CONTRACEPTION UPDATE

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BIRTH CONTROL

• Accidental pregnancy is almost 50% occurring in women using some type of contraception.

• nearly 70% of women between the ages of 25 to 44 currently use a method

• The most popular method? The pill, chosen by 16% of women. Following close behind in popularity was female sterilization (15.5%).

http://www.vitals.com/patient-education/birth-control/overview#lzzz3y3ccJRi
• A cave painting that researchers believe could be 15,000 years old, found in France, depicts what some think is the first illustration of a man wearing a condom.

• The condom also shows up in legends that date back to 3000 BC, in which King Minos of Crete — son of Zeus and Europa — would use goat bladders for that purpose.

• Egypt around 1500 BC, women would mix honey, sodium carbonate and crocodile dung into a pessary — a thick, almost solid paste — and insert it into their vaginas before sex.

• In ancient China, concubines are thought to have used a drink of lead and mercury in order to prevent pregnancy. (Possible side effects: sterility, brain damage, kidney failure and death.)

• In the year 200, the Greek gynecologist Soranus advised women to abstain from sex during menstruation, which he mistakenly believed to be their most fertile time of month. He also recommended that women hold their breath during intercourse, and sneeze afterwards to prevent sperm from entering the womb.
• And in the Middle Ages in Europe, women were told to tie the testicles of a weasel to their thighs or around their necks during intercourse.

• In Giacomo Casanova’s memoirs, written in the late 18th century, he takes credit for inventing a primitive version of the cervical cap, when he describes using partly squeezed lemon halves during sex.

• Condoms turned another technological corner in the year 1844, when American Charles Goodyear patented the vulcanization of rubber. The move led to the mass-production of rubber condoms and the appearance of rubber cervical caps. It would be several decades before cervical caps — and later diaphragms — would catch on in the U.S., where the earliest rubber diaphragms were known as “womb veils.”

• The first advertisement for the condom appeared in The New York Times in 1861, for a brand called Dr Power’s French Preventatives. The advertisement’s tagline read: “Those who have used them are never without them.”
## TYPES OF BIRTH CONTROL

### Non Hormonal methods
- **Continuous Abstinence**
- **Natural planning/”Pullout Method”**
- **Barrier Devices**
- **Contraceptive sponge**
- **Diaphragm, cervical cap, and cervical shield**
- **Female condom**
- **Male condom**

### Hormonal methods
- **Oral contraceptives — combined pill ("The pill")**
- **Oral contraceptives — progestin-only pill ("Mini-pill")**
- **The patch**
- **Shot/injection**
- **Vaginal ring**
- **Implantable devices**
- **Implantable rods**
- **Intrauterine devices**
- **Permanent birth control methods**
- **Sterilization implant**
- **Surgical sterilization**
- **Emergency contraception**
OVER THE COUNTER

• Male condoms
• Female condoms
• Sponges
• Spermicides
• Emergency contraception pills (girls younger than 17 need a prescription)
CONDOMS DO’S AND DON’TS

DO's

• Read all the information on the package. Know what you are using.
• Check the expiration date on the package.
• Use only condoms that are made of latex or polyurethane (plastic); the best types to use to help prevent pregnancy, STDs.
• Use a pre-lubricated condom to help prevent it from tearing. For a non-lubricated condom, put a little bit of water-based lubricant (“lube”) inside and outside the condom.
• Condoms come in different sizes, colors, textures, and thicknesses; choose condoms both of you like.

