1. <u>**What is the Radiology Community of Practice?**</u>

   The Radiology Community of Practice is an organization created to explore the applications of bedside focused ultrasound within Radiology. It consists of faculty, resident, and student leaders at all levels of training with the shared goal of increasing the use of bedside ultrasound through education, research, and clinical experience. The organization convenes regularly to share knowledge and create new ways to promote bedside focused ultrasound in the practice of Radiology.

2. <u>Mission</u>

   The mission is to increase the use, accessibility, and knowledge of clinician performed focused ultrasound within the spectrum of the Radiology Department throughout the Wexner Medical Center.

3. <u>Background/State of Ultrasound in Radiology</u>

   Ultrasound competency is not currently considered a milestone in radiology training in the United States, and training for Radiology residents is highly variable. A 2012 survey sent to radiology program directors and other radiology educators revealed that 25% of radiology residency programs had a formal ultrasound curriculum, with another 35% indicating plans to implement one within the next 12 months[1]. There are currently no established guidelines or standards for ultrasound training and quality assurance. Despite the growing interest in POCUS use in radiology, institutions and programs still face numerous challenges in training and adopting its use. The most commonly cited barriers include cost and time required to train faculty.[1] Others included cost of equipment, cost and time to train residents, lack of credentialing, and lack of quality assurance.[1]

   Various studies have shown that short, intensive training programs for both radiology faculty and residents can help significantly improve diagnostic accuracy and self-reported confidence with ability to operate ultrasound equipment and interpret ultrasound data[5,6,7]. However, retention of ultrasound knowledge diminishes over time, which emphasizes the importance of developing longitudinal ultrasound curriculums[8–10]. Introducing ultrasound earlier on in undergraduate medical education can help establish a foundation in acquiring and interpreting ultrasound images. This can help reduce the learning curve in residency programs, when there are more time constraints. In 2012, only approximately 62% of medical schools in the United States reported having ultrasound education incorporated into their medical school curriculums[11]. In order to improve the potential of POCUS in helping provide high-quality and cost-effective care for patients in radiology, there needs to be the development of national standards both at the undergraduate medical and graduate medical levels.

   Longitudinal training, practice, and mentorship are essential to acquiring proficiency and confidence in the use of ultrasound. To help facilitate this and promote the use of ultrasound within radiology, an Radiology Ultrasound Community of Practice

(Radiology US COP) was established at The Ohio State University Medical Center in the 2012-2013 academic year.

4. Bylaws
   a. Roles
      i. Faculty
         1. Faculty Leaders (Radiology: TBD US: Dr. Bahner)
            a. Face of the governance, will hold regularly scheduled meetings to assess progress, assist in execution of projects, assignments.
            b. Will communicate with other faculty members when necessary for approval of project implementation, etc
            c. Help determine faculty availability and faculty schedules
         2. Faculty Champions
            a. Teach students and residents on service/during student rotations
            b. Attend at least one scheduled meeting
            c. Proctor at least one hands-on session
            d. Provide feedback to the COP on optimizing the use of their academic time
            e. Be available to lead ultrasound rounds when on service
            f. Communicate faculty barriers/concerns/questions
         3. Faculty Mentors
            a. Allow students to shadow them and learn by observation
      ii. Residents
         1. Chief Resident
            a. Coordinate with program administration in order to set up educational opportunities for residents
            b. Help determine resident schedule and implement US learning opportunities within resident lecture times
         2. Resident Champions
            a. Join US COP and help identify areas of need and implement training for core and enriched competencies in US among the chiefs and other residents
            b. Help faculty leaders and chief resident communicate with residents and other radiology faculty members
            c. Work with faculty leaders to establish and possibly lead ultrasound rounds that will allow residents to view/practice scans on multiple patients
            d. Communicate resident barriers/concerns/questions
         3. Resident Participants
            a. Join US COP and help identify areas of need and implement training for core and enriched competencies in US among the residency
            b. Let chief resident know if interested in ultrasound and, if applicable, for which specific field(s) they would like to

use US (i.e. Thoracentesis, para, joint injections on rheumatology, bedside cardiac ultrasound, etc)
- c. Participate in and complete requirements for core AND enriched competencies in specific ultrasound skill sets (core: vascular access; enriched: paracentesis being implemented currently, thoracentesis and pericardiocentesis to be developed.)

