The SonoSite Solution
For Difficult Peripheral IV Insertion

Program Overview

Plan
Do
Study
Act
SonoSite Solutions is designed to be a collaboration between SonoSite and you. The objective is to provide a ready-made, but highly modifiable and scalable, clinical pathway to improve success rate of difficult Peripheral IV Insertions and reduce the need for CVCs through the aid of point-of care ultrasound. As part of your FUJIFILM SonoSite, Inc. product purchase, FUJIFILM SonoSite, Inc. makes SonoSite Solutions available to you.

The program is rooted in quality improvement science and includes a Resource Center that can help guide your practice through an entire improvement cycle.

The available tools and resources are organized in a Plan-Do-Study-Act (PDSA) cycle format. The result is a self-guided, quality improvement project that will help increase success rate of PIVs, improve patient satisfaction and eliminate the need for unnecessary CVCs.
**Plan**

_SonoSite Solutions_ provides you with the evidence and practice guidelines to plan your quality-improvement project. Use this information to prepare a list of tasks to begin your implementation of the _SonoSite Six-Point Bundle for Peripheral IVs._

_The bundle includes:_

1. **Select the correct patient**
   USGPIV are used when the traditional technique fails or is expected to fail.

2. **Select the best target**
   Use ultrasound to confirm an accessible and compressible vein.

3. **Select the Catheter Size**
   Choose size that allows at least one half of the catheter to remain in the vein.

4. **Prepare the Skin and Probe**
   Prep the skin with chlorhexidine, and use sterile gel on a clean vascular probe.

5. **Insert the Catheter**
   Visualize the catheter tip entering the vein, and confirm placement.

6. **Secure the Catheter**
   Wipe area clean, apply chlorhexidine, and place an occlusive dressing.
To support your execution efforts, you may access sample Peripheral IV insertion protocols used at other institutions and also request on-site, hands-on training on how to perform ultrasound-guided PIVs. SonoSite Solutions can even help you organize your own training events on Peripheral IV insertion using ultrasound, allowing for the avoidance of central venous catheters all together.

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### Protocol Examples:

**Peripheral IV Insertion Checklist**

**For Difficult Peripheral IV Insertions**

<table>
<thead>
<tr>
<th>No.</th>
<th>Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Understand the basic ultrasound system setup and probe selection on the ultrasound system</td>
</tr>
<tr>
<td>2</td>
<td>Select appropriate linear transducer</td>
</tr>
<tr>
<td>3</td>
<td>Select appropriate exam setting</td>
</tr>
<tr>
<td>4</td>
<td>Identify depth markers</td>
</tr>
<tr>
<td>5</td>
<td>Determine the appropriate gain settings by adjusting the Near, Far, and overall Gain buttons</td>
</tr>
<tr>
<td>6</td>
<td>Describe Autogain and when it should be used</td>
</tr>
<tr>
<td>7</td>
<td>Understand the green dot on the screen and its significance to the probe and the image</td>
</tr>
<tr>
<td>8</td>
<td>Turn on and off the center guidelines markers (L25 Transducer only)</td>
</tr>
<tr>
<td>9</td>
<td>Describe how the guidelines are used and its relationship to the probe (L25 Transducer only)</td>
</tr>
<tr>
<td>10</td>
<td>Understand the importance of gel and when to use sterile and non-sterile gel</td>
</tr>
<tr>
<td>11</td>
<td>Be able to identify skin, subcutaneous fat, muscles, vessels and nerves on the ultrasound image</td>
</tr>
<tr>
<td>12</td>
<td>Show pulsations of the artery and compression of the vein</td>
</tr>
<tr>
<td>13</td>
<td>Use compression to determine the difference between the vein and the artery</td>
</tr>
<tr>
<td>14</td>
<td>Describe the terms hyperechoic, hypoechoic and anechoic structures and show on an image</td>
</tr>
<tr>
<td>15</td>
<td>Image vessels in the sagittal scan plan</td>
</tr>
<tr>
<td>16</td>
<td>Image vessels in the transverse scan plane</td>
</tr>
<tr>
<td>17</td>
<td>Describe beam thickness</td>
</tr>
<tr>
<td>18</td>
<td>Show good hand position on the transducer</td>
</tr>
<tr>
<td>19</td>
<td>Position vessel directly under probe and center guidelines for skin marking</td>
</tr>
<tr>
<td>20</td>
<td>Position needle into phantom vessel by using the &quot;Sliding Technique&quot; of following the needle tip</td>
</tr>
<tr>
<td>21</td>
<td>Identify the needle tip as it enters the phantom with ultrasound</td>
</tr>
</tbody>
</table>

