Introduction:
Delirium is an acute brain organ dysfunction characterized by altered consciousness, inattention, disorganized thinking, and perceptual disturbances. Of inpatients over age 65, 10-30% experience delirium, up to 80% in the critically ill ventilated patients. Delirium has been associated with worse clinical outcomes (greater costs, length of stay, mortality, and long-term cognitive impairment).

Identification of the problem:
Little data exists about delirium in the PACU. Prior studies measured emergence delirium via agitation/sedation scales not delirium assessment tools.

Purpose of the study:
To study the incidence and risk factors of emergence and PACU delirium in postoperative patients using validated delirium assessment tool (CAM-ICU).

Methodology:
Prospective observational study of 400 adult PACU patients. Exclusion criteria: baseline dementia, anoxic brain-injury, neuromuscular disorders, deaf/non-English speaking. Investigator PACU nurses completed CAM-ICU at PACU admission, 30 min, 1 hour, discharge. Data collected: demographics, surgery-type, anesthetic length, and medications. Emergence delirium: agitated emergence or positive CAM-ICU upon PACU admission. PACU delirium: positive CAM-ICU at any other time point. Multivariable logistic regression performed evaluating association of \textit{a priori} defined risk factors with emergence/PACU delirium.

Results:
Postoperative patients studied with a median age of 57, median ASA classification: 3. Emergence delirium present in 154 (38%) patients. PACU delirium present in 67 (17%) patients overall. Anesthetic duration was found to be associated with emergence delirium, whereas total perioperative opioid administration was independently associated with PACU delirium. Additional risk factors studied didn’t have significant associations with either emergence/PACU delirium.

Discussion:
Delirium has 3 psychomotor expressions: hyperactive, hypoactive or mixed presentation. Agitated emergence from anesthesia could be in response to pain, fear, full bladder or delirium. Use of a validated delirium detection tool would allow for detection of delirium with or without an agitated state.

Conclusion:
Emergence and PACU delirium are common post-operatively. Anesthetic duration and opioid usage are associated with delirium.

Implications for perianesthesia nurses and future research:
Use of delirium assessment tools can differentiate agitation, sedation and delirium. Further research needed to identify risk factors for emergence and PACU delirium, PACU nurses can be pivotal in recognizing and treating delirium.