Lecture summaries

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Panel Discussion - Contentious POCUS Consensus Statements

Be an anonymous Delphi expert reviewer for an hour! This panel discussion with domain leads from the POCUS consensus statement will focus on the statements that were difficult to develop and those in which a consensus opinion was elusive. Topics covered will include gauging left atrial distension, formal diagnoses such as biliary mucocoele, pyometra and gastrointestinal obstruction, supporting diagnoses of neoplasia, and deciding when ultrasound 'can' be used, or 'should' be used…

Learning goals:
1. Appreciating which POCUS skills can be considered basic skills vs advanced skills.
2. Recognising the line between POCUS and formal ultrasonography or formal echocardiography.
3. Deciding whether procedural ultrasound guidance 'can' be used vs 'should' be used.
4. What is NOT covered in the POCUS consensus statement and why.

Mastering the Thorax: Foundational Lung & Pleural POCUS Every Vet Should Know

Lung and pleural point-of-care ultrasound (POCUS) has become an essential skill for veterinarians managing respiratory disease and unstable patients. This session provides a practical, clinically focused introduction to pleural and lung ultrasound (PLUS), emphasizing normal lung surface anatomy, key sonographic lines and signs, and interpretation of common artifacts. Attendees will learn how patient positioning influences where pathology accumulates, how to identify sonographically defined lung borders, and how to confidently recognize and interpret A-lines, B-lines, lung sliding, and the abdominal curtain sign. The goal is to equip clinicians with a reproducible, patient-centered framework for applying lung and pleural POCUS in everyday practice.

Learning goals
1. Describe how patient positioning affects the distribution and detection of pleural and lung pathology during POCUS.
2. Identify the sonographically defined pleural and lung borders, including the abdominal curtain sign.
3. Recognize the bat sign and use it to accurately locate the pleural line.
4. Define A-lines and B-lines and distinguish normal from abnormal lung surface findings.
5. Apply a clinically driven PLUS approach to answer key binary questions in dyspneic or unstable patients.

Beyond lung sliding: Key Concepts and Paradigm shifts for Lung & Pleural Pathology
Accurate diagnosis of pleural effusion, pneumothorax, and lung pathology using pleural and lung ultrasound (PLUS) requires moving beyond reliance on lung sliding alone. This session highlights key paradigm shifts in pleural and lung ultrasound (PLUS), emphasizing patient positioning, sonographically defined lung borders, optimized probe orientation, and interpretation of abnormal lung surface findings. Using a clinically driven, binary approach, attendees will learn how to improve sensitivity for detecting pleural effusion and pneumothorax, avoid common pitfalls, and correctly interpret increased B-lines and lung consolidation. The session focuses on practical concepts that enhance diagnostic confidence in unstable or dyspneic patients, and when radiography is impractical or delayed.

Learning goals
1. Explain how patient positioning influences the detection of pneumothorax and pleural effusion during PLUS.
2. Differentiate causes of increased B-lines and classify subpleural lung consolidations.
3. Recognize and avoid common pitfalls and false-positive findings when performing lung and pleural POCUS.
4. Discuss the rule in and rule out findings for assessment of pneumothorax using PLUS
5. Describe the different windows used to maximize sensitivity in finding pleural effusion and how to confidently differentiate it from pericardial effusion.

VECCUS foundational LAB for nurses and veterinarians
POCUS to LIVE, LIVE to POCUS! Dyspneic cats, unstable patients, vague "ain't doing right" presentations....these are cases that test clinical confidence when time and diagnostics are limited. Veterinary point-of-care ultrasound (POCUS) turns uncertainty into confidence, allowing rapid, patient-side decision-making when seconds count!

Join co-leads Søren Boysen and Kris Gommeren, internationally recognized leaders in veterinary POCUS and co-founding members of VECCUS, for an immersive, hands-on lab designed to transform how you approach critical and emergent patients. Learn practical lung, pleural, cardiac, abdominal, and vascular POCUS skills that are rapid, intuitive, and immediately applicable in everyday practice, no prior ultrasound expertise required!

The VECCUS foundational lecture stream is a pre-requisite to this wet-lab which will combine cadaver pathology, phantom simulation, and live dog training to maximize attendee learning. This is POCUS taught by the experts who helped define the field, don't miss it!

