Pregnancy - Decreased or Abnormal Fetal Movement



After Hours Telehealth Triage Guidelines | Adult | 2023

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:

• Pregnant and patient is not in labor.

INITIAL ASSESSMENT QUESTIONS

1. FETAL MOVEMENT: "Has the baby's movement decreased or changed significantly from normal?" (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. 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 (TAQs)

Call EMS 911 Now

Sounds like a life-threatening emergency to the triager

CA: 40, 1

See More Appropriate Guideline

[1] Pregnant 20 or more weeks AND [2] abdominal pain

Go to Guideline: Pregnancy - Abdominal Pain Greater Than 20 Weeks EGA (Adult)

[1] Pregnant 20 or more weeks AND [2] vaginal bleeding or spotting

Go to Guideline: Pregnancy - Vaginal Bleeding Greater Than 20 Weeks EGA (Adult)

- [1] Pregnant 37 or more weeks (term) AND [2] having contractions or other symptoms of labor Go to Guideline: Pregnancy - Labor (Adult)
- [1] Pregnant < 37 weeks AND [2] having contractions or other symptoms of labor Go to Guideline: Pregnancy - Labor - Preterm (Adult)

Injury to abdomen

Go to Guideline: Pregnancy - Abdomen Injury (Adult)

Go to L&D Now

[1] SEVERE headache AND [2] not relieved with acetaminophen (e.g., Tylenol)

R/O: preeclampsia

CA: 52, 92, 1

New blurred vision or vision changes

R/O: preeclampsia

CA: 52, 92, 1

Leakage of fluid from vagina

R/O: rupture of membranes

CA: 52, 92, 17, 1

Go to L&D Now (or PCP Triage)

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

Reason: Needs exam and fetal monitoring.

CA: 55, 6, 1840, 10, 90, 1

[1] Pregnant 23 or more weeks AND [2] baby is 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.

CA: 55, 1840, 1040, 90, 1

[1] Pregnant 23 or more weeks AND [2] mother thinks baby is moving less (e.g., even if kick count is normal or not performed) (Exception: Mother was distracted by other activities.)

Reason: Needs exam and fetal monitoring.

CA: 55, 1840, 1040, 90, 1

[1] Pregnant 23 or more weeks AND [2] mother thinks baby is moving less AND [3] unable or unwilling to perform kick count

Reason: Needs exam and fetal monitoring.

CA: 55, 1840, 1040, 90, 1

Fever 100.4 F (38.0 C) or higher

R/O: chorioamnionitis, pyelonephritis, viral illness

CA: 55, 1257, 1258, 80, 1

New hand or face swelling

R/O: preeclampsia

After Hours Telehealth Triage Guidelines | Adult | 2023 Pregnancy - Decreased or Abnormal Fetal Movement CA: 55, 92, 1

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)

CA: 55, 80, 1

Patient sounds very sick or weak to the triager

Reason: Severe acute illness or serious complication suspected.

CA: 55, 80, 1

Call PCP Now

[1] Pregnant 23 or more weeks AND [2] increased fetal movement (extra wiggly) AND [3] 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.

CA: 49, 3, 1040, 89, 1

[1] Pregnant 20 to 22 weeks AND [2] has felt baby move previously AND [3] no movement of baby > 8 hours

Reason: Patient counseling and reassurance; may need exam and fetal monitoring.

CA: 49, 6, 1840, 10, 90, 1

Hand itching, foot itching, or widespread itching

R/O: Intrahepatic Cholestasis of Pregnancy (ICP)

CA: 49, 89, 1

See PCP Within 24 Hours

Pain or burning with passing urine (urination)

R/O: UTI, cystitis

CA: 44, 1154, 408, 407, 1840, 1040, 15, 1

See PCP Within 3 Days

[1] Pregnant 20 to 22 weeks AND [2] has not felt baby move yet

Reason: Needs exam to determine dates.

CA: 45, 12, 6, 1840, 89, 1

Home Care

[1] Pregnant 23 or more weeks AND [2] baby moving normally OR normal kick count

Reason: Mother reports normal fetal movement.

