Society for Maternal-Fetal Medicine
High-risk pregnancy experts

SMFM Special Statement

smfm.org

Society for Maternal-Fetal Medicine Special Statement: Checklists for transabdominal cerclage

Check for updates

Society for Maternal-Fetal Medicine (SMFM); Julio Mateus Nino, MD, PhD; C. Andrew Combs, MD, PhD; and Christina Davidson, MD; SMFM Patient Safety and Quality Committee

The recent Society for Maternal-Fetal Medicine Consult Series #65 provides a comprehensive review of transabdominal cerclage. The current article condenses the Consult recommendations regarding patient selection, counseling, and management into 2 simple one-page checklists, one for the primary obstetrical provider and the other for the maternal-fetal medicine consultant or cerclage provider. Moreover, we provide sample templates for medical record notes to document preprocedure counseling and informed consent.

Key words: cervical insufficiency, loop electrosurgical excision procedure, midtrimester pregnancy loss, preterm birth prevention, trachelectomy

Cervical insufficiency, characterized by painless cervical dilation leading to preterm birth in the second trimester of pregnancy, occurs in 0.05% to 1.00% of pregnancies.[1] Cervical insufficiency is a leading cause of midtrimester miscarriage and spontaneous preterm birth at <37 0/7 weeks of gestation.[2] Cervical cerclage is an effective intervention in patients diagnosed with cervical insufficiency.[3] The procedure is typically performed via a vaginal approach, with McDonald[4] or Shirodkar[5] being the most commonly used techniques. Transabdominal cerclage (TAC) is indicated when transvaginal cerclage is extremely difficult to place for anatomic reasons (eg, trachelectomy, recurrent loop electrosurgical excision procedures, congenitally extremely short cervix) or with a history of unsuccessful transvaginal cerclage, defined as previous placement of history- or ultrasound-indicated cerclage and subsequent singleton delivery before 28 0/7 weeks of gestation.[6] Both laparoscopic and open laparotomy TAC have high success rates producing similar pregnancy outcomes.[7]

The Society for Maternal-Fetal Medicine (SMFM) recently published guidelines on TAC.[8] The current document summarizes the SMFM guidelines in 2 simple one-page checklists (Box 1 and Box 2), one for use by primary obstetrical providers and one for maternal-fetal medicine subspecialists or other specialists with experience in placement of TAC. These are intended to guide providers in selecting patients who are appropriate candidates for TAC to improve pregnancy outcomes and provide guidance on the management of patients with TAC in situ.

As TAC can be placed during the preconception period, appropriate identification of candidates ideally occurs before a new pregnancy. For this reason, the checklists begin with identification of candidates immediately after a midtrimester delivery by the primary obstetrical provider. For those patients who are not identified until a subsequent pregnancy, TAC can be offered in pregnancy up to 22 weeks of gestation.[9,10]

In addition, we provide sample templates that can be adapted for medical record notes documenting preprocedure counseling and informed consent (Box 3).

Corresponding author: Society for Maternal-Fetal Medicine Patient Safety and Quality Committee. smfm@smfm.org

BOX 1

Primary obstetrical provider checklist for TAC

This checklist is a SAMPLE only and does not dictate an exclusive course of action for individual patients.
The checklist follows the guidelines of SMFM Consult Series #65.[8]

Potential candidates for TAC (one or both)

- □ Unsuccessful transvaginal cervical cerclage, defined as singleton delivery before 28 0/7 weeks of gestation after placement of history- or ultrasound-indicated cerclage
- □ Candidate for history-indicated cerclage placement and anatomic factors that preclude placement of transvaginal cerclage, such as extensively amputated cervix, trachelectomy, recurrent LEEP procedures, or a congenitally extremely short cervix

Immediately postpartum (before hospital discharge)

- □ Counsel that they are a candidate for TAC in subsequent pregnancies and that additional information will be provided at postpartum follow-up visits
- □ Assess need for grief support and consider social work or behavioral health referral
- □ Ensure contraception options have been addressed

