Supplemental Table 1. Criterion validity of the FAM-CAM and Sour Seven compared to the reference standard assessment among select subgroups

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Subgroup** | **Tool (cutpoint)** | **Delirium Prevalence** | **Sensitivity** | **Specificity** | **Negative Predictive Value** | **Positive****Predictive Value** | **AUC** |
| Age ≥65 years (n=50) | FAM-CAM | 38.5(30.3-47.3) | 53.8(39.5-67.8) | 83.1(73.3-90.5) | 66.7(50.5-80.4) | 74.2(64.1-82.7) | 68.0(61.0-76.0) |
| Sour Seven (4) | 38.8(30.5-47.6) | 65.4(50.9-78.0) | 73.2(62.2-82.4) | 60.7(48.6-73.5) | 76.9(66.0-85.7) | 69.0(61.0-77.0) |
| Sour Seven (9) | 38.8(30.5-47.6) | 53.8(39.5-67.8) | 85.4(75.8-92.2) | 70.0(53.5-83.4) | 74.5(64.4-82.9) | 70.0(62.0-77.0) |
| Age <65 years(n=97) | FAM-CAM | 35.6(29.3-42.1) | 54.2(42.9-65.2) | 73.3(65.5-80.2) | 52.9(41.8-63.9) | 74.3(66.5-81.1) | 64.0(57.0-70.0) |
| Sour Seven (4) | 35.6(29.3-42.1) | 75.9(65.3-84.6) | 66.0(57.8-73.5) | 55.3(45.7-64.6) | 83.2(75.2-89.4) | 71.0(65.0-77.0) |
| Sour Seven (9) | 35.6(29.3-42.1) | 49.4(38.2-60.6) | 81.3(74.2-87.2) | 59.4(46.9-71.1) | 74.4(67.0-80.9) | 65.0(59.0-72.0) |
| APACHE-II ≥20(n=74) | FAM-CAM | 42.5(35.6-49.7) | 57.6(46.4-68.3) | 77.4(68.7-84.7) | 65.3(53.5-76.0) | 71.2(62.4-78.9) | 68.0(61.0-74.0) |
| Sour Seven (4) | 42.5(35.6-49.7) | 74.1(63.5-83.0) | 70.4(61.2-78.6) | 64.9(54.6-74.4) | 78.6(69.5-86.1) | 72.0(66.0-79.0) |
| Sour Seven (9) | 42.5(35.6-49.7) | 56.5(45.3-67.2) | 83.5(75.4-89.7) | 71.6(59.3-82.0) | 72.2(62.7-79.6) | 70.0(64.0-76.0) |
| APACHE-II <20(n=73) | FAM-CAM | 29.9(23.1-37.5) | 48.0(33.7-62.6) | 76.3(67.6-83.6) | 46.2(32.2-60.5) | 77.6(68.9-84.8) | 62.0(54.0-70.0) |
| Sour Seven (4) | 29.9(23.1-37.5) | 68.0(53.3-80.5) | 66.7(57.4-75.1) | 46.6(34.8-58.6) | 83.0(73.8-89.9) | 67.0(60.0-75.0) |
| Sour Seven (9) | 29.9(23.1-37.5) | 42.0(28.2-56.8) | 82.1(73.9-88.5) | 50.0(34.2-65.8) | 76.8(68.4-83.9) | 62.0(54.0-70.0) |
| CFS ≥5\*(n=27) | FAM-CAM | 31.0(21.5-41.9) | 55.6(35.3-74.5) | 78.3(69.3-82.4) | 53.6(33.9-72.5) | 79.7(67.2-89.0) | 67.0(56.0-77.0) |
| Sour Seven (4) | 31.4(21.8-42.3) | 63.0(42.4-80.6) | 71.2(57.9-82.2) | 50.0(32.4-67.6) | 80.8(67.5-90.4) | 67.0(56.0-78.0) |
| Sour Seven (9) | 31.4(21.8-42.3) | 51.9(31.9-71.3) | 81.4(69.1-90.3) | 56.0(34.9-75.6) | 78.7(66.3-88.1) | 67.0(56.0-78.0) |
