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Investigations and Vaccination in Pregnancy

NOGS 20-21 & AMOGS PAC INITIATIVE

VOLUME - 6



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Don't Google... Ask Noogle

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Dear Members,

It gives me immense pleasure to hand over the sixth volume of Patient's Information handouts which is going to be monthly feature. The sixth volume focuses on "Investigations and Vaccination in Pregnancy."

In recent years, patients have increasingly requested the opportunity to participate fully in their medical care. An important part of responding to this is providing educational handouts that inform patients about health problems, describe medical treatments, and promote healthy behaviors. They are useful extension of spoken communications and are also an extension of medical care. Spoken messages are forgotten quickly and so they need to be reinforced with the informative handouts. Educational handouts are an important part of the communication patients receive from health care providers.

This is our small effort to provide our members with these ready handouts for better communication with their patients. The member can print and use them for their patients benefit. We hope that you will find them useful.

I wish to profusely thank our young brigade – the ever enthusiastic, ever ready NOGS Member Dr. Yamini Kale & Dr Sanjana Sainani for toiling very hard and putting it up together within a very short span of time. We deeply appreciate their super effort.

Wishing you all a very healthy patient interaction.

Sincerely,

Dr. Vaidehi Marathe

President NOGS 2020-21

Chairperson PAC AMOGS



Message from the President AMOGS...



Hello everyone,

The theme of AMOGS this year is "We for Stree". I would like to thank every AMOGSian who has helped making every woman Safer, Stronger, and Smarter.

I would like to congratulate Dr. Vaidehi Marathe and Team NOGS for this Patient education booklet. I would also like to thank the contributors and the editorial team for their contributions towards this great booklet.

The aim of this booklet is to ensure that you are able to get basic knowledge regarding different areas of women health care. I hope this booklet helps you achieve that and clears all your doubts.

**Dr. Nandita Palshetkar
President
AMOGS.**





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ANTENATAL (PREGNANCY) CARE

- **What is antenatal care?**
- It is care that you receive from your gynecologist throughout your pregnancy till delivery.
- **What is the importance of good antenatal care?**
- Healthy mother and healthy baby.
- **What is the aim of antenatal care?**
- It helps us to categorize your pregnancy as **low risk** and **high risk** and offer you the necessary treatment accordingly
- **How has good antenatal care changed the outcome of pregnancy?**
- Good, regular antenatal visits will ensure that you will have minimum complications in pregnancy and in turn have a safe delivery and healthy baby.
- **Does antenatal care have any additional impact?**
- Good antenatal care not only benefits you physically , but also plays a very important role on your mental health. It helps you to develop a rapport with your doctor, understand the changes in your body better and prepare your mind for delivery.

- **Who all are involved in antenatal care?**

- Pregnant woman and family
- Obstetrician and Gynecologist
- Radiologist

- **What are the key elements of antenatal care?**

- Blood tests
- Ultrasonography
- Vaccination

1st TRIMESTER

(1ST 3 MONTHS OF PREGNANCY)

- **1.) When should you first visit your gynecologist?**
- The first visit should be when you have missed your periods or you have done a home urine pregnancy test, which is positive.
- **2.) What should you expect in your 1st antenatal visit (booking) from your doctor?**
- **1. Patient History :**
- A detailed history is taken which includes date of your last menstrual periods, previous deliveries or abortions, past medical and surgical history.
- A drug history is taken whether you are on any medications and also a history of drug allergies if there is noted.
- Family history for diabetes, blood pressure, thyroid disorders, asthma will be asked.
- Lifestyle factors such as smoking and alcohol will be discussed.
- **2. Examination :** conducted by the doctor:
- Height, weight , BMI
- Vital parameters : pulse, BP , temperature
- General examination: Pallor, oedema (swelling over feet), Respiratory and cardiovascular systems will be examined
- Abdominal examination
- Per vaginal (internal) examination, if required

- **3.) Which tests will be advised at the 1st antenatal visit?**
- Routine blood tests:
 - Complete blood count to know your baseline hemoglobin and platelet levels
 - Blood group
 - Serum TSH- to diagnose and treat clinical and subclinical hypothyroidism. Abnormal thyroid levels in first 3 months of pregnancy can result in suboptimal neuro intellectual development in babies.
 - Fasting or post meal blood sugar- It is essential that sugar levels should be normal at the beginning of pregnancy to avoid complications
 - Urine routine microscopy- a midstream urine sample is collected to rule out asymptomatic bacteriuria and any urinary tract infection(UTI) and
 - Serology screening like HIV, HbsAg, VDRL and Anti-HCV so that effective post natal interventions can be offered to infected women to decrease the risk of mother to child transmission
 - Special tests for patients like Hb Electrophoresis can be done for thalassemia and sickle cell screening. If wife is a carrier, husband's Hb electrophoresis should also be done.