    iii. Students

       1. Senior Student Leaders
- a. Leadership role assigned to rising 4th year medical students intending to participate in Honors Ultrasound with an interest in Radiology
- b. Responsible for coordinating meeting times and places
- c. Will assemble final agenda for meetings after input from Faculty leaders
- d. Will update list of Faculty Champions, Faculty Mentors, and Residents Champions
- e. Will solicit pool of Champions and Mentors for help with didactics and hands on sessions run by the COP
- f. Manage Radiolgy COP data and resources on Google Drive sharing system

       2. Junior Student Leaders (committee chairs)
- a. Leadership roles assigned by the senior student leaders
- b. Can be M1-M3s
- c. Responsible for coordinating one committee (Research, Education, and Clinical)
- d. Will set up events and keep up with the activities of that committee with the help of the senior students

       3. Student members
- a. Join Ultrasound Interest Group (USIG) and participate in hands-on-sessions, ultrafest
- b. Help in implementing US initiatives at the medical student and resident level

b. Meetings

  i. Set up by Faculty and Student Leaders on a quarterly annual basis

  ii. Will make use of the clinical skills facilities on the 6th floor of Prior Hall

  iii. Senior students will create agenda prior to meeting and will consult Faculty Leaders on important topics of discussion

  iv. Meetings will follow a common general outline:

    1. Welcome any new members to the COP and update them on the mission and focus of the COP

    2. Discuss their new roles and any contribution they might have in US or Radiology

    3. List all initiatives and discuss progress of each at every meeting

    4. List any projects in which big decisions need to be made after a thoughtful discussion between faculty, residents and students

      v. A COP student present will take minutes of each meeting and email out to the entire COP

      vi. Entire COP consisting of faculty, fellows, residents and students are requested/ welcome to attend

      vii. Annual Meeting schedule

        1. Meeting 1 July/August
- a. Take stock of members at faculty, resident, and student level
- b. Define leadership roles and expectations
- c. Set agenda and assign tasks for clinical, research, and educational projects
- d. Construct action plan for individual projects

        2. Meeting 2 October/November
- a. Assess progress of individual projects
- b. Evaluate any barriers to completion of projects and determine ways to address projects

        3. Meeting 3 January/February
- a. Assess progress of individual projects
- b. Evaluate any barriers to completion of projects and determine ways to address projects

        4. Meeting 4 April/May
- a. Summarize progress of projects
- b. Determine goals for the following year
- c. Assign leadership duties to rising 4th year students
- d. Evaluate and update changes of bylaws

c. Progress Updates

    i. In the intervening time between quarterly annual meetings, emails will be sent to all members listing progress on initiatives.

    ii. Student leaders will be responsible for assembling progress updates into an email

d. Leadership Succession

    i. To facilitate the hand-off of responsibilities to future student leaders, rising fourth year students interested in honors ultrasound and Radiology will be identified for transfer of leadership duties.

    ii. Current and future student leaders will coordinate a separate meeting time to discuss responsibilities and expectation for the coming year

e. Annual Reports/Summaries

    i. It will be the responsibility of student leadership to generate yearly reports of the groups activity to assess if goals were met and to summarize progress on any ongoing projects at the final meeting of the year (April/May). Additionally, bylaws will be updated at the meeting through the same system.

