

## HOW COMMON IS IUD PERFORATION, EXPULSION, AND MALPOSITION?

ROBERT L. BARBIERI, MD (APRIL 2022)

### The seriousness of IUD embedment

I appreciated Dr. Barbieri's comprehensive review of clinical problems regarding the intrauterine device (IUD). It is interesting that, in spite of your mention of IUD embedment in the myometrium, other publications regarding this phenomenon are seemingly absent (except for ours).<sup>1</sup> Whether or not there is associated pain (and sometimes there is not), in our experience its removal can result in IUD fracture. As you stated, it is true that 3D transvaginal sonography perfectly enables this visualization, yet it is surprising that others have not experienced what we have. Nonetheless, it is encouraging to see that IUD embedment is seriously mentioned.

1. Fernandez CM, Levine EM, Cabiya M, et al. Intrauterine device embedment resulting in its fracture: a case series. *Arch Obstet Gynecol.* 2021;2:1-4.

**Elliot Levine, MD**

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### Dr. Barbieri responds

*I thank Dr. Levine for highlighting the important issue of IUD fracture and providing a reference to a case series of IUD fractures. Although such fracture is not common, when it does occur it may require a hysteroscopic procedure to remove all pieces of the IUD. In the cited case series, fracture was more commonly observed with the copper IUD than with the LNG-IUD. With regard to IUD malposition, 4 publications reviewed in my recent editorial describe the problem of an IUD arm embedded in the myometrium.<sup>1-4</sup>*

1. Benacerraf BR, Shipp TD, Bromley B. Three-dimensional ultrasound detection of abnormally located intrauterine contraceptive devices which are a source of pelvic pain and abnormal bleeding. *Ultrasound Obstet Gynecol.* 2009;34:110-115.
2. Braaten KP, Benson CB, Maurer R, et al. Malpositioned intrauterine contraceptive devices: risk factors, outcomes and future pregnancies. *Obstet Gynecol.* 2011;118:1014-1020.
3. Gerkowicz SA, Fiorentino DG, Kovacs AP, et al.

Uterine structural abnormality and intrauterine device malposition: analysis of ultrasonographic and demographic variables of 517 patients. *Am J Obstet Gynecol.* 2019;220:183.e1-e8.

4. Connolly CT, Fox NS. Incidence and risk factors for a malpositioned intrauterine device detected on three-dimensional ultrasound within eight weeks of placement. *J Ultrasound Med.* September 27, 2021.

### WILL NAAT REPLACE MICROSCOPY FOR THE IDENTIFICATION OF ORGANISMS CAUSING VAGINITIS?

ROBERT L. BARBIERI, MD (MARCH 2022)

### Follow-up questions on NAAT testing

The sensitivity of NAAT testing, as outlined in Dr. Barbieri's editorial, is undoubtedly better than the clinical methods most clinicians are using. I appreciate the frustration we providers often experience in drawing conclusions for patients based on the Amsel criteria for bacterial vaginitis (BV). I am surprised by the low sensitivity of microscopy for yeast vaginitis. My follow-up questions are:

- Have the NAATs referenced been validated in clinical trials and proven to improve patient outcomes?
- Will the proposal to begin empiric therapy for both yeast vaginitis and BV in combination while waiting for NAAT results lead to an increase of resistant strains?
- What is the cost of NAAT for vaginitis, and is this cost effective in routine practice?
- Can NAATs be utilized to detect resistant strains of yeast or *Gardnerella* sp?

**Alan Paul Gehrich, MD (COL, MC ret.)**

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### Dr. Barbieri responds

*I thank Dr. Gehrich for raising the important issue of what is the optimal endpoint to assess the clinical utility of NAAT testing for vaginitis. Most studies of the use of NAAT to diagnose the cause of vaginitis focus on comparing NAAT results to standard clinical practice (microscopy*

*and pH), and to a "gold standard." In most studies the gold standards are Nugent scoring with Amsel criteria to resolve intermediate Nugent scores for bacterial vaginosis, culture for *Candida*, and culture for *Trichomonas vaginalis*. It is clear from multiple studies that NAAT provides superior sensitivity and specificity compared with standard clinical practice.<sup>1-3</sup> As noted in the editorial, in a study of 466 patients with symptoms of vaginitis, standard office approaches to the diagnosis of vaginitis resulted in the failure to identify the correct infection in a large number of cases.<sup>4</sup> For the diagnosis of BV, clinicians missed 42% of the cases identified by NAAT. For the diagnosis of *Candida*, clinicians missed 46% of the cases identified by NAAT. For the diagnosis of *T vaginalis*, clinicians missed 72% of the cases identified by NAAT. This resulted in clinicians not appropriately treating many infections detected by NAAT.*

*NAAT does provide information about the presence of *Candida glabrata* and *Candida krusei*, organisms which may be resistant to fluconazole. I agree with Dr. Gehrich that the optimal use of NAAT testing in practice is poorly studied with regard to treatment between sample collection and NAAT results. Cost of testing is a complex issue. Standard microscopy is relatively inexpensive, but performs poorly in clinical practice, resulting in misdiagnosis. NAAT testing is expensive but correctly identifies causes of vaginitis.*

1. Schwabke JR, Gaydos CA, Hyirjesy P, et al. Diagnostic performance of a molecular test versus clinician assessment of vaginitis. *J Clin Microbiol.* 2018;56:e00252-18.
2. Broache M, Cammarata CL, Stonebraker E, et al. Performance of vaginal panel assay compared with clinical diagnosis of vaginitis. *Obstet Gynecol.* 2021;138:853-859.
3. Schwabke JR, Taylor SN, Ackerman N, et al. Clinical validation of the Aptima bacterial vaginosis and Aptima *Candida/Trichomonas vaginalis* assays: results from a prospective multi-center study. *J Clin Microbiol.* 2020;58:e01643-19.
4. Gaydos CA, Beqaj S, Schwabke JR, et al. Clinical validation of a test for the diagnosis of vaginitis. *Obstet Gynecol.* 2017;130:181-189.