



Procedure Information Sheet Radiation Safety with Regard to X-Ray

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Doc. No.: Adm. Date:
Attn. Dr.:
Patient No.: PN

*Please fill in /
affix patient's label*

Introduction

X-ray is a form of ionizing radiation. It can penetrate human body to produce image of the anatomy and pathological changes, they are particularly useful for medical imaging.

What are the health effects of radiation on human?

Lives on earth have always been exposed to a certain level of natural radiation. Actually, on average, an individual receives about 2.0 to 2.5mSv a year from natural background radiation. Although radiation may cause damages to body cells and tissues, health effects are insignificant unless the dose of radiation is large. The effects depend on the intensity of the radiation. The length of the exposure and the type of body cell exposed.

A single large dose of 10,000 mSv or more can be fatal unless good medical attention is available. Besides, exposure to radiation can increase the risks of cancers to the exposed individuals and genetic defects to their offspring.

Are X-ray examinations in diagnostic radiology safe?

The effective doses of the majority of X-ray examinations are very low, e.g. one receives about 0.02 to 0.04 mSv for a chest X-ray examination. These examinations are generally considered safe. X-Ray examinations are performed by professionals like radiologist and radiographer who have proper training in radiation protection and medical imaging techniques. There are also explicit guidelines on medical imaging. The benefits of the X-Ray examination, if performed properly, far outweigh the associated risks.

Can X-ray examinations be taken during pregnancy?

Exposure of the embryo in the first three weeks following conception is not likely to result in adverse effects in the liveborn child. Nevertheless, X-ray examinations causing direct exposures to the abdomen or pelvis of women likely to be pregnant should be avoided unless there are strong clinical indications.

Plain X-ray examinations of area remote from the fetus, such as the chest, skull of extremities, can be done safely at any time during pregnancy, provided with proper radiation protection measures.



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What are “28-day rule” and “10-day rule”?

When a female patient of child bearing age requires an x-ray examination involving direct irradiation of the abdomen or pelvis and if she cannot exclude the possibility of pregnancy, consideration should be given to postpone the examination by applying the “28-day rule” or the “10-day rule”, X-ray examinations involving direct irradiation of the abdomen or pelvis, but not classified as high dose procedures, should be done within 28 days from the onset of her menstruation. If the X-ray examination is a high dose procedure like Barium Enema, CT abdomen or pelvis. The examination should only be performed within 10 days from the onset of her menstruation.

Please provide information about your last menstrual period (LMP) to the concerned staff when required.

Reference

1. ICRP Publication 60.
2. Guidance Notes for the Protection Exposure in Diagnostic Radiology by RHU, DH.
3. Local Radiation Protection Rules of Radiology Department, St. Paul's Hospital (version 5.0,2019)

I acknowledge that I have understood the above information and was given opportunity to ask questions concerning my procedure.

Name of Patient / Relative

Signature

Relationship (If any)

Date