

## **SUPPLEMENTARY MATERIAL**

### **ONLINE QUESTIONNAIRE**

#### **PART 1: TO BE ANSWERED BY FEMALE AND MALE EP PERSONNEL**

##### **1.1 PERSONAL AND PROFESSIONAL INFORMATION**

###### **1) 1. GDPR Disclaimer**

**Your participation is anonymous.**

**We will not disclose your identity to any third party.**

**We comply with the European General Data Protection Regulation (GDPR) 2016/679.**

**Any personal data processed in connection with this survey will be treated confidentially and only used by the ESC for the purposes of market research and not for promotion. Survey results will be kept for a maximum of 48 months for analysis and quality control purposes. We take all reasonable care to prevent any unauthorised access to your personal data. We respect your privacy and your right to access, modify, or remove your personal data. At any time, you can ask to know what personal data is being held. If you have any questions about data protection or require further information, please contact our data protection officer (DPO) at [dpo@escardio.org](mailto:dpo@escardio.org).**

**You have the right to end your participation in this survey at any time.**

**Please confirm that you have read the above and agree to participate in this survey.**

a) yes

b) no

###### **2) Age:**

a) 25-30 years-old.

b) 31-40 years-old..

c) 41-50 years.old.

d) More than 50 years-old.

###### **3) In which country do you work?**

x) (Drop-down list with countries)

###### **4) What is your current position?**

a) EP nurse

b) EP radiology technician

c) EP fellow

- d) Junior consultant
- e) Senior consultant
- f) Head of an EP lab/department

**5) How many years of experience do you have in the EP field?**

- a) Square to fill with a number

**1.2 RADIATION EXPOSURE AND EP**

**6) Have you received any regulated training in radiation protection before or during your training in EP?**

- a) Yes, it is mandatory.
- b) Yes, although it is not mandatory.
- c) Not yet, but I will because it is mandatory.
- d) No, and it is not required.

**7) Are you worried about the potentially harmful effects that radiation can have on reproductive capacity?**

- a) Not at all worried.
- b) Not really worried.
- c) Yes, slightly worried.
- d) Yes, very worried .

**8) Are you worried about the potentially harmful effects that radiation can have on germ cells in terms of mutations and genetic diseases in offspring?**

- a) Not at all worried.
- b) Not really worried.
- c) Yes, slightly worried.
- d) Yes, very worried.

**9) Are lower body table protective shields systematically used in your EP lab?**

- a) Yes
- b) No

**10) How many procedures with a zero-fluoroscopy approach do you perform / participate in your center per month?**

- a) We do not carry out zero-fluoroscopy procedures
- b) Less than 5 per month
- c) 5-10 per month
- d) 10-20 per month
- e) Most procedures are attempted with a zero-fluoroscopy approach whenever possible.

**11) Do you think that working with ionising radiation exposure during pregnancy is safe?**

- a) Yes
- b) No
- c) I am not sure

**12) Are you aware of the legal regulation in your country about occupational radiation exposure during pregnancy?**

- a) Yes
- b) No
- c) I am not sure

**13) Are you aware of the policy in your hospital about occupational radiation exposure during pregnancy?**

- a) Yes
- b) No
- c) I am not sure

**14) Are you aware of the EHRA and HRS 2017 consensus document "Occupational radiation exposure in the electrophysiology laboratory with a focus on personnel with reproductive potential and during pregnancy" by Andrea Sarkozy et al.?**

- a) Yes
- b) No
- c) I am not sure

**15) Do you think that specific information regarding pregnancy and occupational radiation exposure should be provided during radiation protection training or during EP training?**

- a) Yes, but only to women
- b) Yes, to both men and women
- c) No
- d) I am not sure

**16) Is it allowed in your country to continue to work with ionizing radiation during pregnancy if the security measures issued by national or international regulation organizations are observed?**

- a) Yes
- b) No
- c) I am not sure

**17) Which are the measures put in place when a female EP staff member of your professional category (physician, nurse, technician, etc) in your department announces her pregnancy?**

- a) She can continue to work with the use of radiation, providing her with all the safety measures required.
- b) She can continue to work in the EP lab, but restricted to zero-fluoroscopy procedures.
- c) She can continue to work, but must remain at the control room.
- d) She is redeployed (out of the EP lab) to work in alternative processes (in the outpatient clinic or the ward)
- e) She is redeployed (out of the EP lab) to focus on research projects or work in educational programs (for fellows, cardiology trainees, EP trainee nurses, etc.)
- f) Other options.

**18) What is your impression about the attitude of the head of department/senior staff/colleagues when they know that a EP colleague is pregnant?**

- a) Supportive. She has been helped to continue working in the way of her choice.
- b) The attitude of some members of the team has made her feel uncomfortable or has made it difficult for her to continue working the way she expected to.
- c) Neutral.

**19) Do you think that pregnancy/maternity leave supposes a disadvantage for the professional career of EP female staff compared to men?**

- a) Yes, I do.
- b) No, I do not.

