


# Vaginal natural orifice transluminal endoscopic total hysterectomy (vNOTES)

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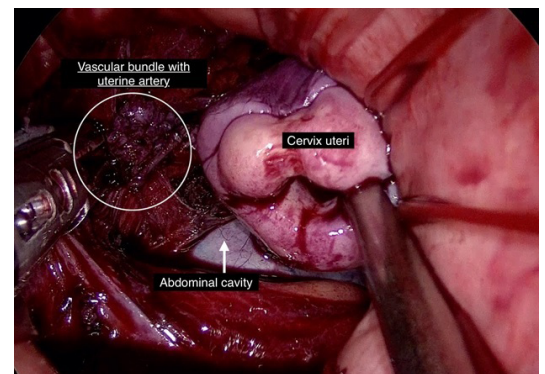
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A total hysterectomy is a common procedure. According to published data, in the European Union, laparoscopic and laparoscopic-assisted hysterectomies are performed more frequently than abdominal hysterectomies.<sup>1</sup> A new technique in endoscopic surgery is the natural orifice approach—vaginal natural orifice transluminal endoscopic surgery (vNOTES). Performing a hysterectomy using the vNOTES method has a number of advantages compared with the traditional one, including a decrease in the intensity of pain in the early postoperative period, the absence of a cosmetic defect on the anterior abdominal wall and improved visualisation, which reduces the risk of intraoperative complications.<sup>2</sup> This type of surgery is a combination of vaginal access as well as single-port endoscopic technique. Due to the vaginal approach, vNOTES is associated with no risk of infection, postoperative hernia or dehiscence of sutures on the anterior abdominal wall compared with the laparoscopic one.<sup>2,3</sup>



**Figure 1** Ligation of the vascular bundle containing the uterine artery with an electroligation instrument. Cervix is in craniolateral position.

The operation was carried out at the clinical base of Bashkir State Medical University, Ufa, Russia. The course of the operation involves two stages: vaginal and laparoscopic (video 1).

The vaginal stage includes anterior and posterior colpotomies, the intersection of the cardinal and uterosacral ligaments and the installation of a port for subsequent laparoscopy via vaginal access.

This is followed by the installation of the port and the beginning of the laparoscopic stage of the operation. In our practice, we use a four-port laparoscopic system. The vNOTES operation does not require the Trendelenburg position, as with traditional laparoscopy; we only use it for patients with a body mass index greater than 35.

The laparoscopic stage includes the intersection of the uterine arteries, round ligaments and the ovarian ligament or infundibulopelvic ligament, as well as the revision of the pelvic organs (figure 1).

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**Video 1** The vaginal natural orifice transluminal endoscopic surgery method allows additional visualisation of the surgical field and enables tubectomy, adnexectomy and cystectomy, which are limited to perform with traditional vaginal access.



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If a tumour is present, it is removed by endobag in compliance with the rules of ablastics. If there are indications for uterine appendage removal, it can be easily done via the vNOTES approach (video 1). The endoscopic stage ends with a haemostasis check, deflating and removing the portal system. Finishing the operation with peritonisation and suturing of the vaginal mucosa. The vaginal stage may include various colpoperineal plastic surgeries, simultaneously.

**Contributors** IIM and EAB performed the surgery and recorded the video. DNO edited the video. ZTG and GKM wrote the draft. AGY reviewed the draft and supervised the final video. All authors approved the final edition. EAB is the author responsible for the overall content as the guarantor.

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