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Recommendations for Radiation Protection in Pregnant Trainees

Pregnant trainees should be supported in both maintaining a healthy pregnancy and fetus as well as preserving their training experience and providing an equitable training environment. Much of the concern for pregnant trainees or trainees planning for pregnancy surrounds radiation exposure in the operating room and non-operating room locations. With rising numbers of endovascular, interventional, and minimally invasive procedures, cases with ionizing radiation (fluoroscopy, C-arm, single shot films) represent an increasing proportion of the anesthesiology resident's clinical training experience, especially in index cases such as major vascular surgery (1). There is good evidence that it is safe for pregnant providers to participate in cases with radiation exposure. This is true even for trainees who may be in very early pregnancy or who are trying to conceive and are concerned about exposure during the sensitive preimplantation and organogenesis phase of pregnancy (first trimester) and throughout their pregnancy with appropriate protections in place (2). There is no evidence of any harmful effects of magnetic resonance imaging (MRI) to the fetus; it is not necessary for pregnant trainees to avoid cases with MRI (3).

With this in mind, the Association of Anesthesiology Core Program Directors (AACPD) puts forth the following recommendations regarding the radiation exposure of pregnant trainees in anesthesiology:

1. Programs are encouraged to develop a guideline for radiation protection during pregnancy that is consistent with the rest of their department and is in line with their institution's occupational health policies.

2. Trainees are encouraged to meet with program leadership as soon as possible regarding pregnancy or concerns around radiation exposure in pregnancy and to discuss potential impact of avoiding cases with radiation on their training. Program leadership should keep in mind that trainees are not required to disclose their pregnancy to their employer, although this may impact the employer's ability to address concerns.

3. Institutions should have appropriately fitted, tested, and maintained lead available for pregnant trainees involved in cases with radiation exposure. While appropriate lead is all that is required for safe participation in these cases, additional protections can be offered based on the resources available to programs and might include one or more of the following: additional barrier shields, distance from radiation source, radiation dosimeter monitoring, or selective limitation of assignments with significant radiation exposure.

4. Pregnant trainees should be encouraged to work with their medical provider and coordinate with the institution's local occupational health office in order to maintain clear and consistent expectations between trainee, program, and employer regarding work accommodations during pregnancy.

References

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