Evidence Table D-33. Continuous delirium severity outcomes for studies comparing interventions to treat delirium

| Author, year | Population | Intervention group, n | Control group, n | Route of administration | Outcome definition | Severity score, intervention group | Severity score, control group | Mean between-group difference (95% CI) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| First-generation antipsychotic vs. placebo |  |  |  |  |  |  |  |  |
| Agar, 2017[17](#_ENREF_17) | Patients in Hospice and palliative care with delirium | Haloperidol (Max dose: 4 mg/day), 59 | Placebo (Max dose: 4 mg/day), 64 | Oral | MDAS Scores | Baseline: Mean 15.99 (95% CI: 13.19 to 18.74)Final: Mean 13.61 (95% CI: 10.86 to 16.46) | Baseline: Mean 15.01 (95% CI: 12.21 to 17.81)Final: Mean 10.26 (95% CI: 7.41 to 13.05) | 0.75 (95% CI: -0.03 to 1.51), p=0.06 |
| Agar, 2017[17](#_ENREF_17) | Patients in Hospice and palliative care with delirium | Haloperidol (Max dose: 4 mg/day),  | Placebo (Max dose: 4 mg/day),  | Oral | NuDESC (Scores 2, 3, 4) | Baseline: Mean 2.6 (SD 1.48)Final: Not reported | Baseline: Mean 2.54 (SD 1.43)Final: Not reported | 0.24 (95% CI: 0.06 to 0.42), p=0.009 |
| Hu, 2006[35](#_ENREF_35) | Inpatients with senile delirium aged 65-99 | Haloperidol (Dose range: 2.5-10mg), 72 | Not reported29 | Intramuscular | CGI-GI (global improvement item of the clinical global impression scale) | Baseline: Mean 4.94 (SD 0.69)Final: Mean 1.79 (SD 1.12) | Baseline: Mean 5.21 (SD 0.77)Final: Mean 3.97 (SD 1.76) | -1.91 (95% CI: -2.85 to -0.97) |
| Hu, 2006[35](#_ENREF_35) | Inpatients with senile delirium aged 65-99 | Haloperidol (Dose range: 2.5-10mg), 72 | Not reported29 | Intramuscular | DRS score | Baseline: Mean 24.3 (SD 2.5)Final: Mean 7.2 (SD 4.6) | Baseline: Mean 24.7 (SD 3.5)Final: Mean 17.6 (SD 9.3) | -10.00 (95% CI: -14.58 to -5.42) |
| Second-generation antipsychotic vs. placebo |  |  |  |  |  |  |  |  |
| Agar, 2017[17](#_ENREF_17) | Patients in Hospice and palliative care with delirium | Risperidone (Max dose: 4 mg/d), 46 | Placebo (Max dose: 4 mg/day), 64 | Oral | MDAS Scores | Baseline: Mean 16.97 (95% CI: 14.08 to 19.81)Final: Mean 14.69 (95% CI: 11.7 to 17.62) | Baseline: Mean 15.01 (95% CI: 12.21 to 17.81)Final: Mean 10.26 (95% CI: 7.41 to 13.05) | 0.96 (95% CI: 0.16 to 1.77), p=0.001 |
| Agar, 2017[17](#_ENREF_17) | Patients in Hospice and palliative care with delirium | Risperidone (Max dose: 4 mg/d),  | Placebo (Max dose: 4 mg/day),  | Oral | NuDESC (Scores 2, 3, 4) | Baseline: Mean 2.54 (SD 1.23)Final: Not reported | Baseline: Mean 2.54 (SD 1.43)Final: Not reported | 0.48 (95% CI: 0.09 to 0.86), p=0.02 |

