

Pregnancy - Decreased or Abnormal Fetal Movement

Office Hours Telehealth Triage Protocols | Adult | 2026

Schmitt-Thompson
Clinical Content

DEFINITION

- Concerns that the baby is moving less, moving too much, or not moving at all.
- Concerns about an abnormal kick count (less than 5 in one hour or less than 10 in 2 hours).
- Concerns and questions about fetal movement.
- Questions about how to perform a kick count.

Note:

- This protocol is intended for those that are pregnant but NOT in labor.

INITIAL ASSESSMENT QUESTIONS

1. FETAL MOVEMENT: "Has the baby's movement decreased or changed a lot from what you usually feel?" (e.g., yes, no; describe) "When was the last time you felt the baby move?" (e.g., minutes, hours)
2. EDD: "What date are you expecting to deliver?"
3. PREGNANCY: "How many weeks pregnant are you?" "How has the pregnancy been going?"
4. PREGNANCY CONDITIONS: "Have you been seen by a specialist for any pregnancy conditions?" (e.g., none; high blood pressure, high blood sugar, multiple births).
5. OTHER SYMPTOMS: "Do you have any other symptoms?" (e.g., abdomen pain, fever, leaking fluid from vagina, vaginal bleeding, widespread itching, etc.)

TRIAGE ASSESSMENT QUESTIONS

Call EMS 911 Now

Sounds like a life-threatening emergency to the triager

See More Appropriate Protocol

Pregnant 20 or more weeks and having abdominal pain

[Go to Protocol: Pregnancy - Abdominal Pain Greater Than 20 Weeks EGA \(Adult\)](#)

Pregnant 20 or more weeks and having vaginal bleeding or spotting

[Go to Protocol: Pregnancy - Vaginal Bleeding Greater Than 20 Weeks EGA \(Adult\)](#)

Pregnant 37 or more weeks (i.e., term) and having contractions or other symptoms of labor

[Go to Protocol: Pregnancy - Labor \(Adult\)](#)

Pregnant < 37 weeks (i.e., preterm) and having contractions or other symptoms of labor

[Go to Protocol: Pregnancy - Labor - Preterm \(Adult\)](#)

Injury to abdomen

[Go to Protocol: Pregnancy - Abdomen Injury \(Adult\)](#)

Go to L&D Now

Severe headache and not relieved with acetaminophen (e.g., Tylenol)

[R/O: preeclampsia](#)

New blurred vision or visual change

R/O: preeclampsia

Leakage of fluid from vagina

R/O: rupture of membranes

Go to L&D Now (or to Office Now per Practice Policy)

Pregnant 23 or more weeks and no movement of baby > 2 hours (Exception: Mother was distracted by other activities.)

Reason: Needs exam and fetal monitoring.

Pregnant 23 or more weeks and baby moving less today by kick count (e.g., kick count < 5 in 1 hour or < 10 in 2 hours)

Reason: Needs exam and fetal monitoring. Note: Kick count is one method of assessing baby's movement. Another is the pregnant person's subjective feeling that the baby is moving less than their normal baseline.

Pregnant 23 or more weeks and mother thinks baby is moving less today (e.g., even if kick count is normal or not performed) (Exception: Mother was distracted by other activities.)

Reason: Needs exam and fetal monitoring.

Pregnant 23 or more weeks and baby moving less today AND unable (or unwilling) to perform kick count

Reason: Needs exam and fetal monitoring.

Fever 100.4° F (38.0° C) or higher

R/O: chorioamnionitis, pyelonephritis, viral illness

New hand or face swelling

R/O: preeclampsia

Being seen by a specialist for a high-risk pregnancy condition (e.g., cord or placenta abnormalities, gestation 41 or more weeks, oligohydramnios or polyhydramnios, preeclampsia, twins)

Patient sounds very sick or weak to the triager

Reason: Severe acute illness or serious complication suspected.

Callback by PCP Within 1 Hour

Pregnant 23 or more weeks and increased fetal movement (extra wiggly) and mother thinks there is something wrong

Note: Usually, increased fetal activity is considered a positive sign of fetal well-being. Talking with the PCP may help reassure an anxious mother who has very rapid fetal movements.

