

Program Instructions

Thank you for your interest in family planning and options for permanent birth control. It is the intent of this course to offer information related to education, counseling and options available to patients.

At the conclusion of this program, the participant will be able to:

1. Identify appropriate candidates for permanent birth control
2. Describe 3 available sterilization techniques
3. Identify knowledge deficit related to sterilization decision: common misconceptions, psychosocial aspects of decision making, decision regret
4. Identify strategies to provide effective health education regarding sterilization

Please read the enclosed information. When finished, please review the ten questions on pages 11 - 12 then complete the answer sheet on page 13. Be sure to provide all required information on the answer sheet. This information is essential to provide continuing education (CE) certificates.

This provider is approved by the California Board of Registered Nursing, provider number CEP 14643 for 2 contact hour credits.

This program has been approved for 2 hours of continuing education credit by the Commission for Case Manager Certification, sponsor code 00065667.

When finished, attach the completed evaluation form on page 14 and fax both the evaluation and answer sheet to 650-962-5180, attention Nonni Vaillancourt, or mail to:

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You will receive your certificate in the mail. Certificates will not be e-mailed or faxed. Please PRINT your address and e-mail address on the cover sheet.

**FAMILY PLANNING:
OPTIONS FOR
PERMANENT BIRTH
CONTROL**

Educational grant provided by *Conceptus, Inc.* (Mountain View, CA)

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Family Planning: Options For Permanent Birth Control

Introduction

Research demonstrates that 49% of pregnancies in the United States (U.S.) are unintended. Over their lifetime, 48% of women in the U.S. are expected to have an unintended pregnancy.¹ Less than half of women of child bearing age receive contraceptive counseling.

Despite the availability of permanent options, many patients are unaware of the choices they have, the risks and benefits to be weighed and the potential impact of their decision. Most primary care physicians (PCPs) are family practitioners. Only 7% of women enrolled in a managed care plan have an obstetrician/gynecologist (OB/GYN) as a PCP and only 50% of women in a managed care plan see an OB/GYN.²

Survey results of 898 women in HMO or point of service (POS) health plans demonstrated that:

- 43% of respondents received no contraceptive counseling in the preceding 2 years
- 21% of women at risk for unintended pregnancy use no contraception
- Compared to women in their 30's, women aged 40-44 at risk for unintended pregnancy are *significantly* less likely to receive any counseling
- At risk women are more likely to use contraception if they receive counseling, especially personalized counseling²

Contraception in the United States

The leading method of contraception in the United States in 2002 was “the pill”.³ The second leading method of contraception was female sterilization. It is the leading method among women 35 and older. Two hundred and twenty million people worldwide elect permanent sterilization.

In the early 1970s, there were 201,000 tubal ligations in the United States. Between 1994 and 1996, that number rose to 684,000 tubal ligations per year. Worldwide, it is speculated that forty-five million women sought laparoscopy or mini-laparotomy by the year 2005. More than 45% were performed post partum.⁴

¹ Henshaw SK. “Unintended pregnancy in the United States”. *Fam Plan Perspectives*. 1998; 30 (1): 24-29 & 46.

² Weisman CS, Henderson JT. “Managed care and women’s health: access, preventive services, and satisfaction”. *Women’s Health Issues* 2001;11:201–215.

³ Chandra A, Martinez GM, Mosher WD, Abma JC, Jones J. “Fertility, Family Planning and Reproductive Health of US Women: Data From the 2002 National Survey of Family Growth; National Center for Health Statistics”. *Vital Health Stat*. 2005: 23 (25).

⁴ Ross JA. Sterilization: past, present and future. *Stud Fam Plann*. 1992; 23: 187-198.

Sterilization Techniques

Current sterilization techniques include both incisional and non-incisional methods. Incisional methods include laparoscopy, laparotomy and mini-laparotomy for women and vasectomy for men. There is also a non-incisional method of hysteroscopic sterilization available for women.

Laparoscopy/laparotomy

Laparoscopy and laparotomy both utilize incisions to perform tubal ligation, the size, number, and locations of incisions differ with each method. After the abdomen is filled with gas, laparoscopy requires 1-2 incisions to insert the laparoscope(s) and reach the fallopian tubes. A mini-laparotomy usually requires 1 two to three inch incision into the lower abdomen. Laparotomy is considered major surgery and is a less common method, requiring a 2-5 inch incision across the abdomen. The fallopian tubes are cut, burned or blocked with a clip or a band. These procedures are performed on an out-patient basis, usually in a hospital operating room utilizing general anesthesia. Average procedure time is 30-45 minutes.