Don’t

• Do not use two condoms at once.
• Do not use condoms made of animal skin, sometimes called “natural” condoms; don't work as well as latex or polyurethane condoms to prevent STDs, including HIV.
• Do not keep condoms in a place that can get very hot.
• Do not use any kind of oil-based lubricants (like petroleum jellies, lotions, mineral oil, or vegetable oils). These can negatively affect the latex, making it more likely to rip or tear.
• Do not reuse condoms.
• Do not use condoms that are torn or outdated.
## CONDOM FAILURE RATES, AND SIDE EFFECTS

<table>
<thead>
<tr>
<th>Method</th>
<th>Failure rates/100</th>
<th>Side effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural family planning</td>
<td>25 pregnancies</td>
<td>None</td>
</tr>
<tr>
<td>Male condom</td>
<td>18 pregnancies</td>
<td>Allergic reaction</td>
</tr>
<tr>
<td>Female condom</td>
<td>21 pregnancies</td>
<td>Irritation, Allergic reactions</td>
</tr>
<tr>
<td>Spermicide alone</td>
<td>28 pregnancies</td>
<td>Irritation, Allergic reactions, UTI</td>
</tr>
<tr>
<td>Diaphragm or cervical cap</td>
<td>12 pregnancies</td>
<td>Irritation, Allergic reactions, Abnormal Pap smear, Toxic shock if left in too long</td>
</tr>
<tr>
<td>Sponge</td>
<td>16-32 pregnancies</td>
<td>Irritation, allergic reactions, Hard time removing, Toxic shock if left in too long</td>
</tr>
</tbody>
</table>
EMERGENCY CONTRACEPTION

• "morning-after pill," "Plan B One-Step," "Next Choice"

• 1 pregnancy/100

• used **within 72 hours** of having unprotected sex. (sooner the better)

• Should not be used as regular birth control; only in emergencies.

• can have the Copper T IUD inserted within five days of unprotected sex

• if the birth control method failed
<table>
<thead>
<tr>
<th></th>
<th>Copper-T (ParaGard® IUD)</th>
<th>ella®</th>
<th>Plan B One-Step® Next Choice One Dose™ and others</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effectiveness</strong></td>
<td>Best</td>
<td>Very good</td>
<td>Good</td>
</tr>
<tr>
<td><strong>When to Use</strong></td>
<td>Up to 5 days after unprotected sex.</td>
<td>Up to 5 days after unprotected sex.</td>
<td>Up to 3 days after unprotected sex. Less effective on days 4 and 5, but you can still use it.</td>
</tr>
<tr>
<td><strong>Who Can Use</strong></td>
<td>All women.</td>
<td>All women (unless breastfeeding). Less effective for women with a BMI over 35.</td>
<td>All women. Less effective for women with a BMI over 25. May not work for women with a BMI over 30.</td>
</tr>
<tr>
<td><strong>How to Get</strong></td>
<td>Inserted by a doctor or nurse at a health center.</td>
<td>By prescription from a doctor or nurse.</td>
<td>Most brands are available to anyone over the counter without prescription.</td>
</tr>
<tr>
<td><strong>Extra Information</strong></td>
<td>Provides very effective ongoing birth control for up to 12 years.</td>
<td>After using, use back up birth control (like a condom) for 14 days.</td>
<td>Do not use if you’ve already used ella since your last period.</td>
</tr>
</tbody>
</table>
**SINGLE DOSE EC**

**Ulipristal Acetate Dose (30mg)**

- **ella** 1 white pill

**Levonorgestrel Dose (1.5mg)**

- **Aftera** 1 white pill  My Way 1 white pill
- **AfterPill** 1 white pill  Next Choice One Dose 1 peach pill
- **EContra Ez** 1 white pill  Plan B One-Step 1 white pill
- **Levonorgestrel Tabs 2 white pills**  Take Action 1 white pill

*Label says to take one pill within 72 hours after unprotected intercourse, and another pill 12 hours later. However, research has found that both pills can be taken at the same time.*
### EC: USING REGULAR OCP
**4 PILLS IN 2 DOSES**

