Table C-3. Relative risks, opioids versus ketamine

| **Outcome** | **Study Design and Sample Size** | **Setting: Effect Estimates and 95% Confidence Intervals** |
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| Key Question 1 |  |  |
| Pain presence – full resolution 30 min | 3 RCT (n=172) | ED: Meta-analysis of 3 RCTs RR 1.03 (0.32 to 3.36) |
| Pain presence – full resolution 60 min | 2 RCT (n=146) | ED: Meta-analysis of 2 RCTs RR 1.07 (0.58 to 1.97) |
| Pain presence- partial resolution - 15 min | 5 RCT (n=369) | ED: Meta-analysis of 5 RCTs RR 0.97 (0.65 to 1.45) |
| Pain presence- partial resolution - 30 min | 4 RCT (n=301) | ED: Meta-analysis of 4 RCTs RR 0.98 (0.92 to 1.06) |
| Pain presence- partial resolution - 60 min | 3 RCT (n=208) | ED: Meta-analysis of 3 RCTs RR 1.01 (0.60 to 1.71) |
| Key Question 2 - graded |  |  |
| Any adverse event | 6 RCT (n=348) | ED: Meta-analysis of 6 RCTs RR 0.63 (0.36 to 1.08) |
| Hypotension | 4 RCT (n=508) | ED: Meta-analysis of 4 RCTs RR 3.74 (0.40 to 34.73) |
| Mental status changes - dizziness | 7 RCT (n=637) | ED: Meta-analysis of 7 RCTs RR 0.44 (0.22 to 0.88) |
| Mental status changes - drowsiness | 4 RCT (n=356) | ED: Meta-analysis of 4 RCTs RR 0.79 (0.18 to 3.42) |
| Mental status changes - sedation | 1 RCT (n=22) | ED: 1 RCT RR 0.29 (0.08 to 1.08) |
| Mental status changes - confusion | 1 RCT (n=75) | ED:One 3-arm trial -morphine IV RR 0.25 (0.08 to 0.78), morphine IM RR 0.37 (0.15 to 0.90) |
| Mental status changes - difficulty concentrating | 1 RCT (n=75) | ED: One 3-arm trial- morphine IV RR 0.36 (0.15 to 0.84); morphine IM RR 0.38 (0.17 to 0.83) |
| Mental status changes - sleepiness/tired | 1 RCT (n=82) | ED:1 RCT RR 0.94 (0.54 to 1.63) |
| Respiratory depression | 4 RCT (n=491) | ED: Meta-analysis of 4 RCTs RR 3.88 (1.76 to 8.55) |
| Key Question 2- Additional Findings |  |  |
| Dissociation – 15 min | 1 RCT (n=86) | ED: 1 RCT RR 0.35 (0.01 to 8.33) |
| Dissociation – study duration | 3 RCT (n=213) | ED: Meta-analysis of 3 RCT RR 0.63 (0.08 to 5.08) |
| Emergence delirium | 4 RCT (n=284) | ED: Meta-analysis of 4 RCT RR 0.19 (0.02 to 1.76) |
| Nausea – 15 min | 2 RCT (n=150) | ED: Meta-analysis of 2 RCT RR 0.52 (0.21 to 1.33) |
| Nausea – 30 min | 2 RCT (n=150)  | ED: Meta-analysis of 2 RCT RR 1.38 (0.59 to 3.23) |
| Nausea – 60 min | 1 RCT (n=60) | ED: 1 RCT RR 0.33 (0.07 to 1.52) |
| Nausea – study period | 5 RCT (n=540) | ED: Meta-analysis of 5 RCT RR 0.87 (0.54 to 1.41) |
| Nausea and/or vomiting | 1 RCT (n=527) | EMS: 1 RCT RR 4.10 (1.93 to 8.74) |
| Vomiting  | 1 RCT (n=45) | ED: 1 RCT RR 1.14 (0.08 to 17.16) |

Abbreviations: AR=absolute risk; ED=emergency department; EMS=emergency medical services; IV=intravenous; MD=mean difference; min=minutes; RCT=randomized controlled trial; RD=risk difference