- **4. What is the purpose of 1st ultrasonography?**

- A ultrasonography is advised at this visit to look for location of pregnancy and viability(heart beat) of the fetus.

- **5. How many total antenatal visits are advised in 1st trimester pregnancy?**

- Once every month

6. What are the warning symptoms in 1st trimester should prompt you to visit your doctor immediately?

- **Warning symptoms in first trimester:**
 - vaginal bleeding
 - abdominal pain
 - persistent vomiting
 - chills or fever
 - pain or burning during urination

SCREENING TESTS

1. What are screening tests?

- Screening in pregnancy is the process of surveying a population of women with markers and defined screening cut off levels to identify those at higher risk a particular disorder.
- **2. Who should undergo screening?**
- All pregnant women regardless of age should be offered screening tests through an informed counseling process

• 3. What are different screening tests available?

1. NT Scan
2. Dual/ Double marker (PAPP A and Beta HCG)
3. Quadruple marker

1. What is NT Scan?

- This is a very important scan for dating of pregnancy and prediction of chromosomal abnormalities which can cause birth defects and intellectual disability eg: abnormality of chromosome no 21 (Down's syndrome) (Detection rate: 90-95%)

1. What is dual/double marker test?

- It is a screening blood test for chromosomal abnormalities in the baby.
- Your blood sample will be collected on the same day as NT Scan.
- It screens levels of PAPPA and free beta hcg in your blood.

1. What is the interpretation of double marker test report?

- If your report suggests **low risk or screen negative**, it does not mean that there is no risk, it simply means that probability of your baby having a genetic abnormality is extremely low.
- If your report suggests **high risk or screen positive**, it means there is a high risk of genetic abnormality in your baby.

1. What should be done if one of the screening tests reports are abnormal?

- You may be advised non invasive prenatal testing invasive(NIPT) or invasive testing like CVS/ amniocentesis to confirm the diagnosis of any chromosomal abnormality.

1. What is Non invasive prenatal test (NIPT)

- It is blood test which looks at DNA from your baby's placenta in a sample of the mother's blood.
- It identifies whether the mother is at increased risk of giving birth to a child with genetic disorder.
- Accuracy of test is 97-99% for three of the most common conditions (Trisomy 13, 18,21)

1. What is invasive testing ?

- **Chorionic villus sampling (CVS):**

- It is a procedure which entails sampling of chorionic villus (placental tissue)
- Done between 11-14 weeks of pregnancy
- Report usually takes 3 weeks
- There is a very minimal risk of miscarriage during the procedure (<1%)

- **Amniocentesis:**

- It is a procedure in which a sample of amniotic fluid is taken for testing under sonography guidance.
- Done between 15-18 weeks of pregnancy.
- The report usually takes 3 weeks
- There is a very minimal risk of miscarriage during the procedure (<1%)

1. What is quadruple marker?

- It is a screening blood test for chromosomal abnormalities in the baby done between 15-20 weeks of pregnancy
- It screens levels of PAPPA and free beta hcg, inhibin A and unconjugated estradiol in your blood.

2nd TRIMESTER

(4th to 6th MONTH OF PREGNANCY)

- **1. How many antenatal visits are necessary in 2nd trimester pregnancy?**
- Once every month from 13 to 28 weeks of pregnancy.
- In case you fall in high risk category, your gynecologist may call you for more frequent visits

- **2. What examination is usually done at your visit with doctor during second trimester?**
- Physical assessments during the second trimester mainly include the following checks:
 - weight gain
 - blood pressure
 - edema, or swelling on feet
 - fundal height, or belly size,
 - fetal growth
 - fetal heartbeat

• **3. What symptoms in 2nd trimester should prompt you to visit your doctor immediately?**

• Be sure to see your doctor immediately if you experience symptoms that include:

