

Prevention of Spontaneous Preterm Birth

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BACKGROUND

Preterm deliveries have become increasingly common and accounted for 10.4% of deliveries in the United States in 2022. In 2018, the rate of preterm birth among American Indian and Alaska Native women was 11.5%. Preterm birth can lead to higher rates of infant morbidity and mortality within the first year of life and can manifest as troubles with breathing, feeding, cerebral palsy, developmental delay, vision problems, and hearing problems, amongst other issues.

During preconception counseling and the initial prenatal visit, patients should be evaluated for risk of preterm birth. A thorough pregnancy history should be obtained that includes gestational age of prior pregnancies, indication(s) for delivery, and route of delivery. Additionally, medical history and gynecologic history, including prior cervical surgeries such as loop electrosurgical excision procedure (LEEP) and cold knife cone (CKC), should be discussed. The largest risk for a spontaneous preterm birth is a history of a prior preterm delivery, particularly if there is a higher number of prior preterm deliveries and at a younger gestational age. Other risks include a short interpregnancy interval < 18 months, multifetal gestation, mullerian anomalies, uterine fibroids, prior cervical surgeries, body mass index (BMI) less than 18.5, use of tobacco, alcohol, or other recreational drugs. Demographic characteristics associated with increased rates of spontaneous preterm birth include Indigenous and non-Hispanic Black women.

During pregnancy, the risk of preterm birth can be decreased by management of persistent asymptomatic bacteriuria, bacterial vaginosis, and periodontal disease, and cervical length screening in those who have a history of spontaneous preterm birth.

In the second trimester, a short cervix is a strong predictor for preterm birth. This document reviews screening for cervical length in the second trimester along with management recommendations to decrease the risk of preterm birth.

DEFINITIONS

PRETERM BIRTH:

- Delivery between 20 0/7 – 36 6/7 weeks gestation.

EARLY PRETERM BIRTH:

- Delivery between 20 0/7 – 33 6/7 weeks gestation.

LATE PRETERM BIRTH:

- Delivery between 34 0/7 – 36 6/7 weeks gestation.

SPONTANEOUS PRETERM BIRTH:

- Preterm delivery (vaginal or cesarean) from preterm labor, cervical insufficiency, preterm prelabor rupture of membranes (PPROM).

MEDICALLY INDICATED PRETERM BIRTH:

- Preterm delivery (vaginal or cesarean) initiated due to medical indications (i.e. preeclampsia with severe features, fetal growth restriction with abnormal Doppler studies, placenta previa, etc).

SHORT CERVICAL LENGTH:

- Cervix length measuring less than 25 mm by transvaginal ultrasound assessment.

INDICAITONS FOR MFM REFERRAL

HISTORY OF ANY OF THE FOLLOWING IN PRIOR PREGNANCIES:

- Spontaneous preterm birth <32 0/7 weeks gestation
- Two or more prior spontaneous preterm deliveries
- Cervical insufficiency
- Cerclage placement

ANY OF THE FOLLOWING FINDINGS IN A CURRENT PREGNANCY:

- Cervical length $\leq$ 25 mm

INDICATIONS FOR OBGYN PHYSICIAN REFERRAL

HISTORY OF ANY OF THE FOLLOWING IN PRIOR PREGNANCIES:

- Preterm birth $\leq$ 36 6/7 weeks gestation

ANY OF THE FOLLOWING FINDINGS IN A CURRENT PREGNANCY:

- Cervical length $\leq$ 25 mm

CERVICAL LENGTH SCREENING

SINGLETON PREGNANCY WITHOUT HISTORY OF PRIOR SPONTANEOUS PRETERM BIRTH:

- Cervical length measurement at the same time of anatomy assessment between 18 0/7 to 22 6/7 weeks gestation.
 - o Cervical length > 30 mm:
 - No further follow-up indicated.
 - o Cervical length 26 – 30mm:
 - Repeat cervical length in one week.
 - o Cervical length $\leq$ 25 mm:
 - Initiate vaginal progesterone.
 - Urgent MFM referral.
 - OB physician referral.
 - o Cervical length < 10 mm:
 - Urgent MFM referral for consideration of ultrasound-indicated cerclage.
 - OB physician referral.