| Author, year | Population | Intervention group, n | Control group, n | Route of administration | Outcome definition | Severity score, intervention group | Severity score, control group | Mean between-group difference (95% CI) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Hu, 2006[35](#_ENREF_35) | Inpatients with senile delirium aged 65-99 | Olanzapine (Dose range: 1.25-20mg), 74 | Not reported29 | Oral or sublingually | CGI-GI (global improvement item of the clinical global impression scale) | Baseline: Mean 4.85 (SD 0.95)Final: Mean 2.05 (SD 0.99) | Baseline: Mean 5.21 (SD 0.77)Final: Mean 3.97 (SD 1.76) | -1.56 (95% CI: -2.54 to -0.58) |
| Hu, 2006[35](#_ENREF_35) | Inpatients with senile delirium aged 65-99 | Olanzapine (Dose range: 1.25-20mg), 74 | Not reported29 | Oral or sublingually | DRS score | Change from baseline: Mean -17.2 (Not reported ) | Change from baseline: Mean -7.1 (Not reported ) | -10.10 (95% CI: -14.71 to -5.49) |
| Tahir, 2010[59](#_ENREF_59) | Patients in medical, surgical and orthopedic wards, who met the DSM-IV criteria for delirium on the same day if they had a DRS-R-98 total score of 15 or more | Quetiapine (Mean dose: 40 Dose range: 25 - 175mg), 21 | Placebo (Mean dose: 25 Max dose: 175mg), 21 | Oral | DRS-R-98 | Baseline: Mean 19.07 (SE 2.921)Final: Mean 9.673 (SE 2.647) | Baseline: Mean 19.07 (SE 2.921)Final: Mean 12.255 (SE 2.204) | -2.58 (95% CI: -15.45 to 10.29) |
| Tahir, 2010[59](#_ENREF_59) | Patients in medical, surgical and orthopedic wards, who met the DSM-IV criteria for delirium on the same day if they had a DRS-R-98 total score of 15 or more | Quetiapine (Mean dose: 40mg Dose range: 25 - 175mg), 21 | Placebo (Mean dose: 25mg Max dose: 175mg), 21 | Oral | DRS-R-98 | Baseline: Mean 19.07 (SE 2.921)Final: Mean 7.132 (SE 3.347) | Baseline: Mean 19.07 (SE 2.921)Final: Mean 7.387 (SE 3.264) | -0.26 (95% CI: -15.21 to 14.70) |
| First-generation antipsychotic vs. first-generation antipsychotic |  |  |  |  |  |  |  |  |
| Breitbart, 1996[22](#_ENREF_22) | Medically hospitalized adult patients with AIDS and a DRS score of 13 or greater (delirium) | Haloperidol (Planned dose: oral: 0.25-5.0mg, Intramuscular: 0.125-3.0mg Mean dose: 1.4 Dose range: 0.4 - 3.6mg), 11 | Chlorpromazine (Planned dose: Oral: 10-200mg, Intramuscular: 5-100mg Mean dose: 36 Dose range: 10-80mg), 13 | Oral or intramuscular | Delirium Rating Scale (older version) score | Baseline: Mean 20.45 (SD 3.45)Final: Mean 11.64 (SD 6.1) | Baseline: Mean 20.62 (SD 3.88)Final: Mean 11.85 (SD 6.74) | -0.04 (95% CI: -6.17 to 6.09) |

| Author, year | Population | Intervention group, n | Control group, n | Route of administration | Outcome definition | Severity score, intervention group | Severity score, control group | Mean between-group difference (95% CI) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| First-generation antipsychotic vs. second-generation antipsychotic |  |  |  |  |  |  |  |  |
| Grover, 2011[30](#_ENREF_30) | Consecutive patients >-18 years old referred to psychiatry and diagnosed with delirium | Risperidone (Mean dose: 0.95mg Dose range: 0.5-2.0mg per day), 20 | Haloperidol (Mean dose: 0.88 Dose range: 0.25-5mg per day), 21 | Oral | DRS-R-98 | Baseline: Mean 23.8 (SD 5.16)Final: Mean 8 (SD 7.27) | Baseline: Mean 21.85 (SD 4.77)Final: Mean 6.09 (SD 7.19) | -0.04 (95% CI: -5.82 to 5.74) |