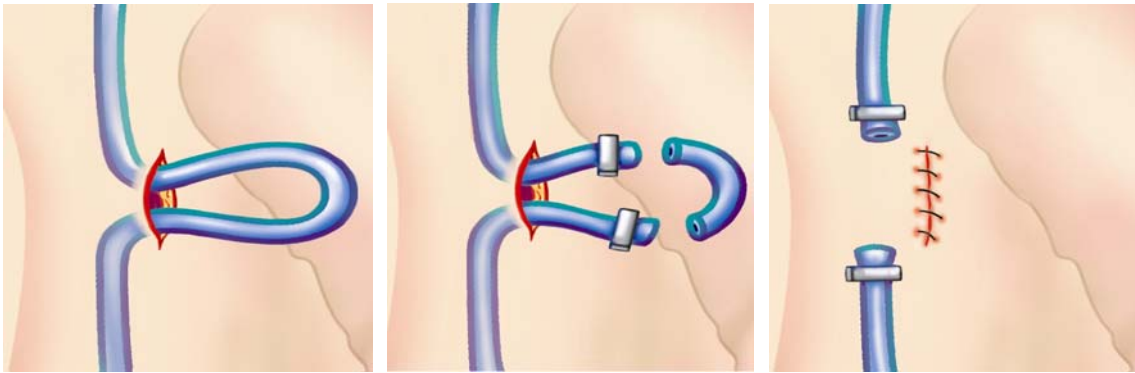


This procedure is contraindicated in patients who cannot tolerate procedures involving general anesthesia, who have suffered major complications from previous laparoscopic surgery, and women with bleeding disorders. The risks of these forms of incisional tubal ligation include: pain, bleeding/spotting, infection, hemorrhage, organ damage, risks of anesthesia, and death (rare). The benefits are immediate efficacy and that they do not require or contain hormones.

When counseling patients regarding incisional tubal ligation women must be advised about the risks of anesthesia, that sterilization does not protect against sexually transmitted diseases (STDs), that the procedure is permanent, and that the procedure may involve leaving devices in the body. In addition, there is the possibility of sterilization failure.

Vasectomy

Vasectomy, the incisional form of male sterilization, involves severing the ‘vas’ (tubes that deliver sperm from the testis to the penis) through an incision or puncture in the scrotum. The vas are sealed, tied, cut, blocked with clips, or burned. It can be performed in a physician’s office utilizing local anesthesia. Procedure time is usually 15-30 minutes.



Contraindications to the procedure include: hernia, fixed or undescended testicles, hydroceles, and thick, tough scrotum or scrotal lesions. The risks of the procedure include pain, bleeding, irritation at the site of incision, hematoma, infection, sperm granuloma, and chronic scrotal pain. The benefits of vasectomy are rapid recovery, no general anesthesia is required, it does not require/contain hormones, the procedure can be performed in a physician's office and there is confirmation for reliance (sperm test).

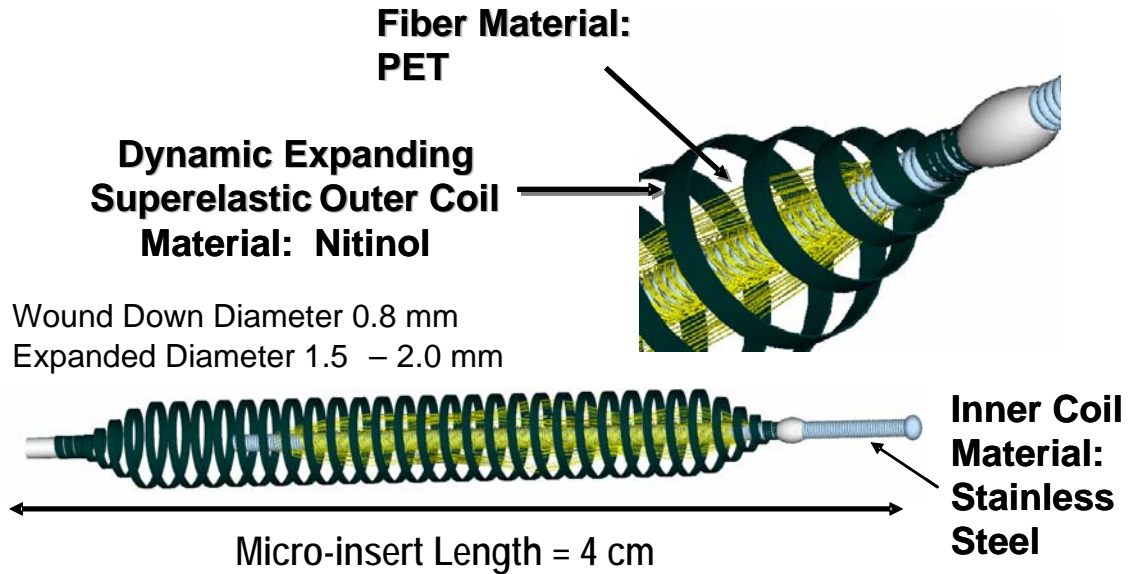
When counseling patients regarding vasectomy, it is important to emphasize that an alternate form of contraception must be used until confirmation of azoospermia, which may take as long as 6 months. Stress the importance of returning for the semen analysis 3 months post-procedure. In addition, patients should know the procedure is permanent, does not protect against STDs and may involve leaving devices in the body. Also, there is a possibility of sterilization failure.

