



The Importance of Long-Acting Reversible Contraception

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*New England OB GYN Society
November 6th, 2013*





Financial Disclosure

- Serve on an advisory board for Bayer Healthcare Pharmaceuticals

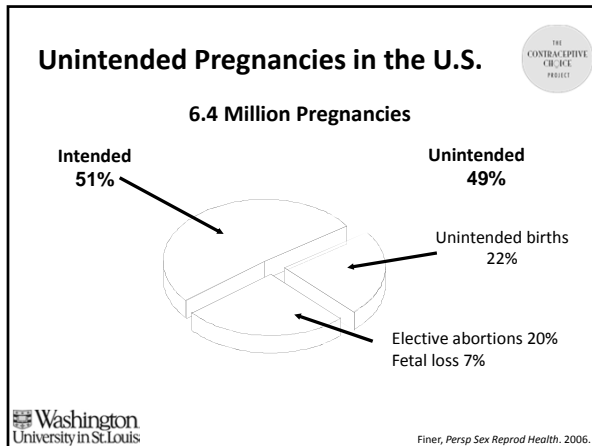




Objectives

- Background
 - Public health importance of unplanned pregnancies
 - Role of long-acting reversible methods in prevention
- Contraceptive CHOICE Project
 - Background, study design, and results
- Take Home Messages
 - Paradigm Shift: LARC – first line options
 - Policy Implications:
 - Cost-savings: reduce unintended pregnancies!


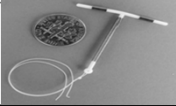
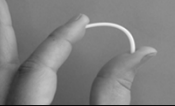




- ### Unintended Pregnancy in the U.S.
- Accounts for more than 3 million pregnancies
 - 59% mistimed
 - 39% unwanted
 - Over 350,000 births to teens 15-19 years
 - Contraception
 - 52% non-use
 - 43% incorrect use
- Washington University in St. Louis
- Finer, Contraception 2011; Hamilton, NCHS 2012; Frost, Guttmacher Inst 2008

Long-acting Reversible Contraception (LARC)

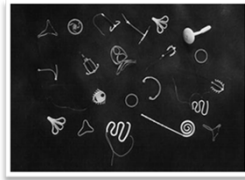
- Forgettable
- Highly effective
- Few contraindications

		
LNG-IUS • 99% effective	Copper IUD • 99% effective	Subdermal Implant • 99% effective

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Characteristics of LARC

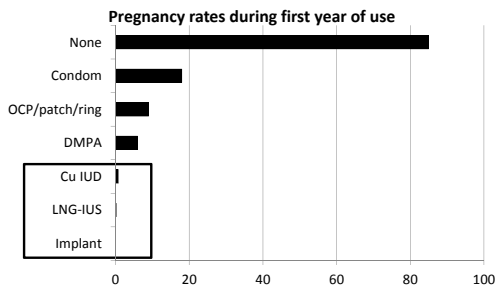
- Highest patient satisfaction among methods
- Rapid return of fertility
- Safe
- Long-term protection
- Highly effective



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Typical-Use Failure Rates of Reversible Contraception

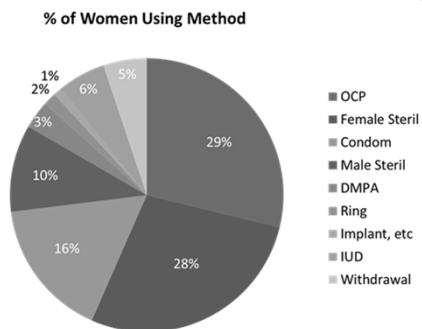


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Trussell, Contraception. 2011

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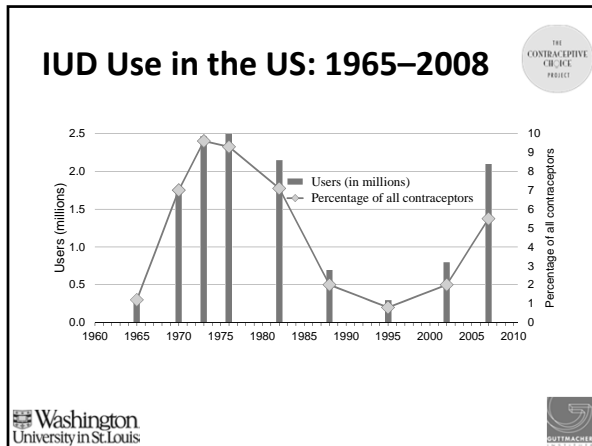
Contraceptive Use in the U.S.