Hand itching, foot itching, or widespread itching

R/O: Intrahepatic Cholestasis of Pregnancy (ICP)

See in Office Today

Pregnant 20 to 22 weeks and has felt baby move previously, and no movement of baby > 8 hours

Reason: Needs exam and fetal monitoring.

Pain or burning with passing urine (urination)

R/O: urinary tract infection (UTI) , cystitis

Patient wants to be seen

See in Office Within 3 Days

Pregnant 20 to 22 weeks and has not felt baby move yet

Reason: Needs exam to determine EGA.

Home Care

Baby moving normally OR normal kick count

Reason: Mother reports normal fetal movement.

Pregnant 23 or more weeks and baby moving less today AND willing to perform kick count

R/O: normal variability of baby movement, mother may have been distracted by other activities

Pregnant 20 to 22 weeks and has felt baby move in past 8 hours

Pregnant < 20 weeks and has not felt baby move yet

Reason: Too early in pregnancy, incorrect EGA.

Fetal hiccups, questions about

Home Care Advice

Pregnant 23 or More Weeks and Baby Moving Normally

1. **Reassurance and Education - Normal Fetal Movement and Kick Count:**
 - It sounds like you do not need to go to Labor and Delivery at the hospital right now.
 - Some women report that the baby's movements may feel different from one pregnancy to the next.
 - Also the position of the baby or placenta may make it harder to feel movement.
 - *Here is some care advice that should help.*
2. **Fetal Movement and Pregnancy Dates:**
 - **1 - 15 Weeks:** Baby is too small for mother to feel the baby move.
 - **16 - 18 Weeks:** Some women begin to feel the baby move, especially if they had a baby before.
 - **18 - 20 Weeks:** Many women begin to feel baby move around this time.
 - **20 - 23 Weeks:** Most women begin to feel baby move around this time.
 - **24 Weeks:** All women should feel the baby move by this time.
 - **Over 28 Weeks:** Some doctors advise that women check kick counts each day.
3. **Kick Count Instructions:**
 - All pregnancies are different, but most women feel the baby move by the 18th to 20th week of pregnancy. All women should feel the baby move by the 24th week of pregnancy. Here are some instructions for counting your baby's movements. This is also called a kick count.
 - ... Pick the time of the day that your baby is most active.
 - ... If you have not eaten much today, eating a snack or drinking some juice can make the baby more active.
 - ... Sit back in a comfortable chair or lie down on your left side in bed. Do this in a quiet room (no TV, cell phone, computer, or children).
 - ... Count any baby movement (kicks, rolls, flutters). Count up to 10.
 - **Normal Kick Count:** 5 or more in one hour or 10 or more in 2 hours.
 - **Low Kick Count:** Less than 5 in one hour or less than 10 in 2 hours. Talk with your doctor (or

NP/PA) right away, or go in to Labor and Delivery and have the baby checked.

4. **Call Back If:**

- Low kick count (under 5 in 1 hour or under 10 in 2 hours)
- Normal kick count but you still are worried that something is wrong
- You have other questions or concerns.

Pregnant 23 Weeks or More Weeks and Baby Moving Less and Willing to Perform Kick Count

1. **Reassurance and Education - Baby Moving Less Today:**

- It sounds like you do not need to go to Labor and Delivery at the hospital right now.
- Some women report that the baby's movements may feel different from one pregnancy to the next.
- Also the position of the baby or placenta may make it harder to feel movement.
- *Here is some care advice that should help.*

2. **Kick Count Instructions:**

- All pregnancies are different, but most women feel the baby move by the 18th to 20th week of pregnancy. All women should feel the baby move by the 24th week of pregnancy. Here are some instructions for counting your baby's movements. This is also called a kick count.
- ... Pick the time of the day that your baby is most active.
- ... If you have not eaten much today, eating a snack or drinking some juice can make the baby more active.
- ... Sit back in a comfortable chair or lie down on your left side in bed. Do this in a quiet room (no TV, cell phone, computer, or children).
- ... Count any baby movement (kicks, rolls, flutters). Count up to 10.
- **Normal Kick Count:** 5 or more in one hour or 10 or more in 2 hours.
- **Low Kick Count:** Less than 5 in one hour or less than 10 in 2 hours. Talk with your doctor (or NP/PA) right away, or go in to Labor and Delivery and have the baby checked.

