



# PODIUM ABSTRACTS

2026 LOUISIANA **ANESTHESIOLOGY**  
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RENAISSANCE NEW ORLEANS ARTS HOTEL WAREHOUSE DISTRICT

## Abstract | Cardiac Anesthesia

### Association Between Intraoperative Transfusion of Fresh Frozen Plasma and Delayed Recovery after Cardiac Surgery

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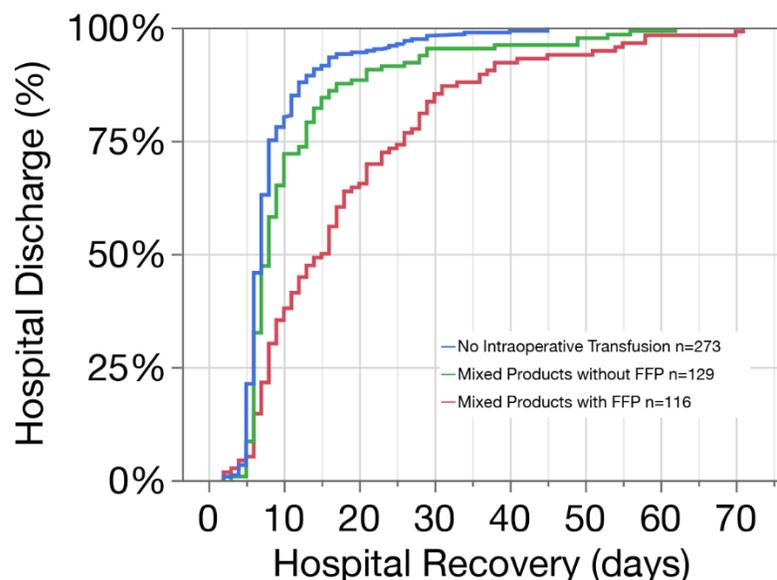
**Introduction:** Blood transfusion during cardiac surgery increases postoperative risk. Although studies have explored the impact of red blood cell transfusion on postoperative recovery, the role of other blood products is less studied. This study investigated the influence of intraoperative fresh frozen plasma administration on postoperative recovery and the need for advanced care at hospital discharge.

**Methods:** Following Institutional Review Board approval, patient characteristics, need for intraoperative transfusion of fresh frozen plasma, hospital length of stay, and the disposition status at hospital discharge were the measures of interest in a balanced set of adult patients undergoing cardiovascular surgery.  $P < .005$  for all frequentist tests were statistically significant.

**Results:** Baseline patient characteristics and one balance variable of interest are shown in Table 1. The original dataset and the balanced subsets are shown (Table 1). An increase in hospital length of stay was observed in patients receiving intraoperative transfusion of blood products including fresh frozen plasma (Figure 1). A progressive increase in the need for advanced post-hospital care following hospital discharge was observed with intraoperative blood transfusion including fresh frozen plasma (Figure 2).

**Conclusion:** These results suggest intraoperative administration of fresh frozen plasma increases hospital length of stay and need for advanced post-hospital care.

Figure 1: Postoperative Hospital Recovery (days). Cumulative Distribution Function Plot of percentage of hospital discharges by postoperative hospital recovery (days). Likelihood Ratio ChiSquare=80.8,  $P < .0001$ . P values  $< .005$  are statistically significant, *Nature Human Behaviour* 2018; 2(1):6-10.



## Case Study | Cardiac Anesthesia

### Airway Vascular Malformation with Postoperative Bleeding Successfully Managed Using Nebulized Tranexamic Acid

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#### Case Project

**Background:** Airway bleeding during or after surgery is rare but can quickly compromise ventilation and visualization. Managing upper airway hemorrhage can be challenging, especially when caused by vascular malformations discovered incidentally during intubation. Nebulized tranexamic acid (TXA), an antifibrinolytic agent, has recently been shown to be an effective therapy for airway and oropharyngeal hemorrhage.

**Case Presentation:** A 55-year-old male with hypertension, COPD, HFrEF (EF 25-30%), atrial fibrillation on anticoagulation, thoracic aortic aneurysm, and prior aortic coarctation repair underwent a left subclavian to carotid bypass for aneurysmal disease. During intubation, anesthesia noted a small (~1 mm) friable vascular structure on the anterior tracheal wall just below the vocal cords. No active bleeding occurred during this operation, and extubation was uneventful. The finding was communicated to the surgeon as well as the anesthesiologist scheduled to care for the patient the following day.

