

# LAT gel for wound closure in children within the Emergency Department

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

## Introduction

LAT (Lidocaine 4%, Adrenaline 0.1%, Tetracaine 0.5%) gel is a topical anaesthetic gel that can be applied to open wounds in children that require cleaning and suturing. The aim is to reduce the need to inject local anaesthetic when cleaning and suturing open wounds.

## This guideline is for use by the following staff groups:

All qualified healthcare professionals who are involved in the prescribing, administration and supply of LAT gel in paediatric patients within Emergency Departments across the Trust.

## Lead Clinician(s)

Lucy Stratton – Clinical Pharmacist

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Practitioner

Approved by urgent care governance committee on: 14<sup>th</sup> December 2022

Approved by Medicines Safety Committee on: 11<sup>th</sup> January 2023

Review Date: 11<sup>th</sup> January 2026

This is the most current document and should be used until a revised version is in place

## Key amendments to this guideline

Date	Amendment	Approved by:
January 2023	New document approved	Urgent care governance/ MSC

## LAT gel for wound closure in children within the Emergency Department

### Introduction

Many Emergency Departments now use LAT (Lidocaine 4%, Adrenaline 0.1%, Tetracaine 0.5%) gel for simple skin lacerations requiring cleaning and suturing in children. LAT gel is a topical anaesthetic that can be applied to open wounds in children. Standard topical anaesthetic agents [Emla® (lidocaine, prilocaine) and Ametop® (tetracaine)] cannot be applied to open wounds as they do not contain a vasoconstricting agent thus absorption may result in systemic toxicity.

LAT gel reduces the need of injecting local anaesthesia (e.g. lidocaine) which is painful on infiltration. Major advantages for use of LAT gel in children are reduced fear associated with topical application compared with injectable anaesthesia and avoiding the need for sedation that some children require with injectable anaesthesia. The aim is to reduce the need to inject local anaesthetic when cleaning and suturing open wounds. LAT gel has an onset of action of 20 to 30 minutes and a duration of action of 30 to 60 minutes.

### Indication

- For closure of wounds in children requiring cleaning and/or surgical closure
- For use in children who have a simple laceration of the head, neck, limbs or trunk
- It is not required for wounds where glue or Steri-Strips would be sufficient

### Patient group

- Children aged 1 year and over

### Contra-indications, cautions and prescribing considerations

- <1 year
- Previous adverse effect or known allergy
- Wounds > 5cm in length
- Wounds >8 hours old
- Grossly contaminated wounds
- Do not use on digits, genitalia, ears, noses or on mucosal membranes
- Concern about tissue viability i.e. crush or flap wounds
- LAT gel must not be used for wounds resulting from a bite (human & animal) or from a crush injury
- No other local anaesthetic should be administered by any route at the same time or for 4 hours following application of LAT gel
- LAT gel must not be used in which the depth of the wound cannot be determined or has gone past the subcutaneous layer
- Repeat doses of LAT gel

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## WAHT-A&E-053

It is the responsibility of every individual to ensure this is the latest version as published on the Trust Intranet

### Prescribing

Prescribe on the once only section of the drug chart as "LAT gel x mL"

Age	Dose (mL)
<1 year	Do not use
1-3 years	2mL
>3 years	3mL (max dose)