<table>
<thead>
<tr>
<th>Brand</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altareva</td>
<td>peach</td>
</tr>
<tr>
<td>Camrese</td>
<td>light blue-green</td>
</tr>
<tr>
<td>Amethia</td>
<td>white</td>
</tr>
<tr>
<td>Cryselle</td>
<td>white</td>
</tr>
<tr>
<td>Enpresse</td>
<td>orange</td>
</tr>
<tr>
<td>Introvale</td>
<td>peach</td>
</tr>
<tr>
<td>Jolessa</td>
<td>pink</td>
</tr>
<tr>
<td>Levora</td>
<td>white</td>
</tr>
<tr>
<td>Low-Ogestrel</td>
<td>white</td>
</tr>
<tr>
<td>Lo/Ovral</td>
<td>white</td>
</tr>
<tr>
<td>Nordette</td>
<td>light-orange</td>
</tr>
<tr>
<td>Portia</td>
<td>pink</td>
</tr>
<tr>
<td>Quesense</td>
<td>white</td>
</tr>
<tr>
<td>Seasonale</td>
<td>pink</td>
</tr>
<tr>
<td>Seasonique</td>
<td>light blue-green</td>
</tr>
<tr>
<td>Trivora</td>
<td>pink</td>
</tr>
</tbody>
</table>
OTHER DOSES FOR EC

<table>
<thead>
<tr>
<th>5 Pill Regimens</th>
<th>6 Pill Regimens</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Amethia Lo</td>
<td>• Amethyst</td>
</tr>
<tr>
<td>• Aviane</td>
<td>• Lybrel</td>
</tr>
<tr>
<td>• CamreseLo</td>
<td></td>
</tr>
<tr>
<td>• Lessina</td>
<td></td>
</tr>
<tr>
<td>• Lo Seasonique</td>
<td></td>
</tr>
<tr>
<td>• Lutera</td>
<td></td>
</tr>
</tbody>
</table>
SIDE EFFECTS

• Take the first dose ASAP (up to 120 hours) after you have sex without using birth control, your birth control failed, or you were made to have sex against your will. Take the second dose 12 hours later (although being an hour or two early or late probably won’t make a difference in how effective the pills are).

• If she vomits within one hour, redoes

• Next period should start within the next month, although it might come a few days early or late
HORMONAL CONTRACEPTION
ORAL CONTRACEPTION PILLS: HISTORY

• 1914-1921 Activist Margaret Sanger coins the term “birth control,” opens first birth control clinic in Brownsville, Brooklyn, and starts the American Birth Control League, the precursor to Planned Parenthood.

• 1934 Endocrinologist Gregory Pincus creates a test tube rabbit — and is vilified as a Frankenstein.

• 1951 Sanger and Pincus meet at a dinner party in New York; she persuades him to work on a birth control pill.

• 1953 If Sanger is the activist behind the pill and Pincus the scientist, Katherine McCormick — biologist, women’s rights activist and heiress to a great fortune — is the money. She writes Pincus a check for $40,000 to conduct research.

• 1954 Rock and Pincus conduct the first human trials on 50 women in Massachusetts. It works.

• 1956 Large scale clinical trials are conducted in Puerto Rico, where there were no anti-birth control laws on the books. The pill is deemed 100 percent effective, but some serious side effects are ignored.
• 1957 The FDA approves the pill, but only for severe menstrual disorders, not as a contraceptive. An unusually large number of women report severe menstrual disorders.

• On May 9, 1960, the FDA approved Enovid, an oral contraceptive pill released by G.D. Searle and Company.

• 1964 But the pill is still controversial: It remains illegal in eight states. The Pope convenes the Commission on Population, the Family and Natality; many within the Catholic Church are in favor.

• 1965 Five years after the FDA approval, 6.5 million American women are on pill, making it the most popular form of birth control in the U.S.

• 1967 The controversy over the pill takes on a new dimension when African-American activists charge that Planned Parenthood, by providing the pill in poor, minority neighborhoods, is committing genocide.

• 1968 Pope Paul VI ultimately declares his opposition to the pill in the *Humanae Vitae* encyclical.
• 1970 Senate hearings on the safety of the pill are disrupted by women demanding a voice on the issue.

• 1979 Sales of the pill drop by 24 percent in four years due to publicity about health risks.

