

Emergency Ultrasound Standard Reporting Guidelines

Contributors to the 2018 Emergency Ultrasound Standard Reporting Guidelines:

Rachel B. Liu, MD, FACEP, Chair, ACEP Emergency Ultrasound Section
Mike Blaivas, MD, FACEP, ACEP member at-large
Chris Moore, MD, FACEP, ACEP member at-large, author of the 2011 edition
Adam B. Sivitz, MD, ACEP member at-large
Matt Flannigan, DO, FACEP, ACEP Emergency Ultrasound Section Industry Subcommittee Co-Chair
Alfredo Tirado, MD, FACEP, ACEP member at-large, author of the 2011 edition
Vivek S. Tayal, MD, FACEP, ACEP Emergency Ultrasound Section Past Chair

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(This version replaces the October 2011 version)

Emergency Ultrasound Standard Reporting Guidelines: Introduction and Statement of Purpose Developed by members of the ACEP Emergency Ultrasound Section

These guidelines represent the product of a working group that was formed based on discussions at the Industry Roundtable subcommittee of the American College of Emergency Physicians (ACEP) Emergency Ultrasound Section. The impetus for these guidelines emerged from discussions with emergency ultrasound leaders and industry, both ultrasound manufacturers and electronic medical record (EMR) companies that indicated a need for a more structured method to report and communicate the findings of point-of-care emergency ultrasound (POCUS).

This document serves as a resource to clinicians with a wide range of experience, and as such may contain fields or terms that may not be appropriate in all situations or by all clinicians. It is important to note that these guidelines <u>in no way represent required elements of reporting</u>. In fact, in general these guidelines err on the side of including more fields than may be used by most emergency physicians, and it is expected that many fields may remain unused depending on the situations. The elements that are **BOLDED** represent the core emergency ACEP views, findings and interpretations for each application.

The purpose of these guidelines is to define fields that may be helpful for POCUS in a consistent order, with consistent definitions, and in a method that may be easily coded into electronic communications and computer databases. The goal of this document is to accurately report the findings that commonly result from an ultrasound performed by a clinician in the emergency department and to avoid confusion with reports generated by other specialties. These guidelines may be used to work with existing reporting structures such as DICOM and initiatives through the Integrated Health Enterprise (IHE) to develop consistent non-proprietary methods of reporting and communicating POCUS examination findings.

Exams delineated in prior editions:

| eFAST | Focused Biliary | |
|------------------------------------|-------------------------------------|--|
| Focused Abdominal Aorta | Focused Ocular | |
| Focused Cardiac (Echocardiography) | Focused Pelvic Ultrasound | |
| | Obstetrical | |
| | Non-obstetrical | |
| Focused Thoracic | Focused Soft Tissue/MSK | |
| Focused Renal/Urinary Tract | Focused Lower Extremity Venous | |

For guidelines related to Ultrasound-Guided Procedures, please refer to the ACEP document: Standard Reporting Guidelines: Ultrasound for Procedure Guidance, published May 2015.

In this 2018 version, the following examinations were added:

Bowel

Symptom-based hybrid evaluations (hypotension, chest pain & dyspnea, abdominal pain)

Testicular

Transesophageal Echocardiography

FORMAT

All diagnostic examinations should include:

- Patient/exam demographics
- Indications for examination
- Views

- Findings
- Interpretation
- Quality assurance

SAMPLE COMMON REPORT FORMAT

The first and last portions should be consistent across exam types and are presented here.

| $\mathbf{\nu}$ | 'atiant/ | avam | dama | aran | hice. |
|----------------|----------|--------|-------|------|-------|
| 1 | atient/ | CAAIII | ucino | ยาลม | mcs. |
| | | | | | |

| Patient name: |
|--|
| Patient gender: M F |
| DOB:// |
| MR#: |
| Bar Code/Patient Identifier: |
| Hospital Name: |
| Hospital Name: Date and time of exam:// |
| Exam type: |
| Diagnostic |
| Educational |
| Procedural |
| Clinical category: |
| Resuscitative |
| Symptom based |
| Therapeutic |
| Unknown/other |
| Initial exam |
| Repeat exam |
| |
| Primary person obtaining/ interpreting images: |
| Secondary person obtaining/ interpreting images: |
| Additional person(s) obtaining/ interpreting images: |

Ouality assurance:

| | 1 | 2 | 3 | 4 | 5 |
|------------------------------|--|-----------------------------|---|--|---|
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recognizable structures but | Minimal criteria met for diagnosis, recognizable structures but with some technical or other flaws | Minimal criteria met for diagnosis, all structures imaged well and diagnosis easily supported | Minimal criteria met for diagnosis, all structures imaged with excellent image quality and diagnosis completely supported |
| Accuracy of in | | nages as presented | | | FN FN |
| Comments: | | | | | |

EXTENDED FAST (EFAST) EXAM

| Patient exam | i demographics: |
|---------------|-----------------|
| Patient name: | |

| Patient name: | | | |
|---|-----------------------|------------|-----------------------|
| Patient gender: M F | | | |
| DOB:/ | | | |
| MR#: | | | |
| Bar Code/Patient Identifier: | | | |
| Hospital Name: | | | |
| Hospital Name: | / | | |
| Exam type: | <u> </u> | | |
| Diagnostic | | | |
| Educational | | | |
| Procedural | | | |
| Clinical category: | | | |
| Resuscitative | | | |
| Symptom based | | | |
| Therapeutic | | | |
| Unknown/other | | | |
| Initial exam | | | |
| Repeat exam | | | |
| repeat exam | | | |
| Primary person obtaining/interpre | ting images: | | |
| Secondary person obtaining/interpretable | | | |
| Additional person(s) obtaining/ interp | | | |
| raditional person(s) obtaining in | terpreting mage | · | |
| Indication(s) for exam: | | | |
| indication(s) for exam. | blunt trauma | | tachycardia |
| | penetrating trai | ıma | dyspnea |
| | abdominal pair | | altered mental status |
| | chest pain | I | pregnancy |
| | hypotension | | educational |
| | | | |
| | other | | |
| Views: | | | |
| Hepatorenal | < adaguata | < limited | I < not obtained |
| - | < adequate | | |
| Perisplenic | < adequate | < limited | |
| Suprapubic Pericardial | < adequate < adequate | < limited | |
| R thorax for fluid | 1 | | |
| | < adequate | < limited | |
| R thorax for lung sliding L thorax for fluid | < adequate | < limited | |
| | < adequate | < limited | |
| L thorax for lung sliding | < adequate | < limited | < not obtained |
| other: | | | |
| D212 | | | |
| Findings: | . 1 | | |
| Hepatorenal free fluid: | < absent | | indeterminate |
| Perisplenic free fluid: | < absent | | indeterminate |
| Suprapubic free fluid: | < absent | . | indeterminate |
| Right thoracic fluid: | < present | < absent < | indeterminate |

Right lung sliding: < present < absent < indeterminate lung point sign < yes < no Left thoracic fluid: < present < absent < indeterminate Left lung sliding: < present < absent < indeterminate < yes < no lung point sign Pericardial effusion: < present < absent < indeterminate < small < moderate size if present < present size not specified < large other: **Interpretation:** Peritoneal free fluid: < present < indeterminate < absent Pericardial effusion: < present < absent < indeterminate Right thoracic fluid: < present < absent < indeterminate Left thoracic fluid: < present < absent < indeterminate Right lung pneumothorax: < present < absent < indeterminate Left lung pneumothorax: < present < absent < indeterminate

Ouality assurance:

other: ____

| Juggested Quai | ity Assul ance G | aumg statt | | | - |
|------------------------------|--|---|---|--|---|
| | 1 | 2 | 3 | 4 | 5 |
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recognizable structures but | Minimal criteria met for diagnosis, recognizable structures but with some technical or other flaws | Minimal criteria met for diagnosis, all structures imaged well and diagnosis easily supported | Minimal criteria met for diagnosis, all structures imaged with excellent image quality and diagnosis completely supported |
| Image quality | 1 | 2 3 | 4 5 | | |
| • | * | nages as presented nages as compared | | P TN FP | FN |
| gold standard | (ie, CT, operative | report) | Т | P TN FP | FN |
| Comments: | | | | | |

