direct contamination of the wound, and extension from nearby structures. When sternal wound infection is suspected, it is crucial to promptly collect blood and tissue samples for culture and initiate intravenous administration of broad-spectrum antibiotics targeting the likely causative microorganisms. Subsequent adjustments to antimicrobial therapy should be based on the results of microbiological cultures and antibiotic susceptibility testing. However, there is variability in the data regarding the optimal antibiotic regimen and duration of treatment. The use of prophylactic antibiotics in cardiothoracic surgery is important in the prevention of sternal wound infections. However, surgical debridement to remove necrotic tissue is required for source control in the treatment of sternal wound infection.[5] In these patients requiring wound debridement, awake surgery is often performed due to their existing comorbidities.

Dost *et al.* performed the same combination in a patient who underwent awake subxiphoid pericardial window surgery.[2] Our surgery type was revision sternal and deep wound debridement. The incision line was longer and the surgery type was more invasive than the case of Dost *et al.* In our clinic, we always perform PIFPB with single injection. We verify the spread along the parasternal region under ultrasound guidance in the craniocaudal direction. In such patients, attention should be paid to the high doses of local anesthetic given to the patient. In our patient, we performed a total of 70 mL local anesthetic and there was no complication. According to our observations and experiences in the current case, the PIFPB+RIFPB combination may be effectively and safely used in such high-risk patients who underwent awake sternal surgery.

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Authors' contributions
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Under the fascia: a new ultrasound guided fascial plane block. The deep rectus sheath block

Postoperative pain is the most frequent cause of pain. Acute postoperative pain is characterized by the combination of unpleasant sensory, emotional and mental experiences precipitated by surgical trauma and associated with autonomic, endocrine-metabolic, physiological and behavioral responses.[1] Patients undergoing major abdominal surgery have large incisions, causing severe acute postoperative pain that, if left untreated, is associated with a higher incidence of postoperative morbidity and delayed recovery.[2] The postoperative pain control in these cases represent a difficult challenge, which is addressed with multimodal analgesia based on the use of the regional anesthesia techniques, opioids, and non-steroidal anti-inflammatory drugs. Thoracic epidural analgesia remains the cornerstone of

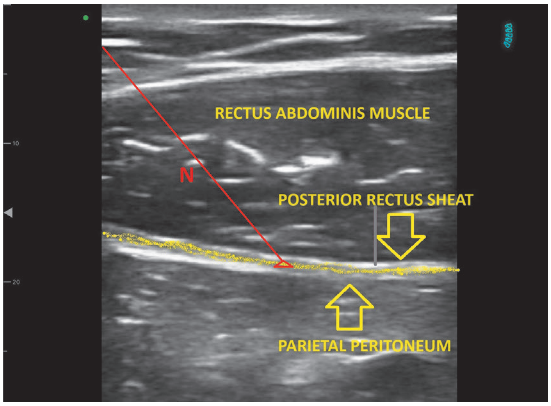

Figure 1.—Horizontal line (yellow line in the online version): correct position of the local anesthetic in the preperitoneal space, between the posterior fascia of the rectus sheath and the parietal peritoneum.
N: needle.

pain relief in abdominal surgery, but – in some cases – it cannot be performed.[3] Here we describe a new ultrasound-guided fascial plane block that allows coverage of visceral pain. This in addition to the Transversus abdominis plane (TAP) block which allows coverage of somatic pain resulting from the surgical wound, could represent a valid alternative to the thoracic epidural. We called the new ultrasound-guided fascial plane block: "deep rectus sheath block." It consists of positioning the tip of the needle in the preperitoneal space, under the posterior fascia of the rectus sheath, but above the parietal peritoneum (PP) (Figure 1). We describe the case of a 79-year-old man with intestinal volvulus who underwent urgent colon resection due to intestinal ischemia. The patient had various comorbidities: chronic obstructive pulmonary disease, arterial hypertension, mild obesity, and atrial fibrillation for which he took a non-vitamin K antagonist oral anticoagulant. Before starting the surgery, we performed a bilateral TAP block with ropivacaine 0.25% 20 mL bilaterally. We then performed the new fascial plane block. With the patient in the supine position, a linear ultrasound probe was positioned transversely over the rectus abdominis muscle, approximately 2-3 cm from the midline. With the in-plane technique the needle was inserted in a lateral-medial direction. When the tip of the needle passed through the posterior rectus sheath, correct positioning was verified with a bolus of saline solution (1-2 mL). Then a bolus of ropivacaine 0.25% 25 mL was injected on each side. The visualization of the dynamic double V sign confirms the correct execution of the fascial block.[4] The Numerical Rating Scale (NRS) upon awakening from general anesthesia was 0, while 6 hours after surgery the NRS was 3, so we administered 1 gr of acetomiphene. At the 24-hour reassessment the NRS was 3. No opioids were used. As highlighted by Struller *et al.*, the PP is innervated by somatic and visceral afferent nerves.[5] PP receives sensitive branches from the lower intercostal nerves and from the upper lumbar nerves. The parietal peritoneum is sensitive to pain, pressure, touch, friction, cutting and temperature. The injection of local anesthetic in the preperitoneal space allows the PP to be anesthetized, thus obtaining somatic and visceral analgesia. Based on our experiences, we propose the use of this new fascial plane block in association with the dynamic TAP block as a multimodal analgesic strategy in major abdominal surgery. We believe that positioning the anesthetic in contact with the parietal peritoneum causes somatic and also visceral anesthesia. This technique is less invasive, easy to perform and can be used even in the presence of a contraindication to epidural analgesia. Further studies are needed to confirm our hypothesis.

