Pet:	Owner:	Date: _____
Species:	Pediatric Adult Geriatric	
Weight:	Sedation:	
Phone:	E-mail:	

ULTRASOUND FORM – Emergency **GlobalFAST® = AFAST® + FAST® + VetBLUE®**

Dyspneic Pale Cyanotic Tachypneic Pelvic Fracture ALT_____ PTT BMBT_____sec platelets_____

VETBlue®: *Standing or Sternal Recumbency preferred*

standing/sternal L lateral R lateral modified

LCd: dry *ULR:* 1-3 >3 & ? *Glide:* + - ?
Nodule: #_____ mm_____ shreds wedge tissue
PLE: absent <10mm 10-30mm >30mm curtain ?
Step: + - ?
LPh: dry *ULR:* 1-3 >3 & ? *Glide:* + - ?
Nodule: #_____ mm_____ shreds wedge tissue
PLE: absent <10mm 10-30mm >30mm curtain ?
Step: + - ?
LMd: dry *ULR:* 1-3 >3 & ? *Glide:* + - ?
Nodule: #_____ mm_____ shreds wedge tissue
PLE: absent <10mm 10-30mm >30mm curtain ?
Step: + - ?
LCr: dry *ULR:* 1-3 >3 & ? *Glide:* + - ?
Nodule: #_____ mm_____ shreds wedge tissue
PLE: absent <10mm 10-30mm >30mm curtain ?
Step: + - ?

RCd: dry *ULR:* 1-3 >3 & ? *Glide:* + - ?
Nodule: #_____ mm_____ shreds wedge tissue
PLE: absent <10mm 10-30mm >30mm curtain ?
Step: + - ?
RPh: dry *ULR:* 1-3 >3 & ? *Glide:* + - ?
Nodule: #_____ mm_____ shreds wedge tissue
PLE: absent <10mm 10-30mm >30mm curtain ?
Step: + - ?
RMd: dry *ULR:* 1-3 >3 & ? *Glide:* + - ?
Nodule: #_____ mm_____ shreds wedge tissue
PLE: absent <10mm 10-30mm >30mm curtain ?
Step: + - ?
RCr: dry *ULR:* 1-3 >3 & ? *Glide:* + - ?
Nodule: #_____ mm_____ shreds wedge tissue
PLE: absent <10mm 10-30mm >30mm curtain ?
Step: + - ?

tap PLE_____ccR_____ccL lab

TFAST®: *Standing or Sternal Recumbency preferred*

standing/sternal L lateral R lateral modified

LCTS: see also VetBLUE® **LCd**
*PTX:*____am/pm + - ? *LP*: top mid bottom beat ?
*PTX:*____am/pm + - ? *LP*: top mid bottom beat ?
*PTX:*____am/pm + - ? *LP*: top mid bottom beat ?
*PTX:*____am/pm + - ? *LP*: top mid bottom beat ?
Tap PTX: _____am/pm_____cc _____am/pm_____cc
Tap PTX: _____am/pm_____cc _____am/pm_____cc
LPCS: *PLE:* absent <10mm 10-30mm >30mm ?
PCE: absent <5mm 5-10mm >10mm mass ?
Smiley Hammerhead

RCTS: see also VetBLUE® **RCd**
*PTX:*____am/pm + - ? *LP*: top mid bottom beat ?
*PTX:*____am/pm + - ? *LP*: top mid bottom beat ?
*PTX:*____am/pm + - ? *LP*: top mid bottom beat ?
*PTX:*____am/pm + - ? *LP*: top mid bottom beat ?
Tap PTX: _____am/pm_____cc _____am/pm_____cc
Tap PTX: _____am/pm_____cc _____am/pm_____cc