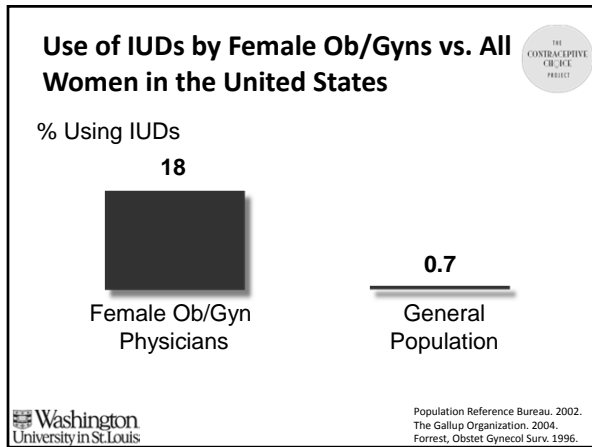


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Mosher, Vital Stat. 2010

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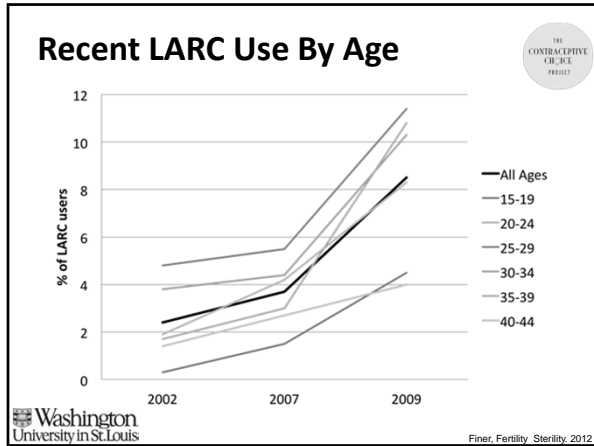


Why IUDs are Underused in the U.S.

- Lack of trained and willing providers
- Negative publicity
- Fear of litigation
- High upfront cost
- Misconceptions about who is appropriate candidate
- Lack of awareness of method among women

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Weir, CMAJ. 2003
Stanwood, Obstet Gynecol. 2002
Steinauer, Fam Plann Perspect. 1997



LARC Use in Adolescents

- Approximately 4.5% of contracepting adolescent use LARC
 - The majority use the IUD
- Recommend as “first-line” by American College of Obstetricians and Gynecologists
- CDC Medical Eligibility criteria
 - Category 1 for implants
 - Category 2 for IUDs

Washington University in St. Louis
Finer, Fertility Sterility. 2012
ACOG, Obstet Gynecol. 2012
CDC, MMWR. 2010

Providers are Reluctant to Provide LARC to Teens

- Appropriate candidates for IUDs
 - 62% nulliparous
 - 31% adolescent
 - 45% STI in past 2 years
 - 37% PID in past 5 years
 - 37% non-monogamous relationship
- Offer IUD
 - 98% if 35 yr, married, with 3 children
 - 50% if unmarried 17 yr, monogamous, and one child
 - 19% if unmarried 17 yr, never been pregnant

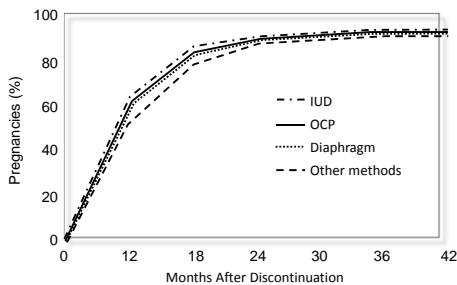
Washington University in St. Louis
Madden, Contraception. 2010

Concerns About IUD Safety



- Survey of 635 office-based physicians & 1,323 Title X providers
 - 30% of respondents said IUDs were very unsafe, unsafe, or were unsure for nulliparous women
- Responses varied by provider type, safety concerns higher among:
 - Office-based family medicine
 - Providers who had not received training
 - Providers who trained more than 25 yrs ago
 - Providers without on-site access to IUDs

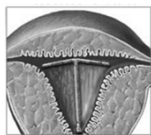
Fertility Rates in Parous Women After Discontinuation of Contraception



IUD and PID



- Incidence of PID greatest in the first 21 days after insertion
 - OR 6.3 (95% CI 3.4, 11.6)
- Contamination of endometrial cavity at the time of insertion is likely mechanism
 - Not IUD or string
- After first month incidence of PID is low
 - Appears similar to general risk for women





The Contraceptive CHOICE Project





The CHOICE Project: Objectives

- To promote LARC (IUDs and implants)
 - Remove financial barriers
 - Increase patient access
- To measure acceptability, satisfaction, side-effects, and rates of continuation across a variety of reversible contraceptive methods, including long-acting reversible methods





The CHOICE Project: Objectives

- To provide enough no-cost contraception to make a population impact on unintended pregnancies:
 - Measures
 - Teen pregnancy
 - Repeat abortion



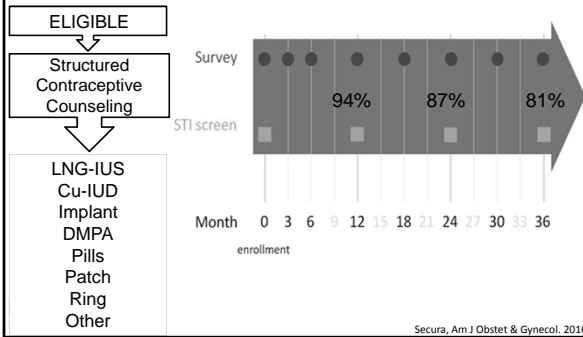
Study Inclusion Criteria



- 14-45 years of age
- Primary residency in STL City or Country
- Sexually active with male partner (or soon to be)
- Does not desire pregnancy during next 12 months
- Desires reversible contraception
- Willing to try a new contraceptive method



Contraceptive CHOICE Project: Study Details



CHOICE Project Results



Baseline Characteristics

n=9256



Age (years)	N	%
14-17	485	5.2
18-20	1548	16.7
21-25	3559	38.5
26-35	3029	32.7
36-45	635	6.9

