Introduction:
This systematic review and meta-analysis aims to investigate whether video laryngoscopy (VL) improves the success of orotracheal intubation, when compared with direct laryngoscopy (DL).

Methods:
A systematic search of Pubmed, Embase, and CENTRAL databases was performed to identify studies comparing VL and DL for emergency orotracheal intubations outside the operating room. The primary outcome was rate of first pass intubation. Subgroup analyses by location, device used, clinician experience, and clinical scenario were performed. The secondary outcome was rate of complications.

Results:
The search identified 32 studies with 15,064 emergency intubations. There was no overall difference in first-pass intubation with VL compared to DL. Subgroup analysis showed first-pass intubations were increased with VL in the intensive care unit (ICU) (2.02 (1.43-2.85); p<0.01), but not in the emergency department or pre-hospital setting. Rate of first-pass intubations were similar with Glidescope® and DL, but improved with the CMAC® (1.32(1.08-1.62); p=0.007). There was greater first-pass intubation with VL than DL among novice/trainee clinicians (OR=1.95 (1.45-2.64); p<0.001), but not among experienced clinicians or paramedics/nurses. There was no difference in first-pass intubation with VL and DL during cardiopulmonary resuscitation or trauma. VL was associated with fewer oesophageal intubations than DL (OR=0.31 (0.14-0.69); p=0.004), but more arterial hypotension (OR=1.49 (1.00-2.23); p=0.05).

Conclusion:
In summary, compared to DL, VL is associated with greater first-pass emergency intubation in the ICU and among less experienced clinicians. VL is associated with reduced oesophageal intubations but a greater incidence of arterial hypotension.