



Editorial

Mentoring Scientific Writing among Radiology Residents

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Scientific publications are increasingly being used as an important yardstick for academic performance. In many universities, promotions for faculty mandatorily require publications in indexed journals. The first or corresponding author of an original article gets credits. The quality of publication is assessed based on the impact factor of the journal and the number of citations the article receives. Beyond academic promotions, decisions on project funding, awards, and fellowships are also made on the basis of the quality and the number of publications.

Scientific writing is a skill that one needs to develop preferably during the early days of a career. The teacher should emphasize the need for sharing scientific knowledge gained through observation, experience, and research. The young resident should realize that by publishing new observations or unusual cases he or she will be contributing to scientific knowledge. The published article could be useful for several medical specialists in their clinical practice and students preparing for examinations. Several observations and findings of an experienced teacher remain within a department or around a reading workstation. Many a time, a new or unusual finding never gets published.¹ These observations and discoveries should undergo peer review and ultimately be published to be clinically useful.

Need for Mentoring

The main reason for the reluctance of publishing among residents is a lack of training in scientific writing. When a novel finding is observed, there is a need to explore the reasons behind that. The teacher should encourage discussions on probable causes and encourage the student to perform a literature review and in-depth analysis. Retrospective or prospective studies could be performed with these data. This demands a basic understanding of research methodology and statistical analysis that need to be included in postgraduate education. Scientific writing has to be encouraged and includ-

ed in postgraduate curriculum. Seldom do examiners or examinations test the students' scientific writing abilities.

Under the guidance of a mentor, the resident should first be encouraged to write a case report or case series. Many residents find it difficult to write the “discussion” which analyzes results of the study with possible explanations. Ramakantan has described rules and methods to follow while writing discussions.² Levine explains the process of obtaining high-quality images from picture archiving and communication system and submitting images and illustrations along with manuscripts in a stepwise manner.³ The material and method section should be written in such a way that a reader can replicate the study.⁴ Results section should present the interpretation of data analyzed to answer the investigated question.⁵ Illustrative tables and figures explaining the results should be used whenever required. Each part of a manuscript needs to be written precisely without losing out on scientific content. Although residents submit theses, most of these tend to be pictorial reviews rather than hypothesis-driven studies. Young radiologists starting their careers in teaching are often faced with the “tough” task of writing an original article in an indexed journal, a requirement mandated by universities and regulatory bodies across India.

Learning the Skill of Scientific Writing

Should a young resident radiologist be encouraged to learn scientific writing and publish only for name, fame, and promotion? Peh has described the benefits of scientific writing under five titles—career, professional, institutional, practical, and radiology specific.⁶ The teacher should ensure the resident understands the benefits in a radiologist's career. The resident learns (1) how to critically analyze and appraise articles, (2) perform scientific literature reviews, (3) gather and analyze results, and (4) compare results with previous studies, if any. This experience would hold him/her in good stead, later, when he/she may be

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invited to review a manuscript or joins the editorial board of a journal. By learning the art of scientific writing, the resident understands how to effectively communicate with referring physicians, which is useful in clinical practice.

Hence, teachers and mentors should strive to create an aptitude for scientific research among students and hone their skills in manuscript writing. A certain weightage could be given in radiology examinations for candidates who have published articles during training. Radiology residents should be encouraged to start scientific research and writing early in their careers. Teachers have to mentor students so that they are well trained in research, manuscript writing, and publishing.

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