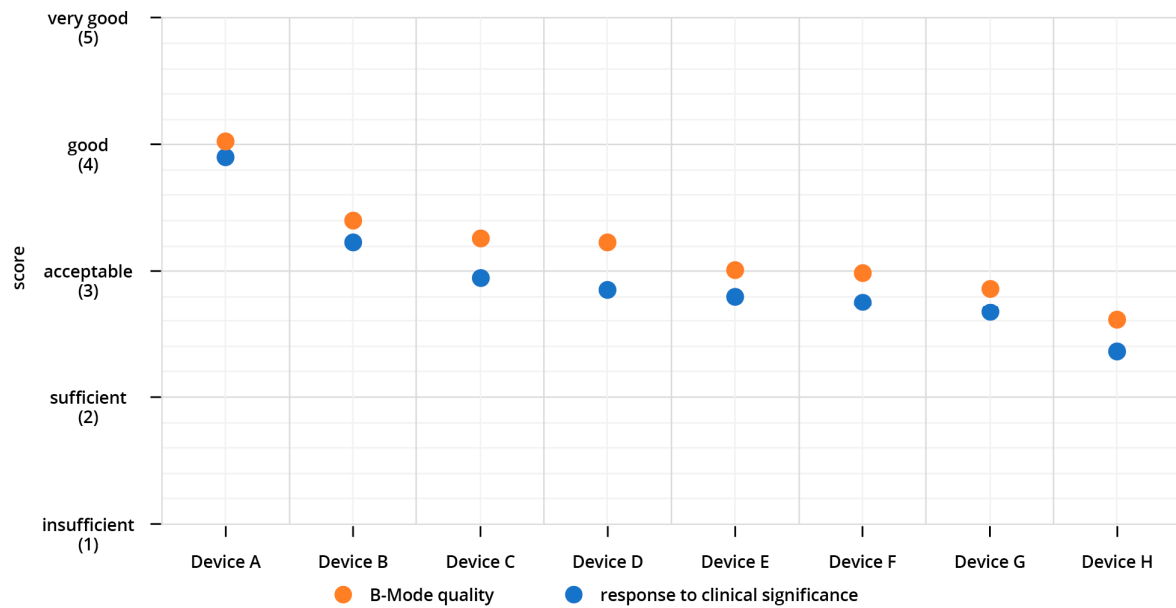
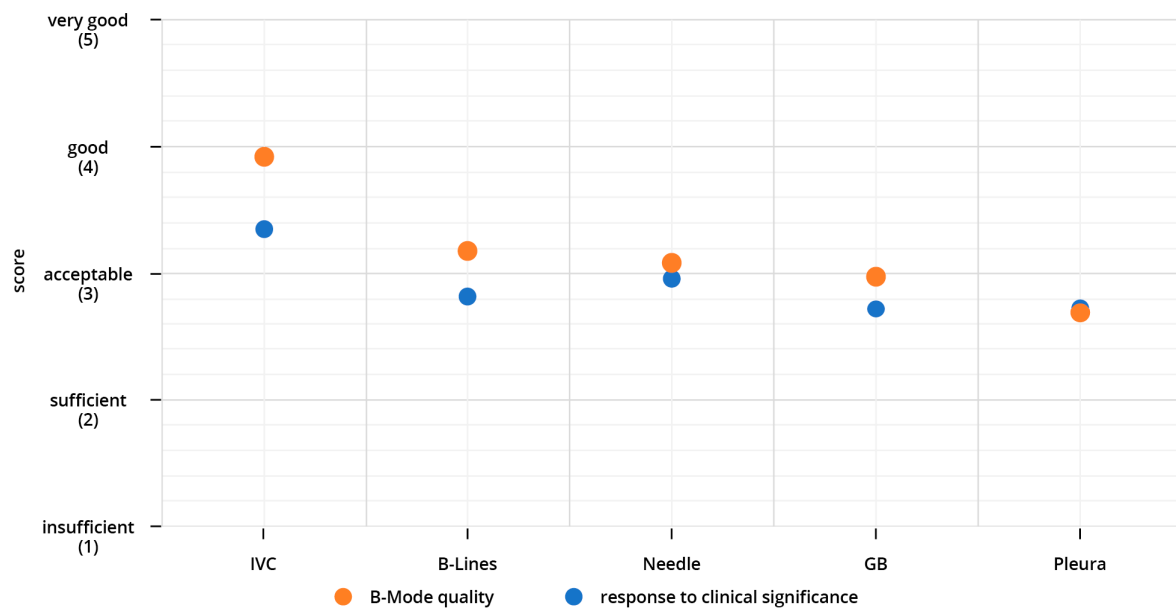


Supplementary Material



(a)



(b)

Figure S1. Comparison of the scores obtained from both evaluations for each device used (a) and for each sonographic question (b).