**20) What is your Gender:**

- a) Female
- b) Male

**PART 2: TO BE ANSWERED ONLY BY MALE EP PERSONNEL:**

**21) Are you aware of the radiation threshold dose beyond which semen quality is affected?**

- a) Yes
- b) No

**22) During your training period, has the occupational health department (or similar) informed you about the radiation protection measures to be taken to minimize the effects of radiation on germ cells?**

- a) Yes
- b) No

**23) Are diagnostic sperm tests performed as part of an occupational health examination in your center?**

- a) Yes
  - b) No, but I would like them to be.
  - c) No, and I do not think they are necessary.
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**PART 3: TO BE ANSWERED ONLY BY FEMALE EP PERSONNEL:**

**During your training period, has the occupational health department (or similar) informed you about the radiation protection measures to be taken during pregnancy?**

- d) Yes
- e) No
- f) I am not sure

**24) Have you had any pregnancies during your EP professional career?**

- a) Yes
- b) No

**25) Were you worried about notifying the head of your department and/or other colleagues about your pregnancy?**

- a) Yes, I was mainly concerned about being fired or my contract not being renewed.
- b) Yes, I was mainly concerned about not being able to keep up with work or redeployment.
- c) Yes, I was mainly worried about the opinion of my colleagues.
- d) Yes, because of other concerns.
- e) No

**26) Once you notified your employer about the pregnancy, did they inform you about the radiation protection measures to be taken during pregnancy?**

- a) Yes
- b) No
- c) I am not sure

**27) Did you stay out of the EP lab?**

- a) Yes.
- b) No, I continued to work in the EP lab during a certain period/the whole pregnancy period

**3.1.1 TO BE ANSWERED BY WOMEN WHO HAVE BEEN PREGNANT DURING THEIR PROFESSIONAL CAREER AND HAVE STAYED OUT OF THE EP LAB.**

**29) Who made the decision about restricting you from working in the EP lab during pregnancy?**

- c) Occupational health department / employer
- d) Head of the department
- e) Educational supervisor
- f) I was not restricted from working; I decided myself.

**30) If it was your decision to stay out, what is the main reason why you decided to stay out of the EP lab?**

- a. Safety reasons (concerns about fetal risk)
- b. Social/ family pressure
- c. Professional pressure
- d. Other reasons

**3.1.2. TO BE ANSWERED BY WOMEN WHO CONTINUED WORKING AT THE EP LAB DURING PREGNANCY.**

**31) Have you had the possibility to carry out/participate in Zero-fluoroscopy procedures?**

- a. Yes, and I've performed/participated in only zero-fluoroscopy procedures.
- b. Yes, and I've mainly performed/participated in zero-fluoroscopy procedures.
- c. Yes, but I've performed/participated in both both zero-fluoroscopy procedures and procedures using radiation.
- d. No.

**32) Have you received an abdominal dosimeter?**

- a. Yes
- b. No

**33) Have you received information about the radiation dose that you were receiving during this period?**

- a. Yes
- b. No

**34) How often have you received information about the radiation dose received?**

- a. Monthly
- b. More frequently than monthly
- c. Less frequently than monthly
- d. N/A, I did not receive that information

**35) Which type of lead protection have you used?**

- a. Two-piece: vest and skirt.
- b. One piece: Apron.
- c. Two-piece plus an additional apron
- d. One-piece plus an additional apron

**36) Has the occupational hazards department (or similar) guaranteed the integrity of the lead protections you used?**

- a. Yes
- b. No
- c. I do not know / I am not sure

**37) Have you been given new lead protections according to your size as the pregnancy progressed?**

- a. Yes
- b. No

**38) Have you used any other security measures not mentioned above? If so, specify which:**

- a. Yes, I have been provided with a continuous dosimeter.
- b. Yes, I could work with a radiation protection cabin or similar
- c. Yes, another additional measure (Square to specify)
- d. No.

**39) Have you changed your approach to procedures requiring the use of radiation?**

- a. Yes, I have done some modifications to reduce the use of radiation.
- b. No, I have continued to work the same way.
- c. I do not know/ I am not sure.

**40) How many procedures requiring the use of radiation did you perform/did you participate in during your pregnancy?**

- a. <10 procedures.
- b. 10-30 procedures.
- c. 30 – 50 procedures
- d. > 50 procedures.

**41) What total radiation dose did you receive during pregnancy?**

- a. Square to fill with a number (give the possibility to answer in milliGrays or millisieverts)
- b. I do not remember
- c. I do not know

**42) Did the radiation dose ever exceed the allowed limit at any time?**

- a. Yes
- b. No
- c. I do not know

**43) Do you believe that all possible necessary measures were implemented to guarantee your safety and that of your child?**

- a. Yes
- b. No
- c. I am not sure

**44) Did you ever change your mind about working with radiation during pregnancy and because of that did you stop doing it?**

- a. Yes
- b. No
- c. I prefer not to answer.

**45) In case you did, what was the main reason?**

- a. The radiation dose exceeded the allowed limit
- b. Concerns about safety for the baby
- c. Social/family pressure.
- d. Other reasons, please specify (square to fill)

46) Do you feel that radiation exposure altered the normal course of your pregnancy? a. Yes.

- b. No.
- c. I am not sure.

**3.2 TO BE ANSWERED BY WOMEN WHO HAVE NOT BEEN PREGNANT DURING THEIR PROFESSIONAL CAREER:**

**46) Does the radiation exposure during pregnancy make you worry about getting pregnant or dismiss the possibility of getting pregnant?**

- a) Yes, it makes me concerned about getting pregnant but I will probably get pregnant despite it.
- b) Yes, it makes me concerned and because of that, I will avoid/have avoided pregnancy.
- c) No, it does not.
- d) I do not want to get pregnant (for personal reasons).

**47) If you answered yes to the previous question, what is the main reason?**

- a) The fetal/child safety
- b) My career may be negatively impacted by pregnancy/maternity leave.
- c) Other social concerns
- d) Other professional concerns
- e) N/A, I have answered no to the previous question.

**48) If you are considering getting pregnant and your centre/country allows you to continue working, what do you think that your choice would be?**

- a) Stay out of the EP lab.

- b) Continue to work but carry out/participate in only zero-fluoroscopy procedures.
- c) Continue to work but stay at the control room (manipulating only the EP recording system/stimulator).
- d) Continue to work, but carry out procedures with the use of fluoroscopy, ensuring correct compliance with security measures.
- e) I do not know/ I am not sure.