INTRODUCTION

In 2012, Memorial University implemented a cost-efficient, multidisciplinary Point of Care Ultrasound (PoCUS) training program focused on training residents discipline-specific ultrasound skills. The training program consists of 2 streams:

1) Introductory PoCUS skills training (PGY1 only)
2) PoCUS Central Line training (PGY1-5)

The program is modular consisting of online education, practical training, competency development, and subsequent knowledge transfer by incorporating residents as teachers.

RESOURCES & SETUP

- Program director & 4 stipended positions
- Engage staff from multiple disciplines
- Dedicated administrative assistant for co-ordinating & scheduling
- Lines training linked to residents ICU rotation
- Use existing hospital & university ultrasound equipment
- Gel block - 1
- Standardized Patients - 1-10
- Central Line simulators - 2

Simulators placed in ICU & ER for resident practice 24/7

You can’t do this alone without a good supporting team

There are ultrasound machines all over the place. Move the trainee to the equipment, not vice versa.

COMPETENCY DEVELOPMENT

- Approximately 50 supervised scans per area
- Each trainee paired with an instructor for 1:1 training & mentorship
- Develop discipline-specific skills
- Image generation on patients in ER after obtaining verbal consent
- Standards similar to Canadian Emergency Ultrasound Society with key differences
- Visual exam and program director sign-off prior to independent work
- Residents train peers

About 15% of the trainees are resistant to the program. The need for administrative support cannot be understated as planning is currently underway for the incoming residents training.

Table 1: Supervised training requirements

<table>
<thead>
<tr>
<th>Residency Program</th>
<th>Introductory Training (PGY1 only)</th>
<th>Central Line Training (PGY1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Medicine</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>General Surgery</td>
<td>4</td>
<td>13</td>
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<tr>
<td>Obstetrics &amp; Gynecology</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Rural Family Medicine</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Emergency Medicine</td>
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<tr>
<td>Total</td>
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<td>59</td>
</tr>
</tbody>
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Table 2: Distribution of trainees by residency program for introductory skills and central line training.

FOCUS GROUP EVALUATION

A focus group was conducted to explore resident perceptions of the strengths and weaknesses of the PoCUS training program. Seven residents participated representing all disciplines with the exception of rural family medicine. Thematic analysis was used to examine and summarize the data.

Select key themes:

- A multidisciplinary approach is feasible, enjoyable, meets the needs of different disciplines, and enables collaboration.
- Protected time devoted to development of PoCUS skills is important. The residency programs need to provide support.
- Defined resident training standards should be in place for all PoCUS applications.
- Residents are excited about and very interested in teaching PoCUS however a ‘Teach-the-teacher session’ is important.

Favorite Quote:

“When I got to do it, it was fun cause I thought it really mattered.”

REFERENCES


FIGURE 1. Learning curve for residents improving their central line ultrasound skills.

FIGURE 2. Flowchart showing the different steps involved in the training program.

FIGURE 3. Residents are excited about teaching PoCUS.

FIGURE 4. A multidisciplinary approach is feasible, enjoyable, meets the needs of different disciplines, and enables collaboration.