



TITLE

APPLICATION OF TOPICAL LOCAL ANESTHETIC FOR POTENTIALLY PAINFUL SKIN-BREAKING PROCEDURES

SCOPE

Provincial

DOCUMENT #

HCS-265-01

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NOTE: The first appearance of terms in bold in the body of this document (except titles) are defined terms – please refer to the Definitions section.

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OBJECTIVES

- To provide direction to **health care professionals** on the timely and safe application of **topical local anesthetics** prior to a painful skin-breaking procedure for **in-patients** and **out-patients**.

PRINCIPLES

Topical local anesthetic cream provides local anesthetic to the area of the skin with which it has been in contact and decreases pain and anxiety for patients.

Although most commonly used in pediatrics, topical local anesthetics may be used in adult populations for decreasing pain and anxiety during or related to painful skin breaking procedures.

APPLICABILITY

Compliance with this document is required by all Alberta Health Services employees, members of the medical and midwifery staffs, students, volunteers, and other persons acting on behalf of Alberta Health Services (including contracted service providers as necessary).

ELEMENTS

1. Points of Emphasis

- 1.1 An **authorized prescriber** order is not required for the application of topical local anesthetics prior to a potentially painful skin-breaking procedure, when administered as outlined in this Protocol.

- 1.2 This Protocol does not apply in the Neonatal Intensive Care Unit (NICU) or Public Health.
- 1.3 For the purposes of this Protocol topical local anesthetic refers to medications which are intended for intact skin but do not contain epinephrine.
- 1.4 Examples of painful skin-breaking procedures include but are not limited to:
 - a) initiation of intravenous catheter;
 - b) accessing an implanted venous access device (IVAD);
 - c) venipuncture;
 - d) intramuscular injection;
 - e) subcutaneous injection; and
 - f) lumbar puncture.
- 1.5 Topical local anesthetics may be offered, and should be applied in a timely manner when the health care professional's clinical reasoning indicates that patients require a potentially painful skin breaking procedure and would benefit from application.
 - a) The patient or parent/**alternate decision-maker (ADM)** may indicate they do not wish to have topical local anesthetic applied, as per the Alberta Health Services (AHS) *Consent to Treatment/Procedure(s)* Policy Suite. Older children may prefer to use active coping strategies (e.g., distraction).
- 1.6 Topical local anesthetics shall be used in conjunction with other supportive care measures (e.g., comfort positioning, sucrose, distraction).
- 1.7 Additional pharmacological and non-pharmacological methods of pain management should also be considered.
- 1.8 Application of topical local anesthetic should not delay patient treatment(s).

2. Inclusion Criteria

- 2.1 Patients aged one (1) month or older and receiving a painful skin-breaking procedure(s).

3. Exclusion Criteria

- 3.1 Topical local anesthetics shall not be applied without an **order** from an authorized prescriber in the following patient populations:
 - a) infants less than one (1) month;

- b) those with previous sensitivity, allergy, or adverse reactions to topical local anesthetics;
- c) patients with severe hepatic disease;
- d) when administering insulin subcutaneously; and/or
- e) patients with areas of skin that are open or irritated as this may cause a local reaction.
 - (i) For information on pain management for uncomplicated laceration repair, refer to the AHS *Application of Topical Anesthetic Gel (LET) for Uncomplicated Lacerations* Protocol.

4. Application of Topical Local Anesthetic

- 4.1 The health care professional should use the topical local anesthetic available at their respective site and refer to the drug monograph. See Appendix A below for dosage and application information.
- 4.2 Choose location(s), ensure skin is intact and cleanse the skin prior to application.
- 4.3 Topical local anesthetics may be applied to a maximum of four (4) sites concurrently (e.g., dorsa of both hands prior to intravenous initiation).
- 4.4 The health care professional shall allow adequate onset time for topical local anesthetic prior to skin-breaking procedure. The period of time required depends on the topical anesthetic used, refer to Appendix A for details.
- 4.5 Apply topical local anesthetic and cover area(s) with a transparent dressing.
 - a) Health care professionals shall apply topical local anesthetic in accordance with the applicable drug monograph.
 - b) Health care professionals shall refer to the drug monograph or Lexicomp for additional information on application and use.
 - c) Maxilene 4™ (lidocaine four [4] percent [%] cream):
 - (i) Apply one (1) gram (gm) per site in patients one (1) month to three (3) years of age.
 - (ii) Apply 2.5 gm per site in patients four (4) years old to adult.
 - d) Ametop™ (tetracaine four [4] percent [%] gel):
 - (i) Apply 0.5 to one (1) gm per site in patients one (1) month of age to adult.