CA: 48, 5, 1840, 1040, 4, 1

- [1] Pregnant 23 or more weeks AND [2] baby moving less today AND [3] willing to perform kick count *R/O: normal variability of baby movement, mother may have been distracted by other activities* CA: 48, 2, 1040, 1840, 4, 1
- [1] Pregnant 20 to 22 weeks AND [2] has felt baby move in past 8 hours

CA: 48, 9, 10, 1840, 11, 1

[1] Pregnant < 20 weeks AND [2] has not felt baby move yet

CA: 48, 18, 6, 1840, 8, 1

Fetal hiccups, questions about

CA: 48, 16, 1040, 4, 1

CARE ADVICE (CA)

1. **Care Advice** given per Pregnancy - Decreased or Abnormal Fetal Movement (Adult) guideline.

2. **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.

3. Increased Fetal Movement:

- Increased baby movement is usually a good 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 times during a 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 something serious.
- You should talk with your doctor (or NP/PA).

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

5. **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.

6. 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 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.

8. 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

9. 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.

10. 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.

11. Call Back If:

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

12. Reassurance and Education - Pregnant 20 to 22 Weeks and No Baby Movement:

- This is probably not serious.
- Some women do not feel their babies move until after 20 weeks.
- Some women find that their pregnancy dates were wrong.

• 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.
- You should make an appointment to see your doctor (or NP/PA).
- Here is some care advice that should help.

15. Call Back If:

- Abdomen pain or fever 100.4 F (38.0 C) or higher occurs
- Any vaginal bleeding or spotting occurs
- Low kick count (if pregnant 23 or more weeks)
- You become worse

16. Fetal Hiccups:

- Fetal 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.

17. Leakage:

- Place menstrual pad in underwear.
- Bring towel; you may wish to put it on the seat of your car.

18. 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.

40. Call EMS 911 Now:

• Immediate medical attention is needed. You need to hang up and call 911 (or an ambulance).

• *Triager Discretion:* I'll call you back in a few minutes to be sure you were able to reach them.

41. Go to ED Now:

- You need to be seen in the Emergency Department.
- Go to the ED at _____ Hospital.
- Leave now. Drive carefully.

42. Go to ED Now (or PCP Triage):

• If No PCP (Primary Care Provider) Second-Level Triage: You need to be seen within the next hour. Go to the ED/UCC at ______ Hospital. Leave as soon as you can.

• If PCP Second-Level Triage Required: You may need to be seen. Your doctor (or NP/PA) will want to talk with you to decide what's best. I'll page the provider oncall now. If you haven't heard from the provider (or me) within 30 minutes, go directly to the ED/UCC at ______ Hospital.

43. See HCP (or PCP Triage) Within 4 Hours:

• If Office Will Be Open: You need to be seen within the next 3 or 4 hours. Call your doctor (or NP/PA) now or as soon as the office opens.

• If Office Will Be Closed and No PCP (Primary Care Provider) Second-Level Triage: You need to be seen within the next 3 or 4 hours. A nearby Urgent Care Center (UCC) is often a good source of care. Another choice is to go to the ED. Go sooner if you become worse.

• If Office Will Be Closed and PCP Second-Level Triage Required: You may need to be seen. Your doctor (or NP/PA) will want to talk with you to decide what's best. I'll page the on-call provider now. If you haven't heard from the provider (or me) within 30 minutes, call again. **Note:** If on-call provider can't be reached, send to UCC or ED.

Note to Triager:

• Use nurse judgment to select the most appropriate source of care.

• Consider both the urgency of the patient's symptoms AND what resources may be needed to evaluate and manage the patient.

Sources of Care:

• **ED**: Patients who may need surgery or hospital admission need to be sent to an ED. So do most patients with serious symptoms or complex medical problems.

• **UCC:** Some UCCs can manage patients who are stable and have less serious symptoms (e.g., minor illnesses and injuries). The triager must know the UCC capabilities before sending a patient there. If unsure, call ahead.

• **OFFICE:** If patient sounds stable and not seriously ill, consult PCP (or follow your office policy) to see if patient can be seen NOW in office.