SINGLETON PREGNANCY WITH HISTORY OF PRIOR SPONTANEOUS PRETERM BIRTH ($\leq$ 36 6/7 WEEKS GESTATION):

- Serial cervical length measurements starting at 16 0/7 until 24 0/7 weeks gestation every two weeks.
 - o Cervical length > 25 mm:
 - Continue screening every two weeks until 24 0/7 weeks gestation.
 - o Cervical length < 25 mm:
 - Initiate vaginal progesterone
 - Urgent MFM referral for consideration of ultrasound-indicated cerclage

- OB physician referral

SINGLETON PREGNANCY WITH HISTORY OF MEDICALLY INDICATED PRETERM BIRTH ($\leq 36\ 6/7$ WEEKS GESTATION):

- Follow the above recommendations for “singleton pregnancy with no history of prior spontaneous preterm birth.”
- Control underlying medical conditions

MULTIPLE GESTATION:

- Cervical length measurement at the same time of anatomy assessment between 18 0/7 to 22 6/7 weeks gestation.
- MFM and OBGYN physicians should have previously been consulted for multifetal gestation.

VAGINAL PROGESTERONE THERAPY

Multiple randomized controlled trials have been conducted to analyze the efficacy of 200mg vaginal progesterone suppositories for prevention of preterm birth. These studies have included women with multiple gestation (for whom both cerclage and 17P have not been found to be beneficial), and those with a history of cervical insufficiency.

The recommended dose and frequency is 200mg vaginal progesterone suppository every night from time of diagnosis until 36 0/7 weeks gestation.

INTRAMUSCULAR 17-ALPHA HYDROXYPROGESTERONE CAPROATE

As of April 5, 2023, 17-alpha hydroxyprogesterone caproate (17-OHPC) (Makena) was withdrawn from the FDA and is no longer recommended for prevention of preterm birth.

CERVICAL PESSARIES

There are multiple randomized controlled trials in progress to evaluate the utility of cervical pessaries. Previously published studies have shown conflicting evidence. Currently, no cervical pessaries are approved by the United States FDA for prevention of preterm birth.

LIFESTYLE RECOMMENDATIONS

Routine activity restriction (physical activity, exercise, intercourse, bed rest, etc) is not recommended for prevention of preterm birth.

REFERENCES

1. Preterm Birth. Center for Disease Control. November 8, 2024.
2. Prediction and prevention of spontaneous preterm birth. ACOG Practice Bulletin No. 234. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2021;138:e65–90.
3. Management of preterm labor. Practice Bulletin No. 171. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2016;128:e155–64. (Reaffirmed 2022)
4. Dodd JM, Jones L, Flenady V, Cincotta R, Crowther CA. Prenatal administration of progesterone for preventing preterm birth in women considered to be at risk of preterm birth Cochrane Database of Systematic Reviews, 14651858, Issue 7. 2013. (Accessed 4/14/23)
5. Society of Obstetricians and Gynaecologists of Canada. Guideline No. 398: Progesterone for Prevention of Spontaneous Preterm Birth. Jain V, et al. *J Obstet Gynaecol Can.* 2020. PMID: 32473687 (Accessed 4/14/23)
6. Da Fonseca EB, et al. Prophylactic administration of progesterone by vaginal suppository to reduce the incidence of spontaneous preterm birth in women at increased risk: A randomized placebo-controlled double-blind study. *Am J Obstet Gynecol* 2003; 188:419-24.
7. Keirse MJ. Progestogen administration in pregnancy may prevent preterm delivery. *Brit J Obstet Gynaecol* 1990; 97:149-57.
8. Fonseca EB, et al. Progesterone and the risk of preterm birth among women with a short cervix. *N Eng J Med* 2007; 357: 462-9.
9. Hassan SS, et al. Vaginal progesterone reduces the rate of preterm birth in women with a sonographic short cervix: a multicenter, randomized, double blind, placebo controlled trial. *Ultrasound Obstet Gynecol* 2011; 38:18-31.
10. SMFM Statement: Response to EPPPIC and considerations of the use of progestogens for the prevention of preterm birth (Accessed 4/14/23)
11. Iams JD. Identification of candidates for progesterone: why, who, how, and when? *Obstet Gynecol.* 2014 Jun;123(6):1317-26.
12. ACOG Statement on the FDA Withdrawal of 17-OHPC. April 7, 2023.
13. Society for Maternal-Fetal Medicine Publications Committee. The role of cervical pessary placement to prevent preterm birth in clinical practice. Volume 216, Issue 3, PB8-B10, January 17, 2017.

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