- vaginal bleeding
- severe or continuous headache
- dimness or blurring of vision
- abdominal pain
- persistent vomiting
- chills or fever
- pain or burning during urination
- leaking of fluid from vagina
- swelling or pain in one lower extremity

• **4. What blood tests are advised to you at 16 to 18 weeks visit?**

• **At 16-18 weeks:**

- A check up will be done to establish your baby's growth
- **Glucose tolerance test** will be done to rule out diabetes in pregnancy.

a) A fasting blood sample will be taken.

b) You will be given 75 grams glucose syrup to drink and a blood sample will be taken 1 hour and 2 hours after that.

c) In case you have family history of diabetes, you will be at a higher risk of getting gestational diabetes (diabetes of pregnancy) and you be categorized as high risk pregnancy and treated accordingly.

a) If you develop gestational diabetes, and it is not well controlled, your baby may be bigger in size, amniotic fluid maybe increased and baby may develop some deformities, so early diagnosis is essential.

• **5. What is important about 18-20 weeks of pregnancy?**

• **Ultrasonography: Anomaly scan-**

• This is the most important sonography in pregnancy.

• It is done to screen any structural defects in the baby.

• **Quadruple marker** is advised if needed

• **6. What is usually advised at 22-24 weeks?**

• **Fetal 2 D Echo**, if needed.

• Heart problems in your baby if any can be best diagnosed at this stage.

• **7. What can you expect at your 28 weeks check up?**

• Check up to assess the growth of the baby.

• Ultrasonography for fetal well-being

• Blood tests: A repeat complete blood count , urine routine and thyroid function tests will be advised.

• Injection Anti D will be given if your blood group is Rh negative

3RD TRIMESTER

(5TH TO 7TH MONTHS OF PREGNANCY)

- **1. How many antenatal visits are necessary in 3rd trimester pregnancy?**
 - 29-36 weeks: Every 15 days
 - 36 weeks to delivery: Once a week
 - In case you fall in high risk category, your gynecologist may call you for more frequent visits

- **2. What is done at 32-34 weeks antenatal visit?**
 - **32-34 weeks:**
 - Routine check up for baby's growth.
 - Mode of delivery will be discussed including normal birth, vacuum, forceps, caesarean section shall be discussed.
 - Stem cell banking will also be discussed.

- **3. What is advised to you at 36 -38 weeks ?**
 - Check up and repeat blood test for hemoglobin
 - Sonography: Growth scan with Doppler if needed, to know estimated baby weight, amniotic fluid and the blood flow to the baby.

- You will be given information about:
- Caring for the newborn
- Vit K and screening for your newborn
- Breastfeeding
- Your own health after your baby is born
- Baby blues and postnatal depression

4. What is care offered to you between 39 - 40 weeks?

- Baby's growth will be assessed.
- A non stress test may be advised if you fall in high risk category which is a graph of the baby's heart beats.
- Pelvic assessment
- Options and choices of induction of labor will be discussed and offered.

5. What is non stress test?

- Non stress test:
- This test involves using a fetal monitor strapped across the mother's abdomen to measure the baby's heart rate.
- Done weekly in many high-risk pregnancies, such as in cases where a women is carrying more than one fetus, or has diabetes or high blood pressure, heart rate as it moves.
- It's also used for monitoring overdue babies.

ULTRASONOGRAPHY IN PREGNANCY

1. How many ultra sonographies are necessary throughout pregnancy?

- 1. 6-8 weeks for location and viability of pregnancy
- 2. 11-13 weeks (3rd month) – NT Scan
- 3. 18-20 weeks (5th month)– Anomaly Scan
- 4. 32-36 weeks (9th month)-Growth scan with Doppler (if needed)

2. What is ultrasonography?

- An ultrasound uses sound waves and a computer screen to show a picture of your baby inside the womb.
- Ultrasounds can help your doctor to see how your baby is growing and developing.
- There are several types of ultrasounds and they are safe for you and your baby when done by a trained professional.

3. Are there different kinds of sonography ?

- Yes. The kind you get depends on what your doctor is checking for and how far along you are in pregnancy.

- **The most common kinds of sonography are:**

- a) Trans abdominal sonography:**

- This is most commonly done in pregnancy.
- You lay on your back on an examination table, and your doctor covers your belly with a thin layer of gel. You may need to drink several glasses of water to have a full bladder during the test.
- Ultrasound is painless.
- The ultrasound takes about 20 minutes.

