POCUS image quality feedback scale

Score	Inference
5	Excellent images, adequate for clinical integration
4	Good images, adequate to answer focused clinical questions but there is scope for improvement. Example: improper depth or gain, mildly tilted or rotated images
3	OK images, recognizable structures but not adequate to answer focused clinical questions. Example: incorrect angle of insonation or sonographic window precluding assessment of the widest IVC diameter or a cardiac chamber
2	Minimally recognizable structures not adequate for any interpretation to perform.
1	Poor images with no recognizable structures or mislabeled structures with possible patient risk. Example: mistaking aorta for a large IVC leading to diuretic administration

Renal and bladder ultrasound direct observation feedback form

Date:

Fellow/resident:

Faculty:

Did the trainee successfully/appropriately:	Yes	No
Tell the patient what was going on?		
Obtain long axis view of the right kidney and fan the transducer to visualize maximum length?		
Obtain short axis view of the right kidney and fan the transducer to visualize both poles and the hilum?		
Obtain long axis view of the left kidney and fan the transducer to visualize maximum length?		
Obtain short axis view of the left kidney and fan the transducer to visualize both poles and the hilum?		
Measure parenchymal and/or cortical thickness bilaterally?		
Obtain at least one color Doppler image of each kidney?		
Identify the presence or absence of hydronephrosis?		
Identify the presence or absence of stone/cyst/mass?		
Obtain long axis view of the bladder?		
Obtain short axis view of the bladder?		
Obtain the required measurements to calculate bladder volume?		
Identify the presence or absence of Foley catheter?		

Clean the transducer and replace on the US machine?

Formulate management plan with integration of POCUS findings?

I attest that the fellow/resident has successfully completed this observed ultrasound exam.

Lung ultrasound direct observation feedback form

Date:

Fellow/resident:

Faculty:

Did the trainee successfully/appropriately:	Yes	No
Tell the patient what was going on?		
Examine the anterior intercostal spaces?		
Examine the lateral intercostal spaces?		
Identify presence or absence of pleural sliding?		
Identify the presence or absence of A-lines?		
Identify the presence or absence of B-lines?		
Assess the presence or absence of alveolar consolidations?		
Assess the presence or absence of pleural effusions?		
Clean the transducer and replace on the US machine?		
Formulate management plan with integration of POCUS findings?		

I attest that the fellow/resident has successfully completed this observed ultrasound exam.

Focused cardiac ultrasound (FoCUS) direct observation feedback form

Date:

Fellow/resident:

Faculty:

Did the trainee successfully/appropriately:	Yes	No
Tell the patient what was going on?		
Obtain parasternal long axis view?		
Obtain parasternal short axis view?		
Obtain apical 4-chamber view?		
Obtain subcostal 4-chamber view?		
Obtain long and short axis views of the IVC?		
Recognize difficult acoustic windows (if applicable)		
Identify the presence or absence of pericardial effusion?		
Identify the presence or absence of gross chamber enlargement?		
Assess the left ventricular systolic function (eyeball/ EPSS)		
Assess the right ventricular systolic function (eyeball/ TAPSE)		
Estimate right atrial pressure based on IVC collapsibility? (Spontaneously breathing patients)		
Clean the transducer and replace on the US machine?		

Formulate management plan with integration of POCUS findings?

I attest that the fellow/resident has successfully completed this observed ultrasound exam.

*IVC = inferior vena cava

EPSS = E-point septal separation using M-mode

TAPSE = Tricuspid annular plane systolic excursion

Focused Doppler echocardiography direct observation feedback form

Date:

Fellow/resident:

Faculty:

Did the trainee successfully/appropriately:	Yes	No
Perform FoCUS (stop here if the answer is no)		
Position the PW Doppler sample volume in the LV outflow tract?		
Position the PW Doppler sample volume in the RV outflow tract?		
Position the PW Doppler sample volume at the mitral inflow?		
Position the tissue Doppler sample volume on the mitral and tricuspid annuli?		
Position the CW Doppler cursor along the tricuspid regurgitant jet?		
Use the correct angle and Doppler sweep speed to calculate LV outflow tract VTI?		
Use the correct angle and Doppler sweep speed to evaluate mitral E-A ratio, E-wave deceleration time, E/E' ratio?		
Calculate right ventricular systolic pressure?		
Identify the presence or absence of systolic notching in the RV outflow Doppler waveform?		
Perform and interpret other Doppler parameters (if applicable)?		
Formulate management plan with integration of POCUS findings?		