Hysteroscopic Sterilization

Hysteroscopic sterilization is a non-incisional, transcervical approach to female sterilization. The first and only FDA-approved method of hysteroscopic sterilization is the Essure® system (Mountain View, CA). The system is comprised of a fallopian micro-insert and a delivery catheter. The micro-insert is 40 mm in length and 2 mm in diameter when expanded. Its inner fibers, made of polyethylene terephthalate (PET), elicit a benign tissue ingrowth that blocks the fallopian tubes in about three months, resulting in permanent tubal occlusion.⁵

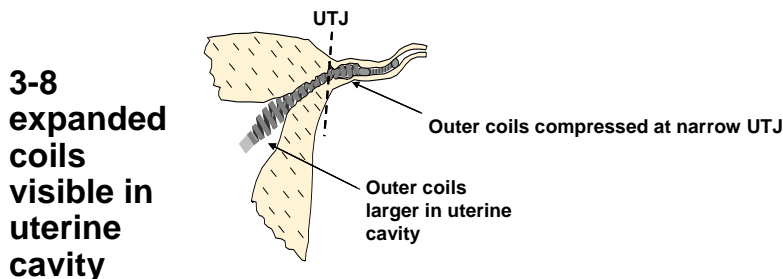
⁵ Valle RF, Carignan CS, Wright TC, and the STOP Prehysterectomy Investigation Group. "Tissue Response To the STOP Microcoil Transcervical Permanent Contraceptive Device: Results From A Prehysterectomy Study", *Fertility And Sterility*, November 2001: 76 (5): 974 – 797.