RPCS: *PLE:* absent <10mm 10-30mm >30mm ?
PCE: absent <5mm 5-10mm >10mm mass ?
Tap_____cc lab
Mushroom/Batman: *Vol:* unremark hypo enlarged ?
Contract: unremark poor ?
LVIDs_____mm LVIDd_____mm FS_____%
Mercedes: *LA*: unremark enlarged_____mm ?
Ao_____mm LA:Ao:_____ PA_____mm PA:Ao_____
BullsEye: *PCE:*_____mm ?
4 Chamber: *RV:* unremark thick large
RVIDd_____mm LVIDd:_____mm LV:RV_____

HW smoke thrombus

DH: other side

Abbreviations:

AFS: abdominal fluid score; **CC** = cysto-colic; **Ao** = aorta; **Cd** = caudal lung lobe; **CdVC** = caudal vena cava; **Contract** = left ventricle contractility; **Cr** = cranial lung lobe; **CTS** = chest tube site; **DH** = diaphragmatic-hepatic; **FS** = LV fractional shortening = (LVIDd – LVIDs)/LVIDd; **GB** = gallbladder; **HepV** = hepatic vein; **HR2** = hepato-renal(R); **HRU** = hepato-renal(R)-umbilical; **HW** = heartworms; **L** = left; **LA** = left atrium; **LL** = lung line; **LP** = lung point; **LV** = left ventricle; **LVIDd** = LV inner diameter in diastole; **LVIDs** = LV inner diameter in diastole; **Md** = middle lung lobe; **PA** = pulmonary artery; **PCE** = pericardial effusion; **PCS** = pericardial site; **Ph** = perihilar; **PLE** = pleural effusion; PTE = pneumothorax; **PTX** = pneumothorax; **R** = right; **Retroper** = retroperitoneal; **RHF** = right heart failure; **RV** = right ventricle; **RVIDd** = RV inner diameter in diastole; **SR** = spleen-renal(L); **ULR** = ultrasound lung rockets = B lines; **Unremark** = unremarkable; **Vol** = LV volume.

AFAST®: **Sternal** **Standing** **R Lateral** **L lateral** **modified** **AFS:** _____/4

DH: *ULR:* 1-3 >3 & ? *Nodule:* #_____ mm_____ shreds wedge tissue
CdVC: fat flat bounce ? **HepV**: absent unremark tree trunk ? *AFS:* 0.5 1
PLE: absent <10mm 10-30mm >30mm ? *PCE:* absent <5mm 5-10mm >10mm mass ?
Ascites: absent <5mmcat/<10mmdog 5mm+cat/10mm+dog ?
GB: halo thick wall ascites sludge mucocoele ?

SR: retroper fluid L Kidney Spleen R Kidney
Ascites: <5mm cat/<10mm dog 5mm cat/10mm dog ? *AFS:* 0.5 1

CC: *Bladder*: unremark ? retroper fluid
Ascites: absent <5mmcat/<10mmdog 5mm+cat/10mm+dog ? *AFS:* 0.5 1
Fosgate Formula: length x height x width x 0.63 = urine volume (cc)
Time:_____AM PM length_____mm x height_____mm x width_____mm 0.63 = _____vol (cc)
Time:_____AM PM length_____mm x height_____mm x width_____mm 0.63 = _____vol (cc)
Time:_____AM PM length_____mm x height_____mm x width_____mm 0.63 = _____vol (cc)
Time:_____AM PM length_____mm x height_____mm x width_____mm 0.63 = _____vol (cc)

HRU: *Ascites:* <5mm cat/<10mm dog 5mm cat/10mm dog ? tap lab *AFS:* 0.5 1

HR2: R kidney Liver retroper fluid *Ascites:* <5mm cat/<10mm dog 5mm cat/10mm dog

Lesion Descriptions & Normals:

Curtain: aerated lung causes acoustic shadow over PLE or PTX, at transition zone lung and abdominal contents move in the same direction**; Double Curtain:** simultaneous curtains from cranial and caudal of PTX at transition zone**; Glide**: sliding between inflated lung & intercostal muscles at LL; **Nodule:** black mass near LL with distal acoustic enhance; **Reverse Curtain**: at transition zone lung and abdominal contents move in opposite directions; **Shred:** black area near LL containing small white foci; **Step:** incontinuity/disruption of LL; **Tissue:** consolidated lung tissue with no air in bronchioles (hepatized lung); **ULR**: comet tail from LL extends to far field & swings; **Wedge**: black triangle larger than *Shred* at LL, filled with small white foci.

