

The Status of Vascular and Interventional Radiology Training: The Saudi Experience

Vascular interventional radiology (VIR) is a main component of the diagnostic radiology (DR) training program in the Kingdom of Saudi Arabia.

There are a total of 3 months' mandatory rotations during the 4-year radiology residency training program as per the Saudi Commission for Health Specialties (SCFHS) curriculum. However, residents can do up to 3 additional months as elective rotations. These rotations are dedicated for senior residents. Residents are encouraged to perform basic catheterization, drainages, and biopsy procedures under close supervision.^[1]

The history of dedicated infrared (IR) fellowship training started back in 2000 at King Faisal Specialist Hospital and Research Center.^[2] This was 1-year institutional-based fellowship program. A total of 17 fellows graduated from this program between 2000 and 2015 years.

In 2014, the SCFHS approved a 2-year VIR fellowship program after completion of DR training. Seven training centers are approved for training around the country. Centers are distributed in the capital city, Riyadh ($n = 3$), Jeddah ($n = 2$), Makkah ($n = 1$), and Dammam ($n = 1$). There have to be at least two qualified interventional radiologists in the hospital to get accredited by SCFHS as a training center. The center will be reviewed regularly by scientific committee for reaccreditation as per SCFHS regulations.

In order to get accepted for the fellowship program fellow must have completed accredited residency training program in DR or equivalent in addition to successful competition of interview.^[3] The acceptance for the training program is open to all nationalities. However, Saudi citizens have priority followed by Gulf Cooperation Council citizens. Candidates from outside Saudi Arabia must have sponsors.

There are 29 fellows in all training centers (28 males and 1 females) distributed in Riyadh ($n = 21$), Jeddah and Makkah ($n = 5$), and Dammam ($n = 3$).

The program consists of weekly rotations in vascular imaging, vascular interventions, nonvascular interventions, pediatric interventions, and elective rotations in neurointervention and musculoskeletal interventions.^[3] In addition to other clinical and procedural duties, fellows cover emergency and on-call services during their training program. A minimum of 7 and a maximum of 10 nights calls/month is required.

The fellow is expected to participate in academic and educational activities, including departmental meeting, multidisciplinary meetings, and journal clubs. Research is a mandatory component of VIR fellowship program as per

the requirements of the SCHS. The fellow is expected to complete at least one research project and must be accepted for publication in a peer-reviewed journal.

Fellows are periodically assessed based on logbook, monthly evaluations, research, written examination, and oral examinations. Fellows have to sit for oral examination by the end of the first year and get promoted. The final examination consists of written multiple choice questions, objective structured clinical examination and oral examination. After passing the examination, fellows will become Saudi board certified in endovascular and interventional radiology.

A total of 19 (18 Saudi and 1 non-Saudi) fellows graduated from the SCFHS interventional radiology program till now. Currently, there is an ongoing revision of the training curriculum after 5 years of training. The new changes will be implemented in the program starting from the next year.

The Saudi Interventional Radiology Society (SIRS), established in 2014, directs efforts at increasing interest and awareness about interventional radiology as a minimally invasive specialty in the public and medical domains. A study was done by Ghazi Alshumrani to evaluate the awareness of interventional radiology among medical interns and final year medical students at a university in the southwestern part of Saudi Arabia. About 52% of the students felt their knowledge in IR is poor. Around 67% of the respondents did not know the route of training of interventional radiology.^[4] This study showed clearly the lack of awareness about IR in the medical schools among students in the country.

Parallel efforts are ongoing to increase in the capacity of fellowship training programs and opening new training sites around the country. There is no dedicated pathway for the training of interventional neuroradiology in the country till now. However, there is a plan to start a fellowship program in the near future.

There is increase demand for interventional radiologists in most of the hospitals all over the country, especially in the small peripheral cities. This necessitates more efforts by SCFHS and SIRS toward improving the training program and moving toward residency-based training programs of interventional radiology. These programs are similar to those in the United States of America, including integrated DR/IR residency program and independent interventional radiology residency programs.

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