

## Letters to the Editor

OVERVIEW

Please submit letters for the editor's consideration within 3 weeks of receipt of *Future Healthcare Journal*. Letters should be limited to 350 words, and sent by email to: [fhj@rcp.ac.uk](mailto:fhj@rcp.ac.uk)

### Radiation and pregnancy

DOI: [10.7861/fhj.Let.9.1.1](https://doi.org/10.7861/fhj.Let.9.1.1)

Editor – I read Al-Hadithy *et al*'s article with interest; it raises many important points about the wellbeing of pregnant staff in the NHS and, in particular, regarding the impact of shift work in early pregnancy when women are often still working full shift rotas.<sup>1</sup>

I am, however, concerned about the authors' conclusions regarding working with radiation in pregnancy. The authors accept that within the limit of 1 mSv there is no measurable increase in adverse pregnancy outcomes (as has been demonstrated in many studies globally).<sup>2,3</sup> However, despite this, they suggest that women should avoid working with radiation from conception, largely because of a theoretical risk that the 1 mSv limit might be reached within the first trimester. We should be practising evidence-based medicine and this recommendation is not based on evidence. This decreases the credibility of their other recommendations, for which there is indeed evidence. Furthermore, it is likely to create an unjustified fear of working with radiation, causing anxiety to those who have continued to work with it, and it will significantly limit work and training opportunities for healthcare professionals in many fields. Fear of radiation is known to put women off already male dominated fields, such as cardiology, we should not be fuelling such fear without a compelling reason.<sup>4</sup>

Occupational radiation exposure is tightly regulated by the Ionising Radiation (Medical Exposure) Regulations. As soon as an employee announces a pregnancy, the employer is obliged to monitor dose and make sure that the legal dose limit is not exceeded. A pregnant employee should, therefore, report her pregnancy at the earliest possible opportunity in order to be monitored in this way. Employees who regularly work with radiation will usually be monitored already and will know if they have unusually high doses; in addition, it is possible to request one's own monitoring reports pre-pregnancy to be sure that they are not close to the limit.

It is clear that best radiation protection practice should be followed and that pregnant employees should not be working with radiation without optimal radiation protection and monitoring; however, this does not mean that they should stop working with radiation altogether. With good practice, this can be done safely and a lot of work on this has been done in cardiology, a field with particularly high radiation exposure.<sup>5</sup>

I hope the authors will consider revising their recommendations to suggest that employers should fulfil their legal obligation to monitor and protect pregnant employees whose work involves

radiation exposure, rather than preventing pregnant employees from performing this part of their role. ■

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### References

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- 2 Best PJM, Skelding KA, Mehran R *et al*. SCAI consensus document on occupational radiation exposure to the pregnant cardiologist and technical personnel. *Cathet Cardiovasc Intervent* 2011;77:232–41.
- 3 Velázquez M, Pombo M, Unzué L *et al*. Radiation exposure to the pregnant interventional cardiologist. Does it really pose a risk to the fetus? *Rev Esp Cardiol* 2017;70:606–8.
- 4 Capranzano P, Kunadian V, Mauri J *et al*. Motivations for and barriers to choosing an interventional cardiology career path: results from the EAPCI Women Committee worldwide survey. *EuroIntervention* 2016;12:53–9
- 5 British Cardiovascular Society Working Group on: Improving resources and support for cardiology trainees and consultants during pregnancy, fertility treatment, pregnancy loss & parental leave. *Resources for pregnant cardiologists, their partners and supervisors*. British Cardiovascular Society, 2021. [www.britishcardiovascularsociety.org/\\_\\_data/assets/pdf\\_file/0020/37703/BCS-2021-Resources-for-pregnant-cardiologists-their-partners-and-supervisors-Aug21.pdf](http://www.britishcardiovascularsociety.org/__data/assets/pdf_file/0020/37703/BCS-2021-Resources-for-pregnant-cardiologists-their-partners-and-supervisors-Aug21.pdf)

### Response

DOI: [10.7861/fhj.Let.9.1.2](https://doi.org/10.7861/fhj.Let.9.1.2)

Editor – We thank Dr Wood for their letter. While they are right that we should be practising evidence-based medicine, there is sadly no consistency in how this evidence is applied to pregnant NHS workers in the UK. In addition, there are no studies on the safe levels of technetium 99 exposure to the *in utero* fetus. Occupational radiation exposure is regulated by the Ionising Radiation (Medical Exposures) Regulations, however, probably not that tightly in theatres. Of all of our respondents, no one raised the point that they had been offered a dosimeter and, as a pregnant surgical trainee (possibly the most male dominant of all specialities), I was never offered dosimeters despite repeatedly asking for them from my line manager (I did find the radiation officer independently and, after a few weeks, got one). There were no maternity leads available and there was no information about double thickness leads. There was no discussion about the distance of the fetus / gravid uterus away from the radiation source nor the safe handling of radiation-contaminated waste products. In short, the risk assessment was not fit for purpose.

While we appreciate that many radiographers wear dosimeters, sadly this is not the case in surgery. Furthermore, where should this dosimeter be placed? Inside the lead gown or outside it? I was not given two, and the one I received I was told I could only have for a short period as it

belonged to another radiographer. Therefore, this figure of 1 mSv over the course of the pregnancy is not being properly tracked for the majority of clinical pregnant NHS staff working outside of the radiology department.

The purpose of this article was to raise awareness of the poor risk assessments and lack of consistent guidance across the NHS on clinical occupational hazards for pregnant NHS employees. As a pregnant surgical trainee, I was told to wear leads to protect the fetus from radiation from sentinel lymph node biopsies performed in theatre. I was also told that it did not harm the fetus. Lead does not stop gamma radiation. The guidance was not provided on accurate evidence-based medicine. I had no appropriate risk assessment. Tragically my baby had fatal anomalies.

This article did not state that employers should prevent pregnant employees from performing this part of their role; it asked for each pregnant woman to be given the option. Each woman has the right to choose how to conduct herself during her pregnancy when presented with all the relevant information. This article was written to highlight the plight of many pregnant women who have come to harm from inadequate risk assessments and poor guidance.

Thank you again for your interest in the article, if it provokes attention and discussion then it has achieved its purpose. ■

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