

COLOR DOPPLER IMAGE CRITIQUE

Evaluation guide | Image Resolution & Quality

PURPOSE

Evaluate color Doppler image quality using specific, observable evidence. Rate each domain from 0 to 5, then identify the single most useful optimization to try first.

A frozen image cannot establish temporal resolution or confirm the cause of an artifact.

RATING SCALE

- 0** Unacceptable / criterion not demonstrated
- 1** Poor / major limitations
- 2** Below expectations / substantial limitations
- 3** Adequate / clinically usable with limitations
- 4** Good / minor limitations
- 5** Excellent / optimized for the clinical task

COLOR DOPPLER SCORING DOMAINS

A. Clinical content & color ROI

Target anatomy and vessels visible; color region appropriately sized and placed.

B. Color flow sensitivity & filling

Expected flow is detected with satisfactory luminal filling and low-flow sensitivity.

C. Color spatial definition

Color boundaries follow vessel walls; minimal unnecessary color bleed.

D. Velocity scale / aliasing

Scale and baseline suit the clinical task; aliasing interpreted appropriately.

E. Doppler control optimization

Gain, wall filter, frequency, steering and priority, as evidence permits.

F. Noise, artifacts & diagnostic impact

Flash, clutter, blooming, dropout and shadow-related limitations assessed.

G. Temporal performance (live / cine ONLY)

Flow changes tracked responsively; motion and color persistence appropriate.

Total score: 6 domains = /30 for STILL images; 7 domains = /35 for CINE/LIVE.

Temporal resolution is excluded (N/A) for still images. Higher scores indicate better quality.

IMAGE 1 | STUDENT CRITIQUE

Select ONE 0-5 rating for each applicable category; enter observations in the fillable boxes.

Student

Date

Case / image ID

Mode

STILL / CINE-LIVE:

☐ Still

☐ Cine

Vessel / clinical task

CRITERION	RATING (select one)					
	0	1	2	3	4	5
A. Anatomy / color box placement	☐	☐	☐	☐	☐	☐
B. Color sensitivity / flow filling	☐	☐	☐	☐	☐	☐
C. Color spatial definition	☐	☐	☐	☐	☐	☐
D. Velocity scale / aliasing	☐	☐	☐	☐	☐	☐
E. Color Doppler optimization	☐	☐	☐	☐	☐	☐
F. Noise / artifacts / diagnostic impact	☐	☐	☐	☐	☐	☐
G. Temporal performance (cine only)	☐	☐	☐	☐	☐	☐
Leave unscored for a still image.						

OBSERVATIONS / EVIDENCE

PRIORITY IMPROVEMENT | Adjustment, expected effect, possible tradeoff

Overall diagnostic adequacy (choose one):

☐ Adequate

☐ Limited

☐ Inadequate

FINAL SCORE

Out of 30 (still) or 35 (cine/live)

Automatically calculated in Adobe Acrobat Reader

IMAGE 2 | STUDENT CRITIQUE

Select ONE 0-5 rating for each applicable category; enter observations in the fillable boxes.

Student

Date

Case / image ID

Mode

STILL / CINE-LIVE:

☐ Still

☐ Cine

Vessel / clinical task

CRITERION	RATING (select one)					
	0	1	2	3	4	5
A. Anatomy / color box placement	☐	☐	☐	☐	☐	☐
B. Color sensitivity / flow filling	☐	☐	☐	☐	☐	☐
C. Color spatial definition	☐	☐	☐	☐	☐	☐
D. Velocity scale / aliasing	☐	☐	☐	☐	☐	☐
E. Color Doppler optimization	☐	☐	☐	☐	☐	☐
F. Noise / artifacts / diagnostic impact	☐	☐	☐	☐	☐	☐
G. Temporal performance (cine only)	☐	☐	☐	☐	☐	☐
Leave unscored for a still image.						

OBSERVATIONS / EVIDENCE

PRIORITY IMPROVEMENT | Adjustment, expected effect, possible tradeoff

Overall diagnostic adequacy (choose one):

☐ Adequate

☐ Limited

☐ Inadequate

FINAL SCORE

Out of 30 (still) or 35 (cine/live)

Automatically calculated in Adobe Acrobat Reader

IMAGE 3 | STUDENT CRITIQUE

Select ONE 0-5 rating for each applicable category; enter observations in the fillable boxes.

Student

Date

Case / image ID

Mode

STILL / CINE-LIVE:

☐ Still

☐ Cine

Vessel / clinical task

CRITERION	RATING (select one)					
	0	1	2	3	4	5
A. Anatomy / color box placement	☐	☐	☐	☐	☐	☐
B. Color sensitivity / flow filling	☐	☐	☐	☐	☐	☐
C. Color spatial definition	☐	☐	☐	☐	☐	☐
D. Velocity scale / aliasing	☐	☐	☐	☐	☐	☐
E. Color Doppler optimization	☐	☐	☐	☐	☐	☐
F. Noise / artifacts / diagnostic impact	☐	☐	☐	☐	☐	☐
G. Temporal performance (cine only)	☐	☐	☐	☐	☐	☐
Leave unscored for a still image.						

OBSERVATIONS / EVIDENCE

PRIORITY IMPROVEMENT | Adjustment, expected effect, possible tradeoff

Overall diagnostic adequacy (choose one):

☐ Adequate

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FINAL SCORE

Out of 30 (still) or 35 (cine/live)

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