

# Women Can Lead the Way for the Future of Interventional Radiology

An overview of the role women do and should play in the growth of interventional radiology.

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There has been much excitement lately about how to attract more women to the field of interventional radiology (IR). After all, half of the medical students in Europe and North America are women, and in the United Kingdom, it is projected that women will account for the majority of National Health Service doctors within the next year.<sup>1</sup> Any field not attempting to attract women to their ranks is missing out on many talented and capable members. In fact, recent studies have shown that patients treated by female physicians live longer and have fewer readmissions than patients who are treated by male physicians.<sup>2,3</sup> Women have a lot to offer to IR, which is an outstanding specialty that should be attractive to women looking for a career with innovative procedures, longitudinal patient care, and an opportunity to make a difference in people's lives on a daily basis.

However, there are still several hurdles that women face in IR. One obstacle is that many medical students are not aware of or exposed to IR during training. It is impossible to expect someone to be drawn to a specialty that they do not even know exists. Medical schools need to do a better job of exposing their students to IR early in their clinical rotations. Through the work and dedication of the Society of Interventional Radiology's (SIR) Resident Fellow Section and the Medical Student Council, many IR interest groups have formed in medical schools throughout the United States and Europe. Symposia are hosted for medical students to introduce them to the field and showcase some of the amazing things that IR can accomplish. Students also need guidance to help them understand the entry process into IR and the career opportunities, particularly in relation to other specialties, so that they can make informed decisions.

## TRAINING FOR INTERVENTIONAL RADIOLOGY

In most countries, the path to IR is through diagnostic radiology. In the United States, the percentage of women trainees in diagnostic radiology has been steady at around 20% to 35%. Of this number, only a small percentage go on to IR. To attract more women into IR, it is paramount that they receive accurate and impartial career advice about IR during their radiology training. Women can be discouraged from entering IR by well-meaning radiologists who encourage other fields, citing issues such as radiation exposure or work-life balance and the availability of alternative specialties. Although female role models are important, mentorship from interventional radiologists who are men or women is essential to help encourage female trainees to choose IR.

In the United States, the training paradigm for IR has dramatically changed. The integrated IR/diagnostic radiology residency will attract applicants directly from the pool of medical students, not radiology residents. Several years ago, the United States vascular surgery training pathway adopted a hybrid design, allowing medical students to enter a vascular surgery program directly, instead of first training in general surgery. Following this change, the percentage of women in training for vascular surgery increased from 14% to 38%.<sup>4</sup> It is expected that the new United States training program will have a similar effect on the demographics of IR trainees. Preliminary results of the 2017 match suggest this may be true, but the full data are not yet available.

## PERCEIVED DETERRENTS TO ENTERING INTERVENTIONAL RADIOLOGY

### Radiation Exposure

Fear of radiation exposure has long been cited as a reason women have shied away from IR. Interestingly,

a recent survey by Perez et al shows that this is the biggest concern for both men and women medical students.<sup>5</sup> Marx et al and Niklason et al concluded that the overall occupational radiation exposure to interventional radiologists was similar to the natural background dose.<sup>6,7</sup> IR can safely be practiced with minimal risk for radiation exposure. In fact, pilots and flight attendants are exposed to higher radiation doses than interventional radiologists; however, we don't hear stories about pilots and flight attendants not wanting to fly because of fear of radiation. Research has supported that radiation exposure from performing fluoroscopic interventions does not result in adverse outcomes for physicians or their offspring.<sup>8</sup> Ghatan et al recently reported that most women who are interventional radiologists continued to work during pregnancy, with reported fetal radiation doses far below recommended guidelines.<sup>9</sup>

Despite this, misinformation about radiation exposure is rampant and is particularly damaging when imparted by fellow radiologists. In a survey conducted by the Cardiovascular and Interventional Radiological Society of Europe (CIRSE), some female interventional radiologists reported that they had been prevented from performing fluoroscopic IR procedures after they declared they were pregnant.<sup>10</sup> This varies between countries and individual departments but clearly affects training. It can also place an unfair burden on male colleagues, which can lead to a negative attitude toward women in IR. Perceptions that occupational radiation exposure is dangerous must be dispelled, and women should not be prevented from performing their work in IR. When precautions are followed and ALARA (as low as reasonably achievable) guidelines are applied, the risk to individuals is negligible. Radiation should be respected, but not feared.