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**SonoSite Specialist**

Name: ______________________ Date: __________

This assessment provides a general overview of the basic ultrasound examination, evaluations, and procedures performed while performing an ultrasound-guided peripheral IV insertion. This assessment does not constitute professional medical advice or a complete course of training. You should not perform an ultrasound-guided peripheral IV insertion solely in reliance upon the information from this skills assessment.

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Case Study:
Results from Successful USGPIV programs

The following poster presentations demonstrate some of the unique programs that different institutions have used when implementing their USGPIV program. These results are shown here as inspiration and to demonstrate that each practice environment requires a unique solution to implement an USGPIV program. The hospital affiliations have been removed. Contact your SonoSite SonoSite representative for help initiating or continuing your USGPIV program.
Act

During the “Act” phase, feedback sessions with your implementation team can be conducted to collect new ideas in preparation for the next PDSA cycle. SonoSite is always looking for the latest advancements to help you achieve your patient safety goals. During the “Act” phase of your cycle, a SonoSite Representative can introduce these new technologies and techniques to you as they are developed.
SonoSite Products

**SonoSite Edge II**
The Edge II ultrasound system’s enhanced image quality aids your diagnostic confidence. A solid aluminum core helps to protect your investment for the long term. And a splash resistant silicone keyboard makes cleaning and disinfection that much easier. With the Edge II ultrasound system, you have access to a new generation of point-of-care ultrasound visualization.

**SonoSite M-Turbo**
The M-Turbo® ultrasound system offers striking image quality. Our most versatile system for abdominal, nerve, vascular, cardiac, venous access, pelvic, and superficial imaging. The M-Turbo® ultrasound system gives you striking image quality with sharp contrast resolution and clear tissue delineation. This ultrasound equipment lets you visualize detail, improving your ability to differentiate structures, vessels and pathology.

**SonoSite SII**
Our mountable ultrasound systems offer a zero footprint. The SII ultrasound system can be mounted to a cart, wall, or ceiling, and have simplified controls that let you focus in on your target areas in a matter of seconds. High-resolution images help you see exactly where to perform procedures and allow for accurate diagnoses when treating patients. The SII ultrasound machine is built to meet U.S. military standards for durability. It boots up quickly, is lightweight, and built with intuitive design for ease of use.

**iViz**
iViz is your premium imaging solution that connects to hospital medical IT systems and cloud services. iViz gives you access to online resources, applications, and patient vitals information, for all your mobile clinical needs.

The next generation platform that augments the value of ultrasound for clinical users from hospital settings to clinics in remote villages with the ability to perform ultrasound when and where it is needed. iViz delivers fast and improved patient care with superior clarity, mobility, and unprecedented connectivity. Providers can seamlessly access learning resources and patient records, store exams, submit reports, and consult with remote providers for near real-time assessments.

To implement SonoSite Solutions at your institution, visit www.sonosite.com/solutions
SonoSite Contacts

To request information about SonoSite Solutions, please visit www.sonosite.com/solutions

To request information about our company or our products.

FUJIFILM SonoSite, Inc.,
21919 30th Drive SE
Bothell, Washington 98021-3904
United States
Tel: +1 425 951-1200
Fax: +1 425 951-1201