of the uterus and the vertical arm of the T-body carries the drug reservoir containing the hormone. Two threads are tied to the system which exit from the cervix, to allow the user to ensure its presence and also assist the physician in its removal. The two threads can be felt at the top of the vagina.

Levonorgestrel is the progestin hormone released by the IUS, provided locally in the uterus, with an initial release rate of 20 micrograms per day. The LNG-IUS functions by suppressing the growth of the uterine wall, reducing fertility, thickening cervical mucus and inhibiting sperm motility. The LNG-IUS provides contraceptive protection for up to 5 years (WHO/JHBSPH 2007) (ARHP 2008) (ICA Foundation 2008).

LNG-IUS is used for contraception (prevention of pregnancy). In addition, the LNG-IUS helps to reduce iron-deficiency anemia, may reduce menorrhagia (excessive menstrual bleeding) and also may lessen symptoms of menstrual cramps and endometriosis. The LNG-IUS does not protect against HIV infection or other sexually transmitted infections.

Product Users

The LNG-IUS is best suited for women who desire a long-term reliable contraceptive method. There are no age or parity restrictions for its use, and women can use an LNG-IUS throughout their reproductive life, when replaced at designated intervals.

The LNG-IUS is suited for women who have access to a qualified medical practitioner for examination, insertion and check-ups, and who may also desire covert use of contraception. The LNG-IUS should not be the first method of choice for young women who have never been pregnant or for postmenopausal women, yet LNG-IUS use is not counter-indicated for either of these groups and may be used if so desired.

You may choose to use an LNG-IUS if you:

- Need birth control with a low failure rate
- Need birth control that is reversible
- Need birth control that is easy to use

You should not use LNG-IUS if you have any of the following conditions:

- Known or suspected pregnancy
- Current or recurrent pelvic inflammatory disease (infection of female reproductive organs)
- Lower genital tract infection
- Infection of the uterus after delivery
- Infection of the uterus after an abortion during the past 3 months
- Infection of the cervix
- Cell abnormalities in the cervix
- Cancer or suspected cancer of the cervix or uterus
- Tumors which depend on progestogen hormones to grow
- Unexplained abnormal vaginal bleeding
- Abnormality of cervix or uterus, including fibroids if they distort the uterine cavity
- Conditions associated with increased susceptibility to infections
- Active liver disease or liver tumor
- Hypersensitivity to levonorgestrel or to any other ingredients in LNG IUS

You should consult a specialist who may decide to continue using LNG-IUS or remove the system if any of the following conditions exists or appears for the first time while using LNG-IUS:

- Migraine, asymmetrical visual loss or other symptoms which may be signs of a transient cerebral ischemia (temporary blockage of the blood supply to the brain)
- Exceptionally severe headache
- Jaundice (a yellowing of the skin, whites of the eyes and/or nails)
- Marked increase of blood pressure
- Severe disease of arteries such as stroke or heart attack.

Infections: The insertion tube helps to prevent LNG-IUS from contamination with micro-organisms during the insertion. Despite this, there is an increased risk of pelvic infection immediately and during the first month after the insertion in Copper IUD users. Pelvic infections in LNG-IUS users are often related to sexually transmitted diseases. The risk of infection is increased if the woman or her partner has several sexual partners. Pelvic infections must be treated promptly. Pelvic infections may impair fertility and increase the risk of a future extrauterine pregnancy (pregnancy outside the womb).

Expulsion: The muscular contractions of the womb during menstruation may sometimes push the LNG-IUS out of place or expel it. Possible symptoms are pain and abnormal bleeding. If the IUS is displaced, the effectiveness may be reduced.

Perforation: Rarely, and most often during insertion, LNG-IUS may penetrate or perforate the wall of the uterus which may decrease the protection against pregnancy. An LNG-IUS which has become lodged outside the cavity of the uterus is not effective and must be removed as soon as possible. The risk of perforation may be increased if the device is inserted shortly after delivery in lactating women, or in women with the uterus fixed and leaning backwards (towards the bowel).

Extrauterine pregnancy: It is very rare to become pregnant while using LNG-IUS. However, if you become

pregnant while using the device, the risk that you could carry the fetus outside of the uterus (have an extrauterine pregnancy) is relatively increased. About 1 in a 1000 women correctly using LNG-IUS have an extrauterine pregnancy per year. Yet, this rate is lower than in women not using any contraception (about 3 to 5 in a 1000 women per year).

Enlarged ovarian follicles (cells that surround a maturing egg in the ovary): Since the contraceptive effect of LNG-IUS is mainly due to its local effect, ovulatory cycles with follicular rupture usually occur in women of fertile age. Sometimes degeneration of the follicle is delayed and the development of the follicle may continue. Most of these follicles give no symptoms, although some may be accompanied by pelvic pain or pain during intercourse. These enlarged follicles may require medical attention, but they usually disappear on their own.

Product Side Effects

Like all medications, the LNG-IUS can cause side effects, but not every user experiences them and most side effects do not interfere with user's daily activities. Below, the possible side effects are categorized according to their rates of occurrence, from very common to rare.

Very Common (more than 1 in every 10 patients may experience)

- Reproductive system and breast disorders, such as uterine or vaginal bleeding including spotting, infrequent or absent periods, and benign ovarian cysts.

