

Supplemental Tables and Figures

| Screening Item | Positive screen rate % (n) | Sensitivity (CI) | Specificity (CI) |
|--|-------------------------------|-------------------|-------------------|
| 4 Digits Backwards | 41.8% (234) | 0.75 (0.62, 0.85) | 0.61 (0.56, 0.65) |
| Months of the Year Backwards | 22.1% (124) | 0.65 (0.52, 0.77) | 0.83 (0.79, 0.86) |
| Does the patient report feeling confused? | 17.1% (96) | 0.56 (0.42, 0.68) | 0.87 (0.84, 0.90) |
| Does the patient appear sleepy? | 7.1% (40) | 0.54 (0.41, 0.66) | 0.99 (0.98, 0.99) |
| 3 Digits Backwards | 11.3% (63) | 0.46 (0.33, 0.59) | 0.93 (0.90, 0.95) |
| What day of the week is it? | 6.8% (38) | 0.29 (0.18, 0.42) | 0.96 (0.94, 0.97) |
| Does the patient think they are somewhere other than the hospital? | 7.9% (44) | 0.28 (0.17, 0.41) | 0.94 (0.92, 0.96) |
| Is the patient seeing things? | 8.0% (45) | 0.28 (0.17, 0.41) | 0.94 (0.92, 0.96) |
| What type of place is this? | 3.6% (20) | 0.23 (0.13, 0.35) | 0.99 (0.97, 0.99) |
| Days of the Week Backwards | 3.8% (21) | 0.21 (0.19, 0.34) | 0.98 (0.97, 0.99) |
| What is the year? | 2.5% (14) | 0.16 (0.08, 0.28) | 0.99 (0.98, 0.99) |
| Is the patient hypervigilant? | 0.0% (0) | 0.00 (0.94, 1.00) | 1.00 (0.99, 1.00) |

| Screening Item | Positive Screen Rate % (n) | Sensitivity (CI) | Specificity (CI) |
|--|-------------------------------|-------------------|-------------------|
| 4 Digits Backwards | 44.4% (249) | 0.88 (0.75, 0.95) | 0.58 (0.53, 0.62) |
| Months of the Year Backwards | 24.6% (138) | 0.70 (0.55, 0.82) | 0.79 (0.75, 0.82) |
| Does the patient report feeling confused? | 14.5% (81) | 0.46 (0.32, 0.61) | 0.88 (0.85, 0.91) |
| Does the patient appear sleepy? | 5.0% (28) | 0.42 (0.29, 0.57) | 0.99 (0.97, 0.99) |
| What day of the week is it? | 7.5% (42) | 0.37 (0.24, 0.52) | 0.95 (0.93, 0.97) |
| 3 Digits Backwards | 10.5% (59) | 0.35 (0.22, 0.50) | 0.91 (0.88, 0.94) |
| Days of the Week Backwards | 4.8% (27) | 0.28 (0.16, 0.42) | 0.97 (0.95, 0.99) |
| Does the patient think they are somewhere other than the hospital? | 7.3% (41) | 0.28 (0.16, 0.42) | 0.94 (0.92, 0.96) |
| What type of place is this? | 3.6% (32) | 0.27 (0.16, 0.42) | 0.99 (0.97, 0.99) |
| Is the patient seeing things? | 5.7% (32) | 0.22 (0.12, 0.36) | 0.96 (0.93, 0.97) |
| What is the year? | 2.9% (16) | 0.12 (0.04, 0.24) | 0.98 (0.96, 0.99) |

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| Is the patient hypervigilant? | 0.18% (1) | 0.02 (0.00, 0.10) | 1.00 (0.99, 1.00) |
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| Supplemental Table 3A. 12 Most Sensitive Two-Item Screens for Delirium on Postoperative Day One (n=551) | | | | |
|--|---------------------------------|-----------------------------------|-------------------------|-------------------------|
| Screening Item 1 | Screening Item 2 | Positive Screen Rate % (n) | Sensitivity (CI) | Specificity (CI) |
| 4 Digits Backwards | Does the patient appear sleepy? | 45.4% (254) | 0.92 (0.83, 0.97) | 0.61 (0.56, 0.65) |
| Does the patient report feeling confused? | 4 Digits Backwards | 50.1% (283) | 0.89 (0.78, 0.95) | 0.53 (0.49, 0.58) |
| Months of the Year Backwards | Does the patient appear sleepy? | 50.5% (147) | 0.88 (0.77, 0.95) | 0.82 (0.78, 0.85) |
| 4 Digits Backwards | Months of the Year Backwards | 51.1% (286) | 0.87 (0.76, 0.94) | 0.52 (0.48, 0.57) |
| Does the patient report feeling confused? | Months of the Year Backwards | 21.3% (119) | 0.83 (0.72, 0.91) | 0.87 (0.84, 0.90) |
| Does the patient report feeling confused? | Months of the Year Backwards | 32.5% (182) | 0.81 (0.69, 0.90) | 0.73 (0.69, 0.77) |
| 3 Digits Backwards | 4 Digits Backwards | 43.4% (243) | 0.80 (0.67, 0.89) | 0.60 (0.55, 0.64) |
| Is the patient seeing things? | 4 Digits Backwards | 45.0% (252) | 0.79 (0.66, 0.88) | 0.58 (0.54, 0.63) |
| 4 Digits Backwards | Days of the Week Backwards | 43.2% (242) | 0.77 (0.65, 0.87) | 0.60 (0.56, 0.65) |
| 4 Digits Backwards | What day of the week is it? | 44.5% (249) | 0.77 (0.65, 0.87) | 0.59 (0.54, 0.63) |
| Does the patient think they are somewhere other than the hospital? | 4 Digits Backwards | 45.9% (257) | 0.77 (0.65, 0.87) | 0.57 (0.53, 0.62) |
| 4 Digits Backwards | What is the year? | 43.0% (241) | 0.76 (0.63, 0.86) | 0.60 (0.56, 0.65) |

| Supplemental Table 3B. 12 Most Sensitive Two-Item Screens for Delirium on Postoperative Day Two (n=549) | | | | |
|--|---------------------------------|-----------------------------------|-------------------------|-------------------------|
| Screening Item 1 | Screening Item 2 | Positive Screen Rate % (n) | Sensitivity (CI) | Specificity (CI) |
| 4 Digits Backwards | Months of the Year Backwards | 52.9% (296) | 0.98 (0.89, 1.00) | 0.49 (0.45, 0.54) |
| Does the patient report feeling confused? | 4 Digits Backwards | 50.4% (282) | 0.94 (0.83, 0.99) | 0.52 (0.47, 0.56) |
| 4 Digits Backwards | Days of the Week Backwards | 45.9% (257) | 0.92 (0.81, 0.98) | 0.57 (0.52, 0.61) |
| 4 Digits Backwards | What type of place is this? | 45.7% (256) | 0.90 (0.79, 0.97) | 0.57 (0.53, 0.62) |
| See Things Not Really There | 4 Digits Backwards | 46.6% (261) | 0.90 (0.78, 0.97) | 0.56 (0.51, 0.60) |
| Does the patient think they are somewhere other than the hospital? | 4 Digits Backwards | 47.5% (266) | 0.90 (0.78, 0.97) | 0.55 (0.50, 0.59) |
| 3 Digits Backwards | 4 Digits Backwards | 45.9% (257) | 0.90 (0.78, 0.97) | 0.56 (0.52, 0.61) |
| 4 Digits Backwards | Does the patient appear sleepy? | 46.1% (258) | 0.88 (0.77, 0.96) | 0.57 (0.53, 0.62) |
| 4 Digits Backwards | What is the year? | 45.2% (253) | 0.85 (0.72, 0.93) | 0.57 (0.53, 0.62) |
| 4 Digits Backwards | What day of the week is it? | 46.6% (261) | 0.85 (0.72, 0.93) | 0.56 (0.51, 0.60) |
| Does the patient report feeling confused? | Months of the Year Backwards | 33.0% (185) | 0.84 (0.71, 0.93) | 0.71 (0.67, 0.75) |
| 4 Digits Backwards | Is the patient hypervigilant? | 44.4% (249) | 0.83 (0.70, 0.92) | 0.59 (0.54, 0.63) |