I attest that the fellow/resident has successfully completed this observed ultrasound exam.

*PW = pulsed wave

CW = continuous wave

LV = left ventricle

RV = right ventricle

VTI = velocity time integral

E-wave: early diastolic wave, mitral inflow Doppler

A-wave: late diastolic wave, mitral inflow Doppler

E': early diastolic wave (tissue Doppler of mitral annulus)

Venous excess Doppler ultrasound (VExUS) direct observation feedback form

Date:

Fellow/resident:

Faculty:

Did the trainee successfully/appropriately:	Yes	No
Tell the patient what was going on?		
Examine the inferior vena cava in long and short axes?		
Place and connect the EKG leads if hepatic vein is being assessed? *EKG not necessary in emergencies but required for elective scanning		
Obtain greyscale and color Doppler images of the hepatic vein?		
Obtain greyscale and color Doppler images of the portal vein?		
Obtain color/power Doppler images of the renal parenchymal veins?		
Position the PW Doppler sample volume in the veins being assessed aiming for a parallel angle when possible?		
Adjust the PW Doppler scale as needed to avoid aliasing?		
Identify cardiac phasicity and respiratory variations in the waveforms?		
Clean the transducer and replace on the US machine?		
Formulate management plan with integration of POCUS findings?		

I attest that the fellow/resident has successfully completed this observed ultrasound exam.

Focused arteriovenous access ultrasound direct observation feedback form

Date:

Fellow/resident:

Faculty:

Did the trainee successfully/appropriately:	Yes	No
Tell the patient what was going on?		
Position the patient's extremity being examined?		
Identify fistula vs graft?		
Survey the access in transverse and longitudinal axes including the inflow artery?		
Optimize the color flow by adjusting the scale and steering the color box as needed?		
Measure the depth of the body of the access from skin surface?		
Measure the diameter of the vessel where volume-flow is being calculated?		
Position the PW Doppler sample volume in the vessel, adjust the sample volume size and scale?		
Adjust the angle of insonation to less than 60 degrees?		
Use the correct algorithm to calculate volume-flow including time-averaged mean velocity?		
Assess the presence or absence of hematoma/pseudoaneurysms?		
Clean the transducer and replace on the US machine?		

Formulate management plan with integration of POCUS findings?

I attest that the fellow/resident has successfully completed this observed ultrasound exam.

Nephrology point of care ultrasonography Note Sample:

Indications: Heart failure, pulmonary edema, acute kidney injury

Scans performed: Focused cardiac, lungs, venous Doppler, limited renal.

Sonographer: resident/fellow/attending nephrologist

Findings:

- Heart:
Pericardial effusion: present or absent, severity if present
Left ventricular systolic function: normal, reduced or severely reduced. EPSS if performed.
Right ventricle size: normal or enlarged. D-sign in PSAX present or absent
Inferior vena cava: Size and collapsibility or distensibility. Estimated right atrial pressure if spontaneously breathing.
Left ventricular outflow tract VTI and/or calculated stroke volume: average of at least 3 readings.
Mitral inflow E/A: exact ratio or </>1
Mitral annulus E': lateral/medial
Right ventricular systolic pressure: PASP + RAP. Mention if the tricuspid regurgitant jet is inadequate/suboptimal.
Other observations:

- Venous Doppler:
Hepatic vein: S-wave >D-wave or S<D or S reversal
Portal vein: pulsatility fraction (%)
Renal parenchymal vein: continuous or pulsatile or biphasic or monophasic

- Lungs:
Number of scan zones (Right/Left): 4/4
Predominant artifact pattern: A-lines or B-lines
B-lines: number if counted, distribution, presence or absence of confluent B-lines, irregular pleural line.
Pleural effusion: present or absent, laterality, anechoic or internal echoes/loculations

- Kidneys:
Renal size/parenchyma: length, cortical and/or parenchymal thickness; cortical echogenicity
Hydronephrosis: present or absent

Pertinent Doppler findings: resistive index if measured, any gross abnormality in flow pattern.
Other:

Impression and clinical integration:

*NA = not assessed
*Images saved to PACS and available for review.
*This is a limited scan intended to answer focused clinical questions at the bedside and not an alternative to formal imaging.

Abbreviations:

NA = not assessed
EPSS = E-point septal separation
VTI = velocity time integral
PASP = pulmonary artery systolic pressure
RAP = right atrial pressure