



Promotion in academic radiology: context and considerations

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Received: 24 July 2022 / Revised: 13 September 2022 / Accepted: 10 October 2022
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Introduction

Upon commencing a new academic position, whether it is immediately out of fellowship or a midcareer transition, every radiologist should understand how promotion works at their institution. It is important to clarify possible pathways, such as clinician–educator, physician–scientist, purely clinical, tenure and non-tenure. It is also useful to know whether faculty can switch tracks, whether promotion to the next rank is mandatory, and the importance placed on years of service. Here, we discuss how promotion processes work and typical criteria, considerations of gender and race disparities, and the positive psychological impact of promotion.

Promotion rank and criteria

The purpose of an academic medical institution designating rank is multifold and parallels other non-medical fields. The institution has an expectation that research and clinical faculty are dedicated to its mission. As faculty members make scholarly contributions that align with that mission, a reflection of their dedication is provided by their academic rank. Meanwhile, the institution benefits from patients' trust in experienced physicians, which often correlates with higher titles or ranks [1].

Faculty members' local or national reputation is often a central determinant of their rank. Reputation typically

correlates with accomplishments listed in a curriculum vitae (CV), including publications, invited presentations, abstracts and grant funding. Academic ranks often start at the instructor or assistant professor levels, ascending to associate professor and full professor. Higher ranks are often accompanied by a salary increase, greater job security and, at some institutions, additional conference time or academic funds. Elevation in academic rank is sometimes mandatory within a certain timeframe, such as 6–10 years. The responsibility of adjudicating promotion in a radiology department is typically assigned to a committee of senior faculty who then carefully review the readiness of candidates for promotion and perhaps provide the candidates with recommended improvements for their promotion portfolio and CV. In times of staffing shortages, the committee might balance scholarly output and protected academic time with increased clinical responsibilities when determining a candidate's body of scholarly work. The committee's recommendations are ultimately provided to the chair, who then decides whether to progress the candidate through a series of institutional or university-wide committees before either the dean or provost provides final approval. This process can last anywhere from several months to 2 years, depending on the institution, before a promotion is made official.

Conventional measures of academic productivity largely center around the number and quality of peer-reviewed journal publications, invited talks or visiting professorships, and grant funding. These metrics might prioritize research contributions to the literature and encompass journal impact factor and the investigator's h-index. Thankfully, there has also been growing recognition of educational measures of academic productivity, such as teaching of medical students, trainees and practicing radiologists. Promotion criteria for clinician–educators might include quality of local teaching as documented by teaching awards and trainee evaluations, and published review articles and book chapters, alongside departmental responsibilities and the aforementioned accomplishments that overlap with those of physician–scientists [2]. Of note, in both research and education pathways, first-authorship publications are often weighted

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more heavily in the promotion process given their greater scholarly contribution, followed by the authorship position of the mentor, who might be listed as second or senior (final) author. Because the significance of the author order differs based on the institution, there are ways to add clarity to the CV accordingly. For example, you can add a superscripted annotation following your name if you mentored the first author, with an explanatory note at the end of the publication list indicating that you served as senior author and mentor to a trainee or junior faculty first author.

In recent years, there has been an increasing acknowledgment of contributions to our departments beyond written scholarly works and oral presentations. Many institutions are beginning to emphasize the value of innovation in education such as new teaching techniques, and innovation in clinical service, such as in the creation of new programs and service lines. Hospitals, universities, medical societies and journals have also embraced the use of social media as a vehicle for education and advocacy. Academic institutions and their promotions committees have begun to recognize the time invested by faculty members and the value to the university when they are rapidly messaging to a large audience [3]. Assessing the quality of these social media contributions is not standardized and does not include a peer-review process. There is a large volume of unqualified material on social media sites that nevertheless attracts attention, rendering tallies of “hits” or “likes” incapable of measuring reputation or true value. As this digital era progresses, we will optimize strategies for assessing the quality of social media content for academic medicine, emphasizing both the value of these scholarly innovations and the need for widespread dissemination to maximize impact on the medical education community [4].

How to succeed in promotion

The number of years a faculty member devotes to clinical service at an institution is valued and important. However, length of service alone often does not guarantee promotion. Each center differs in its approach to promotion, and understanding the requirements and aligning oneself with a promotion track early on can facilitate success.

New junior faculty members who have been involved in scholarship as trainees might already have clear career goals, owing to skilled mentors and collaborators. As such, early academic success is often dependent on securing one or more effective mentors and sponsors. If the mentee is eager for and successful with early opportunities, such as invited talks or journal articles, greater responsibilities such as committee participation or course directorships often follow. In other words, saying “yes” early and often offers tangible benefits such as attempting a variety of

academic pursuits, establishing a collaborative reputation and accelerating networking both independently and through one’s mentor or sponsor. One key networking tool that yields dividends in the promotion process is joining local and national committees. For example, the Society for Pediatric Radiology offers countless ways to engage with colleagues through dozens of committees. Committee participation affords radiologists a platform to collaborate on multi-institutional research projects, share best clinical practices and provide educational content to both society members and the public. Societal involvement demonstrates to promotions committees both regional or national recognition and service to the academic community.

