GRADE table and Summary of Findings Table for the index test of bedside sonographic assessment during CPR in adults in cardiac arrest in any setting.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | No. of Studies  (No. of subjects) | Certainty Assessment | | | | | | No. of Subjects | Effect | Certainty |
| Study Design | Risk of Bias | Indirectness | Inconsistency | Imprecision | Other Considerations | Events  /Test (+)  Events  /Test (-) | Sensitivity  (95% CI)  Specificity  (95% CI) |
| Myocardial Infarction (Index Test: reduced contractility in a region of myocardium | Reference Standard: autopsy and/or clinical adjudication) | | | | | | | | | | |
| True positives  (subjects with myocardial infarction) | 1 study  (13 subjects) | cohort study | very serious a,b,c | serious d | serious e | serious f | none | 12/13 | 0.86  (0.57 - 0.98) | VERY LOW |
| False negative  (subjects incorrectly classified as not having myocardial infarction) |
| True negative  (subjects without myocardial infarction) | 1 study  (18 subjects) | cohort study | very serious a,b,c | serious d | serious e | serious f | none | 2/16 | 0.94  (0.71-0.99) | VERY LOW |
| False positive  (subjects incorrectly classified as having myocardial infarction) |
| Cardiac Tamponade (Index Test: pericardial effusion with collapse at least one cardiac chamber | Reference Standard: autopsy and/or clinical adjudication) | | | | | | | | | | |
| True positives  (subjects with cardiac tamponade) | 1 study  (3 subjects) | cohort study | very serious a,b,c | not serious | serious e | very serious g | none | 3/3 | 1.00  (0.29-1.00) | VERY LOW |
| False negative  (subjects incorrectly classified as not having cardiac tamponade) |
| True negative  (subjects without cardiac tamponade) | 1 study  (28 subjects) | cohort study | very serious a,b,c | not serious | serious e | not serious | none | 0/28 | 1.00  (0.88-1.00) | VERY LOW |
| False positive  (subjects incorrectly classified as cardiac tamponade) |
| Pulmonary Embolism (Index Test: dilated right ventricle and right atrium with poor filling of the left atrium and left ventricle | Reference Standard: autopsy and/or clinical adjudication) | | | | | | | | | | |
| True positives  (subjects with pulmonary embolism) | 1 study  (3 subjects) | cohort study | very serious a,b,c | not serious | serious e | very serious g | none | 2/3 | 1.00  (0.16-1.00) | VERY LOW |
| False negative  (subjects incorrectly classified as not having pulmonary embolism) |
| True negative  (subjects without pulmonary embolism) | 1 study  (28 subjects) | cohort study | very serious a,b,c | not serious | serious e | serious f | none | 0/28 | 0.97  (0.82-0.99) | VERY LOW |
| False positive  (subjects incorrectly classified as having pulmonary embolism) |

a Convenience sample with unknown proportion of eligible cardiac arrest subjects enrolled

b Blinding to the index test is not specified

c Differential verification bias

d Includes cardiac arrest subjects with spontaneous cardiac contractility with or without effective cardiac output (e.g. pulseless electrical activity or ‘peri-ROSC’ states)

e Only one study available; indicative that the literature is not well established (Huguet A, et al. Systematic Reviews 2013)

f Wide confidence intervals which render a range of clinical interpretation

g Extremely wide confidence intervals which render an extreme range of clinical interpretation

**Summary of Findings Table**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outcome | Number of studies (number of subjects) | Sensitivity (95% CI) | Specificity (95% CI) | Pre-test probability of target condition | Post-test probability following a positive POCUS (95% CI) | Post-test probability following a negative POCUS (95% CI) |
| Myocardial infarction   * Index Test: reduced contractility in a region of myocardium * Reference Standard: autopsy and/or clinical adjudication | 1 study  (31 subjects) | 0.86  (0.57 - 0.98) | 0.94  (0.71-0.99) | 0.25 | 0.83 (0.40-0.97) | 0.05 (0.01-0.17) |
| 0.50 | 0.93 (0.66-0.99) | 0.13 (0.02-0.38) |
| 0.75 | 0.98 (0.86-1.00) | 0.31 (0.06-0.64) |
|  |  |  |  |  |  |  |
| Cardiac Tamponade   * Index Test: pericardial effusion with collapse at least one cardiac chamber * Reference Standard: autopsy and/or clinical adjudication | 1 study  (31 subjects) | 1.00  (0.29-1.00) | 1.00  (0.88-1.00) | 0.25 | 1.00 (0.45-1.00) | 0.00 (0.00-0.21) |
| 0.50 | 1.00 (0.71-1.00) | 0.00 (0.00-0.45) |
| 0.75 | 1.00 (0.88-1.00) | 0.00 (0.00-0.71) |
|  | | | | | | |
| Pulmonary Embolism   * Index Test: dilated right ventricle and right atrium with poor filling of the left atrium and left ventricle * Reference Standard: autopsy and/or clinical adjudication | 1 study  (31 subjects) | 1.00  (0.16-1.00) | 0.97  (0.82-0.99) | 0.25 | 0.92 (0.23-0.97) | 0.00 (0.00-0.25) |
| 0.50 | 0.97 (0.47-0.99) | 0.00 (0.00-0.51) |
| 0.75 | 0.99 (0.73-1.00) | 0.00 (0.00-0.75) |