| Grover, 2011[30](#_ENREF_30) | Consecutive patients >-18 years old referred to psychiatry and diagnosed with delirium | Olanzapine (Mean dose: 3.05mg Dose range: 1.25-10 mg per day), 23 | Haloperidol (Mean dose: 0.88 Dose range: 0.25-5mg per day), 21 | Oral | DRS-R-98 | Baseline: Mean 22.56 (SD 4.49)Final: Mean 9.17 (SD 8.65) | Baseline: Mean 21.85 (SD 4.77)Final: Mean 6.09 (SD 7.19) | 2.37 (95% CI: -3.26 to 8.00) |
| Grover, 2016[31](#_ENREF_31) | Patients >18 years old referred to Psychiatry who met DSM-IV criteria for delirium | Quetiapine (Mean dose: 26.63 ± 15.61 Dose range: 12.5-75mg), 31 | Haloperidol (Mean dose: 0.67 ± 0.35 Dose range: 0.25-1.25mg), 32 | Oral | DRS-R-98 | Change from baseline: Mean 4.86 (Not reported ) | Change from baseline: Mean 4.94 (Not reported ) | -0.52 (95% CI: -3.57 to 2.53) |
| Han, 2004[32](#_ENREF_32) | All patients presenting with altered mental status (from both ICU and non-ICU units) who were referred to the consulting psychiatry division were evaluated. | Risperidone (Mean dose: 1.02 Dose range: 0.5 to 2.0mg), 12 | Haloperidol (Mean dose: 1.7 Dose range: 1.0 to 3.0mg), 12 | Oral | DRS-R-98 (MDAS) | Baseline: Mean 33.8 (SD 6.8)Final: Mean 20.94 (SD 8.9) | Baseline: Mean 32.82 (SD 6.66)Final: Mean 15.18 (SD 10.48) | 4.78 (95% CI: -5.95 to 15.51) |
| Hu, 2006[35](#_ENREF_35) | Inpatients with senile delirium aged 65-99 | Olanzapine (Dose range: 1.25-20mg), 74 | Haloperidol (Dose range: 2.5-10mg), 72 | Oral or sublingually | CGI-GI (global improvement item of the clinical global impression scale) | Baseline: Mean 4.85 (SD 0.95)Final: Mean 2.05 (SD 0.99) | Baseline: Mean 4.94 (SD 0.69)Final: Mean 1.79 (SD 1.12) | 0.35 (95% CI: -0.14 to 0.84) |
| Hu, 2006[35](#_ENREF_35) | Inpatients with senile delirium aged 65-99 | Olanzapine (Dose range: 1.25-20mg), 74 | Haloperidol (Dose range: 2.5-10mg), 72 | Oral or sublingually | DRS score | Change from baseline: Mean -17.2 (Not reported ) | Change from baseline: Mean -17.1 (Not reported ) | 0.00 (95% CI: -1.78 to 1.78) |

| Author, year | Population | Intervention group, n | Control group, n | Route of administration | Outcome definition | Severity score, intervention group | Severity score, control group | Mean between-group difference (95% CI) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Jain, 2017[38](#_ENREF_38) | Medical and surgical inpatients | Olanzapine (Mean dose: 5.49mg), 47 | Haloperidol (Mean dose: 2.10mg), 53 | Oral | MDAS | Baseline: Mean 18.49 (Not reported )Final: Mean 8.43 (Not reported ) | Baseline: Mean 17.79 (Not reported )Final: Mean 8 (Not reported ) | -0.27 (95% CI: Not reported) |