| CFS <5(n=107) | FAM-CAM | 38.4(32.7-44.4) | 53.7(43.8-63.3) | 76.3(69.3-82.4) | 58.6(48.2-68.4) | 72.5(65.4-78.9) | 65.0(62.0-73.0) |
| Sour Seven (4) | 38.4(32.7-44.4) | 74.1(64.8-82.0) | 67.6(60.1-74.5) | 58.8(50.1-67.2) | 80.7(73.3-86.8) | 71.0(65.0-76.0) |
| Sour Seven (9) | 38.4(32.7-44.4) | 50.9(41.1-60.7) | 83.2(76.8-88.5) | 65.5(54.3-75.5) | 73.1(66.3-79.2) | 67.0(62.0-73.0) |
| Invasive Mechanical Ventilation^ (n=118) | FAM-CAM | 40.4(34.8-46.2) | 55.7(46.5-64.7) | 77.8(71.0-83.6) | 63.0(53.1-72.1) | 72.2(65.3-78.3) | 67.0(61.0-72.0) |
| Sour Seven (4) | 40.4(34.8-46.2) | 74.6(65.9-82.0) | 67.2(59.8-74.0) | 60.7(52.4-68.5) | 79.6(72.3-85.7) | 71.0(66.0-76.0) |
| Sour Seven (9) | 40.4(34.8-46.2) | 52.5(43.2-61.6) | 82.2(75.8-87.5) | 66.7(56.3-76.0) | 71.8(65.2-77.9) | 67.0(62.0-73.0) |
| No Invasive Mechanical Ventilation (n=29) | FAM-CAM | 20.0(11.1-31.8) | 38.5(13.9-68.4) | 73.1(59.0-84.4) | 26.3(9.1-51.2) | 82.6(68.6-92.2) | 56.0(41.0-71.0) |
| Sour Seven (4) | 20.0(11.1-31.8) | 46.2(19.2-74.9) | 73.1(59.0-84.4) | 30.0(11.9-54.3) | 84.4(70.5-93.5) | 60.0(44.0-75.0) |
| Sour Seven (9) | 20.0(11.1-31.8) | 38.5(13.9-68.4) | 84.6(71.9-93.1) | 38.5(13.9-68.4) | 84.6(71.9-93.1) | 62.0(47.0-76.0) |
| RASS (-3 – 0)^(n=141) | FAM-CAM | 34.6(29.5-40.0) | 53.4(44.0-62.8) | 76.7(70.5-82.1) | 54.9(45.2-64.2) | 75.7(69.5-81.2) | 65.0(60.0-70.0) |
| Sour Seven (4) | 34.6(29.5-40.0) | 69.8(60.6-78.0) | 68.5(61.9-74.6) | 54.0(45.7-62.2) | 81.1(74.7-86.5) | 69.0(64.0-74.0) |
| Sour Seven (9) | 34.6(29.5-40.0) | 49.1(39.7-58.6) | 83.1(77.5-87.8) | 60.6(50.0-70.6) | 75.5(69.6-80.8) | 66.0(61.0-71.0) |
| RASS (+1 – +4)(n=6) | FAM-CAM | 59.4(40.6-76.3) | 57.9(33.5-79.7) | 76.9(46.2-95.0) | 78.6(49.2-95.3) | 55.6(30.8-78.5) | 67.0(51.0-84.0) |
| Sour Seven (4) | 59.4(40.6-76.3) | 84.2(60.4-96.6) | 69.2(38.6-90.9) | 80.0(56.3-94.3) | 75.0(42.8-94.5) | 77.0(61.0-92.0) |
| Sour Seven (9) | 59.4(40.6-76.3) | 63.2(38.4-83.7) | 76.9(46.2-95.0) | 80.0(51.9-95.7) | 58.8(32.9-81.6) | 70.0(54.0-86.0) |

FAM-CAM: Family Confusion Assessment Method; AUC: Area under the receiver operating characteristic curve; APACHE-II: Acute Physiology, Age, Chronic Health Evaluation-II; CFS: Clinical Frailty Scale; RASS: Richmond Agitation and Sedation Scale; All values represent % with 95% Confidence Intervals; \*13 missing data points for CFS score; ^ at time of assessment