

The authors concluded that although LDK did not significantly decrease NPS or OME for all trauma patients, there was a reduction in OME for severely injured patients (ISS > 15). The investigators suggest that LDK may lead to a reduction in opioid use in severely injured patients; however further research is still required. There were many limitations to this study including the subjectivity of NPS and lack of standardization of amounts and route of other pain medications received.

[Laura Elizabeth Werline, MD

Amanda Young, MD

University of Arkansas for Medical Sciences, Little Rock, AR]

Comment: This study suggests an interesting new role for ketamine in treatment of acute pain caused by traumatic injuries. Although LDK infusion was not proven to reduce NPS or OME compared to placebo, there was a significant reduction in OME used in severely injured patients (ISS > 15). Additional randomized control trials are required to further determine protocols for LDK use in acute trauma patients, especially regarding dosing and titration of the infusion. Investigation into the risks and benefits of initiation of LDK infusion in the emergency department setting cannot be sufficiently studied until adequate protocols are established. This study primarily focuses on outcomes more than 24 hours after initiation of LDK, when patients are no longer in the emergency department. Specific research regarding the possible benefits in the initial 12 hours after starting LDK infusion is needed for this to apply to management of acute traumatic pain in the emergency department setting.

□ IMPACT OF SCRIBES ON EMERGENCY MEDICINE DOCTORS' PRODUCTIVITY AND PATIENT THROUGHOUT: MULTICENTRE RANDOMIZED TRIAL.



Walker K, Ben-Meir M, Dunlop W, et al. *BMJ*. 2019;364:l121

The use of medical scribes is becoming increasingly popular in emergency departments. Medical scribes are believed to allow physicians to increase the number of patients seen per shift by offloading various clerical tasks. There is limited data on the effect of medical scribes on physician productivity and no multicenter randomized studies had been conducted prior to this trial.

This was a prospective, multicenter, randomized clinical trial that compared physician productivity with and without scribes amongst 88 physicians (ages 32 – 65 years) at five emergency departments in Victoria, Australia. Authors felt these sites were representative of typical Australian emergency departments. Scribes underwent standardized training with testing of competency. Twelve scribes were assigned to physician shifts using a computerized random number generator. Physician productivity was the primary outcome measured using patient throughput with and without scribes. Of note, the Australian emergency departments in this study have a system in which patients may see a single physician or multiple physicians. A primary consultation refers to a main physician providing triage, management and discharge of a patient while a secondary consultation refers to cases in which the patient is seen by a

separate physician for full consultation or a patient handover occurs. The primary outcome looked at productivity measures as patients per hour per doctor. Secondary outcomes included door-to-doctor time, median length of stay, and effects of scribes in various regions of the emergency department. Authors also examined incidents reported with scribes present and performed a cost-benefit analysis.

A total of 28,936 patients were seen over the course of the study with 5,098 patients seen during scribed shifts. Comparison of non-scribed versus scribed shifts showed productivity improved from 1.13 (95% CI 1.11-1.17) to 1.31 (95% CI 1.25-1.38) total patients per hour per doctor, respectively ($p < 0.001$). Productivity for primary consultations also improved from 0.83 (95% CI 0.81-0.85) without scribes to 1.04 (95% CI 0.98-1.11) primary patients per hour per doctor with scribes ($p < 0.001$). Length of stay improved, with a median length of stay of 192 minutes (interquartile range 108-311) during non-scribed shifts to 173 minutes (interquartile range 96-208) during scribed shifts ($p < 0.001$). Door-to-doctor time saw no statistically significant difference. The greatest increase in throughput was seen in triage, followed by acute and pediatric areas while sub-acute, fast track and observation areas saw no significant benefit. A cost benefit analysis showed the use of scribes to be financially beneficial with a cost savings of \$26.15 per scribed hour. If training costs were covered by the scribe, savings increased to \$31.15 per scribed hour. There were 16 total errors when scribes were used (1 in every 300 consultations). Errors most commonly revolved around patient identification (i.e., selecting the incorrect patient in the electronic medical record) and were recognized by the physician or scribe in all cases so no patient harm occurred.

The authors concluded that the use of scribes improved physician productivity, decreased length of stay and demonstrated significant cost savings. They recognized that actual productivity may be overestimated since physicians were aware of the study's intent. Additionally, there was no data regarding physician time spent documenting after the shift which could significantly alter the data. They also reported that although few errors occurred with scribe use, the true harm is likely underestimated since errors were identified through self-reporting.

[Ryan Matthews, MD

Amanda Young, MD

University of Arkansas for Medical Sciences, Little Rock, Arkansas]

Comment: It makes intuitive sense that offloading clerical duties to a well-trained scribe would allow physicians to dedicate more time to patient care. This multicenter study of physician productivity with scribes shows multiple statistically significant benefits to using scribes in the emergency department. The generalizability may be limited as the study took place at five sites in Australia. Bias may exist as well due to the Hawthorn effect. Further research is needed for other geographical locations due to differences in healthcare infrastructure that could influence both productivity and cost benefit analysis. Additionally, more research into patient safety would be beneficial.