

Great Ormond Street Hospital for Children NHS Trust	IRMER Employer's Procedure EP3	Version 1.4
Medical Exposure and Pregnancy	Author: Peter Marsden	January 2010
	Reviewer: M Judge	Sept 2014
	Review	Sept 2016

Medical Exposure and Pregnancy

1. Purpose

The purpose of this procedure is to establish the likelihood of pregnancy in a female of childbearing age BEFORE they undergo a medical exposure.

2. Readership

This procedure should be read by all referrers, practitioners and operators who are effecting a medical exposure.

3. Description

The justification and conduct of a medical exposure must take into account special considerations of potential risks to the foetus if there is a possibility that the person being exposed is pregnant. Knowledge of pregnancy, or of the possibility of pregnancy, is considered to be relevant clinical information which the referrer is obliged to communicate to the practitioner when requesting the exposure. The operator effecting the exposure must also verify pregnancy status prior to the exposure so that steps may be taken to minimise the radiation dose to the foetus.

For the purposes of this procedure, "childbearing age" should include the age range 12 to 55 years.

4. Referrer's Procedure

When a female of childbearing age is to be referred for a medical exposure which the referrer suspects may include the abdominal area, or for a nuclear medicine procedure, she must be asked by the referrer if there is any possibility that she might be pregnant. If the patient is likely to be sedated or under general anaesthesia at the time of the medical exposure, the referrer should record the response to this question on the referral form.

Not Pregnant

If there is no possibility of pregnancy the referral should proceed as normal.

Pregnancy Uncertain

If pregnancy cannot be ruled out the referrer should indicate on the referral form that the person is, or might be pregnant.

If the exposure for which the patient is to be referred is listed as a high dose procedure in the referral guidelines, and pregnancy is uncertain, the referrer should indicate on the referral form whether the referral can safely be delayed to within the first ten days of the menstrual cycle when pregnancy is unlikely.

If the exposure cannot be safely delayed then undertaking a pregnancy test should be considered by the referrer prior to the Radiological examination.

If the referrer is unsure of the correct action to take (s)he should contact the practitioner to whom the referral is being made directly.

5. Practitioner's Procedure

When justifying the exposure of a female who is, or who may be pregnant, special consideration should be given to the risk to the foetus. In medical exposures for research studies, pregnant or potentially pregnant volunteers receiving no direct health benefit from the exposure should not be considered unless pregnancy is one of the criteria for the study. In such cases a dose constraint for the unborn child should be added to the local ethics committee submission.

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Pregnancy Confirmed or Likely

If pregnancy has been established, or is likely, review the justification by taking into account the radiation detriment to the unborn child. In deciding whether it is feasible to defer the exposure until after delivery, bear in mind that an exposure with clinical benefit to the mother may also indirectly benefit the unborn child and that delaying the exposure until later in the pregnancy may present a greater risk to the foetus. If the exposure is undertaken, protocols and equipment should be selected so as to minimise the foetal dose, consistent with clinical purpose of the exposure.

If the practitioner is uncertain as to the radiation detriment to the foetus resulting from the proposed exposure (s)he should contact the Medical Physics Expert for advice.

Pregnancy Not Excluded

Provided that the exposure is not listed as a high dose exposure, and that the period is not overdue, the process of justification should proceed as normal. If the period is overdue the procedure in the above paragraph ("Pregnancy Confirmed or Likely") should be followed.

High Dose Exposures

A high dose exposure is defined as one in which the dose to the foetus could be of the order of tens of milligray (mGy). The potential for such doses has been identified for the following *diagnostic* medical exposures:

Barium Enema

CT Abdomen

CT Pelvis

⁷⁵Se-cholesterol

⁶⁷Ga tumours and abscesses

¹³¹I thyroid metastases

Complex interventional procedures with significant abdominal exposures should be included in this list.

For routine examinations falling in this category one of two courses should be adopted:

1. apply the rule that in females of childbearing age these examinations are booked for the first ten days of the menstrual cycle, when conception is unlikely to have occurred; or
2. re-book females of childbearing age who attend for such examinations, are identified as being in the second half of their menstrual cycle and in whom pregnancy cannot be excluded.

6. Operator's Procedure

When a female of childbearing age presents for a medical exposure in which the primary beam is likely to irradiate the pelvic area, or for a Nuclear Medicine procedure, the operator effecting the exposure should establish likelihood of pregnancy in the following way:

The patient should be asked if she has started to menstruate. If the answer is YES, she should be asked if her menstrual period is overdue. If it is she should then be asked if there is any likelihood of her being pregnant. This should be asked via an interpreter if necessary. If the person cannot answer because of illness or sedation the referrer should be contacted for confirmation.

If pregnancy is definitely excluded the exposure should proceed as normal. If pregnancy cannot be excluded the operator should contact the practitioner for further advice. If the exposure proceeds the operator should select equipment and techniques which will achieve the intended clinical outcome of the exposure whilst minimising the radiation dose to the foetus.

In the case of anaesthetised individuals, every effort should have been made to clarify pregnancy status prior to administration of anaesthesia. If, however, there is no evidence of this having been checked and the individual has been anaesthetised, the operator should assume that pregnancy is a possibility and should consult a practitioner for further justification before proceeding.