FOCUSED ABDOMINAL AORTA

| Patient/ | exam demographics: | | | |
|-----------------------|---|-----------------------------|--------------------------------------|-----|
| Patient na | ame: | | | |
| Patient ge | ender: M F | | | |
| DOB: | / | | | |
| MR#: | e/Patient Identifier: | | | |
| Bar Code | e/Patient Identifier: | | | |
| Hospital 1 | Name: | | | |
| Date and | Name:// | | | |
| Exam typ | e: | | | |
| Diagno | estic | | | |
| Educati | ional | | | |
| Proced | ural | | | |
| Clinical o | category: | | | |
| Resusc | itative | | | |
| Sympto | om based | | | |
| Therap | eutic | | | |
| | wn/other | | | |
| Initial exa | am | | | |
| Repeat ex | xam | | | |
| Secondar Additiona | person obtaining/ interpreting ry person obtaining/ interpreti al person(s) obtaining/ interpreti | ng images: | | |
| <u>Indicatio</u> | on(s) for exam: | | | |
| | | dominal pain | syncope | |
| | | est pain | hypotensio | |
| | | ck pain | tachycardia | |
| | | nk pain | educationa | .I |
| | • | lsatile abdominal m ner: | | - |
| Views: | D | | e in a de mande | |
| | Proximal Transverse view | _ | - | |
| | Distal Transverse view: | | < inadequate | |
| | Sagittal view: Celiac artery: | < complete < visualized | < not visualized | |
| | • | < visualized < | < not visualized < not visualized | |
| | Superior mesenteric artery: Bifurcation: | < visualized | < not visualized < not visualized | |
| | Birurcation. | < visualized | < not visuanzed | |
| <u>Findings</u> | | | | |
| | Aneurysm: < present | | < indeterminate | |
| | If present: suprar | | frarenal both | ili |
| | Maximal aortic diameter: | | | |
| | other: | | | |

| Inter | pretation: |
|---------|-------------|
| 1111111 | pi ctation. |

| Sonographic Evid | ence for Aneurysm: < present | < absent | < indeterminate |
|------------------|------------------------------|----------|-----------------|
| If present: | cm transverse diameter | | |
| other: | | | |

Ouality assurance:

| uggested Quai | ity Assurance G | rading Scale | | | |
|------------------------------|--|-----------------------------|---|--|---|
| | 1 | 2 | 3 | 4 | 5 |
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recognizable structures but | Minimal criteria met for diagnosis, recognizable structures but with some technical or other flaws | Minimal criteria met for diagnosis, all structures imaged well and diagnosis easily supported | Minimal criteria met for diagnosis, all structures imaged with excellent image quality and diagnosis completely supported |
| | 1 nterpretation of in | | | P TN FP | FN |
| • | nterpretation of in (ie, CT, operative | | d to T | P TN FP | FN |
| Comments: | | | | | |

FOCUSED OBSTETRICAL PELVIC ULTRASOUND

| Patient/ | exam | demogra | nhics: |
|----------|------|---------|--------|
| | | | |

| Patient name: | | | | |
|--------------------|-----------------------------|------------------|-----------|----------------|
| Patient gender: | | | | |
| DOB:/ | / | | | |
| MR#: | | | | |
| Bar Code/Patient I | dentifier: | | | |
| Hospital Name: | | | | |
| Date and time of e | xam:// | | | |
| Exam type: | | | | |
| Diagnostic | | | | |
| Educational | | | | |
| Procedural | | | | |
| Clinical category: | | | | |
| Resuscitative | | | | |
| Symptom based | | | | |
| Therapeutic | | | | |
| Unknown/other | | | | |
| Initial exam | | | | |
| Repeat exam | | | | |
| | | | | |
| | taining/ interpreting imag | | | |
| | obtaining/ interpreting in | | | |
| Additional person(| (s) obtaining/ interpreting | g images: | | |
| | | | | |
| Indication(s) for | exam: | | | |
| | qualitative (urin | ne) hCG positive | back pa | in |
| | quantitative hC | G positive | vaginal | bleeding |
| | Level: _ | <u> </u> | | _ |
| | pregnant by pat | eient history | syncope | 2 |
| | abdominal pain | ı L | hypoter | nsion |
| | pelvic pain | | trauma | |
| | other: | | education | onal |
| | | | | |
| Views obtained: | | | | |
| Transa | abdominal sagittal | < adequate | < limited | < not obtained |
| Transa | abdominal transverse | < adequate | < limited | < not obtained |
| Endov | aginal sagittal | < adequate | < limited | < not obtained |
| Endov | aginal coronal | < adequate | < limited | < not obtained |
| Cul-de- | O | adequate | limited | not obtained |
| Left ad | nexa | adequate | limited | not obtained |
| Right a | dnexa | adequate | limited | not obtained |
| Hepato | renal space | adequate | limited | not obtained |
| | | | | |
| | | | | |

<u>Findings:</u>

| i ilimili 59. | | | | | | |
|---|--|---|------------------------|-------------|---------------|---------------|
| Uterus: | | anteverted | | | | indeterminate |
| Cul-de-sac: | | | | | | indeterminate |
| If fluid present: | small | moderate | large | amount | not specified | |
| Intrauterine Pregnancy If present: | : • | < present | < abs | sent | < indetern | ninate |
| < Yolk sac < Fetal pole < Fetal heart < Fetal motio Double d Gestation | M F n lecidual s nal sac | deasurement: HR:bpm | m | | | |
| | Diamet | ter:mm | | | | |
| Crown-rump-leng Biparietal diamet | le: 8 kness: gth: er: | m m m | inadeq m nm m | uate | | |
| Gestational a other: | | | | _a | | |
| Intrauterine conte | 1 1 1 | empty/endome non-specific en heterogeneous molar pregnan | ndometr endom | ial fluid c | | |
| c i | ovarian cy Diame Simp ovarian m ndetermi | ter:mm ole comple nass nate | · | | | |
| other: | | | | | | |
| C | varian cy Diame | ter:mm ole comple nass | | | | |
| | | 1 , | | | . 1 | tuk. |
| Hepatorenal space fluid: other: | | absent | pı | resent | indeterm | inate |

Interpretation:

- < no definitive intrauterine pregnancy
- < intrauterine pregnancy
- < live intrauterine pregnancy
- < indeterminate

abnormal intrauterine pregnancy

< molar pregnancy

fetal demise
definite ectopic
simple ovarian cyst
complex ovarian cyst
adnexal mass
free pelvic fluid
free intraperitoneal fluid

other:

Ouality assurance:

| | 1 | 2 | 3 | 4 | 5 |
|------------------------------|--|--|---|--|--|
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recognizable structures but | Minimal criteria met for diagnosis, recognizable structures but with some technical or other flaws | Minimal criteria met for diagnosis, all structures imaged well and diagnosis easily supported | Minimal criteria met for diagnosis all structures imaged with excellent image quality and diagnosis completely supported |
| • | * | 2 3 ages as presented ages as compared | | P TN FP | FN |
| • | (ie, CT, operative | | T | P TN FP | FN |
| omments: | | | | | |

FOCUSED Non-Obstetric PELVIC ULTRASOUND

| Patient/ exam demographic | Patient/ | exam | demogr | aphics |
|---------------------------|----------|------|--------|--------|
|---------------------------|----------|------|--------|--------|

| Patient name: | | | | |
|---------------------------------------|----------------------|-----------------|-------------|------------------|
| Patient gender: M F | | _ | | |
| DOB:/ | | | | |
| MR#: | | | | |
| Bar Code/Patient Identifier: | | | | |
| Hospital Name: | | | | |
| Hospital Name: Date and time of exam: | / | | | |
| Exam type: | | | | |
| Diagnostic | | | | |
| Educational | | | | |
| Procedural | | | | |
| Clinical category: | | | | |
| Resuscitative | | | | |
| | | | | |
| Symptom based | | | | |
| Therapeutic Unknown/other | | | | |
| | | | | |
| Initial exam | | | | |
| Repeat exam | | | | |
| D: 1, /: | | | | |
| Primary person obtaining/in | | | | |
| Secondary person obtaining | / interpreting ima | ges: | | |
| Additional person(s) obtain | ing/ interpreting in | mages: | | |
| T 11 (1 () 6 | | | | |
| Indication(s) for exam: | 1 | 1.00 | | |
| | qualitative (urine) | - | re | vaginal bleeding |
| | quantitative hCG | negative | | syncope |
| | abdominal pain | | | hypotension |
| | pelvic pain | | | trauma |
| | back pain | | | educational |
| | other: | | | |
| | | | | |
| Views obtained: | | | | |
| Transabdominal sagit | | adequate | limited | |
| Transabdominal trans | sverse | adequate | limited | not obtained |
| Endovaginal sagittal | | adequate | limited | not obtained |
| Endovaginal coronal | | adequate | limited | not obtained |
| Cul-de-sac | | adequate | limited | not obtained |
| Left adnexa | | adequate | limited | not obtained |
| Right adnexa | | adequate | limited | |
| Hepatorenal space | | adequate | limited | |
| other: | | 1 | | |
| | | | | |
| Findings: | | | | |
| Uterus: | anteverted | retro | verted | indeterminate |
| Endometrium: | empty endome | | | |
| | A . | etrial stripe m | ax thicknes | s: mm |
| | heterogeneous | • | | |
| | uterine fibroid | | | • |
| | Measur | | ım | |

12

No sonographic evidence of gynecological pathology. ovarian cyst: simple complex sonographic evidence suggestive of ovarian torsion adnexal mass fibroid(s) sonographic evidence of abnormal free fluid in the pelvis