Normals*: caval bounce = 50%; FS = 30-46% (dog), 40-66% (cat); LA:Ao = <1.3 (dog), <1.6 (cat); LVIDd:RVIDd = <2-3; PA:Ao = 1; 1-2 ULRs per animal can be normal.*

Lesion Interpretation:

Curtain = presence of PLE or PTX; *Glide (aka lung slide)* = negative pleural pressure, rules out PTX and PLE at that point; *Nodule* = island of cells/tissue in lung at LL; *Shred*: collapsed/fluid-cell filled alveoli next to air in bronchiole (air bronchogram on rads); *Step* = thoracic wall trauma or PLE; *Tissue* = collapsed/fluid-cell filled lung & airways; *ULRs* = interstitial lung fluid at LL, rules out pneumothorax at that point; *Wedge* = lung infarction, most often PTE.

Anaphylaxis = GB Halo without PCE, flat cava, high ALT, high PTT, hemoabdomen; **Elevated ALT** = if no trauma look for anaphylaxis, if trauma look for hemoabdomen; **Heartworm Disease** = possible pulmonary hypertension, possible ULR, possible shreds/wedges, possible nodules, possible right heart failure, may see worms on echo views; **Hemoabdomen** = AFS 1-2 - watch; AFS 3-4 - 25% need blood, 5% need surgery if trauma, all need surgery if post-op; **LA Rupture** – enlarged LA, PCE hemopericardium, LHF, thickened mitral valve; **Left Heart Failure (LHF) =** enlarged LA, possible low FS, ULRs, cat may have thick LV wall**; Pericardial Tamponade =** PCE, myocardial wave, fat cava, small LV lumen, obliterated RV lumen, GB halo**; Pneumothorax** = no glide sign, no lung rockets, A lines are present, no caval bounce at that point; look for LP ventrally; **Pulmonary Hypertension** = RV wall more than half thickness of LV wall, LVIDd:RVIDd <2-3, fat cava; **Right Heart Failure** = fat cava, GB halo, possible PCE, possible enlarged RVIDd;

Major Differential Diagnosis & Lesion Distribution Key:

DDx GB Halo = cholangiohepatitis, pancreatitis, cholangitis, anaphylaxis, MCT degranulation, PCE, RHF, IV fluid therapy, vasculitis, hypoproteinemia, IMHA, post blood transfusion; *DDx Nodules* = neoplasia, cyst, abscess, granuloma; *DDx PCE Dogs* – neoplasia > idiopathic, RHF > infectious, coagulopathy; *DDx PCE Cats* – CHF >> FIP, lymphoma; *DDx Resp Distress with Dry Lungs*: hypovolemic shock, upper airway obstruction, PTE, COPD, asthma, central lung disease, pericardial tamponade, arrhythmia, myocardial failure without severe CHF (DCM), anaphylaxis, fever/heat stroke, metabolic acidosis, severe anemia; *DDx Shred:* pneumonia, micrometastasis, pulmonary edema, pulmonary contusion; *DDx Tissue Sign:* consolidated pneumonia, pulmonary contusion, pulmonary ischemia, near drowning; *DDx ULRs*: blood - pulmonary contusion, coagulopathy, bleeding mass, heartworm disease; transudate – CHF, hypoalbuminemia, vasculitis; exudate – infectious pneumonia, caustic pneumonia, eosinophilic pneumonia, granulomatous pneumonia.

ULRs Cd & Ph = early LHF, early non-cardiogenic pulmonary edema; **ULRs Md** = aspiration pneumonia; **variable distribution** – coagulopathy, pulmonary contusions.