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Survey on Dental X-Rays for Teeth During Pregnancy

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Abstract

Radiographic training requirements for dental office personnel frequently differ from and are less rigorous than those of medical personnel who take X-ray. Training requirements for dental office personnel typically are found in state dental practice acts or dental board regulations.

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Keywords

Dentist; Flossing; Gums; Radio; Teeth.

1. Introduction

A healthy body is a privilege and certainly important for a successful pregnancy. Healthy teeth and gums are no exception and a lack of health in this area may lead to problems for you and your baby. Even healthy teeth can develop problems over time. Regular brushing and flossing is a good start, but for a complete picture, regular dental checkups are important.

2. Dental X-rays During Pregnancy

This is considered safe, the baby is well protected in the womb, together with a lead apron and the focused nature of the x-ray beam the risk is considered negligible, however there is a natural reluctance to do so on the mothers as well as the dentist's side. So this is generally reserved for emergencies when the advantage to the mother's health is outweighed by any risk to your baby.

Fig.1. Dental X-rays During Pregnancy

3. Stage of Pregnancy Should I See My Dentist

At the planning stage so that you can focus on your pregnancy rather that worry about uncertainties, however if that is not the case then late is better than never. A preventative check up should comprise of a thorough visual examination, two small x-rays (one on either side) and a scale and clean. An OPG x-ray may be appropriate to check for wisdom teeth, sinuses etc. Your Dentist can refer you for this. An OPG is usually bulk billed.

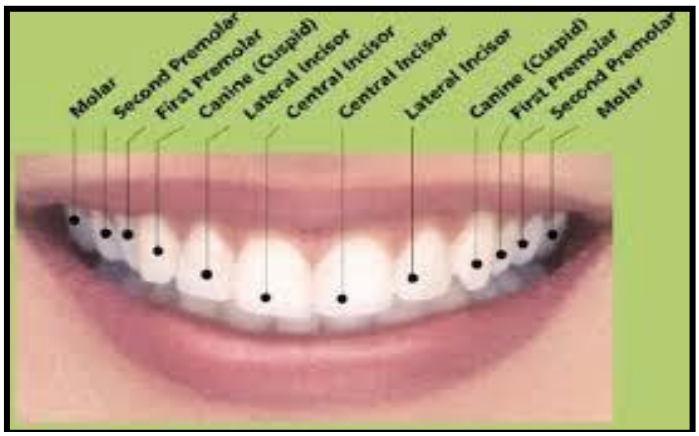

Fig.2. Pregnancy Should I See My Dentist

4. Dental X-Ray While Pregnant

About half of the women in the anesthetic *JADA* study had X-rays taken while they were pregnant, which were also found to be safe. It's possible you'll need an X-ray if you suffer a dental emergency or if there is a need to diagnose a dental problem. Although, radiation from dental X-rays is extremely low, your dentist or hygienist will cover you with a leaded apron that minimizes exposure to the abdomen. Your dental office will also cover your throat with a leaded collar to protect your thyroid from radiation. According to the American Academy of Family Physicians, x-rays are generally safe during pregnancy, but there is quite a bit of controversy surrounding this issue. Studies have been conflicting and, therefore, x-rays should only be done when the benefits outweigh the risks. X-rays can give your health care provider important and even life saving information about numerous medical conditions. Like many things, x-rays can have risks as well as benefits. Not all x-rays are the same, but most pose little exposure to the uterus and developing fetus. With dental x-rays there is hardly any exposure to any part of the body except the teeth. X-ray examinations on the arms, legs, or chest do not expose your reproductive organs to the direct beam. However, x-rays of the torso, such as the abdomen, stomach, pelvis, lower back and kidneys, have a greater chance of exposure to the uterus. It is always important to let your healthcare provider know you are pregnant, if you might need an x-ray. According to the American College of Radiology, no single diagnostic x-ray has a radiation dose significant enough to cause adverse effects in a developing embryo or fetus. Some common diagnostic procedures include dental, chest, CT scan (head/chest), and abdominal view.

Fig.3. Dental X-Ray While Pregnant

There are many pregnancy safety myths when it comes to dental health and hygiene. From losing a tooth for every baby to weakening teeth during from calcium loss, fortunately none of these myths is true. Yet another myth is that it is unsafe to have dental work and X-rays during pregnancy. In actuality, the opposite is true. By practicing good dental hygiene and care before, during, and after pregnancy, every woman can ensure that her teeth remain healthy for a long time. Preventive dental cleanings and annual exams during pregnancy are not only safe, but recommended. The rise in hormone levels during pregnancy can cause the gums to swell, bleed, and trap food, causing increased irritation to the gums. Recent studies have shown an association between poor dental conditions and pregnancy complications such as preterm delivery and low birth weight babies. Preventive dental work is essential to avoid oral infections such as gum disease, which has been linked to preterm birth. As a result it is recommended that all pregnant women and women trying to conceive see their dentist regularly, at least every 6 months. To decrease your risk and to prevent the development of periodontal disease, it is important that you see your dentist before and during pregnancy. For women who are planning to get pregnant, a thorough periodontal exam and appropriate treatment should begin prior to pregnancy. Meticulous oral hygiene and frequent professional cleanings may also be helpful. Dental work such as cavity fillings, crowns and even root canal treatment should also be done before and during pregnancy to reduce the chance of infection.