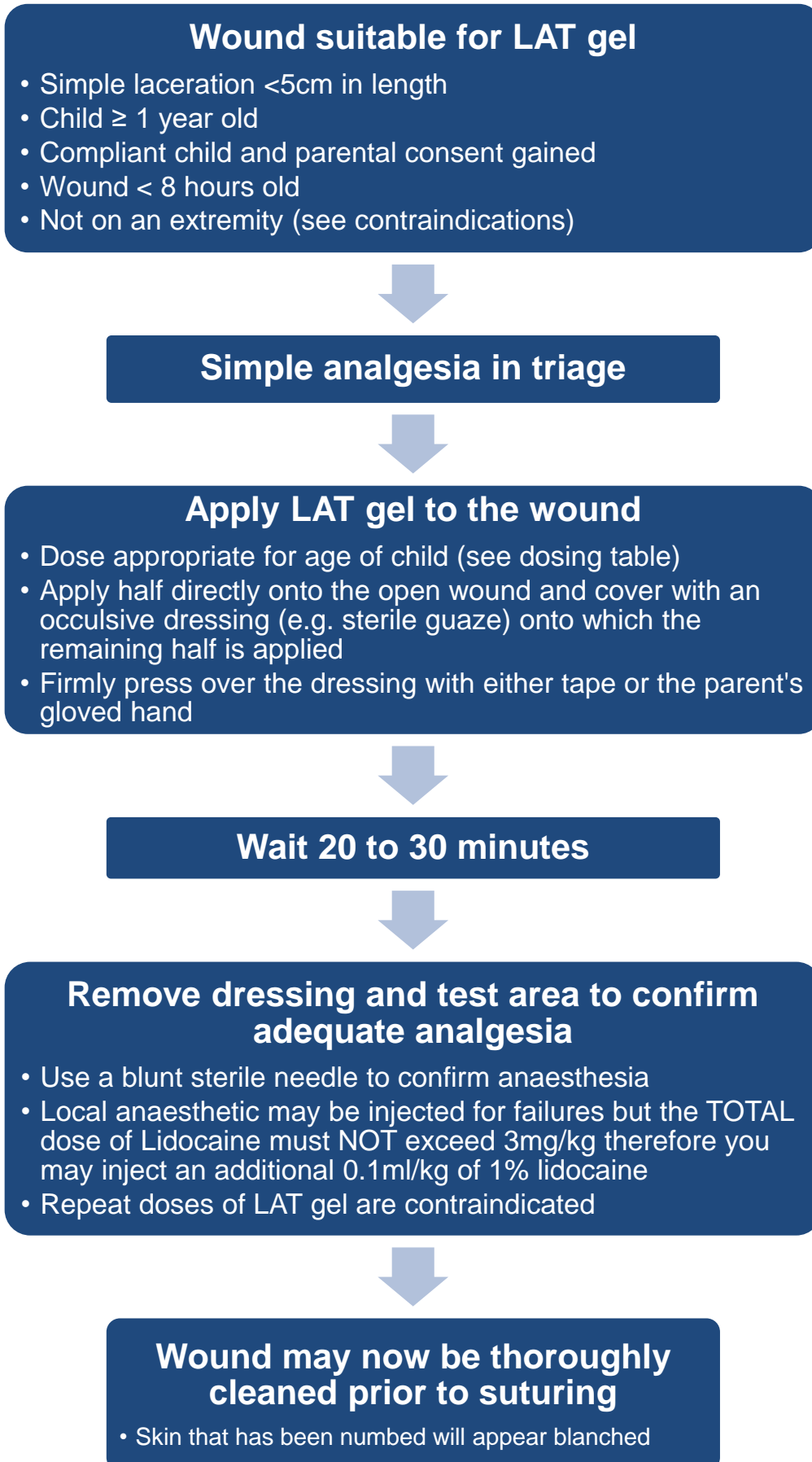
### Administration

- Clinician to identify wound suitable for LAT gel and give simple analgesia
- Identify dose of gel to use based on age (see table above)
- Place half of the dose of LAT gel onto the open wound and cover with occlusive dressing (e.g. sterile gauze) onto which the remaining half is applied
- Firmly press over the dressing for 20 to 30 minutes with either tape or the parent's gloved hand
- After removing the gauze, test the effectiveness of the anaesthesia by touching with a sterile needle
- Wound cleaning and suturing should be completed within 15 minutes of removal of the gel
- Always wear gloves when handling LAT gel
- Each bottle contains 3mL of LAT gel and is for use on one patient only and should be discarded within 24 hours of opening
- Repeat doses of LAT gel are contraindicated

### Monitoring and adverse effects

- Not to be left on a wound for more than 30 minutes
- Local irritation may occur in some patients
- Effect of local anaesthetic and vasoconstrictor reduce potential for systemic absorption and hence adverse effects