Quality assurance:

| | 1 | 2 | 3 | 4 | 5 |
|------------------------------|--|-----------------------------|---|--|---|
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recognizable structures but | Minimal criteria met for diagnosis, recognizable structures but with some technical or other flaws | Minimal criteria met for diagnosis, all structures imaged well and diagnosis easily supported | Minimal criteria met for diagnosis, all structures imaged with excellent image quality and diagnosis completely supported |

| ACEP Emergency U Image quality | Jltrasound S 1 | tandard | Reportii | ng Guide 4 | elines 5 | | | | | 13 |
|-------------------------------------|-------------------|---------|----------|---------------|-------------|----|----|----|----|----|
| Accuracy of interp | | _ | | | J | TP | TN | FP | FN | |
| Accuracy of intergold standard (ie, | | _ | | ared to | | TP | TN | FP | FN | |
| Comments: | | | | | | | | | | |

FOCUSED BILIARY

| Patient name: | | | |
|---|--|--|-----------------------------|
| Patient gender: M F | | | |
| DOB:// | | | |
| MR#: | | | |
| Bar Code/Patient Identifier: | - | | |
| Hospital Name: | | | |
| Hospital Name:/ Date and time of exam:/ | / | | |
| Exam type: | | | |
| Diagnostic | | | |
| Educational | | | |
| Procedural | | | |
| Clinical category: | | | |
| Resuscitative | | | |
| Symptom based | | | |
| Therapeutic | | | |
| Unknown/other | | | |
| Initial exam | | | |
| Repeat exam | | | |
| Secondary person obtaining/ int Additional person(s) obtaining/ Indication(s) for exam: | abnormal labs abdominal pain jaundice other: | pancre fever educat | eatitis |
| Views obtained: | | | < not obtained |
| Gallbladder long axis: Gallbladder short axis: Common bile duct: Main lobar fissure: | visualized | < limited limited not visualized | < not obtained not obtained |
| Gallbladder long axis: Gallbladder short axis: Common bile duct: | < adequate adequate | < limited limited | < not obtained not obtained |
| Gallbladder long axis: Gallbladder short axis: Common bile duct: Main lobar fissure: | < adequate adequate visualized | < limited limited not visualized | < not obtained not obtained |

| Gallbladder wall: Wall thickn | thickened | not thickened mm | indetermin | nate | |
|--|---|-------------------------------------|----------------------------|----------|---|
| Pericholecystic f Sonographic M Common Bile D Largest Diamete | urphy's sign: | present < present normal | enlarged | < mm | indeterminate indeterminate indeterminate |
| Biliary Sludge: Polyp: Adenomyomatos Transverse gallb | sis ladder diameter: | present present present mm | absent absent absent | in in | determinate determinate determinate |
| Longitudinal gal other: | | | | | |
| < Cholelithias < Cholelithias | nt biliary patho is without sono is with sonogra evidence of aca ithiasis | graphic evidenc phic evidence o | f cholecysti | • | |

Ouality assurance:

| | 1 | 2 | 3 | 4 | 5 |
|------------------------------|---|-----------------------------|---|--|---|
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recognizable structures but | Minimal criteria met for diagnosis, recognizable structures but with some technical or other flaws | Minimal criteria met for diagnosis, all structures imaged well and diagnosis easily supported | Minimal criteria met for diagnosis, all structures imaged with excellent image quality and diagnosis completely supported |
| Accuracy of in | 1 aterpretation of im- aterpretation of im- (ie, CT, operative | ages as compared | d to | TP TN FP | FN FN |
| omments: | | | | | |

FOCUSED RENAL/URINARY TRACT

| Patient/ exam demograp | hics: | | | |
|---|--|------------|-----------|----------------------------------|
| Patient name: | | | | |
| Patient gender: M F | | | | |
| DOB:// | | | | |
| MR#: | | | | |
| Bar Code/Patient Identifie | r: | | | |
| Hospital Name: | | | | |
| Hospital Name: Date and time of exam: | / | | | |
| Exam type: | | | | |
| Diagnostic | | | | |
| Educational | | | | |
| Procedural | | | | |
| Clinical category: | | | | |
| Resuscitative | | | | |
| Symptom based | | | | |
| Therapeutic | | | | |
| Unknown/other | | | | |
| Initial exam | | | | |
| Repeat exam | | | | |
| Secondary person obtaining Additional person(s) obtain a distributed in the Additional person (s) for exam: | abdominal pain flank pain back pain hematuria urinary retention other: | es: | dysuria | enal failure vid |
| Views obtained: Right kidney long axis (o Right kidney short axis: | coronal): | < adequate | | < not obtained < not obtained |
| Left kidney long axis (co | ronal): | < adequate | < limited | < not obtained |
| Left kidney short axis: | | < adequate | < limited | < not obtained |
| Transverse bladder: | | < adequate | < limited | < not obtained |
| Sagittal bladder: | | < adequate | < limited | < not obtained |
| other: | | | | |
| D• 1• | | | | |
| Findings: | | | | |
| Right kidney | | | | 1.4 |
| Hydronephrosis: | | | | determinate |
| If present: | < mild < modera | | _ | nt degree unspecified |
| Hydoureter: | present | abser | | terminate |
| Kidney stones: | present | absei | n mae | terminate |

| ieli | If present: | | size of | f largest location chyma pelvis | stone:_ | | | mm | | |
|-----------------|---|----------------|------------------------|--|-----------------|----------|------------|---------------------------------|----------|--------------------------------------|
| | Renal Cyst | | | present | - | abs | ent | indeter | rminate | |
| | If present: | | < mile | d | < mo | derate | -110 | indeter < severe | | |
| | D | iameter: | m | m | | | | | | |
| | Extra-renal Pel Duplicated Ure | vis | | present | t | abs | ent | indeter | rminate | |
| other: _ | Duplicated Ure | | | | | abs | ent | indeter | rminate | |
| L eft ki | | | | | | | | | | |
| | Hydronephros | sis: | | < pres | ent | < a | bsen | t < inde | termina | te |
| | If present | t: < n | nild | < mode | rate · | < severe | ; | < present | degree ı | ınspecified |
| | Hydoureter: | | | present | Į | abs | ent | indeter | rminate | |
| | Hydoureter: Kidney stones: If present: | | | present | İ . | abs | ent | indeter | rminate | |
| | If present: | | size of | largest location | stone:_ (s): | | | mm | | |
| | | | parenc | hyma | | | | | | |
| | | | renal p | oelvis | | | | | | |
| | | | UPJ | | | | | | | |
| | | | Ureter UVJ | | | | | | | |
| | Renal Cyst | | | present | Į | abs | ent | indeter | rminate | |
| | If present: | | < mile | ď | < mo | derate | | indeter < severe | | |
| | D | iameter: | m | m | | | | | | |
| | Extra-renal Pel Duplicated Ure | vis | | present | Į | abs | ent | indeter | rminate | |
| . 41 | | | | | t | abs | ent | indeter | rminate | |
| Bladde | er Dimensions width: m Right ureteral j Left ureteral jet | et: | Height present present | :n | absent | | inde | _mm eterminate eterminate | | e:mL not assessed not assessed |
| [nterp | retation: | | c | 1.4 | | , ,• | | | | |
| | < No sonograp < Hydronephi | | | | | | | | | |
| | < mile | | | erate | | | | resent, deg | ree not | snecified |
| | Hydroureter pr | | · IIIou | left | · seve | right | , P | bilater | | specificu |
| | Nephrolithiasis parenchy | \$ | | left | | right | | bilater | | |
| | UPJ | | | | | | | | | |
| | UVJ | | | | | | | | | |
| | Renal Cyst | left Simple | | right comple | ex | bilater | al | | | |
| | < Bladder Siz | | | | | apsed | < n | ormal | | |
| other: | | | | - | | 1 | | | | |

Ouality assurance:

| | 1 | 2 | 3 | | | 1 | 5 |
|------------------------------|--|--|--|-------------------|---|---------------------------------------|---|
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recognizable structures but | Minimal criteria met for diagnos recognizable structures but w some technical other flaws | is, vith or | Minimal of met for di all structu imaged w diagnosis supported | agnosis, ares ell and easily | Minimal criteria met for diagnosis, all structures imaged with excellent image quality and diagnosis completely supported |
| | 1 nterpretation of im | 2 3 nages as presented ages as compare | | TP | TN | FP | FN |

pleural effusion:

FOCUSED THORACIC

The elements that are **BOLDED** represent the core emergency ACEP views, findings and interpretations for each application.