The next day, the patient underwent an endovascular thoracic aortic aneurysm repair. The same vascular structure was visualized during intubation. Intubation was uncomplicated, however following extubation, bright red blood was observed in the patient's oropharynx. The patient was treated with three doses of nebulized TXA over a 24-hour period, resulting in complete resolution of bleeding without recurrence or airway compromise.

**Discussion:** This case highlights the importance of interdisciplinary communication regarding incidental airway findings and demonstrates the successful use of nebulized TXA as a non-invasive therapeutic option for airway hemorrhage.

## Case Study | Critical Care Medicine

### Ultra-Massive Transfusion and Multidisciplinary Management Following Intraoperative Inferior Vena Cava Injury During Orthotopic Liver Transplantation

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#### Case Project

**Introduction:** Liver transplantation in patients with end-stage liver disease carries significant risk for intraoperative hemorrhage and coagulopathy. Ultra-massive transfusion, defined as transfusion of more than 20 units of packed red blood cells (PRBCs), is associated with increased morbidity but can be life-saving with coordinated multidisciplinary intervention.

**Case Description:** A 43-year-old female with alcohol-related cirrhosis (Model for End-Stage Liver Disease [MELD] 3.0 = 42), chronic hyponatremia, and recurrent spontaneous bacterial peritonitis underwent orthotopic liver transplantation. Intraoperatively, friability and size mismatch of the native and donor inferior vena cava (IVC) resulted in a tear during anastomosis, leading to uncontrolled hemorrhage. Hemostasis was achieved through surgical repair and aggressive hemostatic resuscitation utilizing 61 units of blood products (21 U PRBCs). Within one hour of completion, the patient was returned to the operating room for evacuation of an expanding abdominal hematoma, requiring an additional 44 units of blood products (17 U PRBCs). A total of 105 units ( $\approx 32$  L) of blood products were administered over 13 hours.

**Outcome:** The patient remained in the intensive care unit for correction of coagulopathy and underwent delayed biliary anastomosis and closure with bridging mesh 48 hours later. Despite ultra-massive transfusion, she was successfully extubated 72 hours after the final operation and survived beyond postoperative day 90 without major infectious or cardiovascular complications.

**Conclusion:** This case underscores the importance of meticulous preparation for massive transfusion and highlights the critical role of interdisciplinary coordination among anesthesia, surgery, and transfusion services in achieving survival following catastrophic intraoperative hemorrhage during liver transplantation.

## Abstract | Fundamentals of Anesthesiology

### Evaluating of the Readability of Large Language Models on the Risks of General Anesthesia

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**Introduction:** The majority of Americans read at or below a sixth-grade level, yet existing health education resources are written above this, limiting understanding. Large language models (LLM) like ChatGPT4 may assist in answering patients' health-related questions. This study assesses how LLMs can improve the readability of patient educational materials on general anesthesia risks.

**Methods:** Ten questions about anesthesia risks were obtained from the American Society of Anesthesiologists (ASA) website. ChatGPT4 and Gemini were prompted to answer the original ASA questions and then prompted to simplify responses to a sixth-grade level. Readability was measured using Flesch Reading-Ease (FLE), Flesch-Kincaid Grade Level (FKGL), Gunning-Fog Index (GFI), and Coleman-Liau Index (CLI). Mean scores were analyzed using ANOVA.

**Results:** ASA material had a mean FKGL of 12.4. Baseline LLM responses were not significantly different from ASA material (11.2;  $p=0.084$  ChatGPT; 12.9,  $p=0.953$  Gemini). Simplified responses improved readability with ChatGPT (7.3) and Gemini (7.0) with higher FLE (67.6 ChatGPT, 65.7 Gemini, vs 41.5 ASA), lower GFI (15.2, 14.7, vs 21.4), and lower CLI (11.0, 10.7, vs 13.8) scores. ANOVA showed a significant difference between all LLMs and ASA for all indices ( $p<0.001$ ).

**Conclusion:** Both LLMs improved readability, but only when prompted to simplify their responses. Even when simplified, neither reached the sixth-grade level. As LLMs improve, they have potential to be an asset in patient education. Further studies should evaluate patient comprehension and accuracy of LLM-generated content clinically.