Micro-insert Design

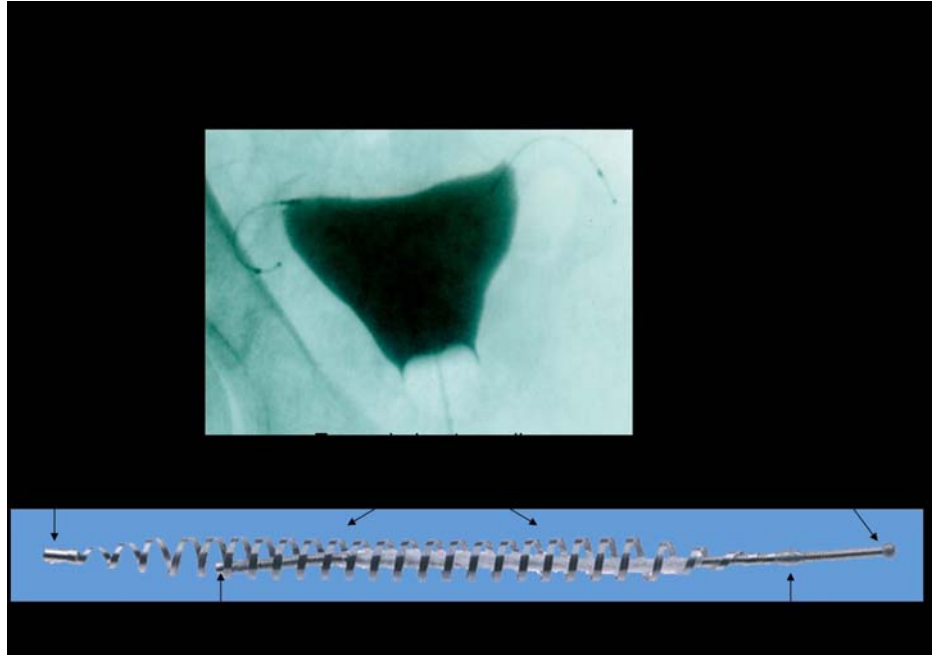


The fibers are wound around a flexible stainless steel inner coil, and are surrounded by a dynamic outer coil made from a nickel titanium alloy (Nitinol), that expands to anchor the device across the utero-tubal junction during the time required for the completion of the fibrosis. The micro-insert is attached to a guide wire and sheathed by a hydrophilic delivery catheter used only for placement, and designed to improve access to the tube. The entire system is controlled by an ergonomic handle for one-handed release of the micro-insert. The micro-inserts are placed in the fallopian tubes transcervically. The procedure does not require general anesthesia, can be performed in a physician's office and the total procedure time is approximately 30 minutes.

Placement: Spanning the Utero-tubal Junction



Three months post-procedure, the patient must return for a hysterosalpingogram (HSG) to confirm tubal occlusion. This HSG requires less pressure than those performed to assess infertility.



Contraindications to this method of sterilization are confirmed allergy to nickel or contrast medium, previous tubal ligation, birth or termination of a pregnancy less than 6 weeks prior, or an active or recent pelvic infection. The risks of the procedure include transient cramping, pain, nausea, vomiting, bleeding/spotting, and tubal perforation. There is also a risk of micro-insert expulsion or migration. Clinical trials report a low rate of adverse events.^{6,7,8}

The benefits of hysteroscopic sterilization are its high efficacy rates of 99.8% at 4 years and 99.74% at 5 years, no incisions are required, the procedure does not require general anesthesia and can be performed in a physician's office. Patients can view the entire procedure and post-procedure recovery is rapid. In addition, it is safe for most patients who are poor candidates for laparoscopic tubal ligation due to medical conditions such as obesity, prior abdominal/pelvic surgery, or other surgical risks.

⁶ Kerin JF, Carignan CS, Cher D. The safety and effectiveness of a new hysteroscopic method for permanent birth control: results of the first Essure pbc clinical study. *Aust N Z J Obstet Gynaecol.* 2001 Nov;41(4):364-70.

⁷ Kerin JF, Cooper JM, Price T, Herendael BJ, Cayuela-Font E, Cher D, Carignan CS. Hysteroscopic sterilization using a micro-insert device: results of a multicentre Phase II study. *Hum Reprod.* 2003 Jun;18(6):1223-30.

⁸ Cooper JM, Carignan CS, Cher D, Kerin JF; Selective Tubal Occlusion Procedure 2000 Investigators Group. Microinsert nonincisional hysteroscopic sterilization. *Obstet Gynecol.* 2003 Jul;102(1):59-67.

When counseling patients about this method of sterilization, it is crucial to emphasize the need for alternative contraception until tubal occlusion is confirmed by HSG. Patients must return for the three-month post-operative HSG. Most tubes are occluded in 3 months, although it may take as long as 6 months. This procedure does not protect against STDs, it is permanent and involves leaving devices in the body. In addition it is possible that the micro-inserts may not be able to be placed. As with all methods of contraception, there is a possibility of failure.

	Essure	Tubal Ligation	Vasectomy
Incisions/punctures	None	1-2	1-2
Typical anesthesia	Local/IV Sedation	General	Local
Avg. days to resume to reg. Activities	1-2	4.4	2
Effectiveness rate	99.80% (4 years follow-up)	99.16% (2 years follow-up)	99.85% (1 year follow-up)

Sterilization Regret

Sterilization regret is a topic of concern for many practitioners counseling patients. There are certain groups within which sterilization regret has been found to be more common. Sterilization regret is more common among persons who are younger than 35 at the time of sterilization, women with fewer years of education, and women who undergo post-partum (as opposed to interval) sterilization.