| Patient/ ex | kam den | <u> 10gr:</u> | aphics | • • | | | | | | | | |
|--------------|---------------------|---------------|-------------------------|--|-------|--------|-------------------|-----------------------|---|--------|--------|----------|
| Patient nan | ne: | | | | | | | | | | | |
| Patient gen | nder: | M | F | | | | | | | | | |
| DOB: | | | | | | | | | | | | |
| MR#: | | | | | | | | | | | | |
| Bar Code/I | Patient Io | lentif | fier: | | | | | | | | | |
| Hospital N | ame: | | | | | | | | | | | |
| Date and ti | me of ex | tam: | | // | | | | | | | | |
| Exam type | | | | | | | | | | | | |
| Diagnost | ic | | | | | | | | | | | |
| Educatio | nal | | | | | | | | | | | |
| Procedur | al | | | | | | | | | | | |
| Clinical ca | tegory: | | | | | | | | | | | |
| Resuscita | ative | | | | | | | | | | | |
| Sympton | n based | | | | | | | | | | | |
| Therapeu | ıtic | | | | | | | | | | | |
| Unknow | n/other | | | | | | | | | | | |
| Initial exar | n | | | | | | | | | | | |
| Repeat exa | ım | | | | | | | | | | | |
| Indication | (s) for e | <u>xam:</u> | dys che ple hy | spnea est pain eurisy poxia ner: | | | bli per edi | int t netr ucat | ension thoracic trating thoo tional | | ıuma | |
| | | | 001 | | | | | | | | | |
| Views: | | | | | | | _ | | | | | |
| | | | | erior thora | ix: | | adequate | | | | | |
| | U | | | ior thorax: | | | adequate | | | | | obtained |
| | | | | rior thorax | : | | adequate | | limited | | | obtained |
| | Lett late other: | | interio | or thorax: | | < ; | adequate | < | limited | < | not | obtained |
| | | | | | | | | | | | | |
| Findings: | | | | | | | | | | | | |
| _ | thorax | | | | | | | | | | | |
| | ng slidin | | | | < pre | | < ab | | | indete | | |
| | ng point | | | | pres | sent | abs | sent | | indete | mına | ite |
| | erstitiun | 1: | | | | 4 | | | | | | |
| | a-lines: | | | | _ | sent | | sent | | indete | | |
| | o-lines: | | | | • | sent | | sent | | indete | | |
| | terior/ su | _ | _ | | _ | | greater tha | | _ | | bsent | |
| ınt | erior/la | teral | region | : | pres | sent (| greater tha | n 3 | per view |) 8 | ıbsent | ί |

< present

< absent < indeterminate

| | 1 0 | | _ |
|----------------------------|------------|-------------------|-----------------|
| If present: < small | < large | < anechoic | < complex |
| Lung consolidation: | present | absent | indeterminate |
| Air bronchograms: | present | absent | indeterminate |
| Left thorax | | | |
| lung sliding: | < present | < absent | < indeterminate |
| lung point sign: | present | absent | indeterminate |
| Interstitium: | _ | | |
| a-lines: | present | absent | indeterminate |
| b-lines: | present | absent | indeterminate |
| anterior/ superior region: | present (g | reater than 3 per | view) absent |
| inferior/ lateral region: | present (g | reater than 3 per | view) absent |
| pleural effusion: | < present | < absent | < indeterminate |
| If present: < small | < large | < anechoic | < complex |
| Lung consolidation: | present | absent | indeterminate |
| Air bronchograms | present | absent | indeterminate |
| other: | - | | |

Interpretation:

< No sonographic evidence of acute pulmonary disease</p>

< Pneumothorax < left < right < bilateral < Pleural effusion < left < right < right < bilateral Alveolar interstitial syndrome (focal) Alveolar interstitial syndrome (diffuse)

Lung consolidation left right bilateral other:

Ouality assurance:

| | 1 | _ 2 | | | 3 | | | 1 | 5 |
|------------------------------|--|-------------------------|------------------|-----------------------------|--|--------|---|---------------------------------------|---|
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recogniza structures | ble but nt | met fo recogn structu | nal criteria r diagnosis nizable nres but wit rechnical on laws | h r | Minimal of met for di all structu imaged w diagnosis supported | agnosis, ares ell and easily | Minimal criteria met for diagnosis, all structures imaged with excellent image quality and diagnosis completely supported |
| | 1 atterpretation of important temperation of important in the second sec | | | • | 5 | TP | TN | FP | FN |
| • | (ie, CT, operative | _ | 1 | | | TP | TN | FP | FN |
| Comments: | | | | | | | | | |

FOCUSED LOWER EXTREMITY VENOUS

The elements that are **BOLDED** represent the core emergency ACEP views, findings and interpretations for each application.

| Patient/ exam demographic | <u>:s:</u> | | |
|--|--------------------------|----------|-----------|
| Patient name: | | | |
| Patient name:Patient gender: M F | | | |
| DOB:// | | | |
| MR#:Bar Code/Patient Identifier: | | | |
| Bar Code/Patient Identifier:_ | _ | | |
| Hospital Name: Date and time of exam: | | | |
| Date and time of exam: | | | |
| Exam type: | | | |
| Diagnostic | | | |
| Educational | | | |
| Procedural | | | |
| Clinical category: | | | |
| Resuscitative | | | |
| Symptom based | | | |
| Therapeutic | | | |
| Unknown/other Initial exam | | | |
| | | | |
| Repeat exam | | | |
| Primary person obtaining/ int | ternreting images: | | |
| Secondary person obtaining/ | interpreting images. | | |
| Additional person(s) obtaining | no/ interpreting images. | es. | |
| redictional person(s) column | ig microproting mag | <u> </u> | |
| Indication(s) for exam: | | | |
| | g pain: left | right | bilateral |
| • | g swelling: left | • | |
| | g erythema: left | | |
| • | yspnea | J | |
| | chypnea | | |
| ple | eurisy | | |

educational

| <u>Views:</u> | | | |
|--------------------------------|--|------------------|----------------|
| Right saphenofemoral junction: | <adequate< td=""><td>limited</td><td>< not obtained</td></adequate<> | limited | < not obtained |
| Right common femoral vein: | <adequate< td=""><td>limited</td><td>< not obtained</td></adequate<> | limited | < not obtained |
| Right femoral vein: | <adequate< td=""><td>limited</td><td>< not obtained</td></adequate<> | limited | < not obtained |
| Right popliteal vein: | <adequate< td=""><td>limited</td><td>< not obtained</td></adequate<> | limited | < not obtained |
| Right popliteal trifurcation: | <adequate< td=""><td>limited</td><td>< not obtained</td></adequate<> | limited | < not obtained |
| Left saphenofemoral junction: | <adequate< td=""><td>limited</td><td>< not obtained</td></adequate<> | limited | < not obtained |
| Left common femoral vein: | <adequate< td=""><td>limited</td><td>< not obtained</td></adequate<> | limited | < not obtained |
| Left femoral vein: | <adequate< td=""><td>limited</td><td>< not obtained</td></adequate<> | limited | < not obtained |
| Left popliteal vein: | <adequate< td=""><td>limited</td><td>< not obtained</td></adequate<> | limited | < not obtained |
| Left popliteal trifurcation: | <adequate< td=""><td>limited</td><td>< not obtained</td></adequate<> | limited | < not obtained |
| thon | | | |

other: _____

Findings:

Right leg

Saphenofemoral junction: < compressible < NOT compressible < indeterminate
other:

Left leg

Saphenofemoral junction: < compressible < NOT compressible < indeterminate
other: ___

Interpretation:

< no sonographic evidence of deep vein thrombosis

< DVT present

Location(s):

< R saphenofemoral junction < L saphenofemoral junction

< R CFV < L CFV < L FV < L FV < L popliteal

< R popliteal trifurcation < L popliteal trifurcation

< indeterminate for DVT

other:

Quality assurance:

| | 1 | 2 | 3 | | | 1 | 5 |
|------------------------------|--|-----------------------------|--|-------------------------|---|--------------------------------------|---|
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recognizable structures but | Minimal cri met for diag recognizabl structures b some techni other flaws | gnosis, e ut with | Minimal of met for di all structu imaged w diagnosis supported | agnosis, res ell and easily | Minimal criteria met for diagnosis, all structures imaged with excellent image quality and diagnosis completely supported |
| Accuracy of ir | 1 aterpretation of image in terpretation of image (ie, CT, operative) | nages as compare | | TI TI | | FP FP | FN FN |