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Mitigating nitrous oxide contamination in the pediatric induction room: a new strategy for enhanced environmental safety

Nitrous oxide (N_2O), a cost-effective anesthetic, poses safety concerns for healthcare workers.[1] At our pediatric facility, facial mask-administered anesthesia minimizes stress for children eliminating the requirement for IV anesthetics but results in gas leakage and room contamination, with N_2O concentrations surpassing safety levels, reaching levels as high as 125 ppm.[2] Collaborating with engineering and scavenger experts, we aimed to mitigate N_2O contamination during pediatric anesthesia. The primary objective of our study was to evaluate the effectiveness of this new scavenger system in reducing N_2O levels in the Pediatric Induction Room (PIR) before and after implementation. This study conducted at University Bnai Zion Medical Center, Haifa, Israel, focused on pediatric patients aged two to seven undergoing minor surgery. The Institutional Review Board waived ethics approval, deeming it a quality control initiative. Anesthetic induction included N_2O 67%, O2 33%, and sevoflurane *via* a facemask, followed by intravenous line insertion. Two groups were compared: Group A without a Scavenger System and Group B with a new Scavenger System (CBT280). The device, with an exhaust arm and hood, maintained airflow of 400-500 m³/hr, with a 20 cm maximum working distance from the patient (Figure 1). Air samples were collected in the middle of the PIR during the induction phase by the Israel Institute for Occupational Safety and Hygiene using a portable air sampling pump, G 200 Bedfont (Geotech, UK). The Results are presented in Table I. The power analysis, based on a pilot study indicating a large effect size (Cohen's $d = 2.16$), determined a minimal sample size of seven measurements in each group to achieve a power of 95% with a significance level of 5% in the two-sided t-test for independent samples. The power analysis was performed using G*Power version 3.1.9.4 freeware by Franz Faul at the University of Kiel, Kiel, Germany. Fifteen measurements of N_2O levels were collected for each group. Due to the violation of the assumption of equality of variances, the Welch test was conducted. The mean N_2O level in Group A (mean

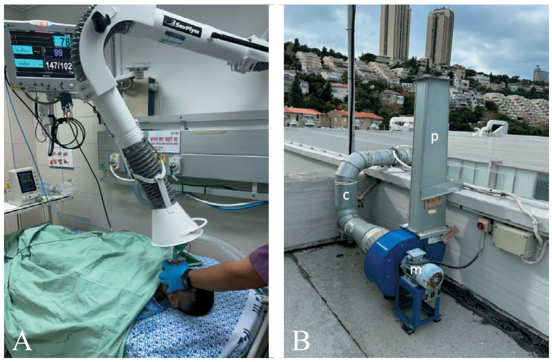

Figure 1.—Scavenger Device CBT 280 (Vent Industry, Haifa, Israel): A) Scavenger in the PIR; and B) motor of the device CBT280 with the conduct that suction the N_2O from the PIR and the pipe that expulse the gas to atmosphere.
PIR: Pediatric Induction Room; m: motor; c: conduct; p: pipe.

Table I.—*Nitrous Oxide concentrations without and with scavenger system (ppm).*

N_20 concentration without scavenger (ppm)	N_20 concentration with scavenger (ppm)
202	26
185	27
240	25
265	25
271	23
290	26
309	25
315	26
283	26
291	27
307	26
343	26
351	26
361	26
376	26
292.6 (mean)	25.73333 (mean)
55.06204 (SD)	0.96115 (SD)