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LOCAL ANESTHESIA



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MEDICAL ABBREVIATIONS & ACRONYMS

- | | |
|---|--|
| ASA – American Society of Anesthesiologists | LAST – Local anesthetic systemic toxicity |
| ASRA – American Society of Regional Anesthesia and Pain Medicine | LMT – Leukocyte migration test |
| CMS – Centers for Medicare & Medicaid Services | RCT – Randomized controlled trial |
| CNS – Central nervous system | RN – Registered nurse |
| CVS – Cardiovascular system | SpO₂ – Blood oxygen level |

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GUIDELINE FOR CARE OF THE PATIENT RECEIVING LOCAL ANESTHESIA

The Guideline for Care of the Patient Receiving Local Anesthesia was approved by the AORN Guidelines Advisory Board and became effective January 15, 2015. It was presented as a proposed guideline for comments by members and others. The recommendations in this guideline are intended to be achievable and represent what is believed to be an optimal level of practice. Policies and procedures will reflect variations in practice settings and/or clinical situations that determine the degree to which the guideline can be implemented. AORN recognizes the many diverse settings in which perioperative nurses practice; therefore, this guideline is adaptable to all areas where operative and other invasive procedures may be performed.

Purpose

This document provides guidance for the perioperative registered nurse (RN) caring for a patient who is receiving local anesthesia by injection, infiltration, or topical application. This document includes guidance for patient assessment, patient monitoring, recognition and treatment of **local anesthetic systemic toxicity** (LAST), assessment for local anesthetic allergies, and documentation of patient care. It is not the intent of this guideline to address situations that require the services of an anesthesia professional or to substitute the services of a perioperative RN in those situations that require the services of an anesthesia professional.

The goal of the perioperative team is to provide safe care without causing undue pain and anxiety to the patient receiving local anesthesia. Local anesthesia is safe and effective although, rarely, a patient may have a toxic systemic or allergic reaction to the local anesthetic. Local anesthetic systemic toxicity occurs as serum levels of the local anesthetic increase. The symptoms of LAST may present as central nervous system (CNS) or cardiovascular system (CVS) complications or both.¹⁻⁷ Although the incidence of LAST is rare,⁸⁻¹¹ the consequences may be severe, potentially resulting in death. Allergic reactions to local anesthetics are also rare, occurring in less than 1% of all patients who receive a local anesthetic.^{12,13}

Moderate sedation analgesia and regional anesthesia are outside the scope of this document.

Evidence Review

On April 15, 2013, a medical librarian conducted a systematic search of the databases MEDLINE®, CINAHL®, and the Cochrane Database of Systematic Reviews for meta-analyses,

systematic reviews, randomized controlled and non-randomized trials and studies, case reports, reviews, and guidelines from government agencies and standards-setting bodies. The librarian also searched the Scopus® database, although not systematically. The search was limited to literature published in English since January 2006. At the time of the initial search, the librarian established weekly alerts on the search topics and until July 2014, presented relevant results to the lead author. During the development of this guideline, the author requested supplementary literature searches and additional literature that either did not fit the original search criteria or was discovered during the evidence-appraisal process.

Although the lead author's original search request encompassed both moderate sedation and local anesthesia, only literature relevant to the care and management of patients receiving local anesthesia was considered for inclusion in this document. Of the 862 sources deemed appropriate for consideration in the areas of moderate sedation and local anesthesia, 63 were identified as relevant to local anesthesia (**Figure 1**). Germane search terms included *surgical procedures, analgesia, local anesthesia, topical anesthesia, local infiltration, lidocaine, bupivacaine, anxiety, anti-anxiety agents, drug hypersensitivity, allergy, anaphylaxis, risk assessment, physical examination, vital signs, blood pressure, blood pressure determination, pulse, physiologic monitoring, advanced cardiac life support, ACLS, nurse's role, and perioperative nursing*.

Excluded were non-peer-reviewed publications and studies that addressed moderate sedation, regional anesthesia, pediatric patients, or pregnant patients. Low-quality evidence was excluded when higher-quality evidence was available.

Articles identified in the search were provided to the lead author and divided and assigned to four evidence reviewers for review and critical appraisal using the AORN Research or Non-Research Evidence Appraisal Tools as appropriate. The lead author and the evidence reviewers independently evaluated and appraised the literature according to the strength and quality of the evidence. Each article was then assigned an appraisal score determined by consensus. The appraisal score is noted in brackets after each reference, as applicable.

Each recommendation rating is based on a synthesis of the collective evidence, a benefit-harm assessment, and consideration of resource use. The strength of the recommendation was determined using the AORN Evidence Rating Model and the quality and consistency of the evidence supporting a recommendation. The recommendation strength rating is noted in brackets after each recommendation.