• 1988 The original high-dose pill is taken off the market; an FDA study shows the health benefits of newer pills, including a decreased risk of ovarian cancer, iron deficiency anemia and pelvic inflammatory disease.

• 1997 Not just a contraceptive any more — the FDA approves Ortho Pharmaceutical’s Tri-Cyclen pill as treatment for acne.

• 2000 The Equal Employment Opportunity Commission rules that prescription contraception must be covered by health insurance offered by employers.

• 2003 The FDA approves Seasonale, a pill that gives women only four periods a year.

• 2010 Fifty years after the FDA approval, problems remain: there are currently 1,100 lawsuits pending against Bayer Healthcare Corporation regarding blood clots, heart attacks and strokes allegedly caused by the popular pills Yaz, Yazmin and the generic Ocella.
WHAT IS IN “THE PILL”

• Combinations of estrogen and progestin prevent pregnancy by inhibiting the release of the hormones luteinizing hormone (LH) and follicle stimulating hormone (FSH) from the pituitary gland in the brain; suppresses ovulation

• Progestin also makes the uterine mucus that surrounds the egg more difficult for sperm to penetrate and, therefore, inhibits fertilization. In some women, progestin inhibits ovulation (release of the egg);
<table>
<thead>
<tr>
<th>Combination Pill</th>
<th>Triphasics</th>
<th>Monophasis</th>
<th>Extended-cycle pill</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lybrel, Seasonale, Seasonique</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>have a period only every three months; Lybrel once a year</td>
</tr>
</tbody>
</table>
PROGESTIN-ONLY PILL

- Micronor, Nora-BE, Nor-QD, Ovrette
- Progestin only
- Does not interfere with breast milk
- safer for smokers, diabetics, and heart disease patients, as well as those at risk for blood clots.
- They need to be taken at exactly the same time every day; if you're more than three hours late, plan on using a backup method.
MISSED PILLS ALGORITHM

If one hormonal pill is late: (≤24 hours since a pill should have been taken)
- Take the late or missed pill as soon as possible.
- Continue taking the remaining pills at the usual time (even if it means taking two pills on the same day).
- No additional contraceptive protection is needed.
- Emergency contraception is not usually needed but can be considered if hormonal pills were missed earlier in the cycle or in the last week of the previous cycle.

If one hormonal pill has been missed: (24 to <48 hours since a pill should have been taken)
- Take the most recent missed pill as soon as possible. (Any other missed pills should be discarded.)
- Continue taking the remaining pills at the usual time (even if it means taking two pills on the same day).
- Use back-up contraception (e.g., condoms) or avoid sexual intercourse until hormonal pills have been taken for 7 consecutive days.
- If pills were missed in the last week of hormonal pills (e.g., days 15–21 for 28-day pill packs):
  - Omit the hormone-free interval by finishing the hormonal pills in the current pack and starting a new pack the next day.
  - If unable to start a new pack immediately, use back-up contraception (e.g., condoms) or avoid sexual intercourse until hormonal pills from a new pack have been taken for 7 consecutive days.
- Emergency contraception should be considered if hormonal pills were missed during the first week and unprotected sexual intercourse occurred in the previous 5 days.

If two or more consecutive hormonal pills have been missed: (≥48 hours since a pill should have been taken)
- Take the most recent missed pill as soon as possible. (Any other missed pills should be discarded.)
- Continue taking the remaining pills at the usual time (even if it means taking two pills on the same day).
- Use back-up contraception (e.g., condoms) or avoid sexual intercourse until hormonal pills have been taken for 7 consecutive days.
- Emergency contraception should also be considered at other times as appropriate.
POSTPARTUM COMBINATION CONTRACEPTION

• CDC updated its recommendations in 2011 to state that postpartum women should **not use combined OCP** during the first **21 days** postpartum due to high risk for venous thromboembolism (VTE) during this period.

• During days 21-42 postpartum, women without risk factors for VTE can generally initiate combined hormonal contraceptives. Women with risk factors for VTE, such as previous VTE or recent cesarean delivery generally should not use these methods.