### Work-Life Balance

Some believe that the long work hours and a demanding call schedule are deterrents for women to enter IR. Although that may be true for some women, it is also certainly an issue for some men, too. Work pattern is something everyone should consider when selecting which specialty to pursue. Obstetrics and gynecology (OB-GYN) is a field that also has long work hours. In 2015 to 2016, 83% of the OB-GYN residents in the United States were women.<sup>11</sup> Women are willing and able to work long and hard. Deipolyi et al noted the way that one practice adjusts its room schedules to allow all staff to have days when they can predictably leave on time.<sup>12</sup> The culture of this practice is accommodating to members' home lives and responsibilities and is an example of how work schedules can be adjusted in a way that is attractive to all interventional radiologists regardless of gender.

### WOMEN AND PATIENT CARE

As previously mentioned, recent research has made some interesting discoveries about the patients of women internists and surgeons.<sup>2,3</sup> Women are not inherently better doctors than men; however, these findings suggest that, at the very least, women are very effective at what they do. Future studies will hopefully identify what led to these results, which ultimately resulted in better outcomes for all patients. For women physicians, these studies come as validation of the great work they do every day.

As more women enter the field of IR, options for patients increase. Some patients prefer a woman physician. Surveys have shown that many patients prefer physicians of their same gender for procedures that are more intimate in nature, such as urologic or gastrointestinal procedures.<sup>13-15</sup> With all the interventions for women's health, many women may be relieved to have a woman interventional radiologist taking care of them. Women's health may be a natural niche for women in IR, but certainly women should not feel that they need to be limited to this. Ultimately, the goal is to make high-quality IR care available to as many patients as possible; giving them options about who treats them is a bonus.

### IMPACT OF INTERVENTIONAL RADIOLOGY SOCIETIES

The culture of IR and the perception of a specialty dominated by men may itself be a deterrent for some women. Research has shown that female medical students tend to enter fields where there are female residents in the program at their medical school.<sup>16</sup> Exposure to these role models, especially trainees, is important for female medical students to feel that a specialty is a good fit for them. Therefore, it is encouraging that the Resident and Fellow Section of the SIR and the European Trainee Forum of CIRSE are so vital and have many active members who are women.<sup>17</sup> These organizations are enthusiastic about IR and are creating a movement within the specialty.

SIR and CIRSE have recently made it a priority to be more inclusive and reach out to female members to be more visible within the societies. Thoughtful efforts have resulted in increased participation by women in the SIR annual meeting. Continued work to identify women in IR who can share their expertise will show the value that women bring to the table. Raising the profile of women at the national and international level will certainly send the message that women are a critical part of the IR community.

Leadership of an organization reflects its membership. Four women have been president of SIR, and one woman has been president of CIRSE. The next two presidents of

SIR will be women. However, if you look deeper, women are not well represented as committee chairs within the societies. Program directors, division chiefs, and department chairs are mostly men. This may be due to the culture of the specialty, lack of mentoring, and lack of education about the process. Efforts are underway in both societies to encourage and educate women about how to get involved. When doors are open, women will certainly step through. This is not about a lack of qualified women; it is a reflection of the difference in exposure and expectation.

## WOMEN IN INTERVENTIONAL RADIOLOGY INITIATIVES

One of the more exciting developments for women in IR has been the establishment of the Women in IR (WIR) section at SIR in 2016. The mission of this group is to promote and support women in IR and help them achieve their professional goals. Every woman who is a member of SIR is considered a member of WIR. WIR has coordinated with the annual meeting committee for events at the SIR meeting. In recent years, WIR has sponsored guest speakers from outside the IR community who have spoken on communication styles, negotiation techniques, and how to organize a women's group. Last year, the section cosponsored workshops on career development and physician wellness. These sessions have addressed critical issues for women as they progress in their careers. Perhaps the most valuable component of the meeting is the opportunity for networking with other women in IR.

This year, CIRSE sponsored a session for women in IR that was well attended by IR consultants, trainees, and students of both genders and enthusiastically promoted. It is anticipated that this platform will identify strategies to entice women to the specialty and encourage women to apply for leadership positions within the society and their own departments. Women in IR need to advocate for themselves and other women. When there is an opportunity, women need to take it. But we cannot do it alone and need the support of our male colleagues as our allies and advocates. We all need to look beyond our perhaps unconscious biases to give women the same opportunities that have traditionally been reserved for men.

## CONCLUSION

In some countries, there is a shortage of interventional radiologists. Women have practiced IR since the birth of the specialty. In England, there is an estimated shortfall of around 222 IR consultants.<sup>18</sup> Recruiting women will be the key to increasing the number of practicing interventional

radiologists worldwide. They have innovated and contributed to the field and provided good IR care to thousands of patients. IR is an exciting field that is also challenging and rewarding. There is no good reason why women should not enter IR and have a successful career, without limits. Now is the time for the specialty to reach out and embrace women into the specialty. As the numbers grow, women may be the key to securing a successful future for IR. ■

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