Learning goals
1. Perform a systematic, patient-centered POCUS examination using standardized scanning techniques appropriate for unstable and emergency patients.
2. Identify normal and abnormal pleural and lung ultrasound findings, including lung sliding, A-lines, B-lines, pleural effusion, and pneumothorax.
3. Apply cardiac POCUS to rapidly the key cardiac windows used to assess patients with suspected cardiac disease.
4. Utilize abdominal POCUS to identify the 5 sites assessed, key organ identification at each site, and the detection free fluid.
5. Cover the key POCUS binary response questions asked within each of the POCUS domains

Advanced POCUS lab
This workshop is designed for both seasoned practitioners and those seeking to elevate their ultrasound skills. The Advanced POCUS Lab, spanning a comprehensive session, empowers participants with in-depth knowledge and hands-on proficiency in advanced ultrasound techniques.

Throughout this workshop, participants will learn about lung and pleural space ultrasound, honing their ability to assess small volume pneumothoraxes and pleural effusions with precision. The curriculum extends to focused echocardiography, providing participants with the skills to subjectively assess critical parameters such as left atria:aorta ratio, cardiac contractility, and volume status.

Abdominal POCUS offers a thorough exploration of assessments for the gall bladder, pancreas, and kidneys. Participants will also learn to detect pneumoperitoneum together with master the technique for assessing renal pelvis dilation, enhancing their diagnostic capabilities in various clinical scenarios.

This workshop is tailored for those seeking to expand their ultrasound skill set beyond the basics. Attendees will benefit from a curriculum crafted to enhance their ability to perform nuanced ultrasound assessments, ultimately contributing to improved patient care. Elevate your POCUS skills with this advanced workshop, where theory seamlessly integrates with hands-on practice under expert guidance.

Learning goals
1. Perform a systematic pleural and lung ultrasound (PLUS) examination in live dogs and cadavers, including identification of lung sliding, the abdominal curtain sign, and recognition of findings consistent with pneumothorax, pleural effusion, and peripheral lung pathology.
2. Acquire and interpret core cardiac POCUS (CPOCUS) views on live dogs, including right parasternal short-axis and long-axis views, to assess chamber size, gross cardiac function, and the presence or absence of pericardial effusion.
3. Perform focused abdominal POCUS (APOCUS) on live dogs and cadavers at the subxiphoid, umbilical, right/left paralumbar, and urinary bladder sites to answer binary clinical questions regarding effusion, free gas, organ pathology, and urinary tract abnormalities.
4. Integrate pleural, cardiac, and abdominal POCUS findings using a binary, clinically driven framework to support rapid decision-making in emergency and unstable patients.
5. Identify the 3 sites commonly used to assess volume status in veterinary patients, and describe what the expected findings would be at each site for hypovolemic and volume overloaded patients.

Local nerve block & Vascular Access POCUS lab
Participants will focus on two pivotal aspects of ultrasound-guided interventions: analgesic blocks and vascular access. This hands-on experience aims to equip attendees with essential skills for effective pain management in critical patients and precise vascular access procedures.

The ultrasound-guided analgesic blocks, a crucial skill set applicable in both human and veterinary medicine. Participants will master key nerve blocks, such as the Sciatic nerve block, Transversus Abdominis Plane (TAP) block, Quadratus Lumborum block, Erector Spinae (thoracic) block, and intercostal block. These blocks are invaluable tools for managing pain in critical conditions, providing a nuanced approach that balances efficacy with patient comfort. Attendees will actively engage in these procedures under expert supervision, allowing them to refine their skills and receive real-time feedback.

The ultrasound-guided vascular access, a skill set indispensable in various medical scenarios. Participants will learn to navigate the ultrasound probe with models for different situations, such as obtaining arterial samples for diagnostic purposes and accessing veins in edematous legs where traditional methods may prove difficult. The precision offered by ultrasound guidance enhances safety and success rates in these procedures.

In summary, this wet lab offers a condensed yet comprehensive exploration of ultrasound-guided analgesic blocks and vascular access procedures. Attendees will leave empowered with skills applicable in various clinical scenarios, ranging from challenging vascular access situations to advanced pain management techniques in both human and veterinary medicine.

Learning goals
1. Perform ultrasound-guided vascular access techniques using both in-plane and out-of-plane approaches, including vessel identification, catheter tip visualization, and recognition of common pitfalls and complications.
2. Apply fundamental ultrasound principles and ergonomics to safely perform ultrasound-guided procedures, including optimal probe orientation, needle visualization, and image optimization.
3. Differentiate truncal nerve blocks from fascial plane blocks and select the appropriate technique based on anatomy, clinical indication, and procedural goals.
4. Perform ultrasound-guided locoregional anesthesia techniques (including sciatic, TAP, erector spinae plane, and intercostal nerve blocks) while maintaining continuous visualization of the needle tip and target structures.
5. Select and calculate appropriate local anesthetic agents, concentrations, and volumes, incorporating principles of maximum safe dosing, drug distribution, and toxicity prevention.