- e) EMLA™ (lidocaine/prilocaine 2.5 percent [%] / 2.5 percent [%] cream, also available in 25 milligram (mg) / 25 mg patch):
 - (i) Apply one (1) to 2.5 gm per site or one (1) gm patch per site in patients three (3) months of age to adult.
- 4.6 Common effects of topical local anesthetic may include a transient blanching of the area followed by a transient mild erythema.
- 4.7 Observe the site for any adverse reactions to the topical local anesthetic such as urticaria, blistering or edema. If the patient experiences an adverse reaction, remove the cream and cleanse the area.
- 4.8 After adequate onset, remove the dressing and cream. Refer to Appendix A below for the onset time for topical local anesthetics.
- 4.9 The skin shall be cleansed using an antiseptic by the health care professional prior to performing the skin-breaking procedure once the dressing and cream have been removed.
 - a) Health care professionals should use strict aseptic technique prior to all skin-breaking procedures as per standard practice, including performing hand hygiene in accordance with the *Hand Hygiene Policy and Procedure*.
 - b) Refer to the *Vascular Access Device Infusion Therapy: Adult & Pediatric Clinical Care Topic* for information on skin preparation prior to vascular access procedures.

5. Documentation

- 5.1 The health care professional shall document, all assessments, reassessments, interventions and patient responses to interventions related to this Protocol on the **health record**. Documentation should include:
 - a) the application of topical local anesthetic;
 - b) site assessment;
 - c) adverse reactions; and
 - d) effectiveness.

DEFINITIONS

Alternate decision-maker means a person who is authorized to make decisions with or on behalf of the patient. These may include, specific decision-maker, a minor's legal representative, a guardian, a 'nearest relative' in accordance with the *Mental Health Act* (Alberta), or an agent in accordance with a Personal Directive, or a person designated in accordance with the *Human Tissue and Organ Donation Act* (Alberta). This also includes what was previously known as the substitute decision-maker.

Authorized prescriber means a health care professional who is permitted by Federal and Provincial legislation, their regulatory college, Alberta Health Services and practice setting (where applicable) to prescribe medications.

Health care professional means an individual who is a member of a regulated health discipline, as defined by the *Health Disciplines Act* (Alberta) or the *Health Professions Act* (Alberta), and who practices within scope and role.

Health record means the collection of all records documenting individually identifying health information in relation to a single person.

Inpatient means a patient admitted to and staying in an Alberta designated hospital, or other approved facility, where goods or services are delivered by, on behalf of or in conjunction with Alberta Health Services.

Order means a direction given by a regulated health care professional to carry out specific activity (-ies) as part of the diagnostic and/or therapeutic care and treatment to the benefit of a patient. An order may be written (including handwritten and/or electronic), verbal, by telephone, or facsimile.

Outpatient means a patient staying at home or in another facility that is not a designated hospital in Alberta, or who is accepted as a registered patient for goods or services offered or delivered by, on behalf of or in conjunction with Alberta Health Services, but who returns to their normal abode after the good or service is rendered or delivered.

Patient means all persons, inclusive of residents and clients, who receive or have requested health care or services from Alberta Health Services and its health care providers. Patient also means, where applicable:

- a) a co-decision-maker with the person; or
- b) an alternate decision-maker on behalf of the person.

Topical local anesthetic means a medication used to numb the surface of a body part. For the purpose of this Protocol this excludes those medications containing epinephrine.

REFERENCES

- Appendix A: *Topical Local Anesthetic Application Information*
- Alberta Health Services Governance Documents:
 - *Application of Topical Anesthetic Gel (LET) for Uncomplicated Lacerations Protocol* (#HCS-248-01)
 - *Assessment and Reassessment of Patients Guideline* (#HCS-181-01)

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- *Consent to Treatment/Procedure(s) Policy (#PRR-01)*
- *Hand Hygiene Policy (#PS-02)*
- *Hand Hygiene Procedure (#PS-02-01)*
- Alberta Health Services Resource Documents:
 - *Vascular Access Device Infusion Therapy: Adult & Pediatric Clinical Care Topic*

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APPENDIX A

Topical Local Anesthetic Application Information

TOPICAL ANESTHETIC	AGE	DOSE AND APPLICATION INSTRUCTIONS	ADEQUATE ONSET TIMES	DURATION OF ACTION
lidocaine 4% (Maxilene)	Infants 1 month to 3 years of age.	1 gm per site	30 minutes	1 - 2 hours
	4 years old to adult.	2.5 gm per site	30 minutes	1 - 2 hours
tetracaine gel 4% (Ametop)	1 month of age to adult.	0.5 - 1 gm per site	30 Minutes	4 - 6 hours
lidocaine/prilocaine 2.5% (EMLA)	3 months of age to adult.	1 - 2.5 gm per site	60 - 90 Minutes	1 - 2 hours
lidocaine/prilocaine 2.5% (EMLA) Patch	Authorized prescriber order for 3 months of age or younger.	1 gm emulsion / patch	60 - 90 Minutes	1 - 2 hours

* The maximum number of recommended sites is 4 concurrently.