3. **Fetal Movement and Pregnancy Dates:**

- **1 - 15 Weeks:** Baby is too small for mother to feel the baby move.
- **16 - 18 Weeks:** Some women begin to feel the baby move, especially if they had a baby before.
- **18 - 20 Weeks:** Many women begin to feel baby move around this time.
- **20 - 23 Weeks:** Most women begin to feel baby move around this time.
- **24 Weeks:** All women should feel the baby move by this time.
- **Over 28 Weeks:** Some doctors advise that women check kick counts each day.

4. **Call Back If:**

- Low kick count (under 5 in 1 hour or under 10 in 2 hours)
- Normal kick count but you still are worried that something is wrong
- You have other questions or concerns

Pregnant 20 to 22 Weeks and Has Felt Baby Move in Past 8 Hours

1. **Reassurance and Education - Baby Movement in Past 8 Hours:**

- Based on what you have said, it sounds like you do not need to be worried.
- This early in pregnancy some women may not feel their babies move at all for many hours.
- Some women report that the baby's movements may feel different from one pregnancy to the next.
- Also the position of the baby or placenta may make it harder to feel movement.
- *Here is some care advice that should help.*

2. **Fetal Movement Decreased:**

- During the day when you are most active the baby is often the most quiet.

- Perhaps the baby is rocked to sleep by the rhythmic motion of your walking and activity.

3. **Fetal Movement and Pregnancy Dates:**

- *1 - 15 Weeks:* Baby is too small for mother to feel the baby move.
- *16 - 18 Weeks:* Some women begin to feel the baby move, especially if they had a baby before.
- *18 - 20 Weeks:* Many women begin to feel baby move around this time.
- *20 - 23 Weeks:* Most women begin to feel baby move around this time.
- *24 Weeks:* All women should feel the baby move by this time.
- *Over 28 Weeks:* Some doctors advise that women check kick counts each day.

4. **Call Back If:**

- No baby movement felt for more than 2 hours
- You have any other questions or concerns

Pregnant Less Than 20 weeks and Has Not Felt Baby Move Yet

1. **Reassurance and Education - Pregnant Less Than 20 Weeks and No Baby Movement:**

- It sounds like you do not need to be worried.
- Many women do not feel their babies move until after 20 weeks.
- *Here is some care advice that should help.*

2. **What Is Quickening?**

- Quickening is the term used to describe when a woman first feels baby movement.
- This usually occurs between the 18th to 20th weeks of pregnancy.
- Women who are thin often feel movements earlier in pregnancy than women who are overweight.
- Women use many different terms to describe their babies' movements. Early in pregnancy women may describe a fluttering, nudge, butterflies, or a slight twitch.

3. **Fetal Movement and Pregnancy Dates:**

- *1 - 15 Weeks:* Baby is too small for mother to feel the baby move.
- *16 - 18 Weeks:* Some women begin to feel the baby move, especially if they had a baby before.
- *18 - 20 Weeks:* Many women begin to feel baby move around this time.
- *20 - 23 Weeks:* Most women begin to feel baby move around this time.
- *24 Weeks:* All women should feel the baby move by this time.
- *Over 28 Weeks:* Some doctors advise that women check kick counts each day.

4. **Call Back If:**

- No baby movement felt by 20 weeks (or make an appointment to see your doctor or NP/PA)
- You have any other questions or concerns

Fetal Hiccups

1. **Fetal Hiccups:**

- Fetal (baby) hiccups are common and harmless.
- Some doctors think that fetal hiccups are the baby practicing breathing and swallowing.
- They are usually first felt in the middle of pregnancy and become more noticeable in the final three months of pregnancy.
- Fetal hiccups may feel like a twitching or regular tapping or beating.

2. **Kick Count Instructions:**

- All pregnancies are different, but most women feel the baby move by the 18th to 20th week of pregnancy. All women should feel the baby move by the 24th week of pregnancy. Here are some instructions for counting your baby's movements. This is also called a kick count.
- ... Pick the time of the day that your baby is most active.