• After 42 days postpartum, no restrictions on the use of OCP based on postpartum status apply.
OTHER FORMS OF COMBINATION HORMONAL BIRTH CONTROL
VAGINAL CONTRACEPTIVE RING (NUVARING®)

• A flexible ring inserted in the vagina that releases progestin and estrogen to prevent ovulation and fertilization.

• containing
  • 11.7 mg etonogestrel (average 0.12 mg/day)
  • 2.7 mg ethinyl estradiol, (0.015 mg/day)

• Inserted by the woman, remain in place continuously for three weeks

• If expelled for more than 3 hours during the 3-week interval, another method of birth control must be used

• If left in place for up to one extra week (i.e., up to four weeks total), the woman will remain protected

• Failure rate* 80/1,000 women
POSTPARTUM

• Do NOT initiate sooner than 4 weeks postpartum, due to the increased risk of thromboembolism in the postpartum period.

• Not Advised women who are breastfeeding until the child is weaned.

• use an additional method of contraception, (male condoms with spermicide), for the first 7 days.

• If no period, consider the possibility of ovulation and conception occurring prior to initiation.
IF OUT OF THE VAGINA FOR MORE THAN THREE CONTINUOUS HOURS

**During Weeks 1 and 2:** Contraceptive efficacy may be reduced. (< 3 hours, efficacy is not reduced)

- reinset the ring as soon as she remembers.
- A barrier method such (condoms with spermicides) must be used until the ring has been used continuously for 7 days.

**During Week 3:** discard that ring.

One of the following two options should be chosen:

1. Insert a new ring immediately. Inserting a new ring will start the next three-week use period. The woman may not experience a withdrawal bleed from her previous cycle. However, breakthrough spotting or bleeding may occur.

2. Insert a new ring no later than 7 days from the time the previous ring was removed or expelled, during which time she may have a withdrawal bleed. (only be chosen if the ring was used continuously for at least seven days prior to inadvertent removal/expulsion).

*In either case, a barrier method must be used until the new ring has been used continuously for seven days.*
PATCH (ORTHO EVRA®)

• A patch worn on the body that releases progestin and estrogen to prevent ovulation and fertilization.
• uses a 28-day (four-week) cycle. Apply a new patch to the upper outer arm, abdomen, buttock or back each week for three weeks (21 total days). Week Four is patch-free
• 150 mcg/day norelgestromin and 35 mcg/day ethinyl estradiol
• may be less effective in women who weigh ≥198 lbs (90 kg).
• Under no circumstances should there be more than a seven-day patch-free interval between cycles
• Failure rate* 80/ 1,000 women
SIDE EFFECTS

• be exposed to about 60% more estrogen than if you use a typical birth control pill containing 35 micrograms of estrogen.

• may have an increased risk of blood clots compared to women who use certain birth control pills.

• Women over 35 years old who smoke should not use ORTHO EVRA
PATCH HAS BEEN OFF OR PARTIALLY OFF

• For less than 1 Day, she should try to reapply it. If the patch does not adhere completely, she should apply a new patch immediately. (No backup contraception is needed and her Patch Change Day will stay the same).

• >1 Day or not sure for how long, she may not be protected from pregnancy. To reduce this risk, she should apply a new patch and start a new 4-week cycle.
  • now have a new Patch Change Day and MUST USE NON-HORMONAL BACKUP CONTRACEPTION (such as a condom and spermicide or diaphragm and spermicide) for the first week of her new cycle.
FORGETS TO CHANGE HER PATCH

• (Week One/Day 1): SHE MAY NOT BE PROTECTED FROM PREGNANCY. She should apply the first patch of her new cycle as soon as she remembers.
  • There is now a new “Patch Change Day” and a new “Day 1.” The woman must use back-up contraception, such as a condom and spermicide or diaphragm and spermicide, for the first week of the new cycle.

