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Needle Pain Management

Protocol

Purpose

To effectively diminish the pain and associated fear of needle procedures in a safe and therapeutic manner in patients requiring venipuncture, injections or other needle procedures using the standardized protocols.

Indications

Patients requiring needle procedures.

Needle Pain Protocol Medications By Age

Age	Drug	Contraindications
Patients ≤ 6 months	Sucrose	For patients with hyperglycemia and/or NPO status, consider patient status and if necessary, consult with primary service prior to use
	L.M.X.-4™	<ul style="list-style-type: none"> Non-intact skin Allergy to lidocaine
Patients ≥ 6 months	L.M.X.-4™	<ul style="list-style-type: none"> Non-intact skin Allergy to lidocaine
	J-Tip with 1% Buffered Lidocaine (0.25 mL)	<ul style="list-style-type: none"> Non-intact skin Low platelet count Allergy to lidocaine Coagulopathy
Patient > 3 years	L.M.X.-4™	<ul style="list-style-type: none"> Non-intact skin Allergy to lidocaine
	Synera™ for use when vasodilatation needed	<ul style="list-style-type: none"> Non-intact skin Severe hepatic dysfunction Allergy to lidocaine or tetracaine Not to be used in MRI suite
	J-Tip with 1% Buffered Lidocaine (0.25 mL)	<ul style="list-style-type: none"> Non-intact skin Low platelet count Allergy to lidocaine Coagulopathy
	Pain Ease Mist Spray (IM, SC injections only)	<ul style="list-style-type: none"> Line placement or vascular access Poor peripheral circulation

**See Needle Pain Order Set for dosing by age and weight and contraindications.

**See Peri Procedure and Emergency Department Needle Pain Protocol Orderset for dosing by age and weight and contraindications.

Orders

In accordance with this needle pain protocol approved by the Pharmacy and Therapeutics Committee registered nurses will activate or administer analgesics for needle procedures as follows:

	With Prescriber Order	Per Protocol
Inpatient areas	<ul style="list-style-type: none"> Administer as ordered 	<p>With an "Activate analgesics for needle pain procedures per protocol" prescriber order:</p> <ul style="list-style-type: none"> Registered nurses activate the specific medication orders as "Written, No Co-Sign" with the name of the prescriber who signed initial order to activate the needle pain protocol.
Non-inpatient areas	<ul style="list-style-type: none"> Administer as ordered 	<p>With an "Activate analgesics for needle pain procedures per protocol" prescriber order:</p> <ul style="list-style-type: none"> Registered nurses activate the specific medication orders as "Written, No Co-Sign" with the name of the prescriber who signed initial order to activate the needle pain protocol. <p>Without an "Activate analgesics for needle pain procedures per protocol" prescriber order:</p> <ul style="list-style-type: none"> For some Non-inpatient areas, registered nurses activate orders for needle procedures by selecting orders from the Needle Pain Management (Single Dose) for Non- Inpatient Areas Orderset and place it, with a communication type of "Cosign Required"; using the name of the appropriate prescriber.

- Document drug administration in the patient's medication administration record.
- The following drugs are approved for use with this policy:
 - Sucrose 24%
 - Lidocaine 4% (L.M.X.-4™)
 - Lidocaine and Tetracaine (Synera™)
 - Tetrafluoroethane and Pentafluoropropane (Pain Ease Mist Spray)
 - J-Tip with 1% Buffered Lidocaine (0.25 mL)

Note: EMLA is available with a prescriber order but is not for use with this protocol.

Dose/Administration

- Per BCH Formulary.
- L.M.X.-4™ is the first drug given under the Needle Pain Protocol unless any of the following situations are present:

- For children > 3 years requiring vasodilatation prior to venous access, use Synera™.
- For children > 3 years having injections (IM, SC) and requiring a fast acting agent, use Pain Ease Mist Spray.
- For children ≥ 6 months consider use of J-Tip for fast acting agent.
- For infants 6 months or less, administer sucrose in addition to L.M.X.-4™.

Documentation

Complete patient care documentation as described in the Patient Care Manual. In addition, document specific Needle Pain Management information as follows:

Patient Care Orders	<ul style="list-style-type: none"> • Activated orders are documented as “Written, No Co-Sign” with the name of the prescriber who signed initial order. • For some Non-inpatient areