



Permanent contraception provides a lesson in cost-effective medicine

📌 Moving interval sterilization into the office, using the hysteroscope, appears to benefit patients and society—a good thing in 2010

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Lawmakers in Washington have promised that recently enacted national health legislation will increase patients' access to a range of health services—from prevention to in-hospital care—and, remarkably, reduce the total national cost of care at the same time. This can only mean that, as more patients obtain access to health insurance and, consequently, costs rise, economic and social pressures will build to control expenses by belt-tightening and cost-cutting.

That need to contain costs will challenge you to examine every aspect of your practice—the objective being to identify and adopt, expeditiously, the most **cost-effective** approaches to care. At the same time, you'll need to improve the **quality** of the care you provide and maximize patients' **freedom** to choose the kind of care they receive.

What are your preferred methods of tubal sterilization?

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on page 10

That's a tall order for all of us—difficult, yes, but important.

A case in point from gyn practice

Contraception offers an excellent example of how our specialty can address the twin central goals of ensuring quality care while practicing cost-effectively. The effort here isn't novel: Over the past 5 years, many experts have addressed the cost-effectiveness of various contraceptive methods.

Here is a brief look at **1)** what has been reported and discussed about cost-conscious provision of efficacious contraception and **2)** how you can adopt that information by, in particular, weighing the cost-effectiveness of moving from hospital-based to office-based tubal sterilization.

All contraceptives are cost-effective

In adult populations that are sexually active and trying to avoid conception, all contraceptives are cost-effective when measured against the cost of using no contraceptive. This obvious conclusion is based on the high cost of an unintended pregnancy and birth.

Today, the hospital-related costs

alone of a vaginal and a cesarean delivery are in the range of, respectively, \$4,000 and \$8,000.¹ To that, add the costs of a pregnancy that include antepartum visits, ultrasonographic imaging, genetic testing, social services, and other services.

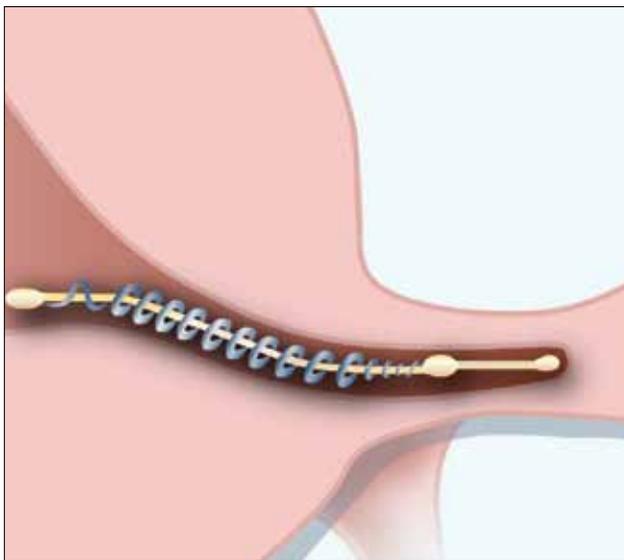
In the British National Health Service, estimates are that public funding of family planning services saves the health system the equivalent of approximately \$3.8 billion in direct health costs annually. From a broader perspective, public funding of contraception is estimated to save the British social service system (including child benefits and single-parent allowances) approximately 10 times that amount—\$38 billion—annually.²

The conclusion that I reach from observing the British system is that insurers in the United States (including state insurers) would be wise to invest heavily in contraception programs to avoid the costs of unintended pregnancy.

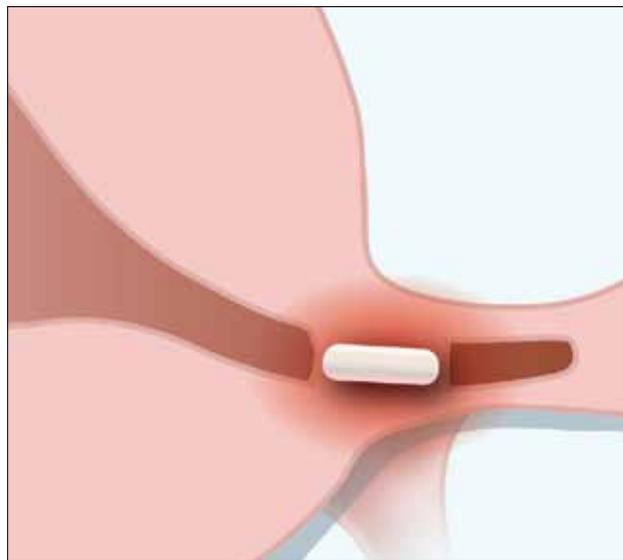
Long-acting contraceptives are the most effective

A more complex matter is raised by the question: What's the relative cost-effectiveness of the various available contraceptives? From a clinical

FIGURE Two methods of in-office hysteroscopic tubal sterilization



The flexible **Essure** microinsert in position.



The **Adiana** silicone polymer matrix in position after application of radiofrequency energy.

perspective, any contraceptive that a patient uses faithfully is much more effective than a contraceptive that she, or he, does not use. An important corollary to that statement: Having multiple contraceptive options available to patients increases the likelihood that they will identify one that they are going to use reliably.

Thoughtful assumptions are needed to begin a cost-effectiveness analysis of a contraceptive for any given woman:

- the time interval of interest (for how long does she need, or intend, to use the method?)
- the relative effectiveness of each contraceptive at preventing pregnancy
- the cost of each contraceptive
- the cost of complications arising from each contraceptive.

If the interval of use will be brief—say, 1 year—then a contraceptive that has low initial cost—an estrogen-progestin contraceptive, for example, is relatively more cost-effective than a method with a high

initial cost, such as an intrauterine device (IUD).

