

## Video Article

### Tips and tricks for laparoscopic interval transabdominal cervical cerclage; a simplified technique

#### Şükür and Saridoğan. Laparoscopic interval cervical cerclage

Yavuz Emre Şükür<sup>1</sup>, Ertan Saridoğan<sup>2</sup>

<sup>1</sup>Department of Obstetrics and Gynecology, Ankara University School of Medicine, Ankara, Turkey

<sup>2</sup>Department of Obstetrics and Gynecology, University College London Hospitals, London, United Kingdom

**Address for Correspondence:** Yavuz Emre Şükür  
e-mail: yesukur@gmail.com Phone: +90 312 595 64 05

**DOI:** 10.4274/jtgga.2019.209.0028

**Received:** 11 February, 2018 **Accepted:** 8 May, 2019

#### Abstract

With the advance of laparoscopic surgery, several minimally invasive cervical cerclage techniques have been described and the outcome of those has been promising. With this video article we describe a simplified technique for laparoscopic interval transabdominal cervical cerclage. The suture material is a standard non-absorbable, braided polyester Mersilene tape which is also used for transvaginal cerclage. The straightened needle is passed medial to the uterine vessels and lateral to the cervico-isthmic junction in anteroposterior direction on both sides, and pulled out above the uterosacral ligament. The knot is tied posteriorly, just above the uterosacral plate. The advantages of straightened needles are easy insertion into the abdominal cavity through the 5 mm ports, and more accurate direction of the suture in anteroposterior direction. In addition, posterior knots can be removed via colpotomy in case of pregnancy failure in the second trimester and this allows vaginal delivery.

**Keywords:** Cervical cerclage, interval, laparoscopy, technique

#### Introduction

The two main indications for trans-abdominal cervical cerclage are grossly damaged cervical tissue due to previous surgeries or absence of vaginal portion of cervix, and previously failed elective vaginal cerclage (1). With the advance of laparoscopic surgery, several minimally invasive techniques have been described and the outcome of those has been promising (2-4). With this video article we describe a simplified technique which might reduce risk of complications such as uterine artery or lower urinary tract injuries (Video 1).

