

Understanding factors motivating students to pursue radiology: an interview study

Background

- 56% of medical students changed their intended specialty between the end of second year and residency application
- Compared to other specialties, the medical school experience appears particularly influential in guiding students toward a career in radiology
- Previous studies suggest the choice of radiology as a career may be strongly influenced by serendipity and informal curricular experiences during medical school
- Few studies have used interviews as an approach to gain the personal insight and reflection of trainees regarding their specialty choice
- This cross-sectional study explored factors influencing the choice of diagnostic radiology and examined how perceptions of the field evolve across stages of medical training
- Through in-depth interviews with radiologists, radiology trainees and medical students, this study sought to identify how we can **improve students' understanding of radiology, eliminate barriers and more effectively support students as they explore radiology** as a potential career path

Methods

- This study employed a qualitative design using semi-structured interviews
- Participants included three medical students, three PGY-5 diagnostic radiology residents, and four board-certified radiologists
- Reflexive thematic analysis was applied to interview transcripts to identify key themes and subthemes across groups

Results

Domain 1: Motivating Factors

| Themes | Subthemes |
|---|--|
| • Intellectual Curiosity & Challenge | Desire for diagnostic problem-solving; Breadth of knowledge across organ systems; Radiology as 'detective work'; Lifelong learning |
| • Personal Fit & Competency | Attention to detail; Visual learning; Aligned backgrounds (e.g., in engineering, editing, physics); Innovative minded; Adaptability; Team player |
| • Versatility & Breadth | Exposure to all specialties; Fellowship opportunities; Subspecialty diversity |
| • Impact on Patient Care | Central role in diagnosis; Driving clinical decisions; 'Doctor's doctor' identity |
| • Lifestyle & Work-Life Balance | Predictable hours; Flexibility; Job market strength |
| • Technological Engagement | Interest in emerging tools; AI integration; Digital imaging systems |

Domain 2: Alignment of Expectation and Reality

| Themes | Subthemes |
|---|--|
| • Training Demands | Steep learning curve; Heavy self-study; Academic rigor |
| • Misconceptions & Stereotypes | 'Sitting in a dark room' myth; Lack of patient contact; Radiologists as antisocial |
| • Subspecialty Variation | Patient-facing roles (e.g., breast imaging, IR); Procedural opportunities; Interdisciplinary collaboration |
| • AI & Future Outlook | AI as a tool, not a threat; Efficiency enhancer; Long-term uncertainty |
| • Career Satisfaction | Fulfillment from diagnostic accuracy; Long-term career satisfaction; Financial and professional stability |

Domain 3: Reflections

| Themes | Subthemes |
|--|--|
| • Exposure & Timing | Late discovery of radiology; Lack of early curriculum integration; Need for structured rotations |
| • Mentorship & Support | Difficulty finding mentors; Importance of informal networks; Faculty accessibility |
| • Curricular Recommendations | Integration of imaging into preclinical education; Required radiology rotations; Radiologist-led sessions |
| • Community & Peer Support | Informal group chats; Sharing opportunities; Building radiology interest group infrastructure |
| • Identity & Professional Culture | Radiology as inclusive of diverse personalities; Value of humility and collaboration; Pride in being 'behind the scenes' |

Discussion

- As highlighted by previous research, our interviews showed that medical school is a period of time where motivating factors change
- Similar motivating factors for pursuing radiology as a career were seen across all three groups of interviewees
- Choosing radiology ultimately required a deep understanding of one's values, goals, and identity within medicine
- The radiologists, residents, and medical students interested in radiology all commented on the importance of addressing the misconceptions many medical students have about radiology in order to enhance interest in the field
- These shared themes suggest that targeted interventions, particularly early integration of radiology into the medical curriculum and the provision of accessible mentorship, may foster greater interest in the field and help reduce barriers to entry
- The findings offer actionable insights for medical educators seeking to support students in exploring radiology as a viable and fulfilling career option

THE ROAD TO RADIOLOGY