**Treatment Pathway**



**Monitoring Tool**

Page/ Section of Key Document	Key control:	Checks to be carried out to confirm compliance with the policy:	How often the check will be carried out:	Responsible for carrying out the check:	Results of check reported to: <i>(Responsible for also ensuring actions are developed to address any areas of non-compliance)</i>	Frequency of reporting:
	<b>WHAT?</b>	<b>HOW?</b>	<b>WHEN?</b>	<b>WHO?</b>	<b>WHERE?</b>	<b>WHEN?</b>
	Ensuring the appropriate use of LAT gel within the patient demographics stated within this guidance.	Review efficacy of agent against relevant pain scores.		Emergency medicine audit lead.	Emergency medicine directorate.	Once after audit completion.

## References

BNFC, 2022. *Lidocaine hydrochloride*. [online] Bnfc.nice.org.uk. Available at: <<https://bnfc.nice.org.uk/drugs/lidocaine-hydrochloride/>> [Accessed 3 August 2022].

Emergency Department Guideline for LAT gel for wound closure. Birmingham Women's and Children's NHS Foundation Trust. (March 2020)

Emergency Department Guideline for the Use of LAT gel for paediatric wounds. Addenbrooke's Hospital. Cambridge University Hospitals NHS Foundation Trust (May 2006)

Ferguson C, Loryman B (2005) Topical anaesthetic versus lidocaine infiltration to allow closure of skin wounds in children. *Emergency Medicine Journal*, 22: 507-509.

Guideline for Use of Topical Wound Anaesthetic - LAT gel in the Paediatric Emergency Department. Leicester Royal Infirmary Emergency Department (February 2014, last updated 2019)

Tayeb BO, Eidelman A, Eidelman CL, McNicol ED, Carr DB. Topical anaesthetics for pain control during repair of dermal laceration. *Cochrane Database of Systematic Reviews* 2017, Issue 2. DOI: 10.1002/14651858.CD005364.pub3.

Torbay Pharmaceuticals, 2021. *Product Specification Lidocaine, Adrenaline (Epinephrine) and Tetracaine (LAT) 4% w/v, 1:1000, 0.5% w/v Sterile Gel 3mL*. Torbay Pharmaceuticals.

**Contribution List**

This key document has been circulated to the following individuals for consultation;

Designation
Louise Williams - Lead Pharmacist Women's and Children's Division
Dr Ross Hodson - Consultant Emergency Medicine and Clinical Lead WRH ED

This key document has been circulated to the chair(s) of the following committees / groups for comments;

Committee
Urgent Care Governance

**Supporting Document 1 - Equality Impact Assessment Tool**

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

		Yes/No	Comments
<b>1.</b>	<b>Does the policy/guidance affect one group less or more favourably than another on the basis of:</b>		
	• Race	No	
	• Ethnic origins (including gypsies and travellers)	No	
	• Nationality	No	
	• Gender	No	
	• Culture	No	
	• Religion or belief	No	
	• Sexual orientation including lesbian, gay and bisexual people	No	
	• Age	No	
<b>2.</b>	<b>Is there any evidence that some groups are affected differently?</b>	Yes	Guidance is aimed at the management of children.
<b>3.</b>	<b>If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?</b>	N/A	
<b>4.</b>	<b>Is the impact of the policy/guidance likely to be negative?</b>	No	
<b>5.</b>	<b>If so can the impact be avoided?</b>	N/A	
<b>6.</b>	<b>What alternatives are there to achieving the policy/guidance without the impact?</b>	N/A	
<b>7.</b>	<b>Can we reduce the impact by taking different action?</b>	N/A	

If you have identified a potential discriminatory impact of this key document, please refer it to Human Resources, together with any suggestions as to the action required to avoid/reduce this impact.

For advice in respect of answering the above questions, please contact Human Resources.



## Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	<b>Title of document:</b>	<b>Yes/No</b>
1.	Does the implementation of this document require any additional Capital resources	No
2.	Does the implementation of this document require additional revenue	No
3.	Does the implementation of this document require additional manpower	No
4.	Does the implementation of this document release any manpower costs through a change in practice	No
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	No
	Other comments:	N/A

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval