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

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **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