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Navigating Uncharted Waters with USSONAR to Build an Integrative MSKUS Curriculum for MCV Rheumatology Fellowship Program

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Background

Musculoskeletal ultrasound (MSKUS) is an increasingly popular tool for the rheumatologist to aid in the diagnosis and management of articular pathology. Compared to traditional radiographs and magnetic resonance imaging scans, MSKUS has a minimal risk of radiation and can be readily available at the bedside for rapid diagnosis and treatment (1).

Despite this, as of 2015, only 41% of 135 rheumatology fellowship programs in the US offer structured MSKUS curriculum (2, 3). There is currently no existing curriculum in the Medical College of Virginia (MCV) Rheumatology fellowship program.

Objectives

The objectives are to prepare, establish, and execute a formal curriculum for MSKUS training for the two-year Rheumatology fellowship at MCV using published evidence-based curriculum and competency measures. There are 3 rheumatology fellows in our two-year program.

Methods

Two rheumatology faculty (FS & NS) trained in MSKUS have been tasked with establishing and implementing a formal MSKUS curriculum. We will use an 8-step competency-based framework reported by Brown and colleagues (5), *see* Methods: Figure 1. We will further integrate measures reported by the Royal College of Radiologists Ultrasound Training Recommendations for medical and surgical subspecialties, resources from the American College of Rheumatology (ACR), and Ultrasound School of North American Rheumatologists (USSONAR) (6,7,8).

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Methods: Figure 1

Stage 1: Situational Analysis

- Test the current rheumatology fellows on their baseline views regarding current MSKUS use in the program (*see* Figure 2)

Stage 2: Establish indications, anatomical areas and skill

- Create a checklist of skills utilizing published material (*see* Figure 3)
- Adapt teaching resources provided by MSKUS specialists from conferences

Stage 3: Establish competency standards

- Apply milestones outlined by ACR (4) to our department evaluations

Stage 4: Assess clinical utility and learning motivation

- Begin a quarterly workshop at the NOW Center
- Introduce MSKUS in weekly VA Injection Clinic

Stage 5: Integration of competency standards with clinical requirements

- Create a checklist of skills utilizing published material
- Adapt teaching resources provided by MSKUS specialists from conferences

Stage 6: Validation

- Integrate competency data and educational outcomes to send to local imaging experts for review. Experts will then submit qualitative feedback and quantitative scores

Stage 7: The pilot curriculum

- Outline core competencies, schedule workshops and conferences, have fellows create portfolios with saved images

Stage 8: Implementation, delivery and evaluation

- Administer Stage 1 quiz to fellows to assess interval change
- Feedback from fellows, rheum faculty, and imaging experts

Conclusions

With every passing year, the demand for rheumatologists in the workforce is increasing (9). Part of a competitive and highly sought after rheumatology program is strong training in MSKUS, one which we are eager to develop. We plan on completing the remainder of the stages by the end of 2017.

Results

Figure 2: Results of Stage 1 – Situational analysis.

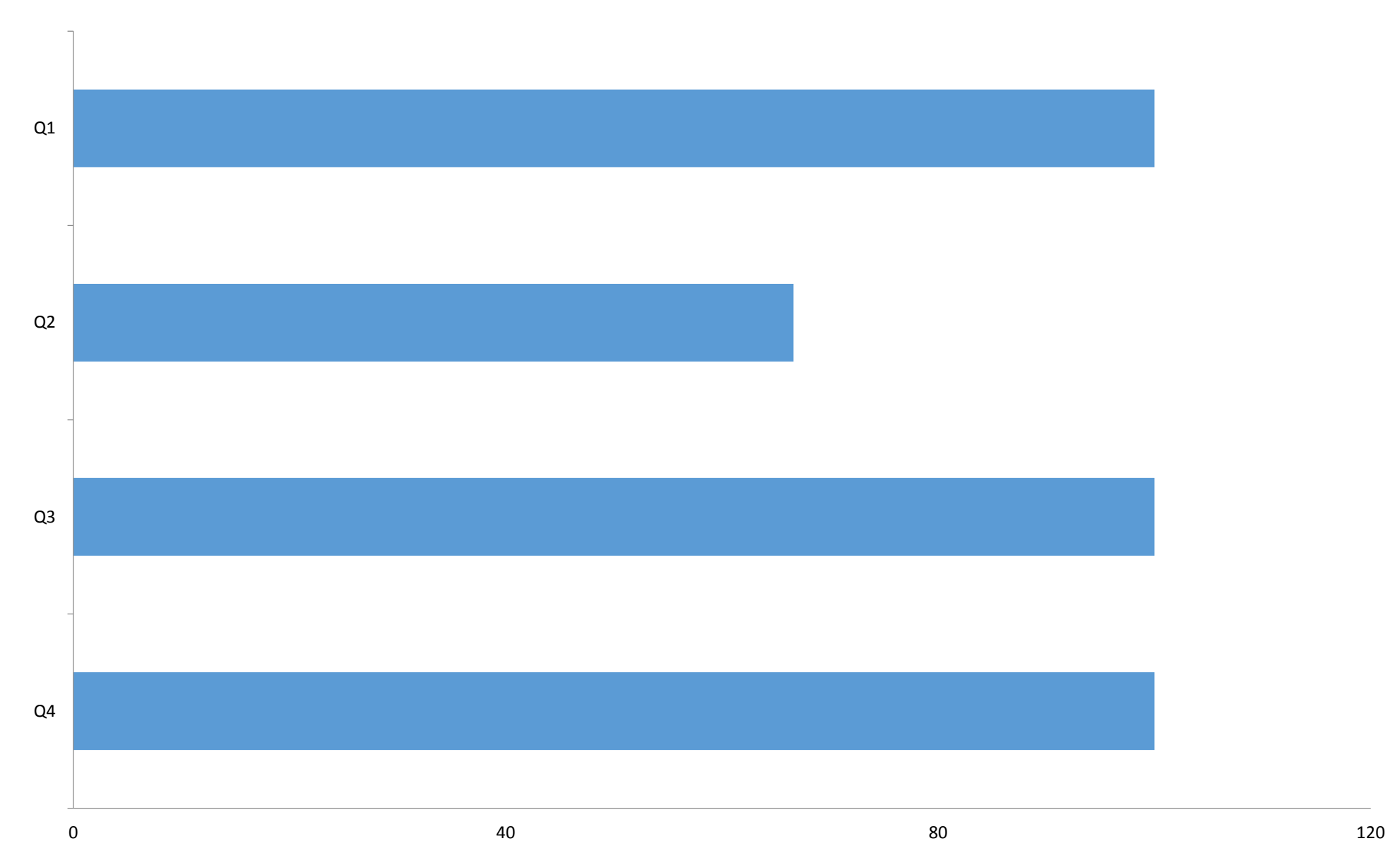


Figure 3: Results of Stage 2 – Instructional guides



References

1. Cannella AC, Kissin EY, Torralba KD, et al. Evolution of Musculoskeletal Ultrasound in the United States: Implementation and Practice in Rheumatology. *Arthritis Care & Research* 2014; 66(1):7–13.
2. Torralba KMD, Cannella AC, et al. Musculoskeletal Ultrasound Education Among Rheumatology Fellowship Programs in the United States [abstract]. *Arthritis Rheumatol* 2015;67 (suppl 10).

*Further resources are available in accompanying Handout