#### Technique

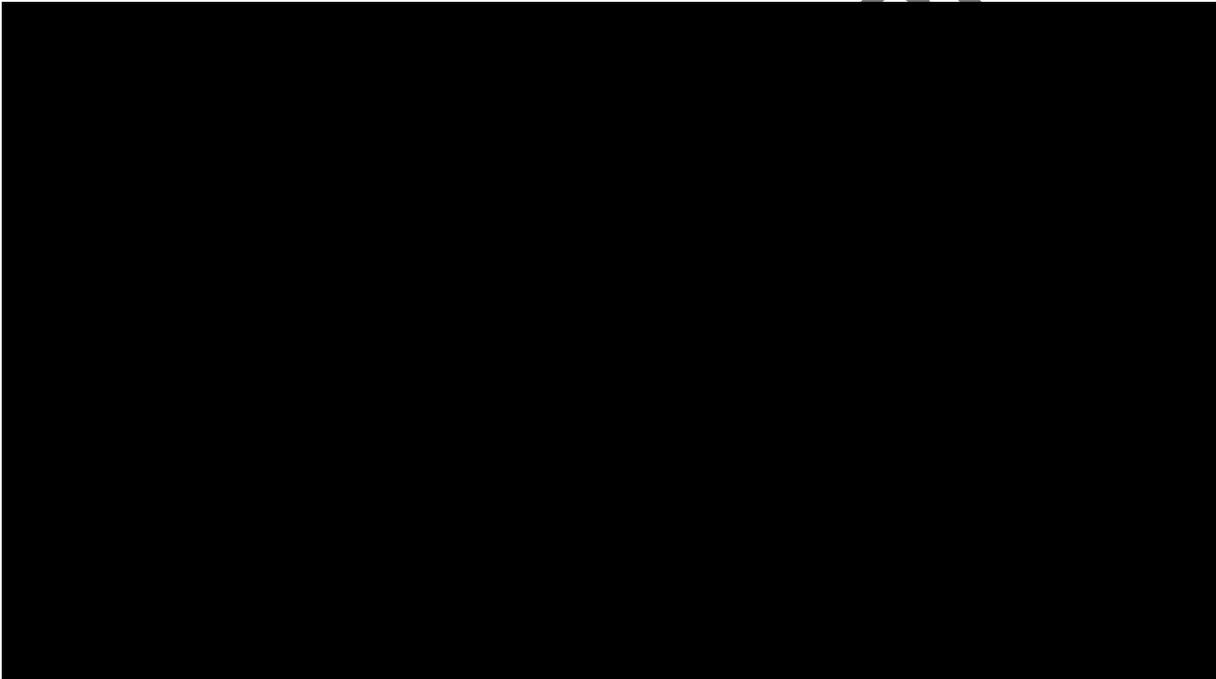
Under general anesthesia, the patient was positioned in a low dorsal lithotomy in booted support stirrups. Prior to surgery urethral catheter is inserted. A uterine manipulated is placed into the endo-cervical canal to move the uterus during surgery and avoid obstruction of the cervical canal. The suture material is a standard non-absorbable, braided polyester Mersilene tape which is also used for trans-vaginal cervical cerclage (Ethicon US, LCC, USA). First, the utero-vesical peritoneal fold is incised at the cervico-isthmic level and in order to identify the uterine vessels the incision is extended laterally on both sides. Generally, bladder is not reflected downwards. However, previous caesarean section or other anterior uterine surgeries that result in adhesions may necessitate dissection and bladder reflection. The straightened needle is passed medial to the uterine vessels and lateral to the cervico-isthmic junction in anteroposterior direction with a right angle to cervix (Figure 1), and pulled out from the posterior surface of broad ligament, 1 cm above the uterosacral ligament. Then, the same procedure is repeated on the left side. The knot is tied on the posterior surface of cervico-isthmic junction, just above the uterosacral plate (Figure 2). The Mersilene tape is carefully laid flat on the anterior surface of cervix (Figure 3). The ends of tape are cut at least 1 cm beyond the knot after tying. It's not essential to close the peritoneum on anterior surface over the tape. After haemostasis, the bladder catheter is removed if there's no contra-indication and the patient is discharged on postoperative day 0/1.

Although the suture may be inserted in either direction, we believe in that placing the suture from anterior to posterior has the advantages of better visualisation, lesser risks of bowel injury and bladder erosions. In addition, posterior knots can be removed via colpotomy in case of pregnancy failure in the second trimester and this allows vaginal delivery. Fibrosis can occur around and within the braided fibres of the Mersilene tape and make removal more difficult. However, a posterior knot can make it easy to remove when necessary.