- ... If you have not eaten much today, eating a snack or drinking some juice can make the baby more active.
- ... Sit back in a comfortable chair or lie down on your left side in bed. Do this in a quiet room (no TV, cell phone, computer, or children).
- ... Count any baby movement (kicks, rolls, flutters). Count up to 10.
- **Normal Kick Count:** 5 or more in one hour or 10 or more in 2 hours.
- **Low Kick Count:** Less than 5 in one hour or less than 10 in 2 hours. Talk with your doctor (or NP/PA) right away, or go in to Labor and Delivery and have the baby checked.

3. **Call Back If:**

- Low kick count (under 5 in 1 hour or under 10 in 2 hours)
- Normal kick count but you still are worried that something is wrong
- You have other questions or concerns

FIRST AID

N/A

BACKGROUND INFORMATION

Key Points

- Quickening is the term used to describe when a woman first feels baby movement. This usually occurs between the 18th to 20th weeks of pregnancy. Women who have been pregnant previously can sometimes feel the baby move as early as the 16th or 17th week. Thin women often feel movements earlier in pregnancy than overweight women.
- Women use many different terms to describe their babies' movements. Early in pregnancy women may describe a "fluttering", a "nudge", a "butterfly", or a slight "twitch". Later in pregnancy the baby is larger and the movements are more forceful. Women may then describe "hard kicking", "punching", or "rolling".
- Fetal movements provide ongoing reassurance that all is going well with the pregnancy. A decrease or absence of fetal movement can cause significant maternal anxiety regarding the well-being of her baby, and may be a sign of fetal compromise.

Fetal Hiccups

Fetal hiccups are common. Women usually first feel them in the second trimester. They become even more noticeable in the last trimester of pregnancy.

- *What does it feel like?* Women use terms like "tapping" or a "regular beating" or just plain "baby hiccups".
- *Are they normal?* While they may feel strange, they are normal and harmless. There is no reason for concern. Some doctors tell their patients that this is the baby "practicing breathing and swallowing".

Fetal Movement Dates

- **1-15 Weeks:** Baby is too small for mother to feel the baby move.
- **16-18 Weeks:** Some women begin to feel the baby move, especially if they had a baby before.
- **18-20 Weeks:** Many women begin to feel baby move around this time.
- **20-23 Weeks:** Most women begin to feel baby move around this time.
- **24 Weeks:** All women should feel the baby move by this time.
- **Over 28 Weeks:** Some doctors advise that women check kick counts each day.

Note: Although fetal movements can be felt by some women as early as 16 to 18 weeks, movements

are often inconsistent and can be unpredictable until closer to 26 weeks.

Performing Kick Counts

- Performing a daily "kick count" or using a "kick chart" is one way to track your baby's movement.
- Some doctors recommend kick counts and some doctors do not.
- In some cases (such as a high-risk pregnancy), it may be more important to perform daily kick counts.
- Research has shown that performing kick counts does not reduce stillbirths [Grant reference].
- There is a free app available at <https://countthekicks.org>.

Kick Count Instructions

- Pick the time of the day that your baby is most active.
- If you have not eaten much today, eating a snack or drinking some juice can make the baby more active.
- Sit back in a comfortable chair or lie down on your left side in bed. Do this in a quiet room (no TV, cell phone, computer, or children).
- Count any baby movement (kicks, rolls, flutters). Count up to 10.
- **Normal Kick Count:** 5 or more in one hour or 10 or more in 2 hours.
- **Low Kick Count:** Less than 5 in one hour or less than 10 in 2 hours.

Increased Fetal Movement

Sometimes women will report that the baby is moving more or is "extra wiggly". Most often increased fetal activity is a positive sign of fetal well-being.

- Many women report that their babies are most active at night.
- Others note that the baby's movements increase after meals or in response to a stressful situation.
- Babies have regular periods during the day when their movements increase.
- Too much caffeine or sugar can possibly cause a baby to move more.

Rarely, increased fetal movement can be a sign of fetal distress (hypoxia). Typically, in such a circumstance, the increased movement is followed by decreased fetal movement (e.g., a low kick count). For an anxious mother, the simplest and safest thing to do is to refer her to L&D for fetal monitoring or arrange a call with her PCP.

Calculating the Estimated Date of Delivery (EDD)

- EDB (estimated date of birth) and EDC (estimated date of confinement) mean the same thing as EDD.
- LNMP is the last normal menstrual period.
- *Naegele's rule*: $EDD = (LNMP - 3 \text{ months}) + 7 \text{ days}$.