Anticipating that the promotions process requires documentation of one’s successes, it is crucial to maintain a current record of scholarly activities. Virtually all academic activities to which one contributes have an appropriate place on the CV, and updating one’s CV regularly ensures that contributions and accomplishments are not forgotten. Institutions sometimes have a required CV template containing many common elements that are critically evaluated for promotion, such as peer-reviewed journal publications; book chapters; invited lectures; grant funding; scientific and educational abstracts at regional, national and international meetings; volunteer service including committee work and journal peer review; and honors received. It is important to maintain a consistent chronological order — either forward or reverse — across all CV sections. Additional elements for one’s CV or promotion packet often include mentorship (e.g., a list of faculty, fellow and resident mentees), frequency and hours dedicated to local lectures and multidisciplinary conferences, and educational content development such as continuing medical education (CME) curricula.

As mentioned, institutions have promotion guidelines that indicate expectations for a candidate’s regional, national and international reputation. Various academic endeavors indicate the breadth of one’s academic reputation, and a radiologist aiming to be promoted should strive to expand involvement in these ways. Perhaps the most obvious indicators are invited presentations at CME conferences, departmental grand rounds, or as a visiting professor. Publication records speak to a radiologist’s impact and recognition by a large audience, as well, particularly in high-impact journals or those in the radiologist’s subspecialty. Nomination or election to society office positions, national oversight committees, and abstract or grant review committees are also strong indicators of an individual’s reputation.

Promotions committees also evaluate the trajectory of candidates, anticipating their pace of productivity, engagement with other collaborators and involvement in service at local and national levels. The purpose is to anticipate who will continue to contribute meaningfully to academics,

with the expectation of promotion continuing up the ranks to full professor.

Finally, we wish to offer some guidance regarding securing external referees to provide letters of support. Some department chairs choose these individuals for the candidate, but often the faculty member being considered for promotion is asked to provide a list of individuals who can write letters of support. Some of these individuals might be from the same institution, and others will necessarily be external to objectively assess the CV and personal statement without bias. In many cases, the external referee cannot be a prior collaborator. You might consider colleagues with whom you serve on committees or ask friends at other institutions to recommend a willing volunteer. Regardless of how these external recommendations are secured, it is critically important to convey your appreciation because these letters take time and effort. Following your successful promotion, these individuals would be happy to hear from you to celebrate the great news.

Gender and race disparities in promotion

Studies have demonstrated a discrepancy in the success of women and non-white faculty at the clinical instructor and assistant professor levels to be promoted within 10 years of hire compared with white men, particularly in radiology and psychology [5, 6]. Despite the fact that women now outnumber men in medical schools, women only comprise 25% of full professors and 37% of associate professors [7]. Among full-time women faculty evaluated in one study, the proportion of women from an underrepresented in medicine race or ethnicity (URiM) group remained constant between 2009 (12%) and 2018 (13%) [7]. Furthermore, the greatest proportions of URiM women faculty were at the assistant professor rank, demonstrating that across all specialties, this is less a pipeline constraint than a lack of systemic support for this faculty subset. As a meaningful example of gender discrepancies impacting scholarly activity, it was observed during the coronavirus disease 2019 (COVID-19) pandemic that manuscript submissions by women decreased while submissions by men remained constant [8]. This observation is presumed to be an effect of women physicians feeling compelled to divert more of their energy to managing households and children during quarantine than their male counterparts.

Equity in academic promotion and leadership in health care is imperative for both social justice and improving population health. Understanding these disparities should motivate senior faculty to advocate for and sponsor women and URiMs in lower ranks with an intentional purpose to elevate their professional portfolios and inspire their

success. Institutions must cultivate a climate that respects faculty from all minority groups and promotes inclusion, professional success and engagement.

Why should I be promoted?

The reasons a radiologist should feel motivated to pursue academic promotion are myriad, as are the benefits of promotion and the promotion process, to the individual radiologist, the institution and the profession.

The most immediate benefit of academic promotion for the radiologist is the professional validation provided by the department's promotions committee and by peers nationally. A successful promotion provides affirmation of one's chosen academic path and professional efforts toward that end. A promotions committee's endorsement of the impact and significance of a candidate's academic accomplishments can bring professional satisfaction and motivate continued efforts toward professional advancement.

Academic promotion signals success and accomplishment, recognition of which can bring prestige, both within the institution and nationally. Although status is more meaningful for some radiologists than for others, the benefits are tangible in academic medicine's hierarchal environment. Promotion in academic rank can further professional advancement by (1) opening pathways to greater responsibilities and leadership positions, both within the department and in national organizations; (2) expanding one's sphere of influence by augmenting access to social capital and collaborative networks; (3) improving access to research grant funding and opportunities for inter-institutional collaboration; and (4) lending more weight to letters of recommendation written for students, residents, junior faculty or peers. At many institutions, promotion can increase salary, although few people likely seek it for purely financial benefits.

The promotion process itself is of value in inspiring a broad focus on career goals. Even an unsuccessful attempt at promotion can be of value; a resilient radiologist can process deficiencies exposed by this critical evaluation and use it as an inflection point to refocus a path toward achieving career goals.

Conclusion

Because the academic promotion process varies greatly by institution, academic radiologists should familiarize themselves with institutional promotion criteria at the outset. Departmental promotions committees should educate their faculty as to their expectations for advancement. While many promotion metrics

are ubiquitous, such as peer-reviewed publications and invited lectures, less tangible elements such as teaching evaluations also help determine one's impact and reputation. Mentorship and sponsorship are crucial in securing advancement opportunities, particularly for women and those of backgrounds that are underrepresented in medicine. Promotion is sought for a variety of reasons such as self-validation, recognition among peers and as a springboard for further growth opportunities.

Declarations

Conflicts of interest None

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