Table S1. Results of the evaluated B-scan quality per evaluator (a) and Results of the evaluated clinical significance per evaluator (b).

| (a) B-Scan Quality | | | | | | | | |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| EvaluatorNo. | Device A | Device B | Device C | Device D | Device E | Device F | Device G | Device H |
| 1 | 4.2 | 3.4 | 3.2 | 2.6 | 3.2 | 3.6 | 3.4 | 3.0 |
| 2 | 3.8 | 3.2 | 2.6 | 2.0 | 2.8 | 2.8 | 2.2 | 2.4 |
| 3 | 4.0 | 3.0 | 3.0 | 3.2 | 2.8 | 3.0 | 3.0 | 2.4 |
| 4 | 3.6 | 3.2 | 3.0 | 3.0 | 3.0 | 2.6 | 2.8 | 2.2 |
| 5 | 3.8 | 3.4 | 3.4 | 2.8 | 2.4 | 2.8 | 2.4 | 2.2 |
| 6 | 4.4 | 3.2 | 3.4 | 3.4 | 3.0 | 2.8 | 3.6 | 2.8 |
| 7 | 3.8 | 3.0 | 3.2 | 3.0 | 2.6 | 3.2 | 2.8 | 2.8 |
| 8 | 3.8 | 3.2 | 2.8 | 3.2 | 2.8 | 2.0 | 2.8 | 2.4 |
| 9 | 3.4 | 3.0 | 3.2 | 2.6 | 2.8 | 3.0 | 1.8 | 2.4 |
| 10 | 3.8 | 3.6 | 3.2 | 3.2 | 2.8 | 2.8 | 3.0 | 2.6 |
| 11 | 4.2 | 3.8 | 3.0 | 3.0 | 2.8 | 3.2 | 2.8 | 2.6 |
| 12 | 3.6 | 3.0 | 2.8 | 2.6 | 2.8 | 3.2 | 2.4 | 2.2 |
| 13 | 3.6 | 2.0 | 2.4 | 2.2 | 2.4 | 2.0 | 2.2 | 1.8 |
| 14 | 4.4 | 3.0 | 3.0 | 3.0 | 2.8 | 3.2 | 3.0 | 2.6 |
| 15 | 3.6 | 2.2 | 2.4 | 2.2 | 2.0 | 2.0 | 2.0 | 1.8 |
| 16 | 4.4 | 2.8 | 2.6 | 2.6 | 3.0 | 1.8 | 2.6 | 1.8 |
| (b) Clinical Significance | | | | | | | | |
| EvaluatorNo. | Device A | Device B | Device C | Device D | Device E | Device F | Device G | Device H |
| 1 | 4.4 | 3.6 | 4.0 | 4.0 | 3.2 | 3.4 | 3.2 | 3.2 |
| 2 | 3.6 | 3.4 | 2.4 | 2.2 | 3.0 | 2.6 | 2.4 | 2.0 |
| 3 | 4.2 | 3.4 | 3.2 | 3.6 | 3.0 | 3.2 | 3.0 | 2.8 |
| 4 | 3.8 | 3.8 | 3.0 | 3.2 | 3.2 | 3.2 | 3.0 | 2.8 |
| 5 | 3.8 | 3.4 | 3.4 | 3.0 | 2.4 | 2.8 | 2.6 | 2.6 |
| 6 | 4.8 | 3.6 | 3.8 | 2.6 | 3.6 | 2.4 | 3.6 | 2.6 |
| 7 | 3.6 | 3.2 | 3.6 | 3.8 | 3.6 | 3.6 | 3.0 | 3.2 |
| 8 | 4.0 | 3.8 | 3.0 | 3.8 | 2.8 | 3.2 | 3.4 | 2.6 |
| 9 | 3.2 | 3.6 | 3.6 | 2.8 | 3.0 | 2.8 | 2.6 | 2.4 |
| 10 | 3.4 | 3.6 | 3.2 | 3.4 | 2.8 | 2.8 | 3.2 | 2.4 |
| 11 | 4.4 | 4.4 | 3.8 | 3.8 | 3.2 | 4.0 | 3.0 | 2.8 |
| 12 | 3.8 | 3.0 | 3.0 | 2.8 | 2.8 | 3.2 | 2.2 | 2.2 |
| 13 | 4.2 | 2.6 | 3.0 | 2.8 | 3.0 | 2.2 | 2.6 | 2.4 |
| 14 | 4.8 | 3.2 | 3.4 | 3.4 | 3.4 | 3.6 | 2.8 | 3.2 |
| 15 | 4.0 | 2.8 | 2.8 | 2.4 | 2.6 | 2.4 | 2.6 | 2.4 |
| 16 | 4.4 | 3.0 | 3.0 | 3.0 | 2.6 | 2.4 | 2.6 | 2.2 |