Race	n	%
Black	4660	50.6
White	3861	41.9
Other	693	7.5



Baseline Characteristics



SES	n	%
Public assistance	3442	37.2
Trouble meeting basic needs	3639	39.3

Insurance	n	%
None	3782	41.1
Private	3957	43.1
Public	1455	15.8



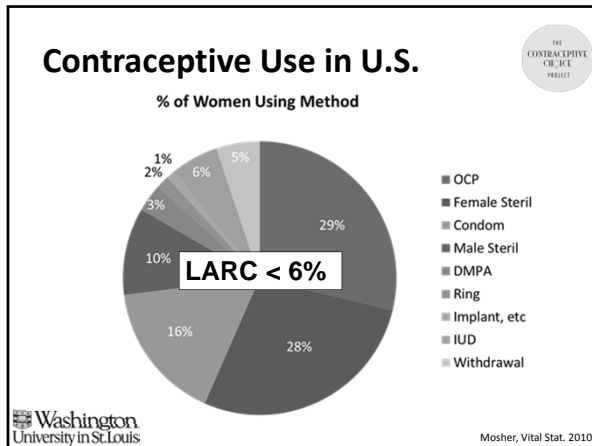
Baseline Characteristics

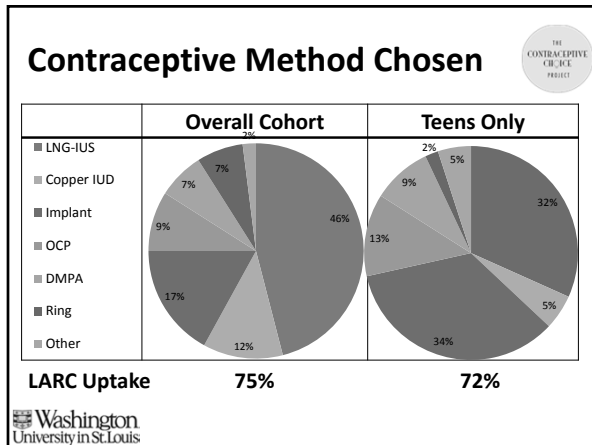


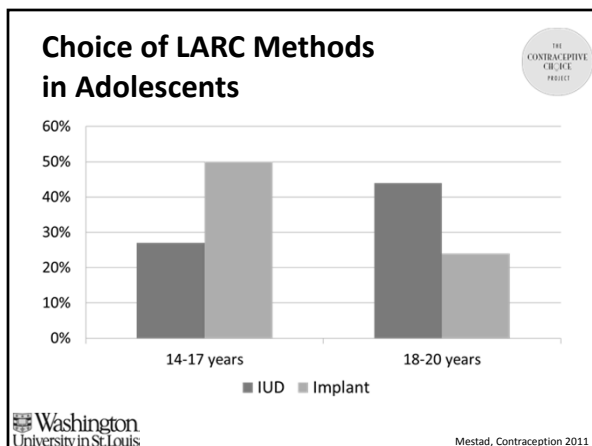
Parity	N	%
0	4375	47.3
1-2	3885	50.0
3+	996	10.7

History of unintended pregnancy	5857	63.2
History of STI	3746	40.5









12- & 24-Month Continuation

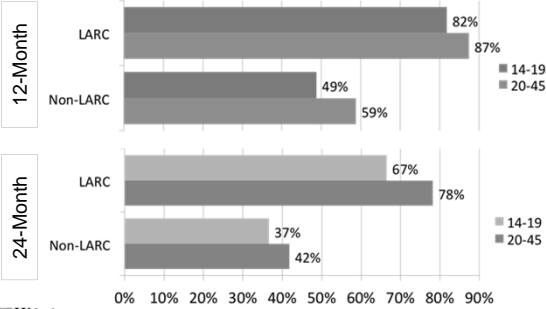


Method	12-Month (%)	24-Month (%)
LNG-IUS	87.5	78.9
Copper IUD	84.1	77.3
Implant	83.3	68.5
Any LARC	86.2	76.6
DMPA	56.2	38.0
OCPs	55.0	43.5
Ring	54.2	41.1
Patch	49.5	39.9
Non-LARC	54.7	40.9

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Peipert, Obstet Gynecol. 2011
O'Neil, Obstet Gynecol. 2013

12- & 24-Month Continuation: By Age



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Rosenstock Obstet Gynecol 2012; O'Neil Obstet Gynecol 2013

12-Month Satisfaction*: Overall Cohort & By Age



Method	Overall (%)	14-19 (%)	20-45 (%)
LNG- IUS	83.1	77%	84%
Copper IUD	80.2	72%	81%
Implant	77.0	74%	78%
Any LARC	81.2	75%	82%
DMPA	50.1	43%	52%
Pills	49.3	46%	50%
Ring	49.7	31%	52%
Patch	37.2	35%	38%
Non-LARC	48.8	42%	50%

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*Very or somewhat satisfied combined
Rosenstock, Obstet Gynecol. 2012

Discontinuation At or Before 6 Months

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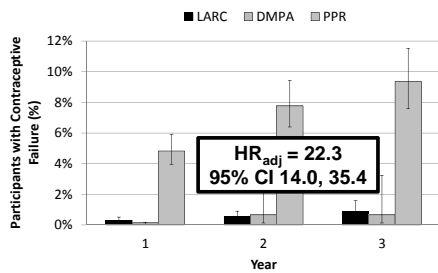
	AGE < 20 YRS	AGE 20+ YRS	P value
LNG-IUS	9%	7%	0.08
Copper IUD	13%	8%	0.31
Implant	7%	7%	0.50
Any LARC	9%	8%	0.17

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Grunloh, Obstet Gynecol In press

Contraceptive Failure by Method

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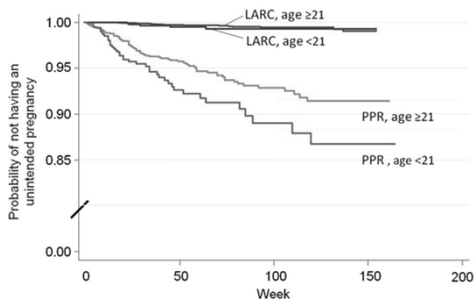


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Winner, NEJM, 2012

Method Failure by Age

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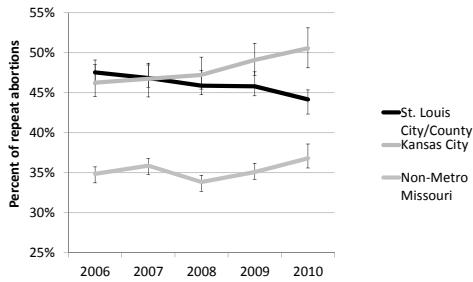
Winner, NEJM, 2012

