

## Supplement 1 – I-AIM Checklists for POCUS Skills

Airway POCUS Education & Training Goals Checklist				
<b>Indications</b>				
<i>Does the learner understand the following indications?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
To aid in location of the cricothyroid membrane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
To aid in location of the cricoid cartilage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
To aid in location of tracheal rings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
To confirm of oro- or nasogastric tube placement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
To confirm correct endotracheal tube placement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Image acquisition</b>				
<i>Has the learner imaged the following structures in sagittal and transverse planes?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Thyroid cartilage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Vocal Cords	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cricothyroid membrane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cricoid cartilage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hyoid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Tracheal rings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Esophagus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Thyroid gland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Surrounding vasculature (carotid artery, jugular veins etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Image interpretation</b>				
<i>Can the learner successfully interpret the following imaging?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Cricothyroid membrane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cricoid cartilage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Tracheal rings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Confirmation of the esophageal location of oro- or nasogastric tube	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Confirmation of intra-tracheal and excluding esophageal tracheal tube placement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Medical decision-making</b>				
<i>Does the learner understand the appropriate medical-decision-making?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Image the cricothyroid membrane in longitudinal and transverse planes and mark the skin for the correct location of emergent cricothyrotomy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Determine and mark the skin for the correct location of cricoid force (pressure)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Determine the safe utilization of an oro- or nasogastric tube for gastric decompression or feeding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



<b>Lung Ultrasound Education &amp; Training Goals Checklist</b>				
<b>Indications</b>				
<i>Does the learner understand the following indications?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Pneumothorax	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Effusions / Blood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Diaphragmatic paresis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Interstitial Syndrome	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Does the learner understand the following limitations or pitfalls?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Previous thoracic surgery (pneumonectomy, pleurodesis)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Severe pre-existing lung disease (Bullae, pulmonary fibrosis, septations, emphysema), lung contusion/consolidation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Small effusions, intraperitoneal fluid, loculated/complex collections	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mechanical ventilation, apnea, Ascites, subphrenic fluid accumulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Image acquisition</b>				
<i>Has the learner imaged the following structures for pneumothorax?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Superior and inferior ribs and their shadows (Batwing sign)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pleural line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Has the learner imaged the following structures for effusion/blood?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Diaphragm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Anterior chest wall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lung parenchyma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Has the learner imaged the following structures for diaphragmatic movement?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
The mid-axillary line at the 8th – 9 <sup>th</sup> Intercostal space	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Midclavicular/anterior axillary line at the subcostal region	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Image interpretation</b>				

<i>Can the learner successfully interpret the following imaging to rule out a pneumothorax?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Lung sliding/pulse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Vertical artifacts (B-lines, comet tail)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Seashore sign	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Can the learner successfully interpret the following imaging to diagnose a pneumothorax?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Lung point	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Absence of lung sliding and A-line pattern	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Barcode sign	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Can the learner successfully interpret the following imaging to assess for an effusion/blood?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Curtain Sign (rule out effusion)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Anechoic collection cephalad to the diaphragm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spine sign	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sinusoid sign	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Can the learner successfully interpret the following imaging to assess for diaphragmatic function?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
$\Delta$ tdi (Change in diaphragm thickness between end-expiration and end-inspiration) < 20%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Excursion less than 1.8cm during quiet breathing or less than 4.8cm during deep breathing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Paradoxical movement on inspiration (towards probe)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Medical decision-making</b>				
<i>Does the learner understand the appropriate medical decision-making for pneumothorax?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Observe vs. needle decompression vs. chest tube vs. pigtail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<i>Does the learner understand the appropriate medical decision-making for effusion or blood?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Observation vs. chest-tube vs. thoracotomy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Does the learner understand the appropriate medical decision-making for diaphragmatic dysfunction?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Supportive measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NIMV vs. intubation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



<b>Gastric Ultrasound Education &amp; Training Goals Checklist</b>				
<b>Indications</b>				
<i>Does the learner understand the following indications and limitations?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Unclear history and/or unknown fasting status	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Urgent surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Risk factors for delayed gastric emptying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Limitation: Previous gastric surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Limitation: Large hiatal hernia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Image acquisition</b>				
<i>Has the learner imaged the following structures in the supine and right lateral decubitus position?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Liver	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Gastric Antrum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pancreas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Abdominal Aorta	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Thoracic Spine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Image interpretation</b>				
<i>Can the learner successfully interpret the following qualitative findings?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Empty (no content)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Clear Fluid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Solid (early)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Solid (late)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Thick fluid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Can the learner successfully interpret the following quantitative findings?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Estimate volume based on a cross sectional area (CSA) of the antrum in the RLD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Medical decision-making</b>				
<i>Does the learner understand the appropriate medical decision-making for gastric ultrasound with an empty stomach</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>

<i>(no content or low fluid volume (&lt;1.5 mL/Kg)?</i>				
Proceed with the case with no special aspiration precautions indicated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Does the learner understand the appropriate medical decision-making for gastric ultrasound with solid content or high fluid volume (&gt;1.5 mL/Kg)?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Consider postponing if elective with recent intake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If need to proceed, then use aspiration prophylaxis (e.g. awake patient or tracheal intubation, rapid sequence induction)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Does the learner understand the appropriate medical decision-making for gastric ultrasound with unclear/equivocal imaging?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Manage based on available clinical information and local policies regarding fasting guidelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



<b>Focused Cardiac Ultrasound Education &amp; Training Goals Checklist</b>				
<b>Indications</b>				
<i>Does the learner understand the following indications and limitations?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Hemodynamic instability or undifferentiated shock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cardiac arrest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pericardial effusion/tamponade: signs and symptoms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Heart failure: signs and symptoms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
High cardiac risk patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Adjunct to physical examination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Image acquisition</b>				
<i>Has the learner imaged the following structures?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Parasternal Long Axis (PLAX)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Parasternal Short Axis (PSAX)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Apical 4-Chamber View (A4CH)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Subcostal 4 Chamber (SC4CH)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Subcostal Inferior Vena Cava (SCIVC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Image interpretation</b>				
<i>Can the learner successfully interpret the following qualitative findings?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Ventricular dimensions and systolic function	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Volume status/responsiveness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pericardial effusion/tamponade	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Gross anatomical abnormalities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Gross signs of chronic heart disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Medical decision-making</b>				
<i>Does the learner understand the appropriate medical decision-making for the following pathology?</i>	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>	<b>Comments</b>
Local anesthetic systemic toxicity (LAST)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Aortic stenosis (AS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hypovolemia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Massive pulmonary embolism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pericardial effusion/tamponade	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Gross ventricular failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