44. See PCP Within 24 Hours:

• If Office Will Be Open: You need to be examined within the next 24 hours. Call your doctor (or NP/PA) when the office opens and make an appointment.

• If Office Will Be Closed: You need to be seen within the next 24 hours. A clinic or an urgent care center is often a good source of care if your doctor's office is closed or you can't get an appointment.

• If Patient Has No PCP: Refer patient to a clinic or urgent care center. Also try to help caller find a PCP for future care.

Note to Triager:

• Use nurse judgment to select the most appropriate source of care.

• Consider both the urgency of the patient's symptoms AND what resources may be needed to evaluate and manage the patient.

45. See PCP Within 3 Days:

• You need to be seen within 2 or 3 days.

• **PCP Visit:** Call your doctor (or NP/PA) during regular office hours and make an appointment. A clinic or urgent care center are good places to go for care if your doctor's office is closed or you can't get an appointment. **Note:** If office will be open tomorrow, tell caller to call then, not in 3 days.

• If Patient Has No PCP: A clinic or urgent care center are good places to go for care if you do not have a primary care provider. Note: Try to help caller find a PCP for future care (e.g., use a physician referral line). Having a PCP or "medical home" means better long-term care.

46. See PCP Within 2 Weeks:

• You need to be seen for this ongoing problem within the next 2 weeks.

• **PCP Visit:** Call your doctor (or NP/PA) during regular office hours and make an appointment.

• If Patient Has No PCP: A primary care clinic is where you need to be seen for chronic health problems. Note: Try to help caller find a PCP (e.g., use a physician referral line). Having a PCP or "medical home" means better long-term care.

47. Home Care - Information or Advice Only Call.

48. Home Care:

• You should be able to treat this at home.

49. Call PCP Now:

• You need to discuss this with your doctor (or NP/PA).

• I'll page the on-call provider now. If you haven't heard from the provider (or me) within 30 minutes, call again.

50. Call PCP Within 24 Hours:

• You need to discuss this with your doctor (or NP/PA) within the next 24 hours.

• If Office Will Be Open: Call the office when it opens tomorrow morning.

• If Office Will Be Closed: I'll page the on-call provider now. Exception: from 9 pm to 9 am. Since this isn't urgent, we'll hold the page until morning.

51. Call PCP When Office Is Open:

• You need to discuss this with your doctor (or NP/PA) within the next few days.

• Call the office when it is open.

52. Go to L&D Now:

• You need to be seen.

• Go to the Labor and Delivery Unit or the Emergency Department at ______ Hospital.

• Leave now. Drive carefully.

55. Go to L&D Now (or PCP Triage):

• If No PCP (Primary Care Provider) Second-Level Triage: You need to be seen. Go to the Labor and Delivery Unit at ______ Hospital within the next hour. Leave as soon as you can.

• If PCP Second-Level Triage Required: You may need to be seen. Your doctor (or NP/PA) will want to talk with you to decide what's best. I'll page the on-call provider now. If you haven't heard from the on-call provider (or me) within 30 minutes, go to the Labor and Delivery Unit at ______ Hospital.

80. Another Adult Should Drive:

• It is better and safer if another adult drives instead of you.

89. Call Back If:

• You become worse

90. Call Back If:

• You have more questions

92. Note to Triager - Driving:

• Another adult should drive.

• Patient should not delay going to the emergency department.

• If immediate transportation is not available via car, rideshare (e.g., Lyft, Uber), or taxi, then the patient should be instructed to call EMS-911.

407. Cranberry Juice - Extra Notes and Warnings:

• Do not drink more than 16 oz (480 ml) of cranberry juice per day. Too much cranberry juice can be irritating to the bladder.

• There have been a couple cases reported of interactions between cranberry juice and Coumadin (warfarin). In these cases the INR level increased for a period of days while the person was drinking cranberry juice. The INR is a test that is used to determine if a person is taking the right amount of Coumadin. At higher INR levels there is an increased risk of bleeding.

• Remember, antibiotics are needed to treat a urine infection!