- a) Trans vaginal sonography :**

- This is an ultrasound is done through the vagina.
- A sonography probe is inserted through the vagina
- You may feel some pressure due to the probe, but it usually does not cause any pain.
- Your bladder needs to be empty.
- This kind of ultrasound also takes about 20 minutes.
- In 1st trimester, usually this is the sonography done

4. What is Anomaly Scan?

- It is the most important sonography in the entire pregnancy.
- Anomaly Scan or mid-pregnancy scan is an ultrasound scan done between the 18th and 22nd week of pregnancy
- All the anomalies can be picked up best at this period of pregnancy
- It also gives an idea where the placenta is lying.

5. Why is Anomaly Scan so important?

- The mid-pregnancy anomaly scan is done for checking any physical abnormalities in the growing baby.
- It can detect any major physical/structural abnormalities in any of the baby's organs.
- Almost all the anomalies can be picked up best at this period of pregnancy
- Although it can't pick up every problem, it gives your doctor an idea about the baby's bones, heart, brain, spinal cord, face, kidneys and abdomen
- The fetal scan usually takes about half an hour.

6. What is Doppler ultrasound?

- You may be advised a Doppler ultrasound to get more information about your baby
- This kind of ultrasound is used to check your baby's blood flow if he's not growing normally.
- It is usually is used in the last trimester, but it may be done earlier.

7. Are there any special kinds of ultrasonography during pregnancy?

- **3-D ultrasound.** A 3-D ultrasound takes thousands of pictures at once. It makes a 3-D image that's almost as clear as a photograph. It can also check for abnormalities in a baby's face.
- **4-D ultrasound.** This is like a 3-D ultrasound, but it also shows your baby's movements in a video.

VACCINATION IN PREGNANCY

- **1. What are the three essential vaccines?**
 - **Tetanus**
 - **Influenza vaccine**
 - **TDAP (Tetanus, diphtheria, pertussis)**

- **2. When should the essential vaccines in pregnancy?**
 - **18-20 weeks: Tetanus and diphtheria (TD VAC) 1 dose**
 - **26 weeks: Influenza (Swine flu) vaccine 1 dose**
 - **28-32 weeks: TDAP (Tetanus, diphtheria, pertussis) 1 dose**

- **3. Is it safe to get vaccines during pregnancy?**
 - **Yes. It is safe to get the vaccines recommended during pregnancy.**
 - **All vaccines are tested for safety under the supervision of FDA.**

- **4. Why should Pregnant Women Be Vaccinated?**
 - **Pregnancy makes you susceptible to diseases that can harm you or your unborn child.**
 - **Pregnant women should discuss with their gynecologist about the vaccines they need pregnancy.**

• **5. Why is swine flu vaccine essential in pregnancy?**

- The flu is a serious disease that can cause fever, chills, cough, sore throat, body aches, vomiting and diarrhea.
- Getting vaccinated against the flu is important because pregnant women are at increased risk for serious complications from the flu.
- The flu can also cause serious problems like early labor and delivery, which can affect your baby's health.
- In addition to protecting you and your unborn baby, getting the flu shot during pregnancy makes it less likely that newborns will get the flu for several months after they are born which in turn lowers their risk of serious complications like pneumonia (lung infection).

1. What is TDAP vaccine and why is it necessary in pregnancy?

- TDAP stands for tetanus, diphtheria and pertussis (whooping cough)
- During pregnancy, it provides the best protection for mother and infant.
- It is recommended to all pregnant patients during every pregnancy.
- Optimal timing is between 28 and 32 weeks gestation (preferably during the earlier part of this period) to maximize the maternal antibody response and passive antibody transfer to the infant.
- Fewer babies will be hospitalized for and die from pertussis (whooping cough) when TDAP is given during pregnancy rather than during the postpartum period.

1. What other optional vaccinations maybe offered in pregnancy?

- These include:
- Pneumonia. This is an infection in one or both lungs.
- Meningitis. This is an infection that causes swelling in the brain and spinal cord.
- Hepatitis A and B. These are liver infections caused by the hepatitis A and B viruses.
- Haemophiles Influenzae Type b (also called Hib). This is a serious disease caused by bacteria. It can cause meningitis, pneumonia, other serious infections and death.