1. Introduction

Intravenous induction of anaesthesia involves insertion of a cannula into the back of the hand, this is a painful procedure and children may find it unpleasant and co-operation maybe lost.

Two topical anaesthetics are available to remove the painful stimulus: EMLA (Eutectic Mixture of Local Anaesthetics, namely prilocaine and lidocaine) and AMETOP (topical Amethocaine).

The timely application and removal of these creams is imperative to their effectiveness and with variability in surgical list progression the timing of such maybe uncertain. This guideline outlines the use of topical local anaesthetics in children undergoing anaesthesia.

2. Scope

By this policy, anaesthetists support the practice of the paediatric nurses in applying topical local anaesthetics to children's hands to facilitate cannulation prior to induction of anaesthesia. It indicates the circumstances for its use, limits the time duration for which it can normally be applied and suggests warnings to be given to the parents.

3. Guideline Standards and Procedures

- Patient Group Directions (PGD) allows certain groups of professional, such as Qualified Nurses, to administer Topical Local Anaesthetics for all children undergoing surgery
- The application of Topical Local Anaesthetics maybe delegated by a qualified member of staff to a Health Care Assistant or Phlebotomist who has undergone the relevant Children's Directorate training under local policy
- The application of EMLA or AMETOP should be documented in the 'Once Only' section of the drug chart, together with dose and timing. A sticker is available to facilitate this
- Application should be, if possible, to visible veins on the back of the hand or ante-cubital fossa, other sites can be used if no veins are visible
- For **AMETOP**
    - Should be applied a minimum of 45 minutes before predicted cannulation
    - Over five years of age up to 5 tubes (5g) can be applied at separate sites at the same time
    - Over 1 month and less than 5 years only 1 tube (1g) can be applied, spread across different sites
    - Application can be repeated after a minimum of 5 hours, up to a total of 2 tubes in 24 hours in all age groups
    - One tube can be used to cover up to 30 square centimeters
    - AMETOP should be removed after a maximum of 1 hour
    - The numbing effect lasts 4-6 hours, reapplication therefore may not be necessary within the time span of a single session operating list
- For **EMLA**
    - Should be applied one hour before predicted cannulation
    - Over 1 year olds, EMLA should be removed after a maximum of 5 hours

- Less than 1 year old, EMLA should be removed after a maximum of 1 hour
- Maximum dosage varies by age (0-3months 1g, 3months-1year 2g, 1-6years 10g, over 6 years 20g)
- 1g of cream can be used to cover up to 10 square centimeters
- Reapplication is possible after 12 hours, up to a maximum of 2 doses in 24 hours

- The site should then be covered with an occlusive dressing (Tegaderm)
- Patients and parents should be warned that redness at the application site is a normal response, is harmless and will fade
- Severe itchiness or blisters should prompt removal and seeking medical attention.

4. Education and Training

Done by Children's CMG training policy.

5. Monitoring and Audit Criteria

No applicable audits, Ward based monitoring which is the responsibility of the Children's CMG.

6. Supporting References

MHRA Summary of Product Characteristics for AMETOP GEL 4% and EMLA CREAM 5%

Available at http://mhra.gov.uk Search <AMETOP> or <EMLA>

7. Key Words

Topical anaesthesia, Local Anaesthesia, EMLA, Ametop, Cannulation

CONTACT AND REVIEW DETAILS	
Guideline Lead (Name and Title) Dr. David Marriott, Consultant Anaesthetist	**Lead Committee or Executive Lead** ITAPS Clinical Effectiveness Lead
Date of Next Review by Approval Committee: June 2024	**Details of Changes made during review:** Expanded application timings into separate sections per drug Added timing for application before cannulation for both Added maximum doses for both, including area that can be covered Added re-application information Added timing of duration of numbing effect Added line about severe itchiness/blisters and medical attention