FOCUSED TRANSTHORACIC CARDIAC ULTRASOUND

| Evidence of tamponade | | | | |
|---|------------------------------|--|--------------------|--------------------|
| if present < small | < moderat | e < large | | size not specified |
| <u>Findings:</u> Pericardial effusion: | oresent < | absent | < indeterminate | e size |
| other: | | | | |
| Apical four-chamber: | | <adequate< th=""><th>dimited</th><th>< not obtained</th></adequate<> | dimited | < not obtained |
| Subxiphoid (long axis, IVC | view): | <adequate< th=""><th>dimited</th><th>< not obtained</th></adequate<> | dimited | < not obtained |
| Parasternal short axis: | | <adequate< th=""><th>limited</th><th>< not obtained</th></adequate<> | limited | < not obtained |
| Parasternal long axis: | | <adequate< th=""><th>limited</th><th>< not obtained</th></adequate<> | limited | < not obtained |
| Subxiphoid (4 chamber): | | <adequate< th=""><th>limited</th><th>< not obtained</th></adequate<> | limited | < not obtained |
| Views: | | | | |
| | | | | |
| | | | | i paipitations |
| | achycardia | Jani | | l palpitations |
| | nest pain hortness of bro | eath | tachypnea fever | |
| | hock hest pain | | syncope | |
| | ypotension | | dyspnea | |
| | ardiac arrest | | chest wall | ınjury |
| Indication(s) for exam: | 41 | | | |
| Secondary person obtaining/ interpre Additional person(s) obtaining/ inter | | | | |
| Primary person obtaining/ interpreting | | | | |
| repeat exam | | | | |
| Initial exam Repeat exam | | | | |
| Unknown/other | | | | |
| Therapeutic | | | | |
| Symptom based | | | | |
| Resuscitative | | | | |
| Clinical category: | | | | |
| Procedural | | | | |
| Educational | | | | |
| Diagnostic | | | | |
| Exam type: | | | | |
| Hospital Name: Date and time of exam:/ | / | | | |
| Hospital Name: | | | | |
| MR#: Bar Code/Patient Identifier: | | | | |
| DOB:// | | | | |
| Patient gender: M F | | | | |
| Patient name: | | | | |
| D. (*) | | | | |
| Patient/ exam demographics: | | | | |

| ACEP Emergency Ultrasound Standard Reporting Guidelines Global Ventricular Function: < hyperdynamic < normal < reduced < severely reduced |
|---|
| Sobbat Ventricular Function. < hyperdynamic < normal < reduced < severely reduced < asystole < indeterminate |
| Right Ventricular Size: < normal < dilated < indeterminate Signs of RV strain |
| RV hypokinesis |
| Paradoxical septal motion |
| McConnell's Sign |
| Tricuspid regurgitation |
| Max velocity:m/s RV hypertrophy |
| Thoracic aorta: normal dilated indeterminate |
| Aortic root:mm Thoracic aorta diameter:mm |
| |
| IVC: < normal < dilated < collapsed < indeterminate Maximum diameter:mm Minimum diameter:mm |
| Collapse: >50% <50% |
| other: |
| Interpretation: |
| < No sonographic evidence of significant cardiac dysfunction |
| < No sonographic evidence of significant pericardial effusion |
| < Pericardial effusion |
| <pre> < small < moderate < large < present size not specified < Pericardial effusion with evidence of pericardial tamponade</pre> |
| < Global ventricular function: |
| Stobal ventricular function: |
| < No cardiac activity/ Cardiac standstill |
| < No sonographic evidence of RV size dilation |
| < RV dilation |
| < No sonographic evidence of volume depletion |
| < Sonographic findings suggestive of volume depletion |
| < Dilated IVC |
| < No evidence of sonographic aortic root dilation |

Quality assurance:

other: _____

| | 1 | 2 | 3 | 4 | 5 |
|------------------------------|--|-----------------------------|---|--|---|
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recognizable structures but | Minimal criteria met for diagnosis, recognizable structures but with some technical or other flaws | Minimal criteria met for diagnosis, all structures imaged well and diagnosis easily supported | Minimal criteria met for diagnosis, all structures imaged with excellent image quality and diagnosis completely supported |

| ACEP Emergency Ultrasound Standard Reporting Guidelines | | | | | | | | | | 25 |
|---|-------------|----------|----|----|---|----|----|----|----|----|
| Image quality | 1 | 2 | 3 | 4 | 5 | | | | | |
| Accuracy of interpr | TP | TN | FP | FN | | | | | | |
| Accuracy of interpr | | | | | | | | | | |
| gold standard (ie, C | T, operativ | ve repor | t) | | | TP | TN | FP | FN | |
| | | | | | | | | | | |
| Comments: | | | | | | | | | | |

FOCUSED TRANSESOPHAGEAL CARDIAC ULTRASOUND

| <u>Patient/ exam</u> | demog | <u>raphic</u> | s: |
|----------------------|-------|---------------|----|
| Patient name: | | | |
| T. 1 | 3.6 | - | |

| Patient name: | | | | |
|---|--------------------|--|------------------|-------------------|
| Patient gender: M F | | | | |
| DOB:// | | | | |
| MR#: | | | | |
| Bar Code/Patient Identifier: | | | | |
| Hospital Name: | _ | | | |
| Hospital Name: | | | | |
| Exam type: | | | | |
| Diagnostic | | | | |
| Educational | | | | |
| Procedural | | | | |
| Clinical category: | | | | |
| Resuscitative | | | | |
| Symptom based | | | | |
| Therapeutic | | | | |
| Unknown/other | | | | |
| Initial exam | | | | |
| Repeat exam | | | | |
| | | | | |
| Primary person obtaining/interpre | ting images: | | | |
| Secondary person obtaining/interp | oreting images: | | | |
| Additional person(s) obtaining/ int | erpreting images: | | | |
| | | | | |
| Indication(s) for exam: | | | | |
| | cardiac arrest | | chest wall in | njury |
| | hypotension | | dyspnea | |
| | shock | | syncope | |
| | chest pain | | tachypnea | |
| | shortness of breat | th | fever | |
| | arrhythmia | | | |
| | other: | | | |
| | | | | |
| <u>Views:</u> | | | .31 1/ 3 | |
| Mid-esophageal 4-chambe | | _ | dimited | |
| Mid-esophageal long axis: | • | <adequate< td=""><td></td><td></td></adequate<> | | |
| Mid-esophageal bicaval: | | | limited | < not obtained |
| Transgastric short axis: | | <adequate< td=""><td>limited</td><td>< not obtained</td></adequate<> | limited | < not obtained |
| other: | | | | |
| Findings. | | | | |
| <u>Findings:</u> Pericardial effusion: | < nuagant | < absort | < indotowning | ata siza |
| | < present | | < indetermina | |
| if present < small | < moderate | < large | < present s | ize not specified |
| Evidence of tamponade | < SVC pleth | | | |
| | < R atrial co | mapse ular collapse | | |
| | | mar conapse mitral inflow | variation | |
| | - Excessive | muu ai iiiii0W | v ai iauuli | |

| Global Ventricular Funct | ion: < hyperdynamic < asystole | < normal < reduced < indeterminate | < severely reduced |
|---|--------------------------------|---|--------------------|
| Right Ventricular Size: | < normal < dila | ted < indeterminate | |
| Signs of R | | | |
| Ī | RV hypokinesis | | |
| I | Paradoxical septal motion | | |
| | McConnell's Sign | | |
| | Fricuspid regurgitation | | |
| | Max velocity:m | n/s | |
| I | RV hypertrophy | | |
| Thoracic aorta: | normal dilated | indeterminate | |
| | Aortic root:mm | | |
| | Thoracic aorta diameter: | _mm | |
| | | | |
| Cardiac Thrombus | absent present | indeterminate | |
| Loc | eation: | | |
| | | | |
| Max Mini | <pre> < dilated</pre> | | |
| 41 | psc. | 5070 | |
| < No sonographic evic < Pericardial effusion < small < mo | | dial effusion < present size not specified | |
| < Global ventricular f | _ | | |
| < hyperdynamic | < normal < re | educed < severely reduced | |
| < No cardiac activity/ | | · | |
| | lence of RV size dilation | | |
| < RV dilation | | | |
| < Cardiac Thrombus | | | |
| < No sonographic evid | dence of volume depletion | | |
| U | gs suggestive of volume dep | letion | |
| < Dilated SVC | • | | |
| < No evidence of sono | graphic aortic root dilation | 1 | |
| < Dilated Aortic Root | | | |
| other: | | | |

Ouality assurance:

| | 1 | 2 | 3 | 4 | 5 |
|------------------------------|--|--|---|--|---|
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recognizable structures but | Minimal criteria met for diagnosis, recognizable structures but with some technical or other flaws | Minimal criteria met for diagnosis, all structures imaged well and diagnosis easily supported | Minimal criteria met for diagnosis, all structures imaged with excellent image quality and diagnosis completely supported |
| | | 2 3 mages as presented mages as compared | | P TN FP | FN |
| • | (ie, CT, operative | | T | P TN FP | FN |
| omments: | | | | | |

Patient/ exam demographics:

SOFT TISSUE/MUSCULOSKELETAL

| Patient name: | | | | | | |
|-------------------|----------|------------------------------------|----------|------------|----------------|-----------------|
| Patient gender: | M | F | | | | |
| DOB:/ | / | - | | | | |
| MR#: | | _ | | | | |
| | Identi | fier: | | | | |
| Hospital Name:_ | | | | | | |
| Date and time of | exam: | // | | | | |
| Exam type: | V/IMIIII | | _ | | | |
| Diagnostic | | | | | | |
| Educational | | | | | | |
| Procedural | | | | | | |
| Clinical category | : | | | | | |
| Resuscitative | | | | | | |
| Symptom base | d | | | | | |
| Therapeutic | | | | | | |
| Unknown/other | r | | | | | |
| Initial exam | | | | | | |
| Repeat exam | | | | | | |
| • | | | | | | |
| Indication(s) for | | otaining/ interpreti L: Mass | | | ed Range of Mo | ion |
| Red | ness | Fever | | Deformit | | lon |
| | | | n Body | | • | |
| | | | • | | | |
| othe | · | | | | | |
| Views: | | | | | | |
| | nd sul | ocutaneous tissu | e: | < adequate | < limited | < not obtained |
| Muscle | | | | adequate | | not obtained |
| Tendo | n: | | | adequate | limited | not obtained |
| Joint: | | | | | limited | not obtained |
| Bone: | | | | | limited | not obtained |
| other: | | | | • | | |
| | | | | | | |
| <u>Findings:</u> | | | | | | |
| Skin | and su | ıbcutaneous tissu | ıe: | | | |
| | Γissue | thickness | | normal | thickened | indeterminate |
| |] | Thicknessm | m | | | |
| - | Γissue | Echogenicity | | normal | increased | indeterminate |
| (| Cobble | estoning | | < normal | < increased | < indeterminate |
| \$ | Subcut | taneous Collectio | n | < present | < absent | < indeterminate |
| | I | f present | Diameter | mm | | |

| | Muscle: | | - | | | |
|--------|--------------|----------------|----------|----------------------|---------|---------------|
| | App | pearance | normal | irregular | | indeterminate |
| | Echogenicity | | normal | increased | | indeterminate |
| | Collection | | present | absent | | indeterminate |
| | Tendon: | | | | | |
| | Арр | pearance | normal | irregular | | indeterminate |
| | Def | ect | present | absent | | indeterminate |
| | Joint: | fluid | no fluid | indete | rminate | |
| | Bone: | | | | | |
| | Cor | tex Appearance | normal | irregular | indeter | minate |
| | | If irregular | aligned | angulated/misaligned | | |
| other: | | | | | | |

Interpretation:

< No sonographic evidence of soft tissue abnormality

No sonographic evidence of musculoskeletal abnormality

| <pre>< location:</pre> | | |
|---------------------------|--------------------|----------------------------|
| location: | _ | |
| location: | _ | |
| complete | partial | indeterminate |
| location: | • | |
| | location: complete | location: complete partial |

Ouality assurance:

Suggested Quality Assurance Grading Scale

Ouality assurance:

| | 1 | 2 | 3 | 4 | 5 |
|------------------------------|--|-----------------------------|---|--|---|
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recognizable structures but | Minimal criteria met for diagnosis, recognizable structures but with some technical or other flaws | Minimal criteria met for diagnosis, all structures imaged well and diagnosis easily supported | Minimal criteria met for diagnosis, all structures imaged with excellent image quality and diagnosis completely supported |
| | 1 aterpretation of im | | | P TN FP | FN |
| | iterpretation of im (ie, CT, operative | | d to | P TN FP | FN |
| `omments: | | | | | |

OCULAR

| Patient/exam demographics: | | |
|----------------------------------|--|---|
| Patient name: | | |
| Patient gender: M F | | |
| DOB:/ | | |
| MR#: | | |
| MR#:Bar Code/Patient Identifier: | | |
| Hospital Name: | | |
| Hospital Name: | _/ | |
| Exam type: | _ | |
| Diagnostic | | |
| Educational | | |
| Procedural | | |
| Clinical category: | | |
| Resuscitative | | |
| Symptom based | | |
| Therapeutic | | |
| Unknown/other | | |
| Initial exam | | |
| Repeat exam | | |
| | eye pain eye/orbital trauma vision change visual loss other: | head injury suspected foreign body headache educational |
| Views: | | |
| | < adequate < limited | < not obtained |
| Right eye longitudinal: | < adequate < limited | |
| Left eye transverse: | < adequate < limited | |
| Left eye longitudinal: | < adequate < limited | |
| other: | <u>.</u> | |
| Findings: | | |
| Right eye | | |
| Retinal contour: | < normal < abnorn | nal/ detached < indeterminate |
| Lens: | normally located dislodg | |
| Vitreous body: | • | choic density < indeterminate |
| Optic nerve sheath: | | eterminate |
| ONSD:m | \mathcal{E} | |
| other: | | |

| | eft eye | andara reporting data | 0111105 | | | |
|-----------|--|---|------------------|---|--------------------------------------|-------|
| L | Retinal contour: Lens: Vitreous body: Optic nerve sheath: | < normal normally located < anechoic enlarged norm mm | disloc < hype | rmal/ detached dged rechoic density adeterminate | < indeterm indeterm < indetern | inate |
| other: | 01\0D. <u></u> | •••• | | | | |
| Interpret | tation: <no abnormal<="" acute="" th=""><th>lities identified</th><th></th><th></th><th></th><th></th></no> | lities identified | | | | |
| | <retinal detachmer<="" th=""><th>nt</th><th>< left</th><th>< right</th><th>< bilateral</th><th></th></retinal> | nt | < left | < right | < bilateral | |
| | Lens dislocation | | left | right | bilateral | |
| | <vitreous hemorrh<="" td=""><td>age</td><td>< left</td><td>< right</td><td>< bilateral</td><td></td></vitreous> | age | < left | < right | < bilateral | |
| | Intraocular Foreign | body | left | right | bilateral | |
| | Increased ONSD other: | | left | right | bilateral | |

Ouality assurance:

| | 1 | 2 | 3 | | 4 | 4 | 5 |
|------------------------------|--|-----------------------------|---|---------------------------------|---------|--------------------------------------|--|
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recognizable structures but | Minimal criteria met for diagnosis recognizable structures but wit some technical of other flaws | s, me all th ima r dia | structu | agnosis, res ell and easily | Minimal criteria met for diagnosis all structures imaged with excellent image quality and diagnosis completely supported |
| Accuracy of in | 1 nterpretation of im nterpretation of im | nages as compare | | TP | TN | FP | FN |
| gold standard | (ie, CT, operative | report) | | TP | TN | FP | FN |

FOCUSED BOWEL EXAMINATION

Patient/ exam demographics:

| Patient name: | | | |
|---|--|--|--|
| Patient gender: M F | | | |
| DOB:// | | | |
| MR#: | | | |
| Bar Code/Patient Identifier: | | | |
| Hospital Name: | | | |
| Date and time of exam:/ | | | |
| Exam type: | | | |
| Diagnostic | | | |
| Educational | | | |
| Procedural | | | |
| Clinical category: | | | |
| Resuscitative | | | |
| Symptom based | | | |
| Therapeutic | | | |
| Unknown/other | | | |
| Initial exam | | | |
| | | | |
| Repeat exam | | | |
| Drimary parson obtaining/interpre | otina ima assi | | |
| Primary person obtaining/interpre | | | |
| Secondary person obtaining/interp | | | |
| Additional person(s) obtaining/ in | terpreting images: | | |
| Indication(s) for avama | | | |
| Indication(s) for exam: | ah daminal main | | |
| | abdominal pain | | |
| | .1. 1 | | |
| | abdominal tenderness | • | • |
| | abdominal bruising | diarrhea | • |
| | abdominal bruising abdominal distension | diarrhea fever | ı |
| | abdominal bruising abdominal distension abdominal mass | diarrhea fever GI bleed | ı |
| | abdominal bruising abdominal distension | diarrhea fever GI bleed | ı |
| | abdominal bruising abdominal distension abdominal mass | diarrhea fever GI bleed | ı |
| <u>Views:</u> | abdominal bruising abdominal distension abdominal mass | diarrhea fever GI bleed | ı |
| | abdominal bruising abdominal distension abdominal mass other: | diarrhea fever GI bleed | ı |
| Concerns for appendicitis | abdominal bruising abdominal distension abdominal mass other: | diarrhea fever GI bleed | ding |
| Concerns for appendicitis Right lower quadrant | abdominal bruising abdominal distension abdominal mass other: < adequate | diarrhea fever GI bleed | ding < not obtained |
| Concerns for appendicitis Right lower quadrant Appendix short | abdominal bruising abdominal distension abdominal mass other: < adequate axis < adequate | diarrhea fever GI bleed < limited < limited | ding < not obtained < not obtained |
| Concerns for appendicitis Right lower quadrant Appendix short Appendix long axis | abdominal bruising abdominal distension abdominal mass other: | diarrhea fever GI bleed < limited < limited < limited | <pre>ding < not obtained < not obtained < not obtained < not obtained</pre> |
| Concerns for appendicitis Right lower quadrant Appendix short Appendix long axis Blind end | abdominal bruising abdominal distension abdominal mass other: < adequate < adequate < adequate < adequate < adequate | diarrhea fever GI bleed < limited < limited < limited < limited < limited | <pre> < not obtained < not obtained</pre> |
| Concerns for appendicitis Right lower quadrant Appendix short Appendix long axis Blind end Psoas / Iliac landmarks | abdominal bruising abdominal distension abdominal mass other: | diarrhea fever GI bleed < limited < limited < limited | <pre>ding < not obtained < not obtained < not obtained < not obtained</pre> |
| Concerns for appendicitis Right lower quadrant Appendix short Appendix long axis Blind end | abdominal bruising abdominal distension abdominal mass other: < adequate < adequate < adequate < adequate < adequate | diarrhea fever GI bleed < limited < limited < limited < limited < limited | <pre> < not obtained < not obtained</pre> |
| Concerns for appendicitis Right lower quadrant Appendix short Appendix long axis Blind end Psoas / Iliac landmarks Other: | abdominal bruising abdominal distension abdominal mass other: < adequate axis < adequate | diarrhea fever GI bleed < limited < limited < limited < limited < limited | <pre> < not obtained < not obtained</pre> |
| Concerns for appendicitis Right lower quadrant Appendix short Appendix long axis Blind end Psoas / Iliac landmarks Other: Concern for bowel obstruction | abdominal bruising abdominal distension abdominal mass other: < adequate axis < adequate | diarrhea fever GI bleed < limited | ding ont obtained |
| Concerns for appendicitis Right lower quadrant Appendix short Appendix long axis Blind end Psoas / Iliac landmarks Other: Concern for bowel obstruct Right upper quadrant | abdominal bruising abdominal distension abdominal mass other: | diarrhea fever GI bleed < limited | <pre> < not obtained < not obtained</pre> |
| Concerns for appendicitis Right lower quadrant Appendix short Appendix long axis Blind end Psoas / Iliac landmarks Other: Concern for bowel obstruct Right upper quadrant Left upper quadrant | abdominal bruising abdominal distension abdominal mass other: | diarrhea fever GI bleed < limited | <pre></pre> |
| Concerns for appendicitis Right lower quadrant Appendix short Appendix long axis Blind end Psoas / Iliac landmarks Other: Concern for bowel obstruct Right upper quadrant Left upper quadrant Right lower quadrant | abdominal bruising abdominal distension abdominal mass other: | diarrhea fever GI bleed < limited | ding Interpretation of the content of the |
| Concerns for appendicitis Right lower quadrant Appendix short Appendix long axis Blind end Psoas / Iliac landmarks Other: Concern for bowel obstruct Right upper quadrant Left upper quadrant Right lower quadrant Left lower quadrant | abdominal bruising abdominal distension abdominal mass other: < adequate axis | diarrhea fever GI bleed < limited | ding ont obtained |
| Concerns for appendicitis Right lower quadrant Appendix short Appendix long axis Blind end Psoas / Iliac landmarks Other: Concern for bowel obstruct Right upper quadrant Left upper quadrant Right lower quadrant | abdominal bruising abdominal distension abdominal mass other: | diarrhea fever GI bleed < limited | ding Interpretation of the content of the |

| Concern for pyloric stenos | is: | | | |
|---|------------|--------------------------|--------------------------|--------------------|
| Epigastrium | | < adequate | < limited | < not obtained |
| Pylorus short axis | | < adequate | < limited | < not obtained |
| Pylorus long axis | | < adequate | < limited | < not obtained |
| Other: | | | | |
| Concern for diverticulitis: | | | | |
| Right lower quadrant | | < adequate | < limited | < not obtained |
| Periumbilical area | | < adequate | < limited | < not obtained |
| Suprapubic | | < adequate | < limited | < not obtained |
| Left lower quadrant | | < adequate | < limited | < not obtained |
| Other: | | - | | |
| Concern for GI Bleed: | | | | |
| Left upper quadrant | | < adequate | < limited | < not obtained |
| Stomach | | < adequate | < limited | < not obtained |
| Left lower quadrant | | < adequate | < limited | < not obtained |
| Right upper quadrant | | < adequate | < limited | < not obtained |
| Right lower quadrant | | < adequate | < limited | < not obtained |
| Other: | = | | | |
| | | | | |
| Findings: | | | | |
| Appendicitis: | | | | |
| Appendix diameter (> 6n | nm): | < absent | < present | < indeterminate |
| Measurement: | | | | |
| Appendix Compressibilit | y : | < absent | < present | < indeterminate |
| Target sign (short axis): | < absent | < present | < indetermin | nate |
| Appendicolith: | < absent | < present | < indetermin | |
| Doppler findings: | < ischemia | < normal | < hyperemia | indeterminate |
| Bowel Obstruction: | | | | |
| Bowel loop diameter: | | Location: |] | Measurement: |
| Wall edema or fluid | | < absent | <pre> < present</pre> | |
| Peristalsis: | | < absent | < present | < indeterminate |
| "To-and-fro" of contents | • | < present | < absent | < indeterminate |
| * | | | | |
| Intussusception: | ama). | < al t | / mm = = = = + | / in datamasia ata |
| Bowel loop diameter (> 4 c Location: | , | < absent Measurement: | < present | < indeterminate |
| Telescoping appearance: | | < absent | < present | < indeterminate |
| Target sign: | | < absent | < present | < indeterminate |
| Pseudokidney/sandwich s | sign: | < absent | < present | < indeterminate |
| Hayfork sign: | | < absent | < present | < indeterminate |
| Doppler findings: | < ischemia | < normal | | < indeterminate |

| Pyloric Stenosis: Pyloric muscle wall dia Measurement: _ Pyloric Channel length Measurement: _ | n (>15mm): | < absent | < present | < indeterminate < indeterminate |
|---|--|--|---|---|
| Diverticulitis: Bowel wall thickening (| > 4 mm): < abse | nt | < present | < indeterminate |
| Measurement: Hypoechoic diverticult Surrounding echogenic Noncompressible fat: Target sign: Pseudokidney sign: | um: | < absent < present < present < absent < absent | <pre>< present < absent < absent < present < present</pre> | < indeterminate < indeterminate < indeterminate < indeterminate < indeterminate |
| Upper GI Bleed: Heterogenous gastric co Volume (mL): | | <pre><pre>present</pre></pre> | < absent | < indeterminate |
| Simple free fluid: Complex fluid collection: Extramural free air: Abdominal wall defect: Other: | <pre>< present < present < present < present</pre> | < absent < absent < absent < absent | < indeterm < indeterm < indetermi < indetermi | inate nate |
| Interpretation: No significant findings Bowel obstruction Upper GI bleed Hernia Inflammation – appen Inflammation – divert Intussusception Intraabdominal absces Perforation (free fluid Pyloric stenosis | dicitis iculitis ss | | | |

Ouality assurance:

Suggested Quality Assurance Grading Scale

Other: _____

| | 1 | 2 | 3 | 4 | 5 |
|------------------------------|--|--------------------------------|---|--|---|
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recognizable structures but | Minimal criteria met for diagnosis, recognizable structures but with some technical or other flaws | Minimal criteria met for diagnosis, all structures imaged well and diagnosis easily supported | Minimal criteria met for diagnosis, all structures imaged with excellent image quality and diagnosis completely supported |

| Image quality | 1 | 2 | 3 | 4 | 5 | | | | |
|--------------------|--------------|----------|------------|---------|---|----|----|----|----|
| Accuracy of interp | retation of | images a | s preser | nted | | TP | TN | FP | FN |
| Accuracy of interp | retation of | images a | is compa | ared to | | | | | |
| gold standard (ie, | CT, operativ | e repor | :) | | | TP | TN | FP | FN |
| | | | | | | | | | |
| Comments: | | | | | | | | | |

FOCUSED TESTICULAR EXAMINATION

Patient/ exam demographics:

| Patient name: | | | |
|---|--------------------------------|---------------------------|---------------------------|
| Patient gender: M F | | | |
| DOB:// | | | |
| MR#: | | | |
| Bar Code/Patient Identifier: | | | |
| Hospital Name: | | | |
| Exam type: | | | |
| Diagnostic | | | |
| Educational | | | |
| Procedural | | | |
| Clinical category: | | | |
| Resuscitative | | | |
| Symptom based | | | |
| Therapeutic Unknown/other | | | |
| Initial exam | | | |
| Repeat exam | | | |
| 1 | | | |
| Primary person obtaining/interpre | eting images: | | |
| Secondary person obtaining/interp | preting images: | | |
| Additional person(s) obtaining/ in | terpreting images: | | |
| Indication(s) for exam: | | | |
| | lar pain | abnormal testic | ular lie |
| | lar swelling lar tenderness | testicular mass hernia | |
| groin p | | scrotal trauma | |
| | | | |
| Views obtained: | | | |
| | | | |
| Right testicle sagittal without I | | limited | |
| Right testicle transverse without | 11 1 | | not obtained |
| Right testicle with Doppler Left testicle sagittal without D | adequate oppler adequate | limited limited | not obtained not obtained |
| Left testicle transverse without | | limited | not obtained |
| Left testicle with Doppler | adequate | limited | not obtained |
| other: | • | | _ |
| Findings: | | | |
| Dight hydrogolo | ahsant | nwasant | indeterminate |
| Right hydrocele: Right testicular Color flow: | absent absent | present present | indeterminate |
| Right testicular Spectral flow: | absent | present | indeterminate |
| Resistive index: | | 1 | |
| Right epidydimal flow: | | | leterminate |
| Right testicle appearance: | _ | 0 | leterminate |
| Right scrotal wall appearance | e: normal cobbles | toning abscess | s/swelling indeterminate |
| other: | | | <u> </u> |

indeterminate Left hydrocele: absent present **Left testicular Color flow:** absent present indeterminate Left testicular Spectral flow: indeterminate absent present Resistive index: Left epidydimal flow: normal hyperemia indeterminate Left testicle appearance: homogenous heterogenous indeterminate Left scrotal wall appearance: normal cobblestoning abscess/swelling indeterminate