| Lim, 2007[46](#_ENREF_46) | Patients from internal medicine, PMR, neurology, neurosurgery, orthopedic surgery, or general surgery that were referred to the psychiatric department | Olanzapine (Titrated (5 to 20 mg)31 | Haloperidol (Titrated (5 to 20 mg)31 | Intramuscular | DRS-R-98 | Baseline: Mean 27.2 (SD 4)Final: Mean 6.8 (SD 4) | Baseline: Mean 22.8 (SD 9.4)Final: Mean 8 (SD 4.4) | -5.60 (95% CI: -11.61 to 0.41) |
| Lin, 2008[47](#_ENREF_47) | Patients receiving hospice or palliative care with advanced cancer and met DSM-IV criteria for delirium | Olanzapine (Planned dose: start dose 5mg Max dose: 15mg), 5 | Haloperidol (Planned dose: start dose 5mg Max dose: 15mg), 7 | Oral | Clinical Global Impression - Severity | Baseline: Mean 5 (SD 1.03)Final: Mean 3.6 (SD 0.55) | Baseline: Mean 4.5 (SD 1.02)Final: Mean 3.57 (SD 0.98) | -0.47 (95% CI: -1.77 to 0.83) |
| Lin, 2008[47](#_ENREF_47) | Patients receiving hospice or palliative care with advanced cancer and met DSM-IV criteria for delirium | Olanzapine (Planned dose: start dose 5mg Max dose: 15mg), 10 | Haloperidol (Planned dose: start dose 5mg Max dose: 15mg), 14 | Oral | Clinical Global Impression - Severity | Baseline: Mean 5 (SD 1.03)Final: Mean 4.1 (SD 1.2) | Baseline: Mean 4.5 (SD 1.02)Final: Mean 3.79 (SD 0.89) | -0.19 (95% CI: -1.46 to 1.08) |
| Lin, 2008[47](#_ENREF_47) | Patients receiving hospice or palliative care with advanced cancer and met DSM-IV criteria for delirium | Olanzapine (Planned dose: start dose 5mg Max dose: 15mg), 14 | Haloperidol (Planned dose: start dose 5mg Max dose: 15mg), 14 | Oral | Clinical Global Impression-Severity | Baseline: Mean 5 (SD 1.03)Final: Mean 4.07 (SD 1.21) | Baseline: Mean 4.5 (SD 1.02)Final: Mean 3.57 (SD 0.65) | 0.00 (95% CI: -1.20 to 1.20) |

| Author, year | Population | Intervention group, n | Control group, n | Route of administration | Outcome definition | Severity score, intervention group | Severity score, control group | Mean between-group difference (95% CI) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Lin, 2008[47](#_ENREF_47) | Patients receiving hospice or palliative care with advanced cancer and met DSM-IV criteria for delirium | Olanzapine (Planned dose: start dose 5mg Max dose: 15mg), 14 | Haloperidol (Planned dose: start dose 5mg Max dose: 15mg), 14 | Oral | DRS-c | Baseline: Mean 17.56 (SD 5.18)Final: Mean 14.29 (SD 4.55) | Baseline: Mean 16.5 (SD 4.7)Final: Mean 11.93 (SD 3.81) | 1.30 (95% CI: -4.62 to 7.22) |
| Lin, 2008[47](#_ENREF_47) | Patients receiving hospice or palliative care with advanced cancer and met DSM-IV criteria for delirium | Olanzapine (Planned dose: start dose 5mg Max dose: 15mg), 10 | Haloperidol (Planned dose: start dose 5mg Max dose: 15mg), 14 | Oral | DRS-c | Baseline: Mean 17.56 (SD 5.18)Final: Mean 14.9 (SD 3.48) | Baseline: Mean 16.5 (SD 4.7)Final: Mean 13 (SD 5.02) | 0.84 (95% CI: -5.45 to 7.13) |