Repeat Abortion in St. Louis Region



- Data obtained from MO DHHS
 - Represents women who reside in Missouri at time of abortion
- Repeat abortion measured as ever had a previous abortion
- Compared to Kansas City & non-metro MO
 - KC: One abortion clinic
 - KC: Similar demographic characteristics to STL

Repeat Abortion 2006 - 2010



Test of Trend 2006-2010: STL, p=.002; KC, p=.003; Non-metro MO, p=.18

Pregnancy Outcomes: CHOICE Compared to U.S.



	CHOICE Annual Rate	U.S. Rate	Reduction
Pregnancy	39.4	108*	63%
Unintended pregnancy	29.6	52*	43%
Abortion	10.4	19.6^	47%

All rates per 1,000 women 15-44 years
 * 2006 data
 ^ 2008 data

Teen Outcomes: CHOICE Compared to U.S.

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	CHOICE Annual Rate*	2008 U.S. Rate*	Reduction
Pregnancy among sexually active teens	29.6	158.5	81%
Abortion	9.1	17.8	49%
Birth	13.6	40.2	59%

*All rates per 1,000 teens 15-19 years

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CHOICE Data: Unpublished; U.S. Data: Kost 2012

Main Findings from CHOICE

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- LARC methods associated with higher continuation & satisfaction than shorter-acting methods
 - Regardless of age
- LARC methods associated with lower rates of unintended pregnancy
- Increased LARC use can decrease unintended pregnancy in the population

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So... how did we dramatically
increase LARC uptake?

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Multipronged Approach



- Structured contraceptive counseling
- Provider training
 - Emphasis on evidence-based use and contraindications
- Same-day initiation of methods
- Post-enrollment contraceptive support



Contraceptive Counseling



- Standardized script read to all participants
 - Included commonly used reversible methods
 - All women heard about all the methods
 - Tiered counseling = start with most effective methods first
 - Evidence-based



Madden Contraception 2013

Same-Day Initiation



- “Quick start” of pills, patch, ring
- Same-day initiation of DMPA
- Same-day provision of IUDs and implants
 - when pregnancy could be reasonably ruled out



Same-Day LARC Insertion



- Overall 65% of participants received LARC on the day of enrollment
- Women who did not receive desired method were “bridged”
- Among women who did not receive LARC on the day of enrollment
 - 55% had placed by 1 month
 - 78% had placed by 3 months



Unpublished data

How to Be Reasonably Certain a Woman is Not Pregnant	n=8,908
(1) Has not had intercourse since last normal menses	2491 (28.0%)
(2) Has been correctly and consistently using a reliable method of contraception	3356 (37.7%)
(3) Is within first 7 days after normal menses	1,648 (18.5%)
(4) Is within 4 weeks postpartum for non-lactating women	194 (2.2%)
(5) Is within first 7 days postabortion or miscarriage	1241 (13.9%)
(6) Is fully or nearly fully breastfeeding, amenorrheic, and less than 6 months postpartum	142 (1.6%)
Pregnancy excluded	6,489 (73%)



Unpublished data

How can this be translated into practice?



3 Key Ingredients



- Education regarding all methods, especially LARC
 - Reframe the conversation to start with the most effective methods
- Access to providers who will offer & provide LARC
 - Dispel myths and increase the practice of evidence-based medicine
- Affordable contraception
 - IOM recommendation, Affordable Care Act, Medicaid Expansion



Cost Neutrality



- Analysis of 20-29 year old women
 - How long would she have to use LARC method to achieve cost neutrality or “net cost impact to the payer of zero”

10% Switch From	20-24	25-29
OCP	1.3 years	1.4 years
Any short-acting method	1.6 years	1.8 years
Any short-acting method or No method	1.6 years	1.9 years



Trussell, Contraception. 2013

Cost Savings Analysis

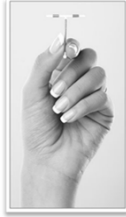


	2008	2009	2010	2011	2012
Number of women	234	623	1063	1220	479
Cost of Methods	\$137394	\$278721	\$424854	\$354336	\$44288
Pregnancy Costs Averted	\$192750	\$444575	\$751556	\$1069979	\$907466
Cost Savings	\$55357	\$165854	\$326702	\$715643	\$863177
Total Savings over 5 years \$2.13 million					