• (Week Two/Day 8 or Week Three/Day 15),
  • – Up to 2 days, apply a new patch immediately. The next patch should be applied on the usual “Patch Change Day.” No back-up contraception is needed.
  • – >2wo days (48 hours or more), SHE MAY NOT BE PROTECTED FROM PREGNANCY.
    • stop the current contraceptive cycle and start a new four-week cycle immediately by putting on a new patch. There is now a new “Patch Change Day” and a new “Day 1.” must use back-up contraception for one week.

• (Week Four/Day 22), – If the woman forgets to remove her patch, she should take it off as soon as she remembers. The next cycle should be started on the usual “Patch Change Day,” which is the day after Day 28. No back-up contraception is needed.
WARNINGS AND PRECAUTIONS

• Vascular risks: Stop if a thrombotic 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.

• Liver disease: Discontinue if jaundice occurs.

• High blood pressure: Do not prescribe for women with uncontrolled hypertension or hypertension with vascular disease.

• Carbohydrate and lipid metabolic effects: Monitor pre-diabetic and diabetic women.

• Consider an alternate contraceptive method for women with uncontrolled dyslipidemia.

• Headache: Evaluate significant change in headaches and discontinue if indicated.

• Uterine bleeding: Evaluate irregular bleeding or amenorrhea.
LONG-TERM
ACTING
REVERSIBLE
CONTRACEPTION
LARC

• LARC as a safe and effective first-line choice of birth control for teens, according to clinical guidelines for adolescents from the ACOG and American Academy of Pediatrics

• Less than 5% of teens on birth control use LARC
**IMPLANT: NEXPLANON**

- containing 68 mg etonogestrel
- keeps the egg from being released from the ovaries and prevents sperm from reaching the egg.
- The bleeding pattern during the first 3 months is broadly predictive of the future bleeding pattern for many women
- users was 2.8 pounds after one year and 3.7 pounds after 2 years
- **Return to Ovulation:** levels in blood decreased below sensitivity of the assay by one week and pregnancies were observed to occur as early as 7 to 14 days, after removal
• **Rule out pregnancy before** inserting the implant.

• Both the provider and Pt should be able to feel the implant under the skin after placement.

• should be inserted between Day 1 - 5 of the menstrual cycle

• If inserted as recommended, back-up contraception is not necessary.

• Otherwise, advised to use a barrier method until 7 days after insertion
INSERTION WHILE ON OTHER BCM

• preferably be inserted on the day after the last active tablet OCP in pack or the of removal day of the vaginal ring or transdermal patch

• Injectable Contraceptives: on the day the next injection is due.

• Minipill: on any day of the month. Should be inserted within 24 hours after taking the last tablet.

• implant/ intrauterine system (IUS): the same day the previous implant or IUS is removed.
POSTPARTUM

• within 5 days following a first trimester abortion or miscarriage
• between 21 to 28 days following second trimester abortion or miscarriage.
• not breastfeeding insert between Day 21 to 28;
• breastfeeding after the 4th week
CONTRAINDICATIONS

• Known or suspected pregnancy.
• Current or past history of thrombosis or thromboembolic disorders.
• Liver tumors, benign or malignant, or active liver disease.
• Undiagnosed abnormal genital bleeding.
• Known or suspected breast cancer, personal history of breast cancer, or other progestin-sensitive cancer, now or in the past.
• Allergic reaction to any of the components of NEXPLANON
INTRAUTERINE DEVICES

- Copper T intrauterine device (ParaGard) — It can stay in your uterus for up to 10 years. Typical use failure rate: 0.8%.

- Levonorgestrel intrauterine system (Mirena, Skyla, Liletta, Kyleena) It releases a small amount of progestin each day for 3-5 years. Typical use failure rate: 0.2%.

- Causing a brief localized inflammation that begins about 24 hours after insertion that attracts WBC which produce substances that are toxic to sperm
• The non-hormonal IUD does not release a hormone.

• Instead the copper coil within the IUD produces an inflammatory response of the uterus, making a toxic environment for sperm.