| Lin, 2008[47](#_ENREF_47) | Patients receiving hospice or palliative care with advanced cancer and met DSM-IV criteria for delirium | Olanzapine (Planned dose: start dose 5mg Max dose: 15mg), 5 | Haloperidol (Planned dose: start dose 5mg Max dose: 15mg), 7 | Oral | DRS-c | Baseline: Mean 17.56 (SD 5.18)Final: Mean 10.6 (SD 3.65) | Baseline: Mean 16.5 (SD 4.7)Final: Mean 12.29 (SD 5.59) | -2.75 (95% CI: -9.23 to 3.73) |
| Maneeton, 2013[49](#_ENREF_49) | General adult population (age 18-75) with hyperactive delirium, referred to psychiatry consult liaison service at tertiary care hospital in Thailand | Quetiapine (Mean dose: 67.6 (SD 9.7) Dose range: 25-100mg),  | Haloperidol (Mean dose: 0.8 (SD 0.3) Dose range: 0.5-2.0mg),  | Oral | Clinical global impression | Change from baseline: mean difference -1.1 (SD 1) | Change from baseline: mean difference -1.2 (SD 1.4) | -0.10 (95% CI: -0.75 to 0.55) |

| Author, year | Population | Intervention group, n | Control group, n | Route of administration | Outcome definition | Severity score, intervention group | Severity score, control group | Mean between-group difference (95% CI) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Maneeton, 2013[49](#_ENREF_49) | General adult population (age 18-75) with hyperactive delirium, referred to psychiatry consult liaison service at tertiary care hospital in Thailand | Quetiapine (Mean dose: 67.6 (SD 9.7) Dose range: 25-100mg), 24 | Haloperidol (Mean dose: 0.8 (SD 0.3) Dose range: 0.5-2.0mg), 28 | Oral | DRS-R-98 | Change from baseline: Mean -22.9 (SD 6.9) | Change from baseline: Mean -21.7 (SD 6.7) | 1.20 (95% CI: -2.51 to 4.91) |
| Skrobik, 2004[57](#_ENREF_57) | Medical-surgical ICU | Olanzapine (Mean dose: 4.54 Dose range: 2.5 to 13.5mg), 28 | Haloperidol (Mean dose: 6.5 Dose range: 1 to 28mg), 45 | Oral | Delirium Index | Baseline: Mean 6.7 (Not reported )Final: Mean 5.4 (Not reported ) | Baseline: Mean 7.4 (Not reported )Final: Mean 4.8 (Not reported ) | 1.30 (95% CI: Not reported) p=0.64 |
| Second-generation antipsychotic vs. second-generation antipsychotic |  |  |  |  |  |   |  |  |
| Grover, 2011[30](#_ENREF_30) | Consecutive patients >-18 years old referred to psychiatry and diagnosed with delirium | Risperidone (Mean dose: 0.95mg Dose range: 0.5-2.0mg per day), 20 | Olanzapine (Mean dose: 3.05mg Dose range: 1.25-10 mg per day), 23 | Oral | DRS-R-98 | Baseline: Mean 23.8 (SD 5.16)Final: Mean 8 (SD 7.27) | Baseline: Mean 22.56 (SD 4.49)Final: Mean 9.17 (SD 8.65) | -2.41 (95% CI: -8.24 to 3.42) |
| Kim, 2010[42](#_ENREF_42) | General hospital inpatients who met DSM-IV diagnostic criteria for delirium | Risperidone (Mean dose: 0.9 ± 0.6 Dose range: 0.25 - 2mg), 17 | Olanzapine (Mean dose: 2.4± 1.7 Dose range: 1.25 - 7.5mg), 15 | Not reported | DRS-R-98 | Baseline: Mean 25.8 (SD 5.2)Final: Mean 7.62 (Not reported ) | Baseline: Mean 23.5 (SD 5.1)Final: Mean 7.52 (Not reported ) | -2.2 (95% CI: Not reported) |
| Lee, 2005[45](#_ENREF_45) | Patients referred to the Psychiatric Consultation that met DSM-IV criteria for delirium | Amisulpride (Mean dose: 156.4±97.5 Dose range: 50–800mg), 16 | Quetiapine (Mean dose: 113 ± 85.5 Dose range: 50–300mg), 15 | Not reported | DRS-R-98 | Baseline: Mean 10.5 (SD 4.1)Final: Mean 3.5 ( 1.4) | Baseline: Mean 10.1 (SD 4.1)Final: Mean 3.5 ( 2.6) | -0.40 (95% CI: -5.06 to 4.26) |