Postpartum visit (in-person or telemedicine)

- □ Assess grief, coping, or support and assess for perinatal depression using a validated screening tool. Consider social work or behavioral health referral
- □ Review delivery events and potential considerations for future pregnancies
  - □ Counsel patient about factors that make them a candidate for TAC
  - □ Discuss desires for future pregnancy
  - □ If planning a future pregnancy, refer to maternal-fetal medicine for preconception TAC counseling
  - □ Review insurance status to assess barriers to interpregnancy healthcare access and consider social work referral to address barriers
  - □ Document all of the above (can use sample counseling note below)
- □ Ensure contraception options have been addressed

Interpregnancy or preconception

- □ Review obstetrical history, perform physical examination, and determine if candidate for TAC
- □ Discuss desires for future pregnancy
- □ If planning a future pregnancy and candidate for TAC, refer to maternal-fetal medicine for TAC counseling and possible arrangement for open vs laparoscopic TAC placement before conception
- □ Review insurance status to assess barriers to interpregnancy healthcare access and consider social work referral to address barriers
- □ Document all of the above (can use sample counseling note below)

Postconception, ideally first trimester of pregnancy

- □ Review obstetrical history, perform physical examination, and determine if candidate for TAC
- □ Perform an ultrasound to confirm gestational age, number of fetuses, and absence of life-limiting anomalies (such as anencephaly)
- □ If candidate for TAC and not already in place, refer immediately to maternal-fetal medicine for TAC counseling and possible arrangement for open vs laparoscopic TAC placement

Version Date June 8, 2023

LEEP, loop electrosurgical excision procedure; *TAC*, transabdominal cerclage.
Society for Maternal-Fetal Medicine. Checklists for transabdominal cerclage. Am J Obstet Gynecol 2023.

BOX 2

Maternal-fetal medicine or surgeon checklist for consultation regarding TAC

This checklist is a SAMPLE only and does not dictate an exclusive course of action for individual patients.
The checklist follows the guidelines of SMFM Consult Series #65.[8]

Potential candidates for transabdominal cerclage (one or both)

- □ Unsuccessful transvaginal cervical cerclage, defined as singleton delivery before 28 0/7 weeks of gestation after placement of history- or ultrasound-indicated cerclage
- □ Candidate for history-indicated cerclage placement and anatomic factors preclude placement of transvaginal cerclage, such as extensively amputated cervix, trachelectomy, recurrent LEEP procedures, or a congenitally extremely short cervix

Interpregnancy/pre-conception consult

- □ Review obstetric history and confirm candidacy for TAC
- □ Counsel patient about management options
  - □ Risks and benefits of TAC
  - □ Timing of placement of TAC
  - □ Management of pregnancy following TAC
- □ Discuss risks and benefits of open vs laparoscopic TAC placement prior to conception vs during first trimester/early second trimester of subsequent pregnancy (can use sample counseling note below)
- □ For patients who elect TAC placement, schedule TAC or refer to TAC surgical provider

Postconception consult

- □ Review obstetrical history and confirm candidacy for TAC
- □ Discuss risks and benefits of open vs laparoscopic TAC placement during first trimester or early second trimester of subsequent pregnancy (can use sample counseling note below)
- □ For patients who elect TAC placement, schedule TAC or refer to TAC surgical provider
- □ If not already done, perform an ultrasound to confirm gestational age, number of fetuses, and absence of life-limiting anomalies (such as anencephaly)
- □ Discuss management of pregnancy after TAC

After cerclage placement

- □ Maternal-fetal medicine consult if not already done
- □ Routine transvaginal cervical length screening is not recommended

Specific circumstances:

- □ If pregnancy loss in the first trimester of pregnancy, consider D&E with TAC in situ
- □ If pregnancy loss in the second trimester of pregnancy, consider D&E if an expert healthcare provider is available
- □ If fetal demise at advanced gestational age, consider vaginal delivery with laparoscopic removal of TAC or cesarean delivery with TAC in situ
- □ In uncomplicated pregnancies, plan for cesarean delivery between 37 0/7 to 38 6/7 weeks of gestation with TAC in situ

Version Date June 8, 2023

Surgical provider can be a maternal-fetal medicine subspecialist or other specialist with expertise in TAC placement.
D&E, dilation and evacuation; *LEEP*, loop electrosurgical excision procedure; *TAC*, transabdominal cerclage.
Society for Maternal-Fetal Medicine. Checklists for transabdominal cerclage. Am J Obstet Gynecol 2023.

