Coming in First When Responding to LAST
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Abstract Background Information: Local Anesthetic Systemic Toxicity (LAST) is a potentially life-threatening event that can arise from local anesthetic (LA) administration. Patients in a LAST crisis may rapidly develop severe neurologic and cardiovascular symptoms, leading to seizures, coma, and/or cardiovascular collapse. Recent research estimates an incidence of 7.2 to 20 events per 10,000 peripheral nerve blocks and 4 events per 10,000 epidurals, with onset of symptoms as immediate as 56 seconds. Reportedly, nurses and clinicians generally lack knowledge of symptoms and treatment. Recently, Salem Health identified the absence of a treatment policy and central supply location for this high-acuity, low-occurrence, critical event.

Objectives of Project: Create a treatment policy, robust staff education, and provide guidelines for prompt response to LAST in adult and pediatric patients receiving LA.

Process of Implementation: A multidisciplinary team of experts spent 4 months researching evidence-based protocols, developing EPIC MAR orders, creating education, writing a treatment policy, creating LAST response toolkit, and determining kit storage locations for areas administering LA.

Statement of Successful Practice: Salem Health's LAST response policy is now approved, with toolkits available in clinical areas across three facilities where LA is administered. These kits include lipid emulsion, American Society of Regional Anesthesia (ASRA) treatment/dosing charts, and necessary intervention supplies. EPIC orders have been streamlined and now auto-calculate weight-based bolus dosing and infusion rates. Staff were trained via Healthstream, videos, tip sheets, and in-services. Since implementation of our interventions, we believe that LAST event recognition and response at Salem Health has significantly improved. In fact, in the midst of project completion a LAST crisis occurred in the Ambulatory Surgery Center with swift identification, intervention, and positive patient outcome.

Implications for Advancing the Practice of Perianesthesia Nursing: Patients at Salem Health who receive LA experience improved safety with the development of this evidence-based system. Staff are better equipped to handle LAST crises with clear policy, regimented multi-platform education, centralized toolkits, and streamlined orders. Data collection of frontline staff's knowledge of policy, comfortability with intervention kits, and ability to rapidly recognize and respond to a LAST crisis is currently in progress.