| Author, year | Population | Intervention group, n | Control group, n | Route of administration | Outcome definition | Severity score, intervention group | Severity score, control group | Mean between-group difference (95% CI) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| First-generation antipsychotic vs. other |  |  |  |  |  |  |  |  |
| Bakri, 2015[19](#_ENREF_19) | ICU trauma patients without severe injury, comatose, or moribund patients were excluded | Haloperidol (Planned dose: 5 mg), 32 | Ondansetron (Planned dose: 8 mg), 32 | Intravenous | ICDSC score | Baseline: Mean 6.5 (SD 1.6)Final: Mean 3.4 (SD 1.1) | Baseline: Mean 6.4 (SD 1.5)Final: Mean 3.5 (SD 1.3) | -0.20 (95% CI: -1.44 to 1.04) |
| Bakri, 2015[19](#_ENREF_19) | ICU trauma patients without severe injury, comatose, or moribund patients were excluded | Haloperidol (Planned dose: 5 mg), 32 | Dexmedetomidine (Planned dose: 1 ug/kg), 32 | Intravenous | ICDSC score | Baseline: Mean 6.5 (SD 1.6)Final: Mean 3.4 (SD 1.1) | Baseline: Mean 6.7 (SD 1.3)Final: Mean 2.9 (SD 1.2) | 0.70 (95% CI: -0.45 to 1.85) |
| Breitbart, 1996[22](#_ENREF_22) | Medically hospitalized adult patients with AIDS and a DRS score of 13 or greater (delirium) | Lorazepam (Planned dose: Oral: 0.50-4.0mg, Intramuscular: 0.2-2.0mg Mean dose: 4.6 Dose range: 1.3 - 7.9mg), 6 | Chlorpromazine (Planned dose: Oral: 10-200mg, Intramuscular: 5-100mg Mean dose: 36 Dose range: 10-80mg), 13 | Oral or intramuscular | Delirium Rating Scale (older version) score | Baseline: Mean 18.33 (SD 2.58)Final: Mean 17 (SD 4.98) | Baseline: Mean 20.62 (SD 3.88)Final: Mean 11.85 (SD 6.74) | 7.44 (95% CI: 1.53 to 13.35) |
| Breitbart, 1996[22](#_ENREF_22) | Medically hospitalized adult patients with AIDS and a DRS score of 13 or greater (delirium) | Haloperidol (Planned dose: oral: 0.25-5.0mg, Intramuscular: 0.125-3.0mg Mean dose: 1.4 Dose range: 0.4 - 3.6mg), 11 | Lorazepam (Planned dose: Oral: 0.50-4.0mg, Intramuscular: 0.2-2.0mg Mean dose: 4.6 Dose range: 1.3 - 7.9mg), 6 | Oral or intramuscular | Delirium Rating Scale (older version) score | Baseline: Mean 20.45 (SD 3.45)Final: Mean 11.64 (SD 6.1) | Baseline: Mean 18.33 (SD 2.58)Final: Mean 17 (SD 4.98) | -7.48 (95% CI: -13.32 to -1.64) |

AIDS=acquired immunodeficiency syndrome; CGI-GI=Clinical Global Impressions Scale-Global Impression; CI=confidence interval; DRS=Delirium Rating Scale; DRS-R-98= Delirium Rating Scale Revised-98; DSM-IV=Diagnostic and Statistical Manual of Mental Disorders, 4th ed; ICDSC=Intensive Care Delirium Screening Checklist; ICU=intensive care unit; MDAS=Memorial Delirium Assessment Scale; mg/day=milligram per day; mg=milligram; NuDESC=Nursing Delirium Screening Scale; SD=standard deviation; SE=standard error