

**Supplement Document 1: Local Anesthetic Systemic Toxicity Pre and Post Survey for Didactic Session and Simulation Exercise.** Correct answers, if applicable, are marked with an asterisk (\*).

1. What is your role in the pain clinic?
  - Certified Medical Assistant (CMA)
  - Licensed Practical Nurse (LPN)
  - Registered Nurse (RN)
  - Fellow Physician (MD)
  - Attending Physician (MD)
2. Do you work in the procedure room?
  - Yes
  - No
3. What are neurologic symptoms of local anesthetic systemic toxicity? (Choose all that apply.)
  - Anxiety\*
  - Bladder and bowel incontinence
  - Hallucinations
  - Involuntary movement of arms or legs
  - Metallic taste\*
  - Muscle twitching\*
  - Seizures\*
  - Severe pain
  - Tinnitus\*
  - Visual changes\*
4. What are cardiovascular symptoms of local anesthetic systemic toxicity? (Choose all that apply.)
  - Asystole\*
  - Hypertension\*
  - Hypotension\*
  - Sinus bradycardia\*
  - Sinus tachycardia\*
  - Ventricular arrhythmias\*
5. What is the first step in treatment of suspected local anesthetic systemic toxicity?
  - Administer oxygen
  - Begin cardiopulmonary resuscitation (CPR)
  - Call for help\*
  - Place patient in prone position
6. What is the preferred treatment for seizures related to local anesthetic systemic toxicity? (Choose all that apply.)

- Maintain airway patency\*
  - IV antiepileptics (e.g., levetiracetam)
  - IV benzodiazepines (e.g., lorazepam)\*
  - IV propofol
  - Do not treat unless seizure is > 5 minutes
7. What are the modifications to traditional Advanced Cardiac Life Support (ACLS) for treatment of local anesthetic systemic toxicity? (Choose all that apply.)
- Administer higher doses of epinephrine
  - Administer lower doses of epinephrine\*
  - Administer early and rapid infusion of 20% lipid emulsion\*
  - Administer slow infusion of 20% lipid emulsion
  - Avoid amiodarone
  - Avoid vasopressors\*
8. Where is the LAST Rescue Kit located in the Pain Medicine clinic?
- Pod A Nurses Station
  - Pod B Nurses Station
  - Procedure Area Nurses Station
  - Procedure Area Omnicell\*
  - Procedure Room Cabinet
9. What is in the LAST rescue kit?
- Airway equipment
  - 20% lipid emulsion\*
  - Propofol vials
  - IV pump
  - IV tubing\*
  - Two 60 ml syringes\*
10. How should the lipid emulsion infusion be administered for a patient greater than 70 kg?
- Bolus of 50 ml, infusion of 100 ml over 15-20 minutes
  - Bolus of 100 ml, infusion of 250 ml over 15-20 minutes\*
  - Bolus of 1 ml/kg, repeat in 10 minutes
  - No bolus, infusion of 0.25 ml/kg
11. What are strategies or steps useful to prevent local anesthetic systemic toxicity? (Choose all that apply.)
- Aspiration before injecting medication\*
  - Mild to moderate procedural sedation
  - Right dose and concentration\*
  - Right medication (local anesthetic)\*
  - Using image (ultrasound or X-ray) guidance\*

12. What are the main components of LAST treatment? (Choose all that apply.)
- Airway management\*
  - Cardiopulmonary resuscitation\*
  - Hemodialysis
  - Lipid infusion/resuscitation\*
  - Seizure termination\*
13. While managing a patient with local anesthetic systemic toxicity, what equipment in the clinic would be helpful? (Choose all that apply.)
- Airway equipment\*
  - Blood pressure cuff/monitors\*
  - Cardiopulmonary bypass machine
  - Code cart\*
  - Defibrillator\*
  - Electrocardiogram \*
  - Pulse oximeter\*
14. How confident do you feel diagnosing and treating local anesthetic systemic toxicity? (Answer each statement separately, on a scale of 1 to 100 with 1 meaning no confidence and 100 meaning full confidence.)
- a. Recognizing symptoms
  - b. Starting treatment
  - c. Coordinating care
15. (For the Post survey only) Overall, how would you rate your own ability to recognize and manage local anesthetic systemic toxicity now compared to before the presentation and simulation session?
- Very much improved
  - Much improved
  - A little improved
  - No change
  - A little worsened
  - Much worsened
  - Very much worsened

**Supplement Document 2: Local Anesthetic Systemic Toxicity Simulation Exercise Post Survey.** Responses were collected immediately after the simulation exercise.

1. Share the most important thing you learned today at this patient-safety and critical event team training course. (Open responses accepted.)
2. Please answer the following questions using the following answer choices:
  - Strongly Agree
  - Agree
  - Disagree
  - Strongly Disagree
  - a. I felt comfortable in the simulated environment.
  - b. I felt I did things I would never have a chance to practice otherwise.
  - c. I encountered situations that I now want to learn more about through reading, lectures, conferences.
  - d. Knowledge gained about the scenarios will be helpful to me in clinical practice.
  - e. This course will help me practice more safely.
  - f. The simulation environment and scenarios prompted realistic responses from me.
  - g. I enjoyed the course.
  - h. The course was intense.
  - i. I learned a lot.
3. This course should be taken every (choose one):
  - Never
  - 6 months
  - 12 months
  - 24 months
  - Longer than 24 months
4. Please answer the following questions about the debriefing sessions using the following answer choices:
  - Strongly Agree
  - Agree
  - Disagree
  - Strongly Disagree
  - a. Debriefing clarified important management issues of each scenario.
  - b. The debriefing session added to my learning experience.
  - c. There was effective interaction between instructor and trainee.
5. What part(s) of the course did you like the best? (Open responses accepted.)
6. What part(s) of the course did you like the least? (Open responses accepted.)

7. What could make the course better? (Open responses accepted.)
8. Share any additional comments about this patient safety and critical event team training simulation course. (Open responses accepted.)

**Supplemental Figure 1: Neurological Symptoms of LAST.** The frequency of each neurological symptom as selected by the pre and post surveys is noted. *Light Blue* = pre survey, *Navy* = post survey. Correct selections are noted below the solid black line, incorrect selections are noted above the black line.

**Supplemental Figure 2: Cardiovascular Symptoms of LAST.** The frequency of each cardiovascular symptom as selected by the pre and post surveys is noted. *Light Blue* = pre survey, *Navy* = post survey. All selections are correct responses.

**Supplemental Figure 3: Initial Dosing Assessment.** *A:* Pre survey assessment of the ideal initial dose for a patient greater than 70 kilograms body mass with suspected LAST. *B:* Post survey assessment of the same assessment, with unanimous selection of the correct response.



**Supplemental Figure 4: Simulation Exercise Post Survey.** Responses to inquiries related to the simulation exercise using a 4-point Likert scale.

**Supplemental Figure 5: Simulation Exercise Debriefing Session Post Survey.**

Responses to inquiries related to the simulation exercise debriefing session using a 4-point Likert scale.