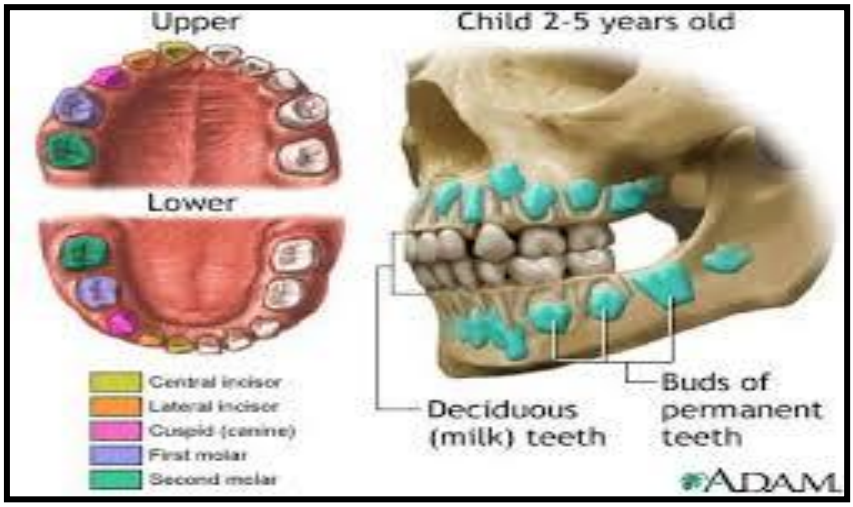

Fig.4. Meticulous oral hygiene and frequent

Local anesthesia as well as dental X-rays with abdominal shielding are safe in pregnancy and will not affect the fetus. Antibiotics such as penicillin, amoxicillin, and clindamycin, which are labeled category B for safety in pregnancy, may be prescribed after your procedure. Elective tooth treatments, such as teeth whitening and other cosmetic procedures, however, should be postponed until after birth.

5. X-rays

During your check-up, there may or may not be a need for an X-ray. An X-ray can diagnose a number of problems that might not have physical signs, such as dental decay between the teeth, impacted teeth, damage to the jawbone, as well as any abscesses, cysts or tumors. For children, an X-ray will also establish where the second teeth will come through.There are various types of X-rays that you might need to have. Some machines are very small, which will show a few teeth at a time. Larger X-rays, called panoramic X-rays, will show the whole mouth, including the bone structure around it.

6. Patient Selection and Limiting Radiation Exposure

The ADA, in collaboration with the FDA, developed recommendations for dental radiographic examinations to serve as an adjunct to the dentist's professional judgment of how to best use diagnostic imaging. Radiographs can help the dental practitioner evaluate and definitively diagnose many oral diseases and conditions. However, the dentist must weigh the benefits of taking dental radiographs against the risk of exposing a patient to X-rays, the effects of which accumulate from multiple sources over time. The dentist, knowing the patient's health history and vulnerability to oral disease, is in the best position to make this judgment. For this reason, the recommendations are intended to serve as a resource for the practitioner and are not intended to be standards of care, nor requirements or regulations.

Fig.5. Radiation Exposure

7. Radiation Safety Requirements

State laws and regulations set specific requirements for the use of ionizing radiation (which includes X-rays). Contact the state radiation protection program to determine specific requirements for:

- Inspection and testing for the facility, X-ray machine, radiation monitoring equipment and radiograph processing equipment
- Permits or licensing
- Supervision of personnel
- Use of dosimetry badges
- Training or certification
- Dental office design and radiation shielding
- Record keeping
- Equipment

Radiographic training requirements for dental office personnel frequently differ from and are less rigorous than those of medical personnel who take X-ray. Training requirements for dental office personnel typically are found in state dental practice acts or dental board regulations

8. Radiation Exposure

Radiation exposure associated with dentistry represents a minor contribution to the total exposure from all sources. The National Council on Radiation Protection and Measurements (NCRP) has estimated that the mean effective radiation dose from all sources in the United States is 6.2 milli sieverts (mSv) per year, with about 3.1 mSv of this dose from natural sources and about 3.1 mSv from man-made sources. About half of the man-made radiation exposure is related to CT scanning. Occupational exposure in dental settings is far lower than that in hospitals and medical offices. According to the NCRP, the total limit for occupational exposure is 50 mSv in one year. In addition, the lifetime occupational effective dose is limited to 10 mSv times the number of an individual's age. The NCRP concludes that occupational exposure for dental personnel will not exceed these limits, excepting for problems associated with facility design, diagnostic equipment performance, or operating procedures. For pregnant dental personnel, the radiation exposure limit is 0.5 mSv per month. Dentists already know not to take unnecessary X-rays of pregnant patients, since certain forms of radiation have been linked to pre-term labor and low-birth weight. But a new study is the first to link dental X-rays with low birth weight and full-term babies. Study authors say they were surprised by the results, published in the Journal of the American Medical Association on Tuesday. Researchers previously assumed only direct radiation to the uterus or fetus would be harmful. The authors speculate the finding may have something to do with radiation effects on the thyroid gland or other hormonal systems in the head and neck region.

Conclusion

In Conclusion, our study revealed an Survey on Dental X-Rays for Teeth During Pregnancy to be an Efficient Method. The ADA, in collaboration with the FDA, developed recommendations for dental radiographic examinations to serve as an adjunct to the dentist's professional judgment of how to best use diagnostic imaging.

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