408. Cranberry Juice:

• Some people think that drinking cranberry juice helps fight off urinary tract infections.

• There is some research that shows cranberry juice *might help prevent* a urine infection.

• However, there is not much evidence that it helps *treat* an infection. The main treatment for a urine infection is an antibiotic.

• If you wish to drink cranberry juice, here are the amounts you can try:

- ... Cranberry Juice Cocktail: 8 oz (240 ml) twice a day.
- ... Cranberry 100% Juice: 1 oz (30 ml) twice a day.

1040. 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 L&D and have the baby checked.

1154. Drink Extra Fluids:

- Drink extra fluids.
- Drink 8 to 10 cups (1,800 to 2,400 ml) of liquids a day.

• *Reason:* This will water-down your urine and make it less painful to pass. It will also help wash out any germs that may be in your bladder.

1257. Fever Medicine During Pregnancy - Acetaminophen:

- For fevers above 101° F (38.3° C), you can take acetaminophen (e.g., Tylenol).
- It is an over-the-counter (OTC) pain drug. You can buy it at the drugstore.

• Generally, it is best to avoid medicine use during pregnancy. However, acetaminophen is considered safe during pregnancy.

• Acetaminophen - Regular Strength Tylenol: Take 650 mg (two 325 mg pills) by mouth every 4 to 6 hours as needed. Each Regular Strength Tylenol pill has 325 mg of acetaminophen. The most you should take is 10 pills a day (3,250 mg total). *Note:* In Canada, the maximum is 12 pills a day (3,900 mg total).

• Acetaminophen - Extra Strength Tylenol: Take 1,000 mg (two 500 mg pills) every 6 to 8 hours as needed. Each Extra Strength Tylenol pill has 500 mg of acetaminophen. The most you should take is 6 pills a day (3,000 mg total). *Note:* In Canada, the maximum is 8 pills a day (4,000 mg total).

1258. Fever Medicine During Pregnancy - Extra Notes and Warnings:

• Acetaminophen is in many OTC and prescription medicines. It might be in more than one medicine that you are taking. You need to be careful and not take an overdose. An acetaminophen overdose can hurt the liver.

• McNeil, the company that makes Tylenol, has different maximum dosage instructions for Tylenol in Canada than in the United States.

• **Caution - Acetaminophen:** Do not take acetaminophen (e.g., Tylenol) if you have liver disease.

• **Caution - Aspirin:** Do not take aspirin if you are pregnant, unless directed by your doctor (or NP/PA).

• **Caution - NSAIDs:** Do not take ibuprofen (e.g., Advil, Motrin) or naproxen (e.g., Aleve) if you are pregnant.

• Before taking any medicine, read all the instructions on the package.

1840. 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.

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 feel movements earlier in pregnancy than overweight women.

• Women use many different terms to describe their babies' movements. Early in pregnancy women

After Hours Telehealth Triage Guidelines | Adult | 2023

Pregnancy - Decreased or Abnormal Fetal Movement



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".

• Feeling the baby move is a great source of happiness for the mother to be. The 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].

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.

After Hours Telehealth Triage Guidelines | Adult | 2023

Pregnancy - Decreased or Abnormal Fetal Movement

- 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 a 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 in 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 months) + 7 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 10-12 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, Advanced Urogynecology & Female Pelvic Reconstructive Surgery | Departments of OB/GYN and Urology New York Medical College, NY.

• Jeremy Waldhart, DO, Assistant Professor of Family Medicine Ascension Columbia St. Mary's 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. Afors K, Chandraharan E. Use of continuous electronic fetal monitoring in a preterm fetus: clinical dilemmas and recommendations for practice. J Pregnancy. 2011;2011:848794.