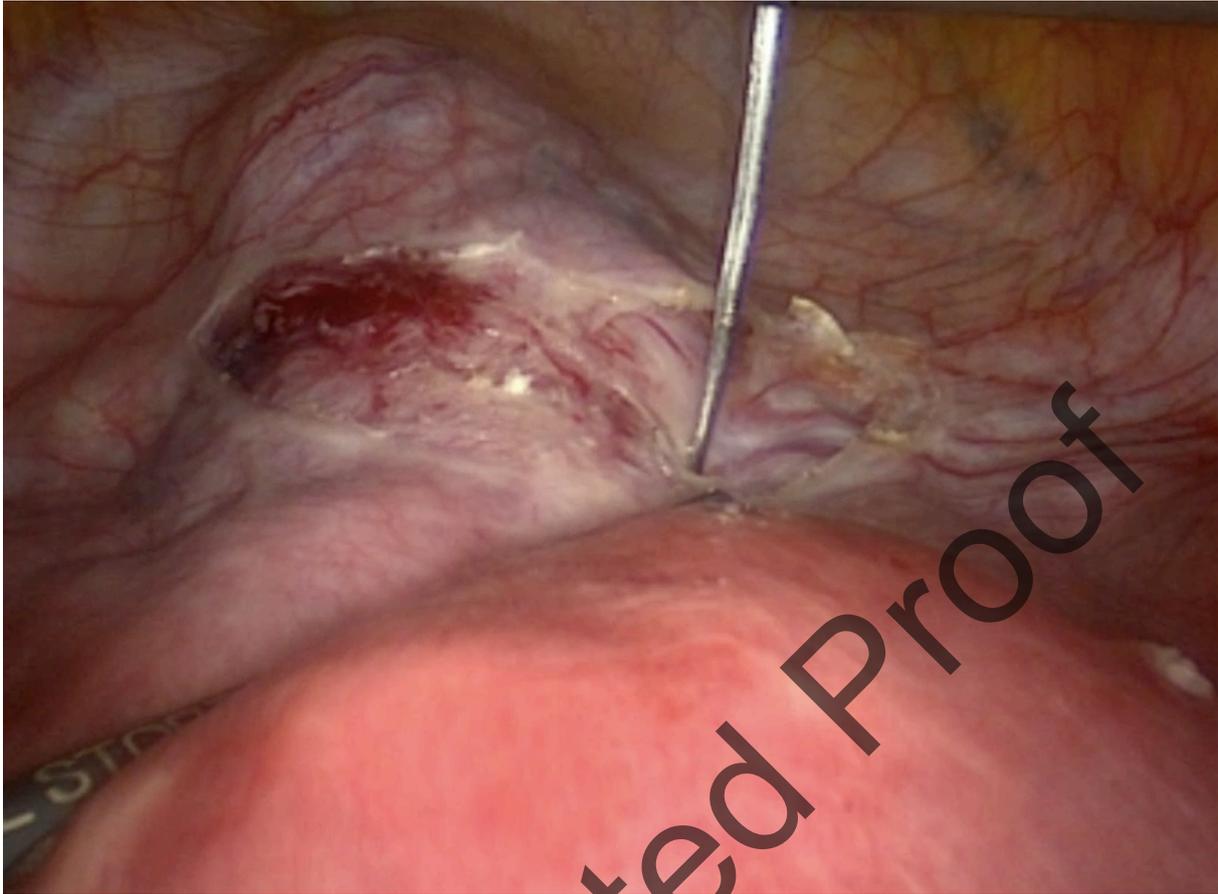
The procedure can be simplified further by straightening the needles before insertion to the abdominal cavity. The two important advantages of straightened needles are easy insertion into the abdominal cavity through the 5 mm ports, and more accurate direction of the suture from anterior to posterior direction at cervico-isthmic level. An anterior knot may be beneficial to avoid adhesions in the Douglas pouch, and also can be easily removed at laparoscopy. However, it has the disadvantage of increased risk of bladder erosion.