It is important to discuss the decision driving the desire for sterilization. Regret has been found to be more common when the decision is based on a medical event, a financial crisis, during marital instability, or shortly after a divorce. Other factors affect regret, such as receiving insufficient information about the procedure, or the subsequent death of a child. Always emphasize to patients that sterilization is **permanent**. Sterilization regret is not, however the same as a desire for reversal. For example, a woman may have health considerations that would make pregnancy a risk to her well being, yet may experience regret after sterilization. Regret following sterilization is often overestimated. A five year study of 3,672 women who underwent tubal ligation reported a regret rate of 7%, but a reversal request rate of only 2.2%⁹

⁹ Jamieson DJ, Kaufman SC, Costello C, Hillis SD, Marchbanks PA, Peterson HB; US Collaborative Review of Sterilization Working Group. A comparison of women's regret after vasectomy versus tubal sterilization. *Obstet Gynecol.* 2002 Jun;99(6):1073-9.

Successful Counseling

Give your patients the tools to make their own decisions! Successfully counseling patients requires educating them about options and the considerations to be made regarding each. ***Every*** female patient should be asked about her ***use of*** and ***satisfaction with*** her current or most recent method of birth control, ***including pregnant patients***.

If your patient is sure s/he no longer wants to bear/father children, then sterilization becomes an option. The most significant factors affecting desire for sterilization are achievement of desired number of children and age at last planned birth. Contrary to popular belief, many tubal sterilizations are performed on unmarried women. Female sterilization is more prevalent among Hispanic and Non-Hispanic black women, and female sterilization is more common among women with fewer years of education.³

Psychosocial considerations

Contraceptive/sterilization education is primarily directed toward women. When appropriate, incorporate men and the option for male sterilization into the discussion. It is important to note that women of childbearing potential over the age of 39 are rarely offered contraceptive counseling. Be sure to initiate the discussion with patients in their 40s. Female sterilization is more common among non-religious and persons of Protestant faith.³ Be aware a patient's beliefs may affect attitudes toward contraception and sterilization. In addition, research has shown a deficiency in healthcare provision to persons in lower economic brackets and to non-white individuals. Maintain equality in interaction among all patients. ***Patients with disabilities are no less likely to need contraceptive counseling. Consider the abilities (intellectual and physical) of the patient when discussing contraception.***

When discussing contraception, the setting should be private and confidential. It may be beneficial for the patient and her/his partner to be present for the sterilization discussion. However, the patient may have private issues regarding sterilization s/he wishes to discuss with you alone, and should be given the opportunity to do so.

The Counseling Process

The discussion can begin by asking the patient about current contraceptive use. Identify the patient's current needs and expectations, and examine the patient's personal medical history. It is critical to address common patient concerns. Efficacy data and failure rates can be confusing. Help patients to understand what these numbers mean. When reviewing the risks of individual procedures, keep the patient's individual health and history in mind. Use visual aids to explain and educate.

When discussing sterilization, assess a patient's readiness. Emphasize that sterilization is permanent. If an individual is not certain s/he is done having children, temporary methods of birth control should be discussed. Try to ascertain that the decision for sterilization is not borne out of social pressure, pressure from a partner or a recent negative event. Additional concerns of the patient may include cost of the procedure, which will vary according to the

patient's insurance and financial situation. All sterilization procedures require at least one follow-up visit, and this should be made clear to the patient.

There are common fears and misconceptions about sterilization. Women should be assured that sterilization does not cause menstrual changes, non-cyclic pelvic change, PMS-type symptoms, or a loss of femininity. Vasectomy is not associated with a decline in sexual functioning, loss of masculinity, weight gain, or loss of libido or physical strength.

Reinforce certain points toward the end of your discussion, such as the permanence of sterilization and that it does not protect against STDs. However, assure your patient that although sterilization is permanent, until one has the procedure, the decision is **not**. Encourage and answer questions and determine if the information you gave was understood. It is helpful to ask the patient to verbalize her/his understanding of what you've covered together. If possible, provide the patient with 'take home' information. When appropriate, provide referrals for your patient.

Summary

In summary, there is a clear need for increased contraceptive counseling. Tubal ligation, vasectomy and hysteroscopic sterilization are all viable methods of permanent birth control. When counseling patients about sterilization, the process should be personalized and provide the patient with tools to make an informed decision. Understanding, sensitivity, and recognition of patient-specific psychosocial factors are vital. Proper counseling can help ensure patient satisfaction with his/her decision.

Family Planning: Options For Permanent Birth Control:

Directions: Please place your answer on the attached answer sheet.