Interpretation:

No significant abnormality testicular torsion hydrocele epididymitis orchitis scrotal abscess scrotal cellulitis mass

Ouality assurance:

| | 1 | 2 | 3 | 4 | 5 |
|------------------------------|--|--|---|--|---|
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recognizable structures but | Minimal criteria met for diagnosis, recognizable structures but with some technical or other flaws | Minimal criteria met for diagnosis, all structures imaged well and diagnosis easily supported | Minimal criteria met for diagnosis, all structures imaged with excellent image quality and diagnosis completely supported |
| | | 2 3 mages as presented nages as compared | | TP TN FP | FN |
| | (ie, CT, operative | | | ΓP TN FP | FN |
| Comments: | | | | | |

UNDIFFERENTIATED CHEST PAIN AND DYSPNEA

| | Patient/ | exam | <u>demog</u> | raphics: |
|--|----------|------|--------------|----------|
|--|----------|------|--------------|----------|

| Patient name: | r: M F | | | |
|----------------------|---------------------|------------------|--------------------------------|------------------------|
| Patient gender | r: M F | | | |
| DOB:/ | / | | | |
| MR#: | | <u></u> | | |
| Bar Code/Pati | ient Identifier: | | | |
| Hospital Nam | e: | | _ | |
| Date and time | e: | | | |
| Exam type: | or <i>enam</i> | ' | | |
| Diagnostic | | | | |
| Educational | | | | |
| Procedural | | | | |
| | | | | |
| Clinical categ | • | | | |
| Resuscitativ | | | | |
| Symptom ba | | | | |
| Therapeutic | | | | |
| Unknown/o | ther | | | |
| Initial exam | | | | |
| Repeat exam | | | | |
| | | | | |
| Primary perso | n obtaining/ interp | preting images: | | |
| Secondary per | rson obtaining/int | erpreting image | s: | |
| Additional pe | rson(s) obtaining/ | interpreting ima | iges: | |
| | | | | |
| <u>Indication(s)</u> | for exam: | | | |
| | | | | |
| | chest pain | | tachycardia | |
| | | of breath | palpitations | |
| | | or oream | arrhythmia | |
| | hypoxia | | • | |
| | hypotensio |)N 41 | abnormal EKG | |
| | | pathy | prior MI | |
| | syncope | | sepsis | |
| | COPD / E | mphysema | chest bruising | |
| | new murn | | | |
| | other: | | <u> </u> | |
| | | | | |
| Views obtain | ed: | | | |
| | | | | |
| Echo: | PSLA PSS | A Anical | 14 chamber Subxiphoid | IVC |
| Thoracic: | Right Pleural | | Right Thoracic Space for 1 | |
| i iioi acic. | Left Pleural I | | Left Thoracic Space for flu | |
| othore | Leit I leur al I | | Left Thoracic Space for In | uiu |
| other: | | | | |
| | | | | |
| Echo Finding | rs: | | | |
| Pericardial Ef | | significant s | small moderate-large inde | terminate not assessed |
| | cular Function: | _ | erdynamic mod depressed | |
| Giodai v Ciilli | caiai i anchon. | | civity indeterminate not as | |
| Equality (RV: | I V cizal | | nlarged indeterminate not as | |
| | Root Diameter) | | cm) borderline (4-4.5 cm) | |
| LAILLAULUC K | JUUL DIAIHEIEI I | 1101111a1 (~4.0) | CIII) UULUELIIIIE (4-4.) CIII) | unaicu (~4.3 cm) |

indeterminate not assessed

IVC qualitative size normal plethoric flat indeterminate not assessed

IVC qualitative collapse no collapse minimal collapse some collapse significant collapse

indeterminate not assessed

Other echo findings:

Thoracic Findings:

Right pleural line sliding: lung point indeterminate not assessed normal absent Right pulmonary fluid (B lines (>3): present absent indeterminate not assessed Right pleural space (effusion / consolidation): none small moderate-large consolidation indeterminate not assessed Left pleural line sliding: normal absent lung point indeterminate not assessed Left pulmonary fluid (B lines (>3): absent indeterminate not assessed present Left pleural space (effusion / consolidation): small moderate-large consolidation none indeterminate not assessed

Other thoracic findings:

Interpretation Echo:

no significant abnormality significant pericardial effusion decreased ejection fraction right ventricle enlargement dilated aortic root dehydration fluid overload / pulmonary edema

other:

Interpretation Thoracic:

no significant abnormality
right pneumothorax
left pneumothorax
right alveolar interstitial fluid (B lines +)
left alveolar interstitial fluid (B lines +)
right pleural effusion
left pleural effusion
right lung consolidation
left lung consolidation

other:

| | 1 | 2 | 3 | | 4 | | 5 |
|------------------------------|---|-----------------------------|---|----------------------------|--|--------------------------------------|---|
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recognizable structures but | Minimal criteria met for diagnosi recognizable structures but w some technical o other flaws | s, r a ith i or c | Minimal comet for diall structu maged whiagnosis supported | agnosis, res ell and easily | Minimal criteria met for diagnosis, all structures imaged with excellent image quality and diagnosis completely supported |
| | 1 aterpretation of image of the state of the | | | TP | TN | FP | FN |
| | (ie, CT, operative | | | TP | TN | FP | FN |

UNDIFFERENTIATED HYPOTENSION

Patient/ exam demographics:

|]] S] | nyperdynamic (normal (60-65% noderately dep everely depress no myocardial a | (>65%) (6) ressed (30-50%) sed (<30%) |
|-------------------|---|--|
| acic | Abdominal | Aorta |
| ocol): | | |
| | | |
| syncope | | vaginal bleeding |
| palpitations | | pregnancy |
| fever | | hypoxia |
| diaphoresis | | dyspnea |
| arrhythmia | | abdominal/back pain |
| Shock Index> 1 | (HR/SBP) | |
| nterpreting image | es: | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| / / | | |
| | _ | |
| | | |
| | | |
| | - | |
| | erpreting images: nterpreting image g/ interpreting image g/ interpreting image g/ interpreting im Shock Index> 1 arrhythmia diaphoresis fever palpitations syncope ocol): acic Gl h r r s | erpreting images: |

Thoracic Aortic Diameter: Chamber size RV < LVdilation present (> 4.5 cm) RV >= LVdilation borderline (4 - 4.5 cm) dilation not present (< 4 cm) indeterminate indeterminate not assessed

not assessed

IVC:

Full and No collapse Normal collapse Flat **Indeterminate** Not assessed

Other cardiac findings:

Thoracic Findings:

Right pleural line

Lung sliding present absent indeterminate not assessed

Left pleural line

Lung sliding present indeterminate not assessed absent

Right pleural fluid present absent consolidation indeterminate not assessed Left pleural fluid consolidation indeterminate present absent not assessed

Alveolar Interstitial Syndrome: present bilaterally present unilaterally

indeterminate absent

Other thoracic findings:

Abdominal Findings:

AAA > 3 cm: present indeterminate not assessed absent

Abdominal Free Fluid: present hepatorenal space present perisplenic space

present suprapubic space no free fluid indeterminate not assessed

Other abdominal findings:

Interpretation:

acute coronary syndrome tamponade RH strain/pulmonary embolus

tension pneumothorax

dysrhythmia LV failure hypovolemia ectopic pregnancy rupture hemothorax hemoperitoneum ruptured AAA thoracic Aorta Pathology

sepsis no clear findings

other:

| | 1 | 2 | 3 | 4 | 5 |
|------------------------------|--|-----------------------------|---|--|---|
| Grading Scale Definitions | No recognizable structures, no objective data can be gathered | recognizable structures but | Minimal criteria met for diagnosis, recognizable structures but with some technical or other flaws | Minimal criteria met for diagnosis, all structures imaged well and diagnosis easily supported | Minimal criteria met for diagnosis, all structures imaged with excellent image quality and diagnosis completely supported |
| | 1 nterpretation of im nterpretation of im | | | P TN FP | FN |
| | (ie, CT, operative | | T | P TN FP | FN |
| omments: | | | | | |