5. Active Projects/Goals

a. The action and outreach of the Radiology COP will be directed toward three key areas, clinical, educational, and research endeavors. Clinical projects will expand

the role of US in patient care. Educational projects will be directed toward increasing the US knowledge and competency of residents and students. Research projects with explore new uses of bedside US and the efficiency of US education. Additionally, administrative projects will be focused on building the Radiology COP and its resources.

    b. <u>Clinical Projects</u>

        i. Paracentesis Project [COMPLETE]

[ ] Generate a protocol for ultrasound-assisted paracentesis

[ ] Create a checklist of required educational tasks to complete prior to signing off

[ ] Compile a list of mentors available to teach and supervise physicians in the process of signing off

[ ] Determine which machines will be available for use

[ ] Establish process for quality assurance?

        ii. Vascular Access

[ ] Generate protocols for ultrasound-guided vascular access, including placement of CVC lines, EJ lines, difficult arterial lines, difficult peripheral vascular access

[ ] Determine a necessary curriculum to be completed prior to signing off (Could include EMSONO, hands-on sessions, didactics, practical exams)

[ ] Determine who will be the point of contact for implementing a vascular access project (possibly PIV project)

        Iii. Establish process for credentialing and quality assurance of ultrasound

scans

        iv. Determine scope of practice of ultrasound within Radiology

    c. <u>Educational Projects</u>

        i. Medical Student Education

            1. MICU Ultrasound Rounds

  [ ] Develop a model for medical-student/resident- focused ultrasound rounds

        [ ] Identify Faculty US Champions available to teach US rounds while on service

        [ ] Make a schedule for rounds that will occur once a month (spot for residents/medical students in the MICU and extra spot for additional medical student)

        2. Pathology session

        [ ] Set up a pathology session - to discuss relevant qpath cases in Radiology (ideas: undifferentiated shock, dyspnea)

        [ ] Identify faculty willing to help guide/lead

        3. Competencies

        [ ] Generate a list of core competencies on which education would be beneficial during medical school

          -Vascular Access

          -Paracentesis

          -Thoracentesis

          -Volume Status Evaluation

          -AAA Screening

          -Bedside Echocardiography

-Thoracic Ultrasound
                        -DVT Screening
                        -Bladder volume assessment
                    [ ] Determine appropriate curriculum for teaching each core
                    competency
            ii.   Resident Education
                    1. Competencies
                    [ ] Determine appropriate core and enriched competencies for
                    residents (Dr. Wininger may be appropriate contact)
                    [ ] Determine educational models for each competency
                    2. iBook
                    [ ] Ensure that Radiology COP iBook is available to interested
residents/medical   students
                        3. EMSONO and other ultrasound resources
                        [ ] Ensure that residents have access to appropriate resources

        d.   Research Projects
            i.   Medical Student-Focused Ultrasound Rounds [COMPLETE - presented as
                    poster at AIUM]
            ii.   Concept of Radiology Community of Practice
                    [ ] Presenting as E-poster at AIUM 2017
            iii.   Establish research database
[ ] Create database of articles relevant to ultrasound in Radiology
            iv.   Journal Club
            v.   State of Ultrasound in Radiology
[ ] Potential survey: how is ultrasound being used currently, what are perceived barriers to its
use, confidence level of of residents/faculty in performing various scans
        e.   Administrative Projects
            i.   Medical Student Outreach
            ii.   Identification of Faculty Champions
            iii.   US Machine Acquisition
                    [ ] Create updated map/list of where each ultrasound machine in the
            hospital is so that residents know where to find them

Non-Discrimination Policy:
This organization does not discriminate on the basis of age, ancestry, color, disability, gender
identity or expression, genetic information, HIV/AIDS status, military status, national origin,
race, religion, sex, sexual orientation, protected veteran status, or any other bases under the law,
in its activities, programs, admission, and employment.

Sexual Misconduct Policy:
As a student organization at The Ohio State University, Radiology Ultrasound Community of
Practice expects its members to conduct themselves in a manner that maintains an environment
free from sexual misconduct. All members are responsible for adhering to University Policy
1.15, which can be found here: https://hr.osu.edu/public/documents/policy/policy115.pdf. If you
or someone you know has been sexually harassed or assaulted, you may find the appropriate

resources at http://titleIX.osu.edu or by contacting the Ohio State Title IX Coordinator at titleIX@osu.edu

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