

**RADIATION PROTECTION  
POLICY AND PROCEDURES  
NUMBER : 7D**

**STAFF PREGNANCY IN DENTAL RADIOLOGY**

**Background**

Staff working with X-ray equipment are naturally concerned to minimise any risk to a foetus should they become pregnant. The Ionising Radiations Regulations 1999 (IRR99) specifically identify the need for adequate information, placing an onus on the employer to provide information and on the employee to report a pregnancy.

**Legal Requirements**

The employer must

- in relation to pregnant employees, ensure that the dose to the foetus is unlikely to exceed 1 mSv (milli-sievert) after they are notified of the pregnancy
- notify female employees working with X-rays of the possible risks to the foetus from X-rays, and the importance of informing the employer in writing as soon as possible after they become pregnant

**Doses and Risk to the Foetus**

The current legal limit of dose to the foetus, from the time pregnancy is declared to term is 1 mSv, which corresponds to a dose to the woman's abdomen of around 2 mSv. If we assume eight months of declared pregnancy, the dose must be kept below an average of 0.25 mSv (250  $\mu$ Sv) per month for that eight month period.

Personal monitoring over many years and many dental practices have shown that this level is well below the dose received by dental staff, providing that the Local Rules are followed.

It should be noted that the "dose limits" do not imply that exposures above these limits will necessarily cause any harm. Severe effect (such as malformation or foetal death) only occur if the foetus is exposed to hundreds of milli-sieverts in a short period of time. Smaller doses of radiation can increase the risk of childhood cancer by a small amount. The natural risk of fatal childhood cancer is 1 in 1,300. The risk of radiation induced childhood cancer from 1 mSv is around 1 in 17,000, more than ten times less than the natural risk.

**Conclusions**

- Staff working with dental x-rays should inform their employer as soon as they learn that they are pregnant.
- Providing that Local Rules are followed, there are no grounds for amending staff working practice during pregnancy.
- If there are any questions or doubts, then contact the Radiation Protection Adviser (see Local Rules for name and telephone number)