• intrauterine contraception for up to 10 years.

• keep your menstrual cycle

The most common side effects:

• heavier and longer periods and spotting between periods;

• for most women, these typically subside after 2 to 3 months
PARAGARD®

- This toxic effect on the sperm is what prevents fertilization and provides contraception.
- Protection is immediate
- Up to 120 hours after unprotected intercourse
- Inserted straight away/within 48 hours after an abortion/miscarriage if less than 24 weeks. If you were pregnant for more than 24 weeks, you may have to wait a few weeks before having an IUD fitted.
- Typical use failure rate: 0.8%.
- Theoretically, ParaGard® can exacerbate Wilson’s disease, a rare genetic disease affecting copper excretion
LEVONORGESTREL-RELEASING INTRAUTERINE SYSTEM (IUS)

• thickens your cervical mucus, inhibits sperm movement,
• reduces sperm survival and thins the lining of your uterus.
• String check at 4 to 6 weeks after insertion; then, yearly or more often if indicated
• If a patient with irregular cycles or amenorrhea wants to start a different birth control method, start the new method at least 7 days before removal.
• Drugs/herbal products that induce certain enzymes, such as CYP3A4, may decrease the serum concentration of progestins.
• Typical use failure rate: 0.2%
SIDE EFFECTS

- During the first 3-6 months, can alter the bleeding pattern: spotting, irregular bleeding, heavy bleeding, oligomenorrhea and amenorrhea.

- PID occurred more frequently within the first year and most often within the first month after insertion.
CONTRAINDICATIONS

• known or suspected pregnancy and cannot be used for post-coital contraception;
• congenital or acquired uterine anomaly, including fibroids if they distort the uterine cavity;
• known or suspected breast cancer or other progestin-sensitive cancer, now or in the past;
• known or suspected uterine or cervical neoplasia;
• liver disease, including tumors;
• untreated acute cervicitis or vaginitis, including lower genital tract infections (eg, bacterial vaginosis) until infection is controlled
• postpartum endometritis or infected abortion in the past 3 months
• unexplained uterine bleeding
• current IUD
• acute pelvic inflammatory disease (PID) or history of PID (except with later intrauterine pregnancy);
• conditions increasing susceptibility to pelvic infection;
• hypersensitivity to any component of the IUS
Three Year IUS

Skyla

- 13.5 mg levonorgestrel
- 14 mcg/day after 24 days
- About the height of ear buds
  - Approved 2000

- 52 mg levonorgestrel
- 18.6 mcg/day initially, 16.3 mcg at 1st year, 14.3 /2nd year, 12.6 mcg/3rd 3 years of birth control
- The company, a non-profit pharmaceutical company called Medicines360,
- Without any discount, costs $625 (Excluding insertion)
- Approved 2015
Mirena

- containing 52 mg levonorgestrel
- 20 mcg/day
- Indicated for menorrhagia
- Approved 2000
- About 80%, become pregnant within a year of having the device removed
- Grey threads

Kyleena

- containing 19.5 mg levonorgestrel
- Approximately 9 mcg/day
- Approved 2016
- 71% of the women who wanted to become pregnant after the study conceived within 12 month
- Visibility of the silver ring on ultrasound and the blue threads.
<table>
<thead>
<tr>
<th>IUD</th>
<th>Recommended for:</th>
<th>Lasts up to:</th>
<th>Total amount of hormones in device:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liletta</td>
<td>All women</td>
<td>Three years</td>
<td>52 mg of levonorgestrel</td>
</tr>
<tr>
<td>Skyla</td>
<td>All women</td>
<td>Three years</td>
<td>13.5 mg of levonorgestrel</td>
</tr>
<tr>
<td>Kyleena</td>
<td>All women</td>
<td>Five years</td>
<td>19.5 mg of levonorgestrel</td>
</tr>
<tr>
<td>Mirena</td>
<td>Women who have already given birth</td>
<td>Five years</td>
<td>52 mg of levonorgestrel</td>
</tr>
<tr>
<td>ParaGard</td>
<td>All women</td>
<td>10 years</td>
<td>None</td>
</tr>
</tbody>
</table>