1. The percentage of unintended pregnancies in the United States is:
 - a. 50%
 - b. 12%
 - c. 82%
 - d. 49%

2. The number of women in a managed care plan who see an OB/GYN is:
 - a. 80%
 - b. 60%
 - c. 85%
 - d. 50%

3. Sterilization is the leading method of contraception among women aged:
 - a. 40
 - b. 27
 - c. 30
 - d. 35 and older

4. Options for permanent birth control include:
 - a. Vasectomy
 - b. Tubal ligation
 - c. Hysteroscopic sterilization
 - d. All of the above

5. Hysteroscopic sterilization:
 - a. Can be done in the physician's office
 - b. Requires no incision and little or no anesthesia
 - c. Allows women to return to work immediately
 - d. All of the above

6. Decision regret is common when the decision is based on:
 - a. A medical event
 - b. A financial crisis
 - c. Marital instability
 - d. All of the above

7. Decision regret:
 - a. Is synonymous with desire for reversal
 - b. Most common among patients over 40
 - c. Is related to the incidence of STDs
 - d. More common after the death of a child

8. Pertinent data the healthcare professional should present when counseling patients includes:
 - a. Options available
 - b. Efficacy and failure rates
 - c. Relationship of choice to the patient's medical condition
 - d. All of the above

9. Which of the following statements is true?
 - a. The decision for sterilization is a permanent one
 - b. Sterilization procedures do not require follow up visits
 - c. Sterilization will prevent STDs
 - d. Sterilization is permanent, until the procedure is done, the decision is not

10. Which of the following statements is correct:
 - a. Women over 40 do not need contraceptive counseling
 - b. Disabled women do not need contraceptive counseling
 - c. All patients should include their partners in contraceptive counseling
 - d. Effective health care education begins with understanding, sensitivity and recognition of patient specific psychosocial factors.

Family Planning: Options for Permanent Birth Control (Answer Sheet)

Name: _____ License Number: _____

Address: _____

Directions: Please check the appropriate box

Question:	A	B	C	D
1. The percentage of unintended pregnancies in the US is:				
2. The number of women in a managed care plan who see an OB/GYN is:				
3. Sterilization is the leading method of contraception for women aged:				
4. Options for permanent birth control include:				
5. Hysteroscopic sterilization:				
6. Decision regret is more common when the decision is based on:				
7. Decision regret:				
8. Counseling data provided to patients should include:				
9. Which of the following statements is true?				
10. Which of the following statements is correct?				

Please attach the evaluation and fax both pages to 650-962-5180, or mail to:

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Evaluation Form:

Name of sponsor of continuing education activity: Conceptus, Inc.

Title of continuing education activity: Family Planning: Options for Permanent Birth

Control

Date Completed: _____

Please rank the following items with a numerical scale:

0	1	2	3	4	5
Not applicable	Low degree				High degree

___ 1. To what extent was information informative, organized and effective in presentation?

___ 2. To what extent were the teaching methods and aids (diagrams, charts) appropriate and used effectively?

___ 3. To what extent was the individual learning experience conducive to learning?

___ 4. To what extent were the objectives related to the overall purpose/goals of the activity?

To what extent were you able to achieve the following objectives:

___ 5. Able to identify appropriate candidates for permanent birth control

___ 6. Able to identify knowledge deficit related to sterilization decision

___ 7. Able to describe three techniques for permanent birth control

___ 8. Able to identify strategies to provide effective health education related to permanent birth control

APPENDIX – A

Results of Phase II and Pivotal Trial of the Essure® System for Hysteroscopic Tubal Sterilization

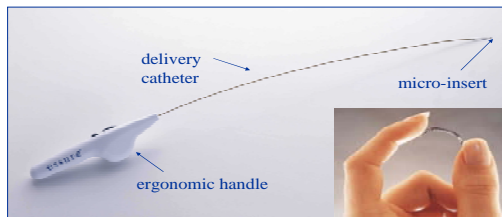
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Benefits

- No incisions
- Out patient surgery setting
- Minimal or no sedation
- Avoidance of general anesthesia
- No abdominal scars
- Rapid return to normal activities
- Contains no hormones
- Hysteroscopic approach

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Essure System



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The Essure Permanent Birth Control System is comprised of the Essure micro-insert, a disposable delivery system and a disposable split introducer (not shown here). The disposable delivery system (shown in this picture) consists of a delivery wire, a release catheter, a delivery catheter and an ergonomic handle. The delivery wire and release catheter are layered beneath the delivery catheter.