Bottom Line: Take-home Messages

- LARC methods are THE most effective contraceptive options
 - Forgettable
 - Not dependent on adherence
 - Higher continuation & satisfaction
- LARC methods are appropriate for most women, including adolescents, and should be considered first-line options



Acknowledgements

- Our funder
- Co-investigators
- 133 CHOICE staff members
- 9,256 CHOICE participants



To Learn More Visit



www.larcfirst.com



www.choiceproject.wustl.edu



www.facebook.com/choiceproject



www.twitter.com/wustlchoice



www.youtube.com/user/WUSTLChoiceProject



Dissemination Strategies



- Provide technical assistance to end users
 - >100 national & international requests
- Develop short videos
 - *Open the Dialogue*
 - *Pathway to CHOICE*
 - *What Method is Right for You?*
- Create online Resource Center to disseminate CHOICE materials LARC First



Make it Better!



Which family planning method is right for you?

MOST EFFECTIVE
MODERATELY EFFECTIVE
LEAST EFFECTIVE
EMERGENCY ONLY

Hormonal IUD
The hormonal IUD is a small, T-shaped device that is placed in your uterus. It releases a low dose of hormones that prevent pregnancy. It is effective for up to 3 to 5 years. You do not need to take any pills or use any other method of birth control.

Copper IUD
The copper IUD is a small, T-shaped device that is placed in your uterus. It prevents pregnancy by creating an environment that is hostile to sperm. It is effective for up to 10 years. You do not need to take any pills or use any other method of birth control.

Implants
The implants are small, thin rods that are placed in your upper arm. They release a low dose of hormones that prevent pregnancy. They are effective for up to 3 to 5 years. You do not need to take any pills or use any other method of birth control.

Pills (Oral Contraceptives)
Oral contraceptives are small, round or oval pills that you take every day. They prevent pregnancy by stopping ovulation and thickening cervical mucus. They are effective for up to 91 days. You must take them every day.

Patch
The patch is a small, adhesive patch that you wear on your hip or buttock. It releases a low dose of hormones that prevent pregnancy. It is effective for up to 1 week. You must change it every week.

Vaginal Ring
The vaginal ring is a small, flexible ring that you insert into your vagina. It releases a low dose of hormones that prevent pregnancy. It is effective for up to 3 to 4 weeks. You must change it every 3 to 4 weeks.

Condoms
The condom is a thin, flexible sheath that you use to cover the penis. It prevents pregnancy by stopping sperm from reaching the egg. It is effective for up to 1 year. You must use it every time you have sex.

Emergency Contraception
Emergency contraception is a pill or an injection that you take or get within 72 hours of having sex. It prevents pregnancy by stopping ovulation or preventing the egg from being fertilized. It is effective for up to 72 hours.

FLIP it
Family Planning Options

Hormonal IUD
The hormonal IUD is a small, T-shaped device that is placed in your uterus. It releases a low dose of hormones that prevent pregnancy. It is effective for up to 3 to 5 years. You do not need to take any pills or use any other method of birth control.



Courtesy of Mary Alexander, Healthy Start Indianapolis

LARC First Resource Center



Home LARC First Evidence Counseling Practitioner Patient Staffing Contact

Contraceptive Counseling

This module contains the tools necessary to successfully adopt CHOICE contraceptive counseling into your practice. It includes a training program for new contraceptive counselors, materials used during the counseling session, and protocols for testing and ongoing quality assurance. CHOICE contraceptive counseling uses a tier-based approach, presenting all methods in order of most to least effective.



Training New Counselors

This section contains the program outline, activities, and materials necessary to train non-clinical staff to provide contraceptive counseling to all women, including teens. Medical assistants, health educators, and nurses may benefit from this training course.

[Learn More](#)



The Counseling Session

This section contains the materials used by staff during a patient's contraceptive counseling session. This includes the instructions and forms for collecting a medical history, discussing contraceptive options, presenting a case to a clinician, and reviewing method choice.

[Learn More](#)



Quality Assurance

This section contains essential testing materials administered by training staff and prescribing clinicians to trainees prior to becoming contraceptive counselors, and the quality assurance protocols for ongoing observation and evaluation of trained counselors in your organization.