Calculating the Estimated Gestational Age (EGA)

- Gestational age is the number of weeks since the LNMP.
- A normal full-term pregnancy lasts 37 to 42 weeks.
- **Wheel:** Generally, the wheel is the best method for the triager to calculate the gestational age. The patient must be able to give you a relatively accurate LNMP. A wheel and a calculator are available on the internet at <https://www.mdcalc.com>.
- **Ultrasound:** An ultrasound during early pregnancy can be very accurate in setting the EDD, if patient has had one performed and can remember the results.
- **Fundal height:** The top of the uterus can be palpated at the level of the navel at 20 weeks of gestational age.

- **Fetal Heart Tones:** Can be first heard with a doppler stethoscope at 10 to 12 weeks gestational age.

Expert Reviewers

- Marie Cabiya, MD, Medical Director for Obstetrics and Gynecology Resident Clinic; Advocate Illinois Masonic Medical Center Chicago, IL
- Tammy Northcutt, RN, Call Center Triage Nurse, University of Arkansas for Medical Sciences, Institute for Digital Health, Arkansas, ANGEL High-Risk Pregnancy Program
- Patrick Popiel, MD, Medical Director, Urogynecology & Pelvic Reconstructive Surgery | Department of OB/GYN, Hackensack University Medical Center, NJ
- Jeremy Waldhart, DO, Assistant Professor of Family Medicine, Froedtert & MCW South Side Family Medicine Residency, Medical College of Wisconsin Department of Family and Community Medicine, WI
- The Author and Editorial Team are extremely grateful for this subject matter expertise and critical review.

REFERENCES

1. ACOG Committee Opinion Number 828. Indications for Outpatient Antenatal Fetal Surveillance. Obstet Gynecol. 2021;137(6):e177-e197.
2. ACOG Practice Bulletin, Number 222. Gestational Hypertension and Preeclampsia. Obstet Gynecol. 2020 Jun;135(6):e237-e260.
3. Afors K, Chandrachan E. Use of continuous electronic fetal monitoring in a preterm fetus: clinical dilemmas and recommendations for practice. J Pregnancy. 2011;2011:848794.
4. Ahlqvist VH, Sjöqvist H, Dalman C, et al. Acetaminophen Use During Pregnancy and Children's Risk of Autism, ADHD, and Intellectual Disability. JAMA. 2024 Apr 9;331(14):1205-1214.
5. American College of Obstetricians and Gynecologists (ACOG) Frequently Asked Questions. FAQ 156. Pregnancy. Available at: <http://www.acog.org/~media/For%20Patients/faq156.pdf>.
6. American College of Obstetricians and Gynecologists (ACOG). Antepartum fetal surveillance. Number 9, October 1999 (replaces Technical Bulletin Number 188, January 1994). Clinical management guidelines for obstetrician-gynecologists. Int J Gynaecol Obstet. 2000;68(2):175-85.
7. American College of Obstetricians and Gynecologists' Committee on Practice Bulletins - Obstetrics. Prediction and Prevention of Spontaneous Preterm Birth: ACOG Practice Bulletin, Number 234. Obstet Gynecol. 2021 Aug 1;138(2):e65-e90.
8. American College of Obstetricians and Gynecologists. ACOG Practice Bulletin No. 70: Intrapartum fetal heart rate monitoring. Obstet Gynecol. 2005;106(6):1453-60.
9. American College of Obstetricians and Gynecologists. ACOG Practice Bulletin No. 80: premature rupture of membranes. Clinical management guidelines for obstetrician-gynecologists. Obstet Gynecol. 2007 Apr;109(4):1007-19.
10. American College of Obstetricians and Gynecologists. ACOG Practice Bulletin No. 106: Intrapartum fetal heart rate monitoring: nomenclature, interpretation, and general management principles. Obstet Gynecol. 2009 Jul;114(1):192-202.
11. American College of Obstetricians and Gynecologists; Society for Maternal-Fetal Medicine. Obstetric Care consensus No. 6: Periviable Birth. Obstet Gynecol. 2017 Oct;130(4):e187-e199.

