Making venipuncture less painful and less distressing

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Meet Sophia

- Sophia is a 3-year-old girl with fever, dehydration. She has a two-day history of cough, rhinitis, lethargy and poor oral intake. Her oxygen saturation (pulse oximetry) is 92%, her temperature is 39.8°C, her respiratory rate is 38/min and her heart rate is 142/min.

- She requires an IV.
Points to ponder….

• How would you assess Sophia’s fear and anxiety?
• **What pharmacological strategies would you use to reduce Sophia’s pain and anxiety related to her IV start?**
• What physical strategies would you use to reduce Sophia’s pain and anxiety related to this procedure?
• **What psychological strategies would you use to reduce Sophia’s pain and anxiety related to this procedure?**
The Three “P’s” of pain management

1. Pharmacologic
2. Physical
3. Psychological
Pharmacological Strategies

Procedural Pain

- Sucrose (TootSweet®)
- Topical local anaesthetics (Maxilene®)
- Premedication
- Sedation policies
Topical Local Anaesthetics

- Creams that are applied prior to the painful procedure
- Mechanism of action is numbing of the skin by absorption
- Various brands available including Maxilene®, EMLA®, and Ametop®
- MUST Be applied with adequate time prior to procedure in order to be effective.
  - Maxilene® requires 30 minutes minimum
  - Ametop® requires 30 - 45 minutes minimum
  - EMLA® requires 60 – 90 minutes
Application

- May be applied to multiple sites
- Maxilene® should be covered with an occlusive dressing (e.g., Tegaderm®) for absorption.
- These can be used on IV access devices such as an IVAD
  - Follow institution cleaning recommendations for sterility
<table>
<thead>
<tr>
<th></th>
<th>Emla Lido-Prilocaine</th>
<th>Ametop Amethocaine 4%</th>
<th>Maxilene Lidocaine liposomal 4%</th>
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</thead>
<tbody>
<tr>
<td><strong>Delay</strong></td>
<td>60 min (Max 4h)</td>
<td>30 min</td>
<td>30 min (max 2 h)</td>
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<tr>
<td><strong>Duration</strong></td>
<td>1-2h</td>
<td>4h</td>
<td>1h</td>
</tr>
<tr>
<td><strong>Vascular loss and cutaneous changes</strong></td>
<td>Vasoconstriction</td>
<td>Vasodilation (erythema)</td>
<td>Minimal</td>
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<tr>
<td><strong>Complications</strong></td>
<td>Methemoglobinemia</td>
<td>Hypersensitivity</td>
<td>Methemoglobinemia (rare)</td>
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Ref. www.urgencehsj.ca
What to tell the child

• Use words like “numbing” rather than “freezing”

• They will still feel the procedure – for example “it will feel like pushing on your skin”

• Be clear that the needle does not stay in – use “straw” to explain an IV for example
Positions for IV start
Physical therapies

• Allow child and family to choose supportive positions – sitting for procedures should be first choice!
Psychological Therapies

Distraction Techniques:
- Music
- Stories
- Guided imagery
- iPads

Relaxation Techniques:
- Deep breathing
- Progressive muscle relaxation
Think of the five senses

- Touch – favourite blanket or stuffie
- Hearing – parent voice, favourite song or story
- Sight – photos, toys
- Smell – think of your own soap, mom’s shirt
- Taste – sucrose, familiar foods
Involve the family!

• Parents generally want to be involved in their child’s care
• Provide them with the skills to help their child!
Back to Sophia – IV start

**Pharmacological**
- Apply topical local anaesthetic with enough time for absorption

**Physical**
- Comfort positioning
- Non dominant hand

**Psychological**
- Explain at her developmental level
- Favourite toy
- Distraction
- Praise afterwards