Commentary: COVID-19 Impact on Interventional Pain Training Within the Military Health System

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Background

The National Capital Regional Pain Initiative (NCRPI) is headquartered at Walter Reed National Military Medical Center in Bethesda, MD, the flagship of the military health care system. NCRPI provides integrative pain management services and provider and patient education. At its core is the belief that pain management should be managed in a multimodal, interdisciplinary approach. To further that goal, NCRPI provides multiple educational seminars and symposiums.

This article describes the changes made by the NCRPI team, as a result of the coronavirus disease 2019 (COVID-19) pandemic, for the annual Interventional Pain Skills Symposium. It also discusses lessons learned and plans for our future Interventional Pain Skills Symposium.

As the gravity of the pandemic became apparent and the importance of social distancing became evident [1, 2], NCRPI transitioned its annual in-person Interventional Pain Specialist Training to an online platform. Instead of a 3-day event, NCRPI offered a single-day, virtual, live training event on the topic of interventional pain for incoming and current military pain fellows and staff. We provided education on anatomy, skills and techniques for procedures, ultrasound-guided pain management interventions, psychological intervention and assessments for treatment, and neuromodulation.

The agenda for the day included education in both basic and advanced techniques on a number of topics. The first part of the day was dedicated to lectures and discussions on understanding basic and advanced spine procedures, which included needle technique and skills, view, target, and injectate for numerous spinal procedures. Basic and advanced fluoroscopic-guided interventional techniques were demonstrated, as well. Spine and musculoskeletal anatomy was reviewed in relation to fluoroscopic and ultrasound imaging. Also, a detailed lecture focused on the biopsychosocial implications of pain, with discussion of neuromodulation, medication management, and patient interviewing techniques. Next, the pain health psychologist covered a more in-depth overview of psychological evaluation and neuromodulation, how and whether patients need to be assessed, and the importance of recommendations for neuromodulation patients. Once the evaluations for neuromodulation had been discussed, the day concluded with a presentation on musculoskeletal ultrasound procedures and when and why to use ultrasound as opposed to other methods, including the advantages and disadvantages of ultrasound, indications and contraindications, sonographic textures, knobology, procedure planning, approaches, and other basic techniques.

The training was a continuing medical education activity, planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) for Navy Continuing Medical Education. Learning objectives were given, and detailed feedback was obtained from the...
participants. On the basis of the responses, we found this method to be an effective method for training in this constrained environment.

In the preceding year, when COVID-19 was not a factor in planning, the same event was held over a period of 3 days. In addition to a day of lectures and discussion, there was a 2-day hands-on workshop. The workshop occurred in a lab staffed by several instructors who taught the participants ultrasound diagnostic techniques and interventions. Participants had the option of several stations where they had the opportunity to practice on cadavers. With the exception of a lunch break, participants had about 8 hours of hands-on lab per day.

In the past, because the labs were hands on, we typically had a small group per each lab instructor and a registration capped at 24 participants. However, because this year’s training was online in response to COVID-19, there were no limitations on the number of participants. Despite this, we still had the same number of participants as the preceding years.

In 2019, when social distancing was not an issue, the objectives of the training were also very different, though the same topics were covered. Before COVID-19, the key learning objectives for the training were for the participants to be able to demonstrate proficiency in ultrasound-guided diagnosis and injection procedures, as well as fluoroscopic-guided injections. However, during COVID-19, the objective was for the speakers to demonstrate those techniques and for the participants to be able to gain an understanding of them. The differences in the objectives themselves speak volumes. The pre–COVID-19 training was both experiential and didactic. For example, before COVID-19, videos and detailed slides were used during lectures, as well as live models. In addition, there was also a cadaver lab. In the cadaver lab, live demonstrations occurred, and fellows got to practice the many techniques that had been demonstrated and discussed. However, during COVID-19, detailed slides and videos were used to teach needle driving techniques and interventional pain skills. Amid the pandemic, the training was didactic and active dialogue.

The online platform selection was deliberate. NCRPI has a number of monthly continuing education programs that were online before COVID-19. Before COVID-19, residents and fellows would often gather together at their respective pain clinics at different military treatment facilities and join the meetings together on a large screen. Also, with an in-person training, participants would be at the event site, away from the distractions of their physical job site. Consequently, in choosing our virtual platform, we chose an application that the participants would have to access outside of work. We did not choose the standard Department of Defense–approved computer applications, thereby forcing the participants to join the conference at home. That was done both to help with social distancing and to allow participants to not access the online conference half-heartedly while performing work-related tasks. To further help prevent the latter, we required participants to turn on their cameras throughout the entire conference, so that regardless of where they logged in from, they would be attentive.

We opted to have our lecture in one virtual room and had discussion immediately after each presentation, much like we would have done had this occurred in person. We did not opt for breakout rooms because we felt it was important for all participants to hear what was being discussed.

To obtain feedback about the 2020 training, a survey was created in an online platform. The link was sent to registered participants, and their results were compiled by the online platform. When this was originally done in 2019, a paper survey was given to those in attendance directly at the program in 2019.