12. American College of Obstetrics and Gynecology Practice bulletin no. 145: antepartum fetal surveillance. *Obstet Gynecol.* 2014 Jul;124(1):182-92.
13. Association of Women's Health, Obstetric and Neonatal Nurses. Decreased Fetal Movement: AWHONN Practice Brief #20. *J Obstet Gynecol Neonatal Nurs.* 2024 Mar;53(2):e1-e3.
14. Bellussi F, Po' G, Livi A, Saccone G, De Vivo V, Oliver EA, Berghella V. Fetal Movement Counting and Perinatal Mortality: A Systematic Review and Meta-analysis. *Obstet Gynecol.* 2020 Feb;135(2):453-462.
15. Brown H. ACOG Guidelines at a Glance: Antepartum fetal surveillance. *Contemp OB GYN.* 2015.
16. Bryant J, Jamil RT, Thistle J. Fetal Movement. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-.
17. Christensen FC. Fetal movement counts. *Obstet Gynecol Clin North Am.* 1999;26(4):607-21.
18. Del Mar C, O'Connor V. Should we stop telling well pregnant women to monitor fetal movements? How to use and interpret guidelines. *Br J Gen Pract.* 2004 Nov;54(508):810.
19. Delaram M, Jafarzadeh L. The Effects of Fetal Movement Counting on Pregnancy Outcomes. *J Clin Diagn Res.* 2016 Feb;10(2):SC22-4.
20. Farahi N, Oluyadi F, Dotson AB. Hypertensive Disorders of Pregnancy. *Am Fam Physician.* 2024 Mar;109(3):251-260.
21. Fretts RC. Decreased fetal movement: Diagnosis, evaluation, and management. UpToDate. Waltham, MA: UpToDate Inc. <https://www.uptodate.com>. Last accessed 11/20/2024.
22. Froen JF. A kick from within, fetal movement counting and the cancelled progress in antenatal care. *J Perinat Med* (2004) 32 : pp 13-24.
23. Global Health Council. Making Childbirth Safer; Through Promoting Evidenced-Based Care. Technical Report - May 2002.
24. Grant A. Routine formal fetal movement counting and risk of antepartum late death in normally formed singletons. *Lancet.* 1989; 2(8659): 345-9.
25. Graves J. Preconceptual and prenatal care. *Clin Fam Pract.* 2000;2(2):467-483.
26. Hayes DJL, Dumville JC, Walsh T, et al. Effect of encouraging awareness of reduced fetal movement and subsequent clinical management on pregnancy outcome: a systematic review and meta-analysis. *Am J Obstet Gynecol MFM.* 2023 Mar;5(3):100821.
27. Herbert WN, Bruninghaus HM, Barefoot AB, Bright TG. Clinical aspects of fetal heart auscultation. *Obstet Gynecol.* 1987 Apr;69(4):574-7.
28. Holm Tveit JV, Saastad E, Stray-Pedersen B, Børdahl PE, Frøen JF. Maternal characteristics and pregnancy outcomes in women presenting with decreased fetal movements in late pregnancy. *Acta Obstet Gynecol Scand.* 2009;88(12):1345-51.
29. Huang, C., Han, W. & Fan, Y. Correlation study between increased fetal movement during the third trimester and neonatal outcome. *BMC Pregnancy Childbirth* 19, 467 (2019).
30. Liston R, Sawchuck D, Young D; Society of Obstetrics and Gynaecologists of Canada; British Columbia Perinatal Health Program. Fetal health surveillance: antepartum and intrapartum consensus guideline. *J Obstet Gynaecol Can.* 2007 Sep;29(9 Suppl 4):S3-56.

