New study confirms that postoperative pain can be reduced with NOL guided analgesia

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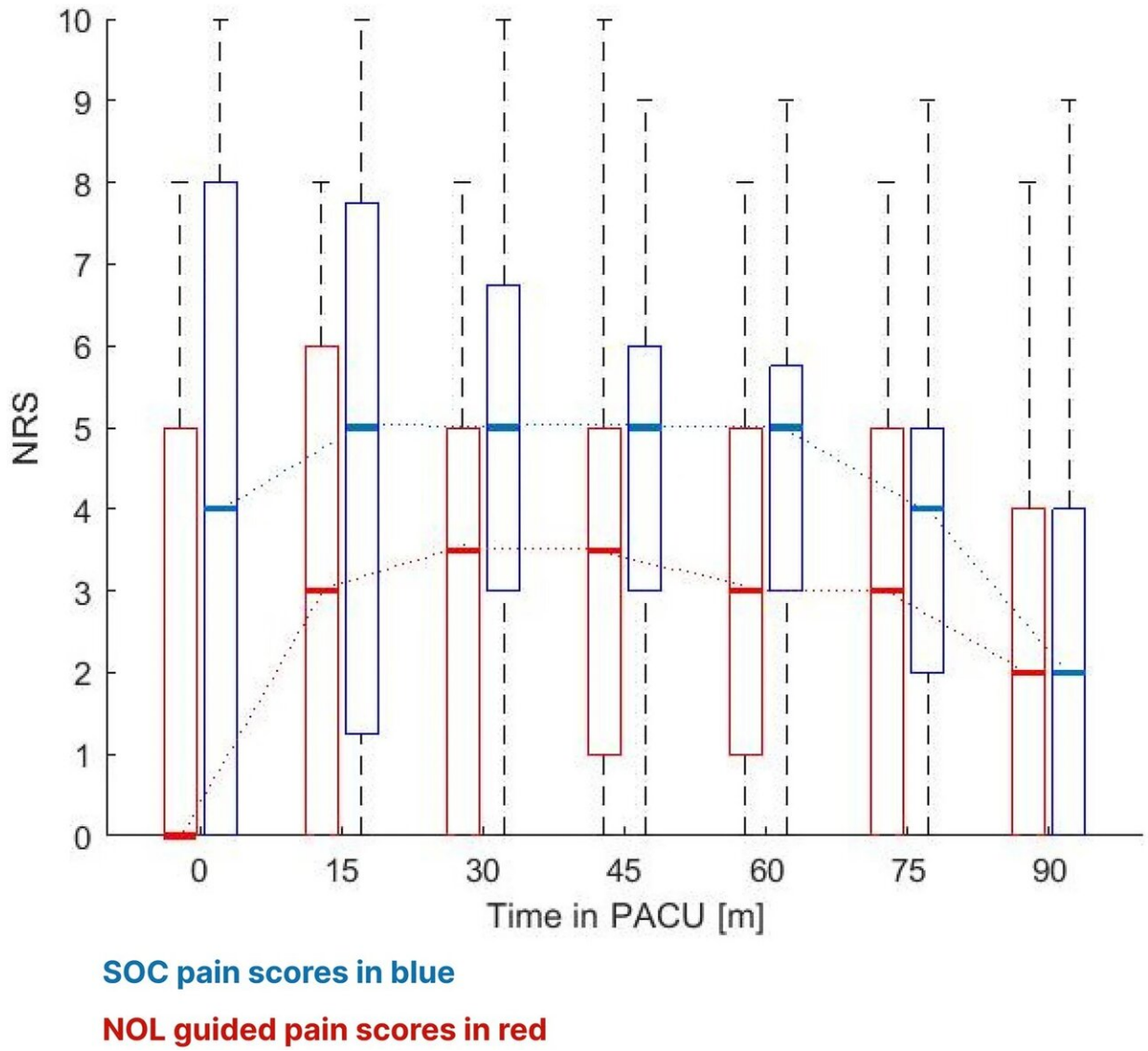

PACU pain score trajectories in the NOL guided and SOC groups. Credit: *Journal of Clinical Monitoring and Computing* (2022). DOI:

10.1007/s10877-022-00906-1

A new study has found that monitoring pain response levels during surgery with NOL technology (Medasense, Ramat Gan, Israel) can help reduce postoperative pain. Exploring the clinical effect of NOL guided fentanyl dosing on post-operative pain, the study demonstrated that patient pain scores after surgery were 30% lower when administration of pain medication during surgery was guided with NOL monitoring. The study corroborates the findings of the study by Meijer and colleagues that also found that NOL guided analgesia during sevoflurane/fentanyl anesthesia reduced pain scores by 33%.

"The study shows that personalized fentanyl dosing with NOL guidance helps patients suffer less postoperative pain," explains Dr. Yaacov Gozal of Shaare Zedek Medical Center Jerusalem, Israel, who led the study. "This represents an important benefit of nociception monitoring to patients and clinicians alike."

NOL monitoring provides a reliable index to objectively detect and quantify noxious stimuli during anesthesia, when patients can't communicate, guiding the clinical team in tailored opioid dosing for each patient. Earlier studies have shown that the NOL index outperforms other indexes for monitoring of pain response to surgical stimuli and that NOL-guided analgesia resulted in reduced intraoperative opioid consumption, leading to fewer intraoperative hypotensive events.

The new study, just published in the *Journal of Clinical Monitoring and Computing (JCMC)*, followed 75 patients undergoing elective abdominal surgery in a single-center prospective randomized. controlled trial. The patients were randomly divided so that one group received NOL-guided analgesia dosing during the surgery and the control group received

analgesics according to standard of care (based on hemodynamic monitoring). The study showed that while there was no difference in intraoperative fentanyl consumption between the groups, the patients in the NOL-guided group reported less pain in the first 90 minutes compared to the control arm.

The results indicate that by optimizing the timing of the fentanyl dosing with NOL guidance, patients may experience lower levels of sympathetic activation and surgical stress during surgery that translate into reduced PACU pain scores. Since there is inherent inter-patient variability effecting opioid dosing requirements, personalizing analgesia more accurately as guided by the NOL monitor can help improve pain scores.

"This study brings us one step closer to realizing our vision at Medasense," says Galit Zuckerman-Stark, CEO & Founder of Medasense, "Our goal is to help patients suffer less pain and improve their recovery following surgery."

More information: Rivka Fuica et al, Reduced postoperative pain in patients receiving nociception monitor guided analgesia during elective major abdominal surgery: a randomized, controlled trial, *Journal of Clinical Monitoring and Computing* (2022). DOI: 10.1007/s10877-022-00906-1

Provided by Medasense Biometrics