

## Current Status of Interventional Radiology in Pakistan

Interventional radiology (IR) training and practice in Pakistan is still in its early phase, being a part of the training curriculum in a few leading hospitals of the country, but pursued as separate postgraduate training in a few selected centers of excellence in Pakistan.

At present, rotation in IR is not a mandatory requirement as a part of the local training curriculum of diagnostic radiology; however, several hospitals have mandatory rotations within IR between 2 and 3 months during their 4-year rotation curriculum. These can be further increased up to 6 months depending on the resident's preference and elective rotations. During these rotations, residents are encouraged to observe and perform basic catheterization, line placements, and drainages and biopsy procedures under supervision.

Nonvascular procedures such as biopsies and various drainages are part of the diagnostic curriculum, and residents across most hospital radiology training programs are rotated within their departments to be able to perform these procedures under close supervision.

The first IR fellowship was started at the Aga Khan University Hospital in 2005, which is a 1-year duration fellowship. Thereafter, approximately 12 fellows have graduated from the university. Similarly, Shaukat Khanum Memorial Hospital was the second hospital in Pakistan based in Lahore to have started a 1 year dedicated IR fellowship in 2009, and so far, 8 fellows have graduated from this hospital. In total, about 32 fellows have graduated from five different institutes in Pakistan and are practicing in various local centers within the country and abroad.

In 2001, the College of Physicians and Surgeons Pakistan (CPSP) signed an MOU with Singapore General Hospital (SGH) for training opportunities for FCPS doctors. Since then, around 10 doctors have done 6-month fellowship in vascular and interventional radiology from SGH, and most of them are now practicing in the country.

So far, there is no dedicated fellowship program by the CPSP. However, the formation of curriculum is in its advanced stages, with efforts underway to formerly recognize the fellowship into a postfellowship program.

Currently, due to the limited number of training slots, six fellows are under training across six various centers of the country. These fellows rotate in vascular and nonvascular imaging and procedures. The typical curriculum of a fellowship includes dedicated days for imaging and interventional procedures. These vary from nonvascular intervention such as biopsy, drainages, and biliary and renal procedure. In addition to nonvascular procedures, the rotation also includes several vascular interventional

procedures, pediatric interventions, and dedicated neuro IR sessions. Musculoskeletal IR has also picked up pace with several ablations of osteoid osteoma performed across various centers of the country.

In addition to the daily clinical duties, the under training IR fellow also covers emergency and on call services during the entire length of their training. Fellows under training are expected to write research articles, do monthly audits of their department, and take part in the morning meetings, case presentations, and journal clubs. They routinely maintain a logbook based on the number of procedures they have assisted or independently performed under direct supervision and maintain monthly evaluations. No exit examination for the IR training is administered at present.

The Interventional Radiological Society of Pakistan (IRSP) was established in 2015 as a subsociety of Radiological Society of Pakistan. The main aim of its creation was to increase awareness about the rapidly emerging field of IR as a minimally invasive specialty. The purpose was also to increase the awareness among the local diagnostic radiologists and doctors of other specialties who could utilize IR services. It was also created to facilitate the improvement and increase in number of training slots across Pakistan and to create a platform for highlighting issues for improvement locally and abroad.

Within a short period of its creation, IRSP has acquired full member status of Asia Pacific Society of Cardiovascular and Interventional Radiology and is in the process of getting affiliate member status of Cardiovascular and Interventional Radiology Society of Europe and Society of Interventional Radiology, USA. Besides getting international recognition, it will result in increased international collaboration and increased availability of training opportunities for young interventionists.

Simultaneously, efforts to increase the number of training slots within the country are underway as the number of interventional radiologists currently within Pakistan is very low. In addition, there is no dedicated residency for IR, the way it is beginning to emerge in the west. Currently, the option to avail fellowship training in IR is only possible after completing a diagnostic radiology residency. Similarly, there is no dedicated pathway for training in interventional neuroradiology up till now.

As the Interventional Radiological Society is currently in its nascent phase, there are several challenges that are being faced. First and foremost is to get IR accepted as a specialty and to protect it from threats and competition from other specialties. This target is being achieved by not only increasing trained personnel within the country but also by

arranging seminars and conferences throughout the country to increase awareness among medical community. Another important issue faced by us is the cost of the procedures as most patients have to pay out of their own pocket due to nonprevalence of medical insurance at mass level.

In addition, due to a lack of awareness among referring physicians, most patients which can be treated through various interventional radiological procedures are lost. The availability of consumables is a challenge. Firstly, due to a small market the vendors are not much interested in maintaining inventory as it is not very profitable for them. Secondly, due to constant currency devaluation there has been tremendous increase in their cost.

Furthermore, due to the nonavailability of local manufacturers, these cost escalations have to be borne by the patient, which, in turn, adversely affects the number of procedures that can be performed. These challenges are being faced continuously and as the volume grows steadily over time, cost of procedures can be regulated and rationalized according to the affordability of patients. The society is also continuously pursuing various international vendors to bring in new products despite being a small market as a steady increase in the volume of patients will eventually lead to mass awareness and better utilization and requirement for supplies.

In this age of awareness among patients and colleagues, interventional radiologists are in high demand with most hospitals either not having the required dedicated personnel or are understaffed. This necessitates more efforts by the IRSP in

improving the training program, streamlining the curriculum, and increasing the availability of more trained personnel across the country to cater for the evergrowing needs of IR .

### Acknowledgment

I would like to acknowledge Dr. Wasey Jilani for his support in this write up. He got his IR fellowship training from the Aga Khan University Hospital and currently working at South City Hospital, Karachi, Pakistan.

### Muhammad Azeemuddin

*Department of Radiology, President Interventional Radiology Society of Pakistan (IRSP), Aga Khan University Hospital, Karachi, Pakistan.  
E-mail: muhammad.azeemuddin@aku.edu*

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Access this article online	
<b>Quick Response Code:</b> 	<b>Website:</b> <a href="http://www.arabjir.com">www.arabjir.com</a>
	<b>DOI:</b> 10.4103/AJIR.AJIR_24_19

**How to cite this article:** Azeemuddin M. Current status of interventional radiology in Pakistan. Arab J Intervent Radiol 2020;4:1-2.

**Received:** 29-09-2019, **Accepted:** 30-09-2019,  
**Published Online:** 12-12-2019.