The Huffington Post
PERMEANT BIRTH CONTROL; STERILIZATION

- contraindicated in patients who are uncertain about ending fertility
- considered irreversible
- Bilateral Tubal Ligation
- **Essure**: permanent birth control that works with your body to create a natural barrier against pregnancy.
  - by bilateral occlusion of the fallopian tubes
    - The inserts are made from polyester fibers, nickel-titanium and stainless steel.
TUBAL LIGATION

• The fallopian tubes are blocked so that sperm is unable to reach the eggs.
• One of three methods is used to block the tubes:
  • Clamping with metal clips or plastic rings that remain in the body.
  • Cutting away a section of the tube.
  • Burning a portion of the tube
• requires an incision and is performed under general anesthesia. Gas is used to expand the abdomen. Stitches or staples are then used to close the incision.
• Recovery time 4–6 days
• Failure rate*
  • 5.5/1,000 women at 1 year
  • 13.1/1,000 at 5 years
  • 18.5/1,000 at 10 years
ESSURE

• Soft, flexible inserts inserted through the vagina, uterus and placed in each fallopian tube. Scar tissue forms around the inserts and prevents sperm from reaching the eggs

• No incision is necessary. No General anesthesia

• The entire process usually takes less than ten minutes

• Recovery Time 1–2 days or sooner

• Failure rate*
  • 0.3 out of 1,000 women at 1 year
  • 1.7 out of 1,000 women at 5 years
ESSURE: POST PROCEDURE

• Via a Hysteroscopy, inserts and are delivered with a tube through
• Over the next 3 months, your body will form scar tissue around the Essure inserts
• Use of contrast dye and a special type of x-ray for the confirmation test.
• During the 3-month period, you must continue using another form of birth control to prevent pregnancy
• It can take longer than three months for the procedure to be effective. In rare cases, it has taken up to 6 months
• Since Essure contains NO hormones that interfere with your body’s menstrual cycle, ovaries will continue to release eggs, that are simply absorbed back into your body.
ESSURE: CONTRAINDICATIONS

- allergic to nickel may have an allergic reaction to this device
- can have only one insert placed (including contralateral proximal tubal occlusion or suspected unicornuate uterus),
- have previously undergone a tubal ligation,
- are pregnant or suspect pregnancy,
- delivered or terminated a pregnancy less than 6 weeks prior to procedure,
- have an active or recent upper or lower pelvic infection,
- have a known allergy to contrast media.
RISUG (REVERSIBLE INHIBITION OF SPERM UNDER GUIDANCE)

• brainchild of a maverick Indian scientist named Sujoy Guha, now in late Phase III clinical trials in India,

• The polymer, a compound of styrene maleic anhydride (SMA, an ingredient in floor polish) and dimethyl sulfoxide (DMSO, a common solvent), iron oxide and copper particles is injected lengthwise and anchors itself to the tiny folds in the vas, clinging to the tissue.

• fluids can pass through the gel, but sperm cannot. This will likely reduce the incidence of back-pressure.

• works by shredding sperm by an electrical charge process as they went past the contraceptive that lined the walls of the vas deferens.

• reversed by flushing the vas deferens with another injection of dimethyl sulfoxide or sodium bicarbonate solution

• some of the men have been using RISUG® for more than 15 years.
• Sperm production and male hormone levels are not affected.

• A polymer hydrogel that is injected into the vas deferens (the tube sperm swim through) and works by blocking or filtering out sperm.

• Human trials are begin in 2016, with a prospective market release in 2018.\textsuperscript{110}

• Reversed by flushing the vas deferens with an injection of sodium bicarbonate (baking soda) solution.
CDC APP FOR PHONES

Free tools: Easy access to the US Medical Eligibility Criteria for Contraceptive Use