| Supplemental Table 4A. 12 Most Sensitive Three-Item Screens for Delirium on Postoperative Day One (n=551)* | | | | | |
|---|-------------------------------------|--|-----------------------------------|--------------------------|--------------------------|
| Screening Item 1 | Screening Item 2 | Screening Item 3 | Positive Screen Rate % (n) | Sensitivity (CI) | Specificity (CI) |
| Does the patient report feeling confused? | 4 Digits Backwards | Does the patient appear sleepy? | 52.5% (294) | 0.97 (0.89, 0.99) | 0.53 (0.48, 0.58) |
| 4 Digits Backwards | Months of the Year Backwards | Does the patient appear sleepy? | 53.6% (300) | 0.97 (0.89, 0.99) | 0.52 (0.48, 0.57) |
| Does the patient report feeling confused? | Months of the Year Backwards | Does the patient appear sleepy? | 35.2% (197) | 0.95 (0.87, 0.99) | 0.73 (0.69, 0.77) |
| 4 Digits Backwards | Days of the Week Backwards | Does the patient appear sleepy? | 46.3% (259) | 0.94 (0.85, 0.98) | 0.60 (0.56, 0.64) |
| 3 Digits Backwards | 4 Digits Backwards | Does the patient appear sleepy? | 46.6% (261) | 0.94 (0.85, 0.98) | 0.60 (0.55, 0.64) |
| Is the patient seeing things? | 4 Digits Backwards | Does the patient appear sleepy? | 48.0% (269) | 0.94 (0.85, 0.98) | 0.58 (0.53, 0.62) |
| Does the patient feel confused? | 4 Digits Backwards | Months of the Year Backwards | 57.7% (323) | 0.94 (0.84, 0.98) | 0.46 (0.41, 0.50) |
| Is the patient seeing things? | Months of the Year Backwards | Does the patient appear sleepy? | 30.7% (172) | 0.92 (0.83, 0.97) | 0.77 (0.73, 0.81) |
| 4 Digits Backwards | Is the patient hypervigilant? | Does the patient appear sleepy? | 45.4% (254) | 0.92 (0.83, 0.97) | 0.61 (0.56, 0.65) |
| 4 Digits Backwards | What type of place is this? | Does the patient appear sleepy? | 45.9% (257) | 0.92 (0.83, 0.97) | 0.60 (0.56, 0.65) |
| 4 Digits Backwards | What is the year? | Does the patient appear sleepy? | 46.1% (258) | 0.92 (0.83, 0.97) | 0.60 (0.56, 0.64) |
| 4 Digits Backwards | What day of the week is it? | Does the patient appear sleepy? | 47.3% (265) | 0.92 (0.83, 0.97) | 0.59 (0.54, 0.63) |
| *Screens that meet our criteria are in bold. | | | | | |

| Supplemental Table 4B. 12 Most Sensitive Three-Item Screens for Delirium on Postoperative Day Two (n=549) | | | | | |
|--|------------------------------|------------------------------|-----------------------------------|-------------------------|-------------------------|
| Screening Item 1 | Screening Item 2 | Screening Item 3 | Positive Screen Rate % (n) | Sensitivity (CI) | Specificity (CI) |
| 4 Digits Backwards | Months of the Year Backwards | What type of place is this? | 53.9% (302) | 1.00 (0.93, 1.00) | 0.49 (0.44, 0.54) |
| Is the patient seeing things? | 4 Digits Backwards | Months of the Year Backwards | 54.5% (305) | 1.00 (0.93, 1.00) | 0.48 (0.43, 0.52) |
| Does the patient report feeling confused? | 4 Digits Backwards | Months of the Year Backwards | 57.3% (321) | 1.00 (0.93, 1.00) | 0.45 (0.40, 0.49) |
| Does the patient report feeling confused? | 4 Digits Backwards | Day Backwards | 51.3% (287) | 0.98 (0.89, 1.00) | 0.51 (0.47, 0.56) |
| 3 Digits Backwards | 4 Digits Backwards | Months of the Year Backwards | 53.8% (300) | 0.98 (0.89, 1.00) | 0.49 (0.44, 0.53) |
| 4 Digits Backwards | Days of the Week Backwards | Months of the Year Backwards | 53.8% (300) | 0.98 (0.89, 1.00) | 0.49 (0.44, 0.53) |
| Does the patient think they are somewhere other than the hospital? | 4 Digits Backwards | Months of the Year Backwards | 55.0% (308) | 0.98 (0.89, 1.00) | 0.47 (0.43, 0.52) |
| Does the patient report feeling confused? | 3 Digits Backwards | 4 Digits Backwards | 51.4% (288) | 0.96 (0.86, 0.99) | 0.51 (0.46, 0.55) |

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| 4 Digits Backwards | What type of place is this? | Does the patient appear sleepy? | 47.1% (264) | 0.94 (0.84, 0.99) | 0.57 (0.52, 0.61) |
| 4 Digits Backwards | Days of the Week Backwards | What type of place is this? | 47.0% (263) | 0.94 (0.84, 0.99) | 0.56 (0.52, 0.61) |
| Does the patient report feeling confused? | 4 Digits Backwards | Does the patient appear sleepy? | 51.6% (289) | 0.94 (0.84, 0.99) | 0.52 (0.47, 0.56) |
| Does the patient report feeling confused? | 4 Digits Backwards | What type of place is this? | 51.1% (286) | 0.94 (0.84, 0.98) | 0.52 (0.47, 0.56) |

Supplemental Figure 1. Confusion Assessment Method (CAM) Diagnostic Criteria