## Case Study | Neuro Anesthesia

### Mean Arterial Pressure Goal Above 85 mmHg in Spinal and Cerebral Arterial Stenosis Due to Trauma or Atherosclerosis

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**Case Project:** We hypothesize that an educational conference will enhance documentation of estimated blood loss, urine output, and fluid balance hourly, and constant mean arterial pressure (MAP) above 85 mmHg during suspected arterial stenosis such as our 3 hypotensive octogenarians. The first patient in this series had spinal surgery and was extubated despite a GCS of 3 for the first two hours that rose to 10. Within 5 hours, a respiratory arrest led to demise in 9 days. A second trauma patient with preexisting moderate disc bulging underwent femur repair, later showed severe C4-5 stenosis. We reviewed MAP and fluid balance and discuss the radiologic scans indicating MAP goal may be 85. Both had severe mental status decline, and weakness of the extremities. A third patient had elective vaginal hysterectomy and in PACU had systolic below 65 for 9 minutes, hardly able to move or speak, normal after phenylephrine drip and albumin. Elderly patients with microvascular disease, spinal stenosis, and metabolic comorbidities such as diabetes and hyperlipidemia may benefit from maintaining blood pressure within 10% of their baseline rather than standard MAP >65 mmHg targets, as both hypotension and inflammation can breach the blood-brain barrier and contribute to postoperative cognitive decline. Awake extubation, movement of extremities and adjusting MAP targets based on comorbidities may prevent cognitive decline. Morbidity conferences inspire clinicians to increase MAP goals not only intraoperatively but also postoperatively, critical because only one fourth of complications can be prevented intraoperatively.

Parameter	Spine surgery	Femur surgery	Hysterectomy
<b>Intraop min MAP &lt;65</b>	10	35	25
<b>PACU Minutes MAP &lt;65</b>	0	45m: 1100mcg Neo, 2vaso, 20 ephedrine, preop Hg 7.6	15
<b>PACU Minutes MAP &lt;85</b>	0	180 (2500 LR, 6 PRBC intraop)	30
<b>CT Preop</b>	Microvascular disease brain, C-spine fracture with known paraplegia	Microvascular disease brain, lobulated irregular shaped soft tissue mass at the level of C2 and C3" & mod-sev C4-7 stenosis	N/A
<b>CT Postop</b>	Anoxic Brain injury secondary to choking postop hour 6	Spinal Hematoma C2-4 3.2x5.1cm CTA "Avulsion fractures hematoma C2-4" MRI: severe C5spine stenosis	No abnormalities
<b>Arm/Leg Strength</b>	Weakness in extremities worse	Preop 5/5, delay recognition until 6am POD1 that 0/5, hgb 6.3; strength 3/5 after C4-6 decompression on POD5	Transiently weak everywhere, slow to speak
<b>GCS at Extubation - &gt; 3hr post ICU admit</b>	3→10→death	3→15→ 1 week later reintubation, delirium, severe postoperative cognitive decline, hospice	3→15
<b>Significant Events at Extubation</b>	Required 400 mcg of naloxone no change in Resp Rate of 12	pH 7.0, no urine recorded during case, 100 mL of urine in 3 hours in pacu	pH 7.4, lactate of 1.5, no urine recorded during case

## Abstract | Pain Medicine

# Spinal Cord Stimulation Improves Pain and Function in Non-Surgical Refractory Back Pain: A Randomized Trial

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**Introduction:** Chronic non-surgical refractory back pain causes substantial disability and often fails to respond to conventional medical management (CMM). We report primary outcomes from SOLIS, a randomized multicenter trial comparing spinal cord stimulation (SCS) plus CMM versus CMM alone.

**Methods:** SOLIS was a prospective, multicenter, randomized controlled trial. Adults with non-surgical refractory back pain were randomized 1:1 to SCS+CMM or CMM alone. The primary endpoint at 3 months was the proportion of patients achieving  $\geq 50\%$  overall pain relief without an increase in mean daily opioid use (responder). After 3 months, CMM patients could cross over to SCS. Secondary outcomes included ODI, EQ-5D-5L, global impression of change, and treatment satisfaction. Analyses were performed using a modified intention-to-treat (mITT) completer approach.

**Results:** A total of 147 patients were randomized (SCS+CMM n=79; CMM n=68). At 3 months responder rates were 89.5% for SCS+CMM versus 8.1% for CMM ( $p < 0.0001$ ). Mean ODI change was  $-27.5 \pm 15.9$  versus  $-7.2 \pm 9.9$  ( $p < 0.0001$ ). EQ-5D-5L index increased by  $0.247 \pm 0.164$  versus  $0.031 \pm 0.151$  ( $p < 0.0001$ ). Improvements persisted through 12 months. Seven patients experienced serious device/procedure related adverse events; five implant-site infections required explant.

**Conclusion:** In adults with non-surgical refractory back pain, SCS added to optimized CMM produced large, statistically and clinically significant improvements in pain, function, and quality of life versus optimized CMM alone, with durable effects to 12 months. Implant-site infection was an infrequent but notable risk.

