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GUIDELINE FOR MANAGEMENT OF PREGNANT RADIOGRAPHERS AND OTHER STAFF MEMBERS

Guideline on management of pregnant Radiation workers and other female workers involved in the medical radioactive environment.

Document History

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0	First issue and published for implementation	October 2009
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Glossary

Abbreviation/ Term	Meaning
Act 15	Hazardous Substance Act 15 of 1973 (Act 15, of 1973)
Foetus	Refers to an unborn offspring in the developing stage in pregnancy
License holder	Individual or entity in possession of a license issued in terms of the act 15
Lower trunk	the abdomen in the abdomen region (belly region) encompassing the stomach area is the portion of the body that lies between the thorax and the pelvis.
Radiation Worker	Any person who is potentially exposed to radiation because of his/her occupation to more than three tenths of the occupational dose limit (20mSv per annum)
Regulation	Regulation concerning the control of electronic products, (R1332)
Responsible persons	Appointed individual with particular skills by a license holder
mGy	Milli-Gray
mSv	Milli-Sieverts
SAHPRA	South African Health products regulatory authority

1. INTRODUCTION

The contents of this guideline as derived from the ICRP Publication 84 (Vol 30/1) "Pregnancy and Medical Radiation" are requirements and recommendations used to guide on the Radiographers or mothers and foetus or embryo during pregnancy whilst involved in the medical radioactive area, provided all parties act sensibly and proper monitoring procedures are followed.

Women of reproductive capacity must at all times and not only when pregnant be well versed in the uses of ionising radiation. However, when a woman is or may be, pregnant additional control has to be considered to protect the unborn child. There is, therefore, a recommended foetal dose (1 mGy) limit.

Effective and fair management of pregnant employees exposed to radiation requires the following:

- The protection of the foetus or embryo;
- the needs of the employer; and
- the rights of the worker to pursue her career without discrimination based on the pregnancy.

1.1 Purpose

To remove the unnecessary discrimination against pregnant Radiographers and at the same time prevent disruption of work by reduced staff members due to pregnancy. To ascertain safety of the mother and foetus or embryo.

1.2 Scope

The guide provides the applicable radiation protection requirements when a pregnancy has been declared by a radiation worker to license holders and or responsible person for management of pregnant Radiation workers and other female workers involved in the medical radioactive environment.

2. LEGAL PROVISION

The SAHPRA Radiation control regulates ionizing devices as promulgated by the hazardous Substances 15 of 1973 with its related regulations R1332 concerning the control of electronic products.

3. REQUIREMENTS

- 3.1 When pregnancy has been diagnosed the maximum equivalent dose to the surface of the woman's abdomen (lower trunk) may not exceed 2 mSv for the remainder of the pregnancy.
- 3.2 The first responsibility lies with the pregnant worker to protect the foetus and therefore once the

pregnancy is confirmed the employer must be informed and the employee must be given the digital dosimeter immediately.

- 3.3 The licence holder / employer must carefully review the exposure conditions to ensure that the equivalent dose to the abdominal area be restricted to less than 2 mSv.
- 3.4 Pregnant radiation workers must be issued with a direct reading audible dosimeter.
- 3.5 The restriction on the dose to the woman's lower trunk does not mean that it is necessary for the person to avoid work with radiation or radioactive materials completely or that she must be prevented from entering or working in designated radiation areas. It does, however, imply that the licence holder / employer must carefully review the radiation exposure conditions of the pregnant worker. The probability of high accidental doses and radionuclide intakes must be insignificant.
- 3.6 There are situations in which the worker wishes to continue with the assigned duties or employer may depend on the worker to continue due to the facility not sufficiently large and flexible to have other employees to fill the vacated position of the pregnant worker. From a radiation point of view the worker may continue with the assigned duties providing the equivalent dose to the lower trunk falls within recommended limit of 2 mSv.

4. REFERENCES

The following related documents are referenced:

- 4.1 Guideline for Code of Practice for Users of Medical X-Rays Equipment (SAHGPL-RDN-XR-02), <https://www.sahpra.org.za/radiation-control-guidelines-and-codes-of-practice/>.
- 4.2 Hazardous Substance Act 15 of 1973 (Act 15, of 1973), <https://www.sahpra.org.za/radiation-control-acts-and-regulations/>.
- 4.3 Regulation concerning the control of electronic products, (R1332), <https://www.sahpra.org.za/radiation-control-acts-and-regulations/>.
- 4.4 International Commission on Radiological Protection, 1990 Recommendations of the ICRP, Publication 60, Pergamon Press, Oxford (1991).
- 4.5 International Commission on Radiological Protection, Pregnancy and Medical Radiation, Annals of the ICRP, Publication 84, Pergamon Press, Oxford (2000).

5. VALIDITY

This guideline is valid for a period of 5 years from the effective date of revision and replaces the old guideline for Management of Pregnant Radiographers and Other Staff Members, revised October 2009. It will be reviewed on this timeframe or as and when required.