INTRAVENOUS MIDAZOLAM-DROPERIDOL (COMBINATION), DROPERIDOL (ONLY) OR OLANZAPINE (ONLY) FOR THE ACUTELY AGITATED PATIENT: A MULTI-CENTRED, RANDOMISED, DOUBLE-BLIND, TRIPLE-DUMMY, CLINICAL TRIAL

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Aim
To determine the most efficacious of three currently used drug regimens for the sedation of acutely agitated patients in the emergency department

Methods
We undertook a randomised, double-blind, triple-dummy, clinical trial in two metropolitan EDs (October 2014-August 2015). Patients, aged 18-65 years, requiring intravenous (IV) drug sedation for acute agitation were enrolled. Each was randomised to an IV bolus of either midazolam 5mg-droperidol 5mg, droperidol 10mg or olanzapine 10mg. Two top up doses were administered, if required: midazolam 5mg, droperidol 5mg or olanzapine 5mg, respectively. The primary outcome was time to adequate sedation.

Results
349 patients were enrolled. The baseline characteristics of the groups (age, gender, triage category, drug/alcohol intoxication) did not differ ($p>0.05$). However, the median (IQR) times to adequate sedation (minutes) differed significantly ($p<0.001$): midazolam-droperidol group 5 (8), droperidol 11 (17), olanzapine 11 (20). Five minutes after the initial sedative administration, 55.9%, 24.3% and 29.2% of patients were adequately sedated, respectively, ($p<0.001$). At all other times, significantly more patients in the midazolam-droperidol group were adequately sedated ($p<0.01$). Significantly fewer patients in the midazolam-droperidol group required top-up doses (28.0%, 59.5% and 60.8%, respectively, $p<0.001$) or rescue medication (1.7%, 13.5% and 25.8%, respectively, $p<0.001$). The proportion of patients in each group who experienced an adverse event did not differ (22.0%, 17.1% and 20.8%, respectively, $p=0.63$).

Conclusion
The midazolam-droperidol combination is the best drug regimen for sedation of the acutely agitated emergency department patient. These findings will inform best-practice guidelines for the management of this difficult patient group.