-The ergonomic handle and delivery catheter assembly allows for one handed placement and deployment of the Essure micro-insert into the proximal fallopian tube.

-The ergonomically designed handle makes use of a rotatable wheel and gear system which provides for retraction of the outer delivery catheter followed by withdrawal of the inner release catheter causing the micro-insert to be fully deployed.

-The outer delivery catheter is 1mm in diameter allowing it to be placed through a 5fr operating channel of any commercially available hysteroscope.

Multicentered Clinical Studies: Enrollment

- Phase II (1998–2000)
- 5 sites
 - US: 44
 - Australia: 130
 - Europe: 53
- Pivotal (2000–2001)
- 13 sites
 - US: 320
 - Australia: 133
 - Europe: 65

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Essure Placement Rates

	Phase II	Pivotal
Bilateral placement (1 st placement attempt)	197/227 (86%)	446/518 (86%)
Bilateral placement (2 nd placement attempt)	200/227 (88%)	464/518 (90%)

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These placement rates reflect procedure attempts with an obsolete catheter. The current marketed catheter referred to as the Coil Catheter is associated with higher bilateral placement rates, typically in the mid 90% range

Procedure Observations

	Phase II	Pivotal
Hysteroscopic procedure time	18 minutes	13 minutes
Tolerance of procedure (Good to excellent)	89%	88%
Average age (yrs)	35 (23-45)	32 (21-40)

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Micro-Insert Wearing Time

	Phase II	Pivotal
Woman months of effectiveness	12,230	19,086
Number of women relying on Essure ≥ 1 year	193	441
Number of women relying on Essure ≥ 2 years	184	419
Number of women relying on Essure ≥ 3 years	174	399
Number of women relying on Essure ≥ 4 years	169	91
Number of women relying on Essure ≥ 5 years	75	0

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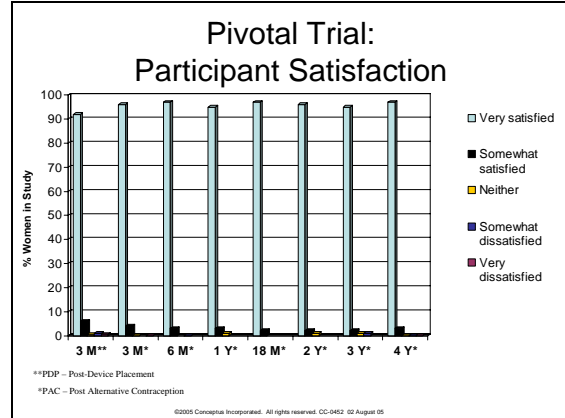
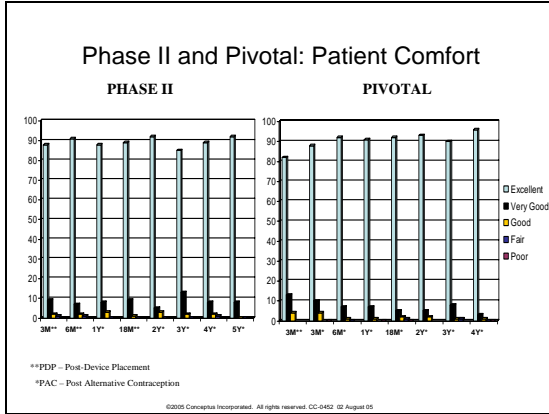
Effectiveness

Age-adjusted Posterior cumulative Bayesian effectiveness rates (posterior means) for Essure: Phase II and Pivotal trials combined.*					
1 years	2 years	3 years	4 years	5 years	
99.95%	99.90%	99.84%	99.80%	99.74% **	

*Age adjustments are for comparison to CREST as a reference population.
 ** Represents 66 Phase II patients who have completed 5 year follow-up. No patients in the Pivotal Study have reached the 5 year follow-up visit.

