



Pregnancy and Dental Practice

Stages of Pregnancy:

-1st Trimester (1-12 weeks)

- Fetal organ formation and differentiation.
- Most susceptible to adverse effects of teratogens.
- Avoid all elective care but provide care as needed.
- Week 5-7: most **Cleft lip and palate** occurs at this stage

-2nd Trimester (13-24 weeks)

- Fetal growth and maturation.
- **Safest period** to provide dental care.

-3rd Trimester (25-40 weeks)

- Fetal growth continues.
- Focus of concern is risk to upcoming birth process and safety and comfort of the pregnant woman.

Maternal changes in pregnancy

Many of the changes help the mother to survive the changes induced by the growing fetus. These changes are regulated partly by hormonal changes (e.g. estrogen, progesterone and human chorionic gonadotropin (β -hCG))

- Weight gain
 - Fetus, placenta, amniotic fluid
 - Uterus and breast
 - Blood and tissue fluid
 - Maternal fat stores
- Changes in metabolism
 - Various hormones – thyroxine, adrenal corticosteroids, sex hormones as well as occurrence of the resistance to insulin (Hyperglycemia)
- Cardiovascular changes
 - Blood volume increases 30 –40%
 - Edema occurs
 - Physiologic Heart enlargement



- Respiratory changes
 - Dyspnea- increase in desire to breath
 - Progesterone is known to directly stimulate ventilation
 - Progesterone increases the sensitivity of the respiratory centers to CO₂
 - ↑ Tidal volume.
 - ↑ Pulmonary ventilation
 - Oxygen utilization increases.
- Changes in GIT
 - Increased Acidity → Morning sickness
 - Gastric reflux due to delayed gastric emptying
- Changes in renal function
 - Kidneys enlarge, ureters dilate
 - Sodium and water retention

Common Pregnancy Complications:

- Anemia
- Asthma
- Gestational Diabetes
- Heartburn
- Hypertension
- Dry mouth
- Excessive salivation
- Tooth erosions associated with severe GERD (gastroesophageal reflux disease) or hyperemesis gravidarum (i.e. severe nausea, vomiting, weight loss, and electrolyte disturbance)

Common dental problems during pregnancy are:

- Sensitive and bleeding gums
- Oral lesions
- Dental caries (tooth decay)
- Gingivitis
- Periodontitis
- Loose teeth

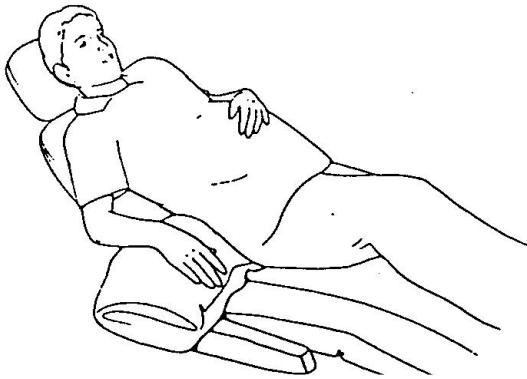


How to deal with a pregnant patient

Patient Position | X-ray | Medications | Local Anesthetics | Emergencies

1) Patient position

- i) The pregnant lady should be in a semi-supine position
- ii) Right hip should be elevated 10-12 cm



- iii) Flat position might cause hypotension or hypoxia
- iv) Supine hypotensive syndrome

2) Radiography:

- Dental radiographs don't cause malignant disease with dental visits, it has only 0.1% chance of doing so → X-rays are safe to the pregnant lady
- The use of lead apron and thyroid collar makes it even safer
- **Fetus is most susceptible to radiation between 2nd and 6th week of gestation**
 - ❖ **High dose (over 250rads) prior to 16 wks**
 - Microcephaly (small head)
 - Mental retardation
 - Cataracts
 - Microphthalmia (small eye)
 - Growth retardation
 - Spontaneous abortion



- High dose after 20 wks
 - Hair loss
 - Skin lesions
 - Bone marrow suppression
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3) Medication:

- i) Antibiotics
 - **Penicillin** is the best choice
 - If allergy is present, Amoxicillin/Cephalexin/Clindamycin can be safe alternatives
 - ✓ Safe is **All trimesters**
 - NO teratogenic effect
 - ii) Analgesic
 - **Paracetamol** (short term usage) is the analgesic of choice **in all stages of gestation**
 - Non steroidal Anti-Inflammatory drugs (**NSAID**) & **Codeine** Should be avoided in the **LAST trimester**
 - **Sedatives (eg: Diazepam)** are rated D and can cause clefts with prolonged exposure
 - **Nitrous Oxide** should be used with 50% Oxygen strictly, and it should NOT be used in the **FIRST trimester**
 - iii) Corticosteroids
 - **Cause Cleft palate**
 - **Inhibit brain growth**
 - Indicated only for treatment of severe systemic maternal illness (e.g. RA)
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4) Local Anesthetic

- Safest is **Lidocaine + Vasoconstrictor**
 - Large doses of **Prilocaine** causes Methemoglobinemia → Maternal and fetal hypoxia (treated by methylene blue)
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5) Emergencies

- I. Syncope
- II. Supine Hypotensive Syndrome
 - Happens when the patient lies in a complete supine position
 - Compression of inferior vena cava & aorta
 - Decrease venous return to heart
 - Decrease uteroplacental perfusion and fetal distress
 - Symptoms: Include Sweating, nausea, weakness, sense of lack of air, bradycardia, hypotension and loss of consciousness
 - Treatment: Roll the patient to the left side



- III. Morning sickness
- Enhanced gag reflex and decreased gastric emptying time
 - Nausea and vomiting
 - Recumbent position
- IV. Seizure
- Mortality rate → 17%
 - Under age 20, older than 35 and first-time pregnancy, chronic hypertensive pregnancy, obese pregnancy, multiple gestation
 - Treatment: Oxygen & suction, transfer to hospital if needed
- V. Bleeding and Cramping
- Precedes miscarriage
 - Active bleeding or painful contraction → on left site and oxygen, transfer to hospital
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