The results of the surveys from the 2019 in-person training and the 2020 virtual training revealed that we had a varied group of attendees. For both trainings, we had attendees from the U.S. Navy, Army, and Air Force, as well as civilians. The vast majority of attendees agreed or strongly agreed that the course increased their knowledge of pain medicine and improved their overall understanding of interventional techniques, both in 2019 and 2020.

In 2019, after the in-person training and the 2-day lab with cadavers, some suggestions for improvement we received included “having more cadavers, and an even smaller teacher to student ratio” and “more time to drive the injections.”

Others stated that “it was very well implemented, the hands on training was excellent,” and “the cadaver training was perfect.”

Feedback from the 2020 virtual session included the following:

“It was a great improvisation from the in-person training. The only thing that I think could have been improved was to send the lecture slides out before the training event so that we could follow along and make notes on the slides.”

“Surprisingly, the virtual format worked well. The only thing that would have improved the training would be the hands-on part which we know is unavailable this year due to COVID.”

“Live interaction on models, hands on training.”

“I would have loved to have it in person when available but understand why it had to be held distance learning.”

The survey demonstrated that the Interventional Pain Skills Training was productive and effective. From inception, this was intended to be an in-person training; however, because of COVID-19, it was transitioned to a virtual platform. The feedback from the survey demonstrated that 94% of the respondents in 2020 and 91% of the participants in 2019 acknowledged that the seminar had increased their knowledge of pain medicine and specifically interventional pain techniques (Figure 1). Also, 85% of the respondents in 2020 and 75% in 2019...
acknowledged that the information they learned in the seminar would change the way they practice (Figure 2). Interestingly, one would have thought that the in-person seminar would have had a greater impact on the fellows, but it appears that the 2020 seminar was just as impactful. Both seminars had the same aim of teaching fellows about interventional pain, but because of COVID-19, the execution was different. Ultimately, the results demonstrated that the adjustments, though significant, still had a crucial impact on the fellows [3].

Lessons Learned
First, we had to accept the fact that it would be different. We were willing to make changes to the “regular” or original format. We had to be flexible. We considered our objectives and what was achievable through an online format and made the adjustments. For example, some aspects of our training were easily adapted to an online format, but some things had to be set aside. As previously stated, our training objectives had to be modified, and we did not include a cadaver lab.

Second, being online did not necessarily mean not being interactive. After each presentation, we opted for a robust discussion. This symposium was intended to train the fellows, and we wanted to give them an opportunity to ask questions about the presentations, much as would have been done in person. For us, the subject matter and discussions were enough to keep the participants engaged. However, others might find that they may need to
add polls or breakout rooms, depending on the topic and objectives of their training sessions.

As hoped, our online conferencing platform was accessible and widely available, and we did not have issues with the actual platform. However, one of our speakers had connectivity issues with his Internet connection, and this caused a momentary pause in the symposium. In the future, we recommend having each presenter have an online walk-through of his or her presentation. More specifically, individual time should be scheduled for each presenter to attempt to log in to the online platform and navigate online through their presentation to identify any technical glitches that need to be addressed. Such glitches could include trouble logging in, difficulty moving backward or forward through the presentation, microphone problems, or any other technical issues. A walk-through may have alerted us to the speaker’s technical issue so that it could have been addressed before the training session. Overall, we were quite pleased with our online platform and its ease of use, but we recommend that each organization assess its goals and objectives for its online training conference or symposium to determine which conferencing platform will meet its needs.

**Conclusion**

Last year’s Interventional Pain Specialist Training was well received despite the lack of direct hands-on practice. This year, as the vaccine rollout continues, we are planning to have a hybrid training session. The didactic section will be virtual, and we will revert back to a 2-day hands-on lab. Even though the virtual symposium was successful, we deemed the need for hands-on practice a necessity to help incoming fellows hone their interventional skills.

The training will be offered as a three-part program. Part one will consist of prerecorded videos of last year’s training, which cover basic and advanced procedures, musculoskeletal anatomy review, psychological assessment for treatment and intervention, neuromodulation, and ultrasound. Our online platform allowed us to record the sessions, and as the conference was well received, we have decided to reuse those presentations. Incoming fellows will be asked to watch the videos independently by a particular date, in preparation for part two. Part two will follow about 3 weeks later and will be a discussion session with questions and answers. Part two will be done through the same online platform to comply with social distancing. Participants will have to turn on their cameras to assist with engagement. Fellows will be encouraged to bring any questions they may have about the videos or the fellowship to the discussion session. Part three will be an in-person 2-day cadaver lab that will occur a week after part two. Safety precautions, such as a limit on the number of participants, personal protective equipment use, and social distancing measures will be implemented.

In the present COVID-19 pandemic environment, connecting subject matter experts to provider training in a specialty has proved challenging, limited, or, in some cases, not possible. The reality of needing to socially distance has curtailed the number of attendees significantly, has required educators to present material through an online platform, or sometimes has brought about the cancellation or postponement of the event. Fortunately, NCRPI already had experience with monthly webcasts and other virtual trainings and was able to transition the training program to an online platform.

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