BOX 3
Sample note templates

Sample counseling note of primary obstetrical provider
I reviewed the delivery events with [name] and counseled the patient that the clinical picture is consistent with a diagnosis of unsuccessful transvaginal cerclage OR cervical insufficiency and anatomy that precludes transvaginal cerclage placement. The patient desires future pregnancies. I offered maternal-fetal medicine consultation and discussed the option of preconception TAC. The patient desires preconception consult OR consultation only after new pregnancy establishment.

Sample preconception TAC expert provider consult note
I reviewed the delivery events with [name] and counseled the patient that the clinical picture is consistent with a diagnosis of unsuccessful transvaginal cerclage OR cervical insufficiency and anatomy that precludes transvaginal cerclage placement. The patient confirms the desire of future pregnancy. We discussed that TAC will be the best option to reduce the risk of early preterm delivery as studies have demonstrated that TAC reduces the risk of recurrent preterm birth compared with repeat transvaginal cerclage in patients who had a previous delivery before 33 to 34 weeks of gestation with transvaginal cerclage in place. We reviewed the open and laparoscopic TAC surgical techniques, their similar risks and efficacy, and the available surgeon skills for each procedure within the healthcare system. I explained that there is evidence to suggest that laparoscopic TAC is associated with less blood loss and a shorter hospital stay, but a longer operation duration compared with open TAC, but that conception and miscarriage rates and gestational age at delivery and neonatal survival are similar for both procedures. We discussed the timing of placement. I counseled the patient that TAC can be placed before pregnancy or early in pregnancy. Benefits of an interval, preconception TAC include, but are not limited to, lower surgical complications and blood loss, lack of pregnancy effect from anesthesia, higher likelihood of delivery after 34 weeks of gestation, and fewer preterm deliveries. I counseled the patient that TAC is most commonly placed in the first trimester of pregnancy if placed during pregnancy, but that it can be placed up to 22 weeks of gestation. I counseled the patient that, because of the risk of uterine dehiscence or rupture with labor in patients with TAC, delivery via cesarean delivery before the onset of labor is advised and would be scheduled between 37 0/7 to 38 6/7 weeks of gestation. After delivery via cesarean delivery, I explained that TAC would be left in situ for future pregnancies. After counseling, the patient desires to proceed with TAC. The patient was referred to [name] to schedule the procedure.

Sample early pregnancy TAC expert provider consult note
I reviewed the delivery events with [name] and counseled the patient that the clinical picture is consistent with a diagnosis of unsuccessful transvaginal cerclage OR cervical insufficiency and anatomy that precludes transvaginal cerclage placement. Singleton pregnancy, normal early anatomy ultrasound, and dating were confirmed. The patient was found to be a good candidate for TAC. The patient was counseled that TAC will be the best option to reduce the risk of early preterm delivery as studies have demonstrated that TAC reduces the risk of recurrent preterm birth compared with repeat transvaginal cerclage in patients who had a previous delivery before 33 to 34 weeks of gestation with transvaginal cerclage in place. We reviewed the open and laparoscopic TAC surgical techniques, their similar risks and efficacy, and the available surgeon skills for each procedure within the healthcare system. I explained that there is evidence to suggest that laparoscopic TAC is associated with less blood loss and a shorter hospital stay, but a longer operation duration compared with open TAC, but that miscarriage rates, gestational age at delivery, and neonatal survival are similar for both procedures. We discussed the timing of placement. I counseled the patient that TAC is most commonly placed in the first trimester of the current pregnancy, but that it can be placed up to 22 weeks of gestation. I counseled the patient that, because of the risk of uterine dehiscence or rupture with labor in patients with TAC, delivery via cesarean delivery before the onset of labor is advised and will be scheduled between 37 0/7 to 38 6/7 weeks of gestation. After delivery via cesarean delivery, I explained that TAC would be left in situ for future pregnancies. After counseling, the patient desires to proceed with TAC. The patient was referred to [name] to schedule the procedure.