- 3. American College of Obstetricians and Gynecologists (ACOG) Frequently Asked Questions. FAQ 156. Pregnancy. Available at: http://www.acog.org/~/media/For%20Patients/faq156.pdf.
- 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.
- 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.
- 6. 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.
- 7. American College of Obstetricians and Gynecologists. ACOG Practice Bulletin No. 70: Intrapartum fetal heart rate monitoring. Obstet Gynecol. 2005;106(6):1453-60.
- 8. 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.
- American College of Obstetricians and Gynecologists; Society for Maternal-Fetal Medicine. Obstetric Care consensus No. 6: Periviable Birth. Obstet Gynecol. 2017 Oct;130(4):e187e199.
- 10. American College of Obstetrics and Gynecology Practice bulletin no. 145: antepartum fetal surveillance. Obstet Gynecol. 2014 Jul;124(1):182-92.
- 11. 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.
- 12. Brown H. ACOG Guidelines at a Glance: Antepartum fetal surveillance. Contemp OB GYN. 2015.
- 13. Bryant J, Jamil RT, Thistle J. Fetal Movement. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-.
- 14. Christensen FC. Fetal movement counts. Obstet Gynecol Clin North Am. 1999;26(4):607-21.
- 15. 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.
- 16. Delaram M, Jafarzadeh L. The Effects of Fetal Movement Counting on Pregnancy Outcomes. J Clin Diagn Res. 2016 Feb;10(2):SC22-4.
- 17. Froen JF. A kick from within, fetal movement counting and the cancelled progress in antenatal care. J Perinat Med (2004) 32 : pp 13-24.
- 18. Global Health Council. Making Childbirth Safer; Through Promoting Evidenced-Based Care. Technical Report - May 2002.
- 19. Grant A. Routine formal fetal movement counting and risk of antepartum late death in normally formed singletons. Lancet. 1989; 2(8659): 345-9.
- 20. Graves J. Preconceptual and prenatal care. Clin Fam Pract. 2000;2(2);467-483.

- 21. Herbert WN, Bruninghaus HM, Barefoot AB, Bright TG. Clinical aspects of fetal heart auscultation. Obstet Gynecol. 1987 Apr;69(4):574-7.
- 22. 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.
- 23. 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).
- 24. 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.
- 25. 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.
- 26. Mangesi L, Hofmeyr GJ. Fetal movement counting for assessment of fetal wellbeing. Cochrane Database Syst Rev. 2007 Jan 24;(1):CD004909.
- 27. 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.
- 28. 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.
- 29. 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.
- 30. No authors listed. Antepartum Fetal Surveillance: ACOG Practice Bulletin Summary, Number 229. Obstet Gynecol. 2021 Jun 1;137(6):1134-1136.
- 31. No authors listed. Gestational Hypertension and Preeclampsia: ACOG Practice Bulletin, Number 222. Obstet Gynecol. 2020 Jun;135(6):e237-e260.
- 32. 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.
- 33. Phelan JP. Perinatal risk management: obstetric methods to prevent birth asphyxia. Clin Perinatol. 2005; 32(1): 1-17, v.
- 34. Saastad E, Froen JF. Reduced fetal movements--clinical management, recommendations and information. Tidsskr Nor Laegeforen. 2005 Oct 6;125(19):2627-30.
- 35. 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.
- 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.
- 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.

- 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.
- 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.
- 40. Velazquez MD, Rayburn WF. Antenatal evaluation of the fetus using fetal movement monitoring. Clin Obstet Gynecol. 2002;45(4):993-1004.
- 41. 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.
- 42. 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.
- 43. 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.

SEARCH WORDS

BABY **BABY HICCUP BABY MOVEMENT** DECREASED FETAL MOVEMENT DECREASED MOVEMENT FETAL HICCUP FETAL MOVEMENT FETUS HICCUP **INCREASED FETAL MOVEMENT INCREASED MOVEMENT** KICK **KICK CHART** KICK COUNT MOVEMENT PREGNANCY PREGNANT QUICKENING UTERUS WOMB

AUTHOR AND COPYRIGHT

Author:	David A. Thompson, MD, FACEP
Copyright:	2000-2023, LaGrange Medical Software, Inc. All rights reserved.
Company:	Schmitt-Thompson Clinical Content
Content Set:	After Hours Telehealth Triage Guidelines Adult
Version Year:	2023
Last Revised:	3/26/2023
Last Reviewed:	3/26/2023