Common (between 1 and 10 in every 100 patients may experience)

- Depressive moods, nervousness and decreased libido
- Nervous system disorders, such as headache
- Abdominal pain and nausea
- Skin conditions, such as acne
- Muscoskeletal, connective tissue and bone disorders, such as back pain
- Reproductive system and breast disorders, such as pelvic pain, painful menstruation, vaginal discharge, inflammation of external genital organs, breast tenderness and breast pain,
- Expulsion of device

Uncommon (between 1 and 10 in every 1000 patients may experience)

- Nervous system disorders, such as migraines
- Gastrointestinal disorders, such as abdominal distention
- Skin and subcutaneous conditions, such as excessive body hair, hair loss, severe itching and eczema
- Reproductive system disorders, such as pelvic inflammatory disease (PID), endometriosis and inflammation of cervix
- General disorders and administration site conditions, such as swelling

Rare (between 1 and 10 in every 10,000 patients may experience)

- Skin and subcutaneous disorders, such as rash and hives
- Uterine perforation

Consult a physician if one of the following conditions exists or appears for the first time while using the LNG-IUS:

- You no longer feel the threads in your vagina
- You can feel the lower end of the system
- You think you may be pregnant
- You have persistent abdominal pain, fever, or unusual discharge from the vagina
- You or your partner feels pain or discomfort during sexual intercourse
- There are sudden changes in your menstrual periods (for example, if you have little or no menstrual bleeding, and then you start having persistent bleeding or pain, or you start bleeding heavily
- You have other medical problems, such as migraine headaches or intense headaches that recur, sudden problems with vision, jaundice, or high blood pressure
- You experience any of the conditions mentioned in the "Product Users" section

Product Insertion and Removal

The LNG-IUS must be inserted and removed by a qualified medical practitioner, using aseptic techniques. The LNG-IUS can be inserted within seven days from the onset of the menstrual bleeding. The IUS can also be inserted immediately after a first trimester abortion provided that there are no genital infections. The IUS should be inserted only after the womb has returned to its normal size after delivery, and not earlier than 6 weeks after delivery. A gynecological examination should be performed to determine the position and size of the uterus before insertion. Additional examinations are advised before LNG-IUS insertion, such as a cervical smear test (Pap smear), and breast exam, as well as other tests for infections, as necessary.

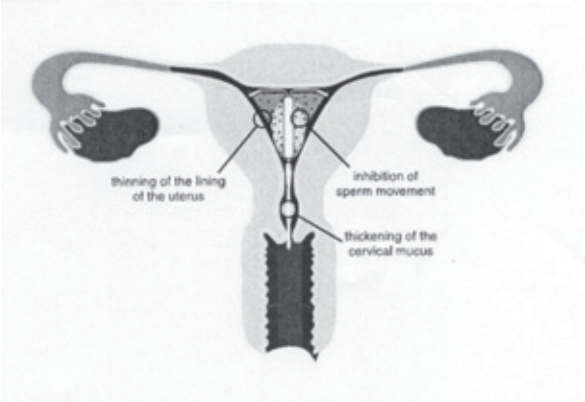
After a gynecological examination, an instrument called a speculum is inserted into the vagina, and the cervix is cleansed with an antiseptic solution. The IUS is then inserted into the uterus via a thin, flexible plastic tube (the inserter), through the cervix and into the uterus. Local anesthesia may be applied to the cervix prior to insertion, if appropriate.

Some women may experience pain and/or dizziness during or after device insertion. If these symptoms do not subside within thirty minutes in the resting position, the LNG-IUS may not be positioned correctly. In this case, an examination should take place and the LNG-IUS should be removed, if necessary.

The LNG-IUS should be checked 4-12 weeks after insertion during a patient check-up. Thereafter, check-ups are recommended once a year to ensure that the LNG-IUS remains placed and functioning properly. The LNG-IUS is effective for up to 5 years.

The LNG-IUS can easily be removed at any time by a physician. Removal is usually a painless procedure. Fertility, and the possibility of becoming pregnant, returns to normal soon after device removal. If continued contraception is desired after the five years of LNG-IUS use, a new LNG-IUS may be inserted immediately after the old one is removed. If the device is replaced immediately, there should be no interruption in the contraceptive action of the LNG-IUS.

Mechanism of Action



The LNG-IUS works as a contraceptive method through multiple ways: by suppressing the growth of the uterine wall, reducing fertility, thickening the cervical mucus and inhibiting sperm motility within the uterus. Ovulation is inhibited in some women. The most important mechanism of action is not known, and it is likely that all of these mechanisms work together to effectively prevent pregnancy.

Efficacy

The LNG-IUS is one of the most effective and long-lasting contraceptive methods available, with a contraceptive efficacy comparable to sterilization.

Over the first year of use, the device's contraceptive failure rate (risk of pregnancy) is 0.2%. After the first year of use, there is a lower failure rate throughout the duration of use—the cumulative failure rate at 5 years is 0.7%. (Bayer Schering Pharma AG, 2008).

In addition to the protection against pregnancy associated with use of LNG-IUS, there are additional health benefits associated with LNG-IUS use. These benefits include the reduction of iron-deficiency anemia, reduced menstrual bleeding, and the lessening of menstrual cramps and symptoms of endometriosis (pelvic pain and infrequent bleeding) (Nelson, 2007).

Other Information

The active hormone in the LNG-IUS is levonorgestrel. A total of 52 mg of LNG is present in the device before insertion.

Other ingredients in the LNG-IUS include polydimethylsiloxane elastomer, silica colloidal anhydrous, polyethylene, barium sulfate and iron oxide.

Current Availability

LNG-IUS is manufactured and marketed by Bayer Schering Pharma internationally. The LNG-IUS is also available through programs funded by ICA Foundation at free or subsidized costs (www.ica-foundation.org).

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