

Ask EuroSafe Imaging

Tips & Tricks

Paediatric Imaging Working Group

Gonad shielding in pelvis radiography

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Gonad shielding in pelvis radiography

Correct positioning of the gonad shielding is crucial for the outcome of the examination.

Several shielding solutions exist in the market. What you need is a system that is:

- easily fixed,
- adjusted to the patient size,
- comfortable so as the patient won't try to remove it and,
- easily disinfected.

One size does not fit all: prefer to have a set of different sizes, especially if you work in a specialized paediatric centre.

Male patient

For the male patient there are no particular problems, as the shielding is positioned under the pubic symphysis.

The shielding is out of the acquisition plane and you may use the automatic exposure control (AEC) by selecting the central ionisation chamber.

Female patient

Pelvis radiography is more complicated for female patients as the shielding will be in the X-ray field.

Ovaries are almost invariably positioned in the lateral aspect of the pelvis, above the pubic symphysis, just below the iliac crests and umbilicus, and very close to the anterior superior iliac spine.

The shielding is usually positioned centrally above the pubic symphysis (the last decades it was described in literature as correct); however, new studies¹⁻⁶ about the ovaries location reveal that the shielding must be positioned laterally.

The ionisation chamber should not be used, because the shielding increases the exposure parameters considering the density of the irradiated structure.

X-ray steps

Step 1: Be sure what structures you need to image. If the shielding interferes with any crucial structures, don't use it.

Step 2: Place correctly the lead shielding.

Step 3: Be sure that the patient stays still and the shielding does not move from its initial position.

Step 4: Use the AEC, as described above. Be careful, the shielding in the X-ray field will increase the exposure parameters and consequently the patient dose will increase.

Step 5: X-ray!

If you are not trained to place correctly the shielding to paediatric patients, ask for help from an experienced colleague, otherwise, don't use the shielding. If you need to repeat the examination, the radiation dose to the patient will be increased.

References

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