31. Mangesi L, Hofmeyr GJ, Smith V, Smyth RM. Fetal movement counting for assessment of fetal wellbeing. *Cochrane Database Syst Rev*. 2015 Oct 15;(10):CD004909.
32. Mangesi L, Hofmeyr GJ. Fetal movement counting for assessment of fetal wellbeing. *Cochrane Database Syst Rev*. 2007 Jan 24;(1):CD004909.
33. Moore TR, Piacquadio K. A prospective evaluation of fetal movement screening to reduce the incidence of antepartum fetal death. *Am J Obstet Gynecol*. 1989;160:1075.
34. Morgan MA, Goldenberg RL, Schulkin J. Obstetrician-gynecologists' practices regarding preterm birth at the limit of viability. *J Matern Fetal Neonatal Med*. 2008 Feb;21(2):115-21.
35. National Institute for Clinical Effectiveness. CG6 - Antenatal care - Routine care for health pregnant women, full guideline. Available at: <http://www.nice.org.uk/page.aspx?o=93992>. Last accessed December 2006.
36. No authors listed. Antepartum Fetal Surveillance: ACOG Practice Bulletin Summary, Number 229. *Obstet Gynecol*. 2021 Jun 1;137(6):1134-1136.
37. Norman JE, Heazell AEP, Rodriguez A, et al. Awareness of fetal movements and care package to reduce fetal mortality (AFFIRM): a stepped wedge, cluster-randomised trial. *Lancet*. 2018 Nov 3;392(10158):1629-1638.
38. Nuthalapaty F, Lu G, Ramin S, Nuthalapaty E, Ramin KD, Ramsey PS. Is there a preferred gestational age threshold of viability?: a survey of maternal-fetal medicine providers. *J Matern Fetal Neonatal Med*. 2007 Apr;20(4):293-7.
39. Phelan JP. Perinatal risk management: obstetric methods to prevent birth asphyxia. *Clin Perinatol*. 2005; 32(1): 1-17, v.
40. Saastad E, Froen JF. Reduced fetal movements--clinical management, recommendations and information. *Tidsskr Nor Laegeforen*. 2005 Oct 6;125(19):2627-30.
41. Salihu HM, Salinas-Miranda AA, Hill L, Chandler K. Survival of pre-viable preterm infants in the United States: a systematic review and meta-analysis. *Semin Perinatol*. 2013 Dec;37(6):389-400.
42. Sharp I, Adeyeye T, Peacock L, Mahdi A, Farrant K, Sharp AN, Greenwood SL, Heazell AEP. Investigation of the outcome of pregnancies complicated by increased fetal movements and their relation to underlying causes - A prospective cohort study. *Acta Obstet Gynecol Scand*. 2021 Jan;100(1):91-100. doi: 10.1111/aogs.13961.
43. Smith V, Muldoon K, Brady V, Delaney H. Assessing fetal movements in pregnancy: A qualitative evidence synthesis of women's views, perspectives and experiences. *BMC Pregnancy Childbirth*. 2021 Mar 10;21(1):197.
44. Stacey D, et.al. Pan-Canadian Oncology Symptom Triage and Remote Support (COSTaRS) Steering Committee. Remote Symptom Protocols for Individuals Undergoing Cancer Treatment. University of Ottawa School of Nursing and the Canadian Partnership Against Cancer, Ottawa, Ontario, Canada, March 2012.
45. Thompson JMD, Wilson J, Bradford BF, et.al. A better understanding of the association between maternal perception of foetal movements and late stillbirth-findings from an individual participant data meta-analysis. *BMC Med*. 2021 Nov 15;19(1):267. doi: 10.1186/s12916-021-02140-z.
46. Velazquez MD, Rayburn WF. Antenatal evaluation of the fetus using fetal movement monitoring. *Clin Obstet Gynecol*. 2002;45(4):993-1004.

47. Whitehead CL, Cohen N, Visser GHA, Farine D. Are increased fetal movements always reassuring? J Matern Fetal Neonatal Med. 2020 Nov;33(21):3713-3718.
48. Winje BA, Saastad E, Gunnes N, Tveit JV, Stray-Pedersen B, Flenady V, Frøen JF. Analysis of 'count-to-ten' fetal movement charts: a prospective cohort study. BJOG. 2011 Sep;118(10):1229-38.
49. Witter F, Dipietro J, Costigan K, Nelson P. The relationship between hiccups and heart rate in the fetus. J Matern Fetal Neonatal Med. 2007;20(4):289.

AUTHOR AND COPYRIGHT

Author:	David A. Thompson, MD, FACEP
Copyright:	2000-2026, LaGrange Medical Software, Inc.. All rights reserved.
Company:	Schmitt-Thompson Clinical Content
Content Set:	Office Hours Telehealth Triage Protocols Adult
Version Year:	2026
Last Revised:	2/1/2026
Last Reviewed:	4/15/2026