[Learn More](#)

Patient Correspondence



"I wanted to take a quick moment to recognize and say thank you for such an amazing thing you all are doing.....within the next three years, I calculated to save a total of \$2500 in birth control. This alone amazes me and I feel is such a blessing....I thank YOU ALL from the bottom of my heart for such a wonderful study. Keep up the good work you all provide!"

Choice Participant



Pre-CHOICE Survey Results



STL Population Survey



- Objective: Survey knowledge and attitudes about IUDs among women in St. Louis area
- Methods:
 - 8-page written survey
 - Mailed to 12,500 randomly selected households
 - One adult female in household asked to complete survey
 - 1,665 of 7,722 (22%) deliverable and eligible surveys returned
 - Measures:
 - Obstetric & contraceptive history
 - Knowledge regarding method effectiveness
 - Knowledge regarding appropriate candidates, side effects, and myths of IUD



Hladky Obstet Gynecol 2011

STL Population Survey Results



- Respondents overall:
 - Mean age = 31.9
 - 57% white
 - 82% had insurance (83% private)
 - 70% greater than high school education
 - 18% history of abortion
- 127 (8%) were currently using or had used IUD
 - Slightly older (mean age = 32.4)
 - More likely to be parous
 - More likely to be receiving public assistance



Hladky Obstet Gynecol 2011

MYTHS Regarding IUDs

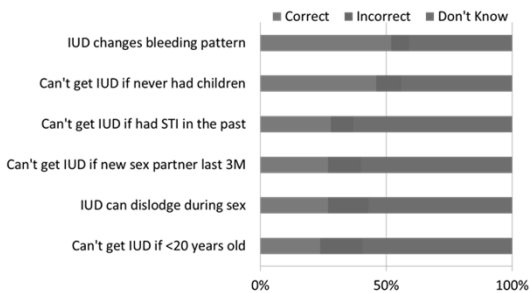


- 50% of women surveyed believe IUD is SAFE
- Common safety concerns:
 - Pelvic Pain 36%
 - Infertility 30%
 - Cancer 14%
 - STDs 11%
- 61% underestimate the effectiveness

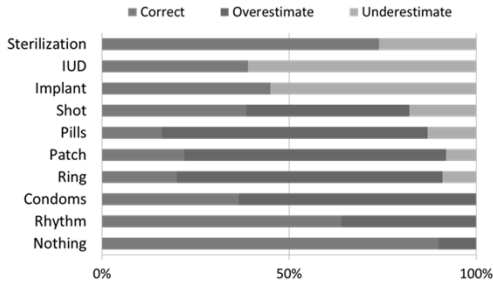


Hladky Obstet Gynecol 2011

Knowledge About IUDs



STL Population Survey Results



Washington University in St. Louis

STL Provider Survey



- Objective: Survey knowledge and attitudes about IUD among providers in St. Louis area
- Methods:
 - Written self-administered survey
 - Mailed to 250 providers
 - Medical directories and electronic searches
 - 137/186 (73.7%) delivered and eligible surveys returned
 - Measures:
 - Demographic characteristics
 - Graduate medical training
 - Contraceptive patients seen and willingness to insert IUD

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Madden Contraception 2010

STL Provider Survey Results



- 99% physicians
- 85% white, 4% black, 10% other
- Residency training:
 - 44% completed before 1989
 - 41% 1989-1999
 - 16% after 1999
- 56% completed residency at a Catholic institution
- Contraceptive patients each week
 - 35%: 0-25
 - 50%: 26-50
 - 15%: 50+

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Madden Contraception 2010

STL Provider Survey Results



- 36% not trained in IUD insertion during residency or clinical training
- Discussed IUD with patients
 - 18% “always”
 - 75% “most or some of the time”
- 66% reported inserted >10 IUD in past year
- GC/CT testing prior to IUD insertion
 - 40% always
 - 52% sometimes



Madden Contraception 2010

STL Provider Survey Results



- Appropriate candidates for IUDs
 - 62% nulliparous
 - 31% adolescent
 - 45% STI in past 2 years
 - 37% PID in past 5 years
 - 37% non-monogamous relationship
- Offer IUD
 - 98% if 35 y.o., married, with 3 children
 - 50% if unmarried 17 y.o., monogamous, and one child
 - 19% if unmarried 17 y.o., never been pregnant



Madden Contraception 2010