As the interval of use extends to 5 years, and then 20 years, however, such options as the (IUD), vasectomy, and tubal sterilization become increasingly cost-effective.

What one study showed. In a recent comprehensive cost-effectiveness analysis, the **most effective** contraceptives were:

- vasectomy
- tubal sterilization
- the IUD
- implants.

The **least expensive** methods over 5 years of use were:

- the copper IUD
- vasectomy
- the levonorgestrel-releasing intrauterine system (Mirena).³

Analyses by other authorities have yielded similar findings.^{4,5}

What we know from practice. Patient preference plays an important role in selecting an optimal intervention. Despite the effectiveness of vasectomy and its low cost over 5 years,

it might not be a practical choice for many women because their partner won't consent to the procedure or they have multiple male partners.

Among contraceptive options under the woman's control, the IUD, contraceptive implant, and tubal sterilization are most effective. But, as I appealed in a previous Editorial (see "As uses widen for intrauterine contraception, why haven't ObGyns become advocates?" in the November 2009 issue, available at www.obgmanagement.com), clinicians in the United States could work much harder to increase the number of women who use an IUD.

Some women, who have completed their family strongly prefer a tubal sterilization over an IUD. For them, selecting a cost-effective method is important:

- For a woman who is planning a repeat cesarean delivery and not to have more children afterward, tubal ligation can be performed at delivery with little additional cost
- Tubal sterilization following

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vaginal delivery is also an efficient approach in many clinical settings; this might be especially true in populations that have a high risk of pregnancy between the time of delivery and initiation of an effective contraceptive postpartum

- Approximately 50% of women who choose tubal sterilization will not have the procedure at the time of delivery; they elect an interval procedure. These women must choose between an office-based procedure such as hysteroscopic tubal sterilization, using either the Adiana or the Essure method (FIGURE), or an in-hospital procedure such as laparoscopic tubal ligation.

Comparing the office hysteroscopic procedure and in-hospital laparoscopic tubal ligation

For any given condition, most procedures performed in a hospital are more costly than procedures that can be performed in a physician's office. A hospital is, after all, a high-cost environment, in part because it has multi-

ple missions, including providing free care and 24-hour emergency services.

What the literature shows. Several cost-effectiveness studies have concluded that office-based hysteroscopic tubal sterilization is more cost-effective than in-hospital laparoscopic tubal ligation:

- In three studies that compared Essure hysteroscopic tubal sterilization performed in an office and laparoscopic tubal ligation performed in a hospital day-surgery unit, investigators concluded that Essure sterilization was 33% to 60% less expensive⁶⁻⁸
- In a fourth study, both aforementioned procedures were performed in a non-hospital ambulatory center; there, Essure was determined to be 10% less expensive than laparoscopic tubal ligation⁹
- Others have also concluded that hysteroscopic sterilization is cost-effective, especially when performed in an office.¹⁰

There is less published information available about the comparative costs of Adiana hysteroscopic tubal sterilization and laparoscopic tubal

ligation; Adiana was approved for use by the FDA only last year. It is likely, however, that Adiana also offers a cost advantage over in-hospital laparoscopic tubal sterilization.

Cost-effectiveness analyses never perfectly mirror the real world

It's difficult to account for all costs associated with an intervention (TABLE). For example, some studies have reported that patients recover more quickly, and fully, after hysteroscopic sterilization than after laparoscopic tubal ligation.¹¹ Most studies of tubal sterilization do not account for patient and employer costs involved in recovering from a laparoscopic sterilization procedure.

Another challenge is calculating the cost incurred by the patient as she waits 3 months for a hysteroscopic procedure to achieve contraceptive effectiveness. After laparoscopic tubal sterilization, contraceptive effectiveness is established immediately; after hysteroscopic sterilization, another form of contraception must be used for 3 months before hysterosalpingography is performed

TABLE Some characteristics of Essure and Adiana may affect their relative* cost

	Essure	Adiana
Method	A microinsert comprising 1) an inner coil of stainless steel and polyethylene terephthalate fibers and 2) an outer coil of nickel titanium is placed in the interstitial portion of each fallopian tube by means of hysteroscopy	A delivery catheter is placed in the tubal ostium. The tip of the catheter contains an electrode array that can deliver thermal injury when activated. After the thermal event, a silicone implant is released into the tube.
Follow-up	Hysterosalpingography is used to assess successful tubal occlusion approximately 3 months after the procedure. Before successful occlusion is demonstrated, the patient should use another form of contraception.	
Additional equipment	None	Requires a device-specific radiofrequency generator to induce thermal damage

*Relative to each other and to other methods of contraception.

SOURCE: Palmer SN, Greenberg JA. Transcervical sterilization: a comparison of Essure permanent birth control system and Adiana permanent contraception system. Rev Obstet Gynecol. 2009;2(2):84-92.

to document successful tubal occlusion. The cost to the patient of waiting 3 months is seldom included in cost-effectiveness analyses—in part because it is hard to quantify that wait in dollars.

How we practice must address the need to trim costs

Under the new law, widened access to health care will trigger an intense focus on reducing costs. The delivery of health care will need to change, in many ways, to ensure that the interventions we use are the most cost-effective ones. Office hysteroscopic tubal sterilization may be one cost-cutting measure that benefits both the individual patient and greater society. 📌



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Instant Poll



What percentage of each type of tubal sterilization do you perform?

- Post-partum tubal ligation: ___%
- Laparoscopic tubal ligation: ___%
- Essure tubal ligation: ___%
- Adiana tubal ligation: ___%

File your responses at www.obgmanagement.com. Then, see how closely your opinions match those of your colleagues, when Instant Poll results are reported in an upcoming issue of OBG MANAGEMENT.



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