

The Greenberg Hysteroscopy Speculum: a New Instrument for Hysteroscopy

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ABSTRACT

Objectives: Although the ubiquitous Graves speculum (open-sided or closed) is versatile and familiar, its shortest length is often too long for comfortable manipulation of the newer, pliable, flexible hysteroscopes. The Greenberg speculum is a modification of a Graves speculum with an open side to allow for the removal of instruments while they are still in the vagina. Whereas a standard medium-sized, open-sided Graves speculum measures 110 mm in maximum length, the Greenberg speculum measures only 74 mm. Although the difference between the speculums is only 36 mm in maximum length, this alteration can add considerable ease to placement of both flexible and rigid hysteroscopes in the office or operating room. In this study, we sought to quantify the benefit of this new device by demonstrating that this speculum brings the patient's cervix closer to the provider and reduces the length of unsupported hysteroscope shaft entering the cervical canal.

Methods: We measured the intraspeculum distance from the operator-side opening of the speculum to the external cervical os by using first a standard medium open-sided Graves speculum and then a Greenberg speculum.

Results: Use of the Greenberg speculum reduced the mean minimum intraspeculum distance from the extended fingertips grasping a hysteroscope to the external cervical os by an average of 28 mm or 34% compared with a Graves speculum.

Conclusions: We believe this new speculum offers a subtle but distinct advantage over standard speculums for hysteroscopy.

Key Words: Speculum, Hysteroscopy.

INTRODUCTION

In performing a hysteroscopy, the hysteroscope must be introduced into the cervical os and manipulated through the cervical canal into the endometrial cavity. With a rigid hysteroscope and an anesthetized patient, an open-sided Graves speculum is frequently used so that it can be removed after the cervix is grasped with a stabilizing tenaculum and the hysteroscope is introduced. Although the use of a tenaculum is frequently avoided in the office setting with a flexible hysteroscope, the same or similar style speculum is often used. Although the ubiquitous Graves speculum (open-sided or closed) is versatile and familiar, its shortest length is often too long for comfortable manipulation of the newer, pliable flexible hysteroscopes. We now present a new speculum designed specifically to facilitate both rigid and flexible hysteroscopic procedures.

METHODS

The Greenberg speculum is a modification of a Graves speculum with an open side to allow for the removal of instruments while they are still in the vagina. Whereas a standard medium sized, open-sided Graves speculum measures 110 mm in maximum length, the Greenberg speculum measures only 74 mm. Both speculums have a maximum width of 35 mm and both are open on the right side (**Figure 1**). Although the difference between the speculums is only 36 mm in maximum length, this alteration can add considerable ease to placement of both flexible and rigid hysteroscopes in the office or operating room. To demonstrate this difference, we measured the intraspeculum distance from the operator's-side opening of the speculum to the external cervical os by using first a standard medium open-sided Graves speculum and then a Greenberg speculum. The results were statistically analyzed using a paired *t* test.

RESULTS

Four patients undergoing hysteroscopy were examined. Use of the Greenberg speculum reduced the mean minimum distance by an average of 28 mm [$P < 0.0009$; (95% CI, 16.9 to 39.6)] or 34% compared with a Graves specu-

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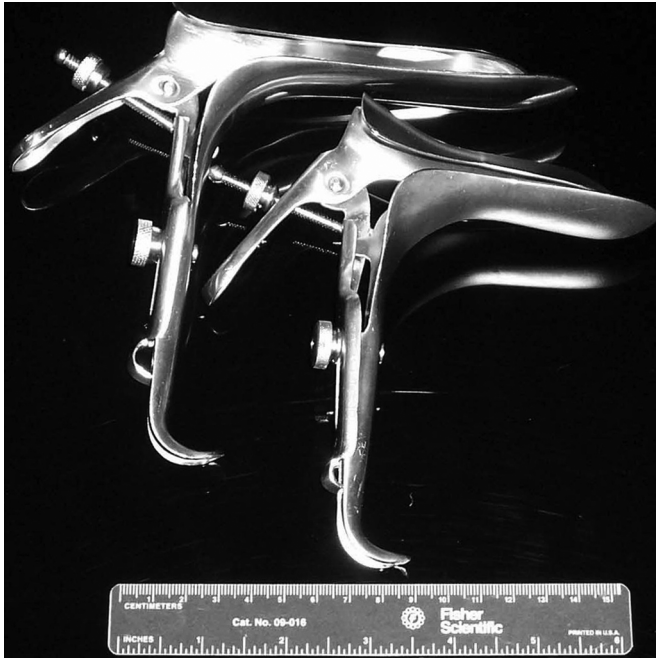


Figure 1. Standard open-sided Graves speculum (left) and Greenberg speculum (right).

lum (**Table 1**). The reduction in the distance to the cervix translated into a shorter amount of unsupported hysteroscope shaft entering the cervical canal. Thus, introduction of the hysteroscope into the endometrial cavity was easier with the Greenberg speculum with no discernable benefits appreciated with the standard Graves speculum.

DISCUSSION

As newer, less invasive surgical techniques proliferate, supportive technologies need to evolve to accommodate the changes these techniques elicit. Office hysteroscopy represents such a new technique. Although the newer flexible hysteroscopes provide in-office access to a procedure that was once confined to the operating room, the pliability of flexible hysteroscopes compared with rigid hysteroscopes can limit the ease with which the hysteroscope is introduced into the endometrial cavity in the

Subject Number	Graves Speculum (mm)	Greenberg Speculum (mm)	% Difference
1	78	53	32
2	96	63	35
3	80	55	32
4	84	54	36
Mean	84.5 (SD=8.1)	56.3 (SD=4.6)	34

unanaesthetized patient.¹ Frequently, the torque on the hysteroscope shaft is such that the end bends rather than enters the cervical canal. This is especially remarkable with either cervical stenosis or an acutely flexed uterus, or both, and can lead to procedure failures.² To minimize this effect, the surgeon soon learns that the further down the shaft one is able to grasp the hysteroscope, the easier it is to manipulate through the cervix. In our experience, the Greenberg speculum often maximizes this maneuver by minimizing the distance between the operator's fingertips and the cervix.

CONCLUSION

We believe this new speculum offers a subtle but distinct advantage over standard speculums for hysteroscopy by reducing the distance between the opening of the speculum and the cervical os, thereby reducing the length of unsupported hysteroscope shaft, which yields less torque on the device.

References:

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