VENOUS ACCESS

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<table>
<thead>
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<th>Time</th>
<th>Activity</th>
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<tr>
<td>9:00a-12:00p</td>
<td>Advanced Venous Access</td>
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<td>Description:</td>
<td>We are all familiar with the typically venous access points of cephalic and saphenous veins with over the needle catheters. We will discuss advanced venous access involving small vein access (24-26 ga catheters) used most typically in exotics and neonates, interosseous catheter (IO) use again, useful in exotics and neonates, Seldinger catheter placement techniques used for central lines and long-term catheter placement, and ultrasound guided venous access. We will end the morning with a rousing session on calculating continuous rate infusions (CRI)!</td>
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| Objectives:   | 1. Identify venous access sites in critically ill patients  
|               | 2. Allow appropriate alternative venous access techniques to be selected  
|               | 3. Increase comfort in atypical venous access  
|               | 4. Understand limitations of each technique  
|               | 5. Increase comfort levels with CRI calculations |
| 10:15a-10:30a | Break                                   |
| 12:00p-1:00p  | Lunch                                   |
| 1:00p-5:00p   | Introduction to each technique and hands-on practice |
| Description:  | Four individual stations will be set up for each group to be divided into. At each station students will practice the techniques introduced that morning using models |
| Objectives:   | 1. Establish comfort with small vein access using romaine lettuce veins and simulated blood  
|               | 2. Practice IO catheter placement on chicken thighs using hand-held Jamshidi needles and an automated placement gun  
|               | 3. Learn Seldinger catheter placement techniques using standard vein models  
|               | 4. Practice ultrasound guided venous access using both animal models and phantoms |
| 2:30p-2:45p   | Break                                   |