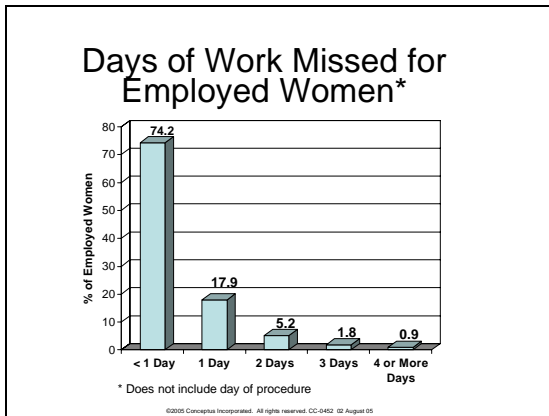
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The CREST study (Peterson HB, 1996) was used as a qualitative benchmark in the Essure clinical trials. The CREST study was based on a multicenter, prospective review of 10,685 women who underwent surgical tubal sterilization and followed for 8-14 years.



The reports of pain, bleeding and adverse events are kept in perspective when looking at satisfaction with Essure.

From the 3 month PDP visit onward more than 90% of women are very satisfied with Essure



Of the 329 women who were employed, 74% reported missing less than one day of work following the procedure day, and an additional 18 percent missed one day.

Pivotal Trial Adverse Events by Body Systems, 1st Year of Reliance*

N = 476 patients implanted with at least one device

Adverse Events by Body System	Number	Percent
Abdominal:		
Abdominal pain/abdominal cramps	18	3.8%
Gas/bloating	6	1.3%
Musculo-skeletal:		
Back pain/low back pain	43	9.0%
Arm/leg pain	4	0.8%
Nervous/Psychiatric:		
Headache	12	2.5%
Premenstrual Syndrome	4	0.8%
Genitourinary:		
Pain	43	9.0%
Bleeding	23	4.8%
Vaginal discharge and infection	7	1.5%

*Only events occurring in $\geq 0.5\%$ are reported
** Eight women reported persistent decrease in menstrual flow

There were no reports of serious adverse events in any of these patients.

Pivotal Trial Adverse events that prevented reliance on Essure for contraception

Events	Number	Percent
Expulsion	14/476	2.9%*
Perforation	5/476	1.1%
Other unsatisfactory micro-insert location	3/476	0.6%
Initial tubal patency	16/456	3.5%**

*14 women experienced an expulsion, however 9 of these 14 women chose to undergo a second micro-insert placement procedure, which was successful in all nine cases.
** Tubal patency was demonstrated in 16 women at the 3-month HSG, but all 16 women were shown to have tubal occlusion at a repeat HSG performed 6-7 months after Essure placement

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Conclusion

- Essure has been shown to be highly effective.
- Comfort and satisfaction with Essure is highly rated by most patients.
- Essure is effectively performed without general anesthesia and incisions.

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APPENDIX – B

Acronyms

ADL: Activities of daily living

DVT: Deep vein thrombosis

MHO: Managed healthcare organization

OB/GYN: Obstetrician and gynecologist

PCP: Primary care physician

PET: polyethylene terephthalate fibers

POS: Point of service

STD: Sexually transmitted disease

UCG: Urine chorionic gonadotrophic hormone

UDT: Undescended testicles

USFDA: United States Food and Drug Administration

APPENDIX – C

Glossary

Chlamydia: Obligatory intracellular spherical or ovoid bacteria with a complex intracellular life cycle

Conscious sedation: Medication given to provide a relaxed state while maintaining patient awareness of self and surroundings

Dysmenorrhea: Difficult and painful menstruation

Dysparunia: Occurrence of pain during sexual intercourse

Ectopic pregnancy: Pregnancy occurring elsewhere, other than the uterus

Essure System: FDA-approved device used hysteroscopically to occlude the fallopian tubes via intentional benign tissue in-growth

Hydrocele: A collection of serous fluid in a sacculated cavity (i.e. testis)

Hydrophilic: Denoting the property of attracting or associating with water molecules

Hysteroscopy: Endoscopic visual examination of the uterine cavity

Hystosalpingogram: Radiograph of the uterus and fallopian tubes after the injection of a radiopaque material

Laparoscopy: Examination of the contents of the abdomino/pelvic cavity with a laparoscope passed through the abdominal wall.

Laparotomy: Incision into the skin

Neisseria gonorrhoea: Bacterial species that causes gonorrhoea and other infections in humans

Pelvic inflammatory disease: Infection in the pelvic cavity

Proliferative (phase): Increasing numbers in similar forms

Sterilization: The act or process by which an individual is rendered incapable of fertilization or reproduction

Tissue in-growth: Benign proliferation of cells to occlude a tube

Vasectomy: Excision of a segment of the vas deferens, performed in association with prostatectomy, or to produce sterility

APPENDIX – D

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