### References

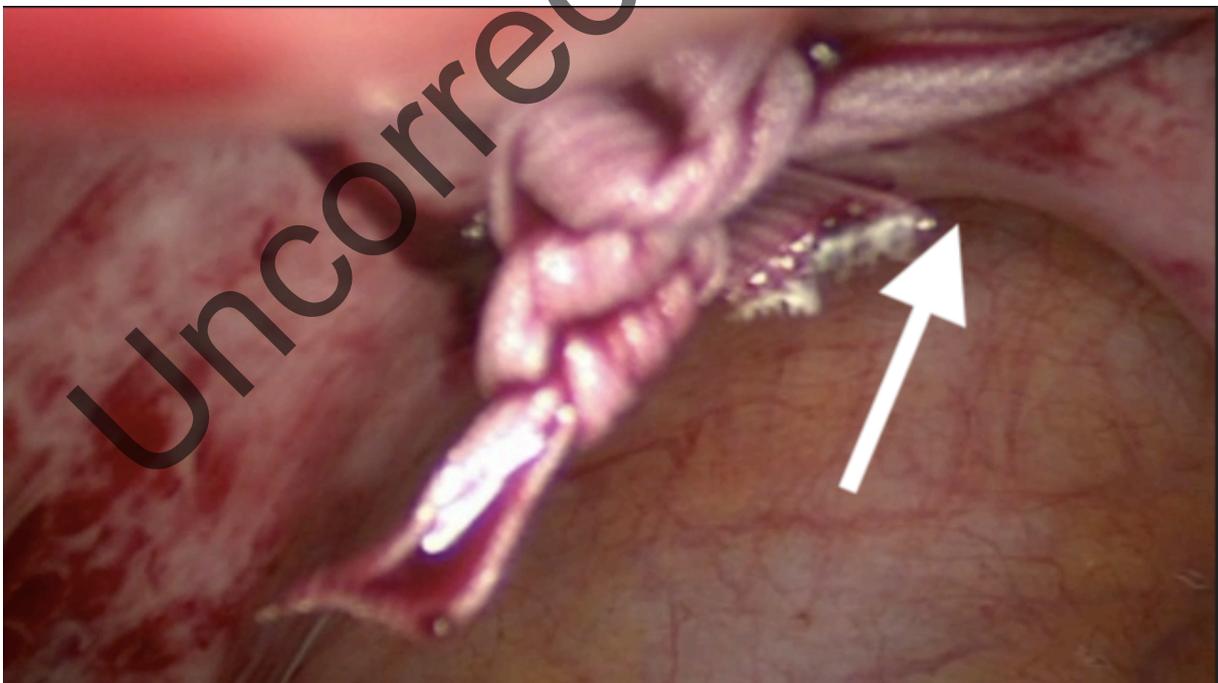
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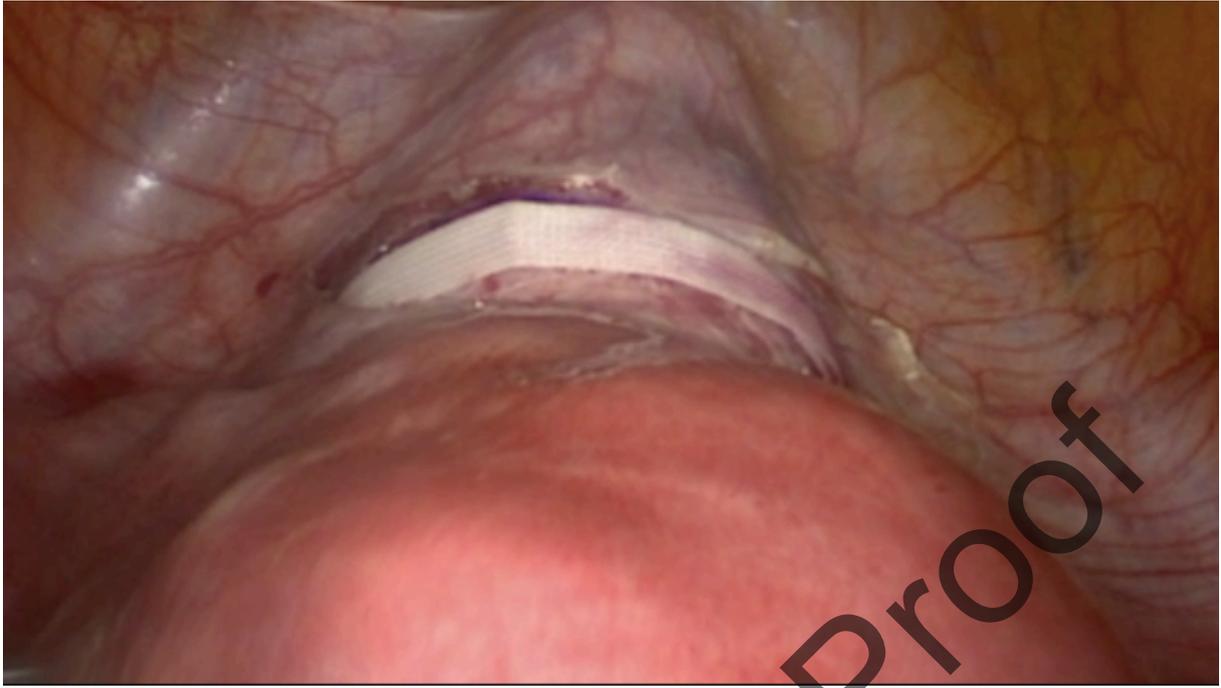
**Video 1.** A simplified technique for laparoscopic interval transabdominal cervical cerclage.



**Figure 1.** The needle passed between uterine vessels and cervico-isthmic junction with a right angle.



**Figure 2.** Knot tied posteriorly, just above the uterosacral plate.



**Figure 3.** The tape is laid flat on the anterior surface of uterus.

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