Table S2. P-values in the comparison of the B-scan quality of the individual HHUS devices (a); P-values in the comparison of the clinical significance of the individual HHUS devices (b); p < 0.01 marked in red, p < 0.05 and > 0.01 marked in green.

| p-value | | | | | | | | |
|--------------------------------------|--------|----------|----------|----------|----------|----------|----------|----------|
| B-scan Quality | | Device A | Device B | Device C | Device D | Device E | Device F | Device G |
| Device B | <0.001 | | | | | | | |
| Device C | <0.001 | 0.5 | | | | | | |
| Device D | <0.001 | 0.18 | 0.45 | | | | | |
| Device E | <0.001 | 0.13 | 0.36 | 0.8 | | | | |
| Device F | <0.001 | 0.06 | 0.2 | 0.65 | 0.76 | | | |
| Device G | <0.001 | 0.006 | 0.03 | 0.28 | 0.36 | 0.47 | | |
| Device H | <0.001 | <0.001 | <0.001 | 0.004 | 0.008 | 0.013 | 0.023 | |
| p-value Clinical Significance | | Device A | Device B | Device C | Device D | Device E | Device F | Device G |
| Device B | <0.001 | | | | | | | |
| Device C | <0.001 | 0.55 | | | | | | |
| Device D | <0.001 | 0.46 | 0.88 | | | | | |
| Device E | <0.001 | 0.07 | 0.22 | 0.31 | | | | |
| Device F | <0.001 | 0.045 | 0.16 | 0.24 | 0.87 | | | |
| Device G | <0.001 | 0.001 | 0.008 | 0.03 | 0.24 | 0.32 | | |
| Device H | <0.001 | <0.001 | <0.001 | 0.002 | 0.03 | 0.04 | 0.15 | |

Table S3. P-values in the comparison of the B-scan quality of the different sonographic questions (a); P-values in the comparison of the clinical significance of the different sonographic questions (b); p < 0.01 marked in red, p < 0.05 and > 0.01 marked in green.

| p-value B-scan Quality | | | | |
|--------------------------------------|--------|---------|----------------|-----------------|
| | IVC | B-Lines | Needletracking | Peural Effusion |
| B-Lines | 0.06 | | | |
| Needletracking | <0.001 | 0.28 | | |
| Pleural Effusion | <0.001 | 0.038 | 0.35 | |
| Gallbladder | <0.001 | 0.05 | 0.43 | 0.98 |
| p-value Clinical Significance | | | | |
| | IVC | B-Lines | Needletracking | Peural Effusion |
| B-Lines | <0.001 | | | |
| Needletracking | <0.001 | 0.63 | | |
| Pleural Effusion | <0.001 | 0.17 | 0.42 | |
| Gallbladder | <0.001 | <0.001 | 0.009 | 0.039 |

Table S4. P-values (Anova analysis) in the comparison of the B-scan quality and the clinical significance of the different HHUS devices (marked in green: $p < 0.05$)

| B-scan Quality | Device A | Device B | Device C | Device D | Device E | Device F | Device G |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|
| Clinical Significance | Device A | Device B | Device C | Device D | Device E | Device F | Device G |
| p-value | 0.12 | 0.02 | 0.03 | 0.03 | 0.17 | 0.10 | 0.23 |

Table S5. P-values (Anova analysis) in the comparison of the B-scan quality and the clinical significance of the different sonographic questions (marked in green: $p < 0.05$; marked in red: $p < 0.01$)

| B-scan Quality | IVC | B-Lines | Needle Tracking | Pleural Effusion | Gallbladder |
|------------------------------|---------|---------|-----------------|------------------|-------------|
| Clinical Significance | IVC | B-Lines | Needle Tracking | Pleural Effusion | Gallbladder |
| p-value | < 0.001 | 0.12 | 0.07 | 0.012 | 0.83 |