TAC, transabdominal cerclage.
Society for Maternal-Fetal Medicine. Checklists for transabdominal cerclage. Am J Obstet Gynecol 2023.

REFERENCES

1. Roman A, Suhag A, Berghella V. Overview of cervical insufficiency: diagnosis, etiologies, and risk factors. Clin Obstet Gynecol 2016;59:237–40.
2. Joubert M, Sibiude J, Bounan S, Mandelbrot L. Mid-trimester miscarriage and subsequent pregnancy outcomes: the role of cervical insufficiency in a cohort of 175 cases. J Matern Fetal Neonatal Med 2022;35:4698–703.
3. ACOG Practice Bulletin No.142: cerclage for the management of cervical insufficiency. Obstet Gynecol 2014;123:372–9.
4. McDonald IA. Suture of the cervix for inevitable miscarriage. J Obstet Gynaecol Br Emp 1957;64:346–50.
5. Shirodkar VN. A new method of operative treatment for habitual abortions in the second trimester of pregnancy. Antiseptic 1955;52:299–300.
6. Shennan AH, Story L; Royal College of Obstetricians, Gynaecologists. Cervical cerclage: Green-top Guideline No. 75. BJOG 2022;129:1178–210.
7. Hulshoff CC, Hofstede A, Inthout J, et al. The effectiveness of transabdominal cerclage placement via laparoscopy or laparotomy: a systematic review and meta-analysis. Am J Obstet Gynecol MFM 2023;5:100757.
8. Society for Maternal-Fetal Medicine (SMFM), Temming L, Mikhail E, SMFM Publications Committee. Society for Maternal-Fetal Medicine Consult Series #65: Transabdominal cerclage. Am J Obstet Gynecol 2023;228:B2–10.
9. Lotgering FK, Gaugler-Senden IP, Lotgering SF, Wallenburg HC. Outcome after transabdominal cervicoisthmic cerclage. Obstet Gynecol 2006;107:779–84.
10. Gesson-Paute A, Berrebi A, Parant O. [Transabdominal cervico-isthmic cerclage in the management of cervical incompetence in high risk women]. J Gynecol Obstet Biol Reprod (Paris) 2007;36:30–5.

All authors and committee members have filed a disclosure of interests delineating personal, professional, business, or other relevant financial or nonfinancial interests in relation to this publication. Any substantial conflicts of interest have been addressed through a process approved by the Society for Maternal-Fetal Medicine (SMFM) Board of Directors. The SMFM has neither solicited nor accepted any commercial involvement in the specific content development of this publication.

This document has undergone an internal peer review through a multilevel committee process within the SMFM. This review involves

critique and feedback from the SMFM Patient Safety and Quality and Document Review Committees and final approval by the SMFM Executive Committee. The SMFM accepts sole responsibility for the document content. The SMFM publications do not undergo editorial and peer review by the *American Journal of Obstetrics & Gynecology*. The SMFM Patient Safety and Quality Committee reviews publications every 36 to 48 months and issues updates as needed. Further details regarding SMFM publications can be found at www.smfm.org/publications.

The SMFM recognizes that obstetrical patients have diverse gender identities and is striving to use gender-inclusive language in all of its publications. The SMFM will be using terms such as "pregnant person" and "pregnant individual" instead of "pregnant woman" and will use the singular pronoun "they." When describing study populations used in research, the SMFM will use the gender terminology reported by the study investigators.

Reprints will not be available.

 © 2023 Published by Elsevier Inc. https://doi.org/10.1016/j.ajog.2023.07.015