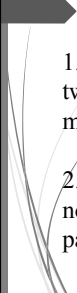





Monitoring fetal movement in the third trimester

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Objectives

1. The participant will understand how to perform two different methods of monitoring fetal movement (or educate patients on this).
2. The participant will know what to do if they notice a decrease in fetal movement (or educate patients on this)



Introduction

Fetal movement monitoring is a low-cost and low-tech method that has the potential to prevent worsening problems in unborn babies and merits the attention of providers and pregnant women.

Fetal movement

- Fetal movements felt by a pregnant woman are a sign that the fetus is growing in size and strength. The pregnant woman is usually the first to feel these movements which can later be felt by others.
- The first fetal movements are called Quickening.
- These are usually felt between 16-22 weeks gestation.

- Quickening is called a presumptive sign of pregnancy because other movements of the woman's body can mimic early fetal movements such as peristalsis, flatus, and abdominal muscle contractions.
- A multiparous woman will usually notice these gentle fluttering movements of the fetus at an earlier gestation than a primiparous woman. A multip might feel movements as early as 16 weeks whereas a primip might not feel anything until 20 to 22 weeks.
- Around 20 weeks gestation, the trained healthcare provider (HCP) can feel fetal movement externally through the abdomen, and this is considered a positive sign of pregnancy.

Monitoring fetal movement

- Clinicians often recommend starting surveillance of fetal movement around 28 weeks gestation and continuing throughout the remainder of the pregnancy.
- There are several methods of monitoring fetal movements and there does not seem to be any evidence suggesting one method over the other.
- The most important part of the monitoring seems to be having the mother use the same technique at the same time every day AND reporting any changes in fetal activity.

Benefits of fetal monitoring

- Maternal awareness about her unborn child
- Increased bonding with her unborn child
- Decrease maternal anxiety
- Potential for early intervention if the fetus is compromised

Fetal compromise

- Historically, cases of a compromised fetus or infant have usually been preceded by decreased fetal movement. Therefore, the assumption is that if a woman notices a decrease in fetal movement and has it evaluated, then a possible adverse event with the fetus might be avoided by the use of interventions.
- Although this type of monitoring is often recommended, tracking movement does not always prevent complications. However, due to the low cost and potential benefit, it is recommended. Decreased fetal movement can indicate a need for more evaluation and has the potential to save lives.

- One potential side effect of routine monitoring of fetal movement could be an increase in prenatal visits, either outpatient or in hospital. However, most research has not found this type of increase to be true.
- Usually, the fetal movement count (FMC) is reassuring to pregnant women and prevents unnecessary visits.
- The healthcare provider should remember that some women are more vigilant at fetal movement monitoring than others and therefore other methods of surveillance might be needed if the mother of the baby is less likely to comply with the fetal movement count.
- There are numerous studies which are trying to determine various new methods to track fetal movements while the pregnant woman is at home or work. Some methods could allow a more consistent and objective method to measuring frequency and possible strength of movements.

It is of note that studies have shown that obese women are able to feel fetal movement as well as women with normal body mass index (BMI). However, due to more common maternal and fetal complications, obese women will likely notice decreased fetal movement more often than their lower BMI counterparts.

Follow up

- Any decrease in the perceived fetal movement should be followed up by the healthcare provider with a non-stress test.
- This non-invasive test can evaluate fetal movement and fetal heart rate accelerations.
- A reactive non-stress test must have accelerations of the fetal heart of a specific size, duration, and frequency.
 - This includes at least three fetal heart tone (FHT) accelerations which are at least 15 beats per minute above the baseline and last at least 15 seconds, all within a 20-minute window.
 - A non-reactive non-stress test, one that does not have the three accelerations, could indicate fetal sleep or fetal compromise, and further testing should be done.
 - Usually, the non-stress test is first extended for a longer time to determine if the lack of accelerations was just due to fetal sleep.

Intervention/treatment

- If the non-stress test continues to be non-reactive, then a BPP (biophysical profile) is often completed.
- This is an ultrasound of the fetus which is assessing: fetal breathing movement, fetal movement of the body or limbs, fetal tone and amniotic fluid volume.
- If this test does not reassure the healthcare provider, then delivery of the fetus should be considered.

How to monitor fetal movement

- Daily recorded monitoring of fetal movement is not currently recommended for all healthy pregnant women.
- However women should be instructed to be aware of the movement of the baby and report any decrease in movement.
- If the prenatal care provider determines that a structured fetal movement count is beneficial, there are several methods that may be used.

Count to 10 method

- One method that has been described is the count to 10 method
- This usually involves having the mother lie on her side or sit in a comfortable chair and count up to 10 fetal kicks/movements which should occur within 2 hours.
- The mother is instructed to choose the time of day when the fetus is generally active and to count at the same time each day.
- The amount of time it takes to get to 10 kicks is recorded
- The mother is instructed to eat or drink something before counting and to contact provider if there is a reduction in normal movement

Variation: Three movements in one hour

- Some methods include counting for a shorter amount of time by using a smaller goal.
- The mother is instructed in the same way as the count to 10, but only has to count 3 kicks/movements within one hour.

Mindfetalness (from a Swedish study)

- ▶ “Mindfetalness is a method developed for women to facilitate systematic observations of the intensity, character and frequency of fetal movements in late pregnancy.”
- ▶ “Mindfetalness should be practiced for 15 min daily when the fetus is awake and, if possible, the woman should lie on her left side when she focuses upon her unborn baby’s movements. By lying on her left side the flow of blood in the placenta in order to avoid Vena cava syndrome is facilitated. When practicing Mindfetalness, the woman focuses upon the intensity and character of the movements, as well as the frequency, without counting them. The recommended starting point is gestational week 28.”


Got an ap?

- ▶ There are many applications created for use on smart phones to count fetal movement
- ▶ Baby Kicks Monitor – Fetal Movement and kick counter Maxwell software \$0.99
<https://apprecs.com/ios/452964061/baby-kicks-monitor-fetal-movement-kick-counter>

Check session time of each kick.

Time	Count	Session Time
10:00:00	1	00:00:00
10:00:10	2	00:00:10
10:00:20	3	00:00:20
10:00:30	4	00:00:30
10:00:40	5	00:00:40
10:00:50	6	00:00:50
10:01:00	7	00:01:00
10:01:10	8	00:01:10
10:01:20	9	00:01:20
10:01:30	10	00:01:30
10:01:40	11	00:01:40
10:01:50	12	00:01:50
10:02:00	13	00:02:00
10:02:10	14	00:02:10
10:02:20	15	00:02:20
10:02:30	16	00:02:30
10:02:40	17	00:02:40
10:02:50	18	00:02:50
10:03:00	19	00:03:00
10:03:10	20	00:03:10
10:03:20	21	00:03:20
10:03:30	22	00:03:30
10:03:40	23	00:03:40
10:03:50	24	00:03:50
10:04:00	25	00:04:00
10:04:10	26	00:04:10
10:04:20	27	00:04:20
10:04:30	28	00:04:30
10:04:40	29	00:04:40
10:04:50	30	00:04:50
10:05:00	31	00:05:00
10:05:10	32	00:05:10
10:05:20	33	00:05:20
10:05:30	34	00:05:30
10:05:40	35	00:05:40
10:05:50	36	00:05:50
10:06:00	37	00:06:00
10:06:10	38	00:06:10
10:06:20	39	00:06:20
10:06:30	40	00:06:30
10:06:40	41	00:06:40
10:06:50	42	00:06:50
10:07:00	43	00:07:00
10:07:10	44	00:07:10
10:07:20	45	00:07:20
10:07:30	46	00:07:30
10:07:40	47	00:07:40
10:07:50	48	00:07:50
10:08:00	49	00:08:00
10:08:10	50	00:08:10
10:08:20	51	00:08:20
10:08:30	52	00:08:30
10:08:40	53	00:08:40
10:08:50	54	00:08:50
10:09:00	55	00:09:00
10:09:10	56	00:09:10
10:09:20	57	00:09:20
10:09:30	58	00:09:30
10:09:40	59	00:09:40
10:09:50	60	00:09:50
10:10:00	61	00:10:00
10:10:10	62	00:10:10
10:10:20	63	00:10:20
10:10:30	64	00:10:30
10:10:40	65	00:10:40
10:10:50	66	00:10:50
10:11:00	67	00:11:00
10:11:10	68	00:11:10
10:11:20	69	00:11:20
10:11:30	70	00:11:30
10:11:40	71	00:11:40
10:11:50	72	00:11:50
10:12:00	73	00:12:00
10:12:10	74	00:12:10
10:12:20	75	00:12:20
10:12:30	76	00:12:30
10:12:40	77	00:12:40
10:12:50	78	00:12:50
10:13:00	79	00:13:00
10:13:10	80	00:13:10
10:13:20	81	00:13:20
10:13:30	82	00:13:30
10:13:40	83	00:13:40
10:13:50	84	00:13:50
10:14:00	85	00:14:00
10:14:10	86	00:14:10
10:14:20	87	00:14:20
10:14:30	88	00:14:30
10:14:40	89	00:14:40
10:14:50	90	00:14:50
10:15:00	91	00:15:00
10:15:10	92	00:15:10
10:15:20	93	00:15:20
10:15:30	94	00:15:30
10:15:40	95	00:15:40
10:15:50	96	00:15:50
10:16:00	97	00:16:00
10:16:10	98	00:16:10
10:16:20	99	00:16:20
10:16:30	100	00:16:30

Another Ap:



- Count the Kicks
- PO Box 71093 | Clive, IA 50325
>515.523.5MOM
>info@countthekicks.org
- The online site has lesson plans for practitioners as well as a downloadable ap for smart phones.

These are only examples
No ap is specifically endorsed

Conclusions

- Encouraging pregnant women to be aware of fetal movements by the third trimester has potential benefits to the mother and fetus.
- Formal counting of fetal kick/movements might be recommended by the practitioner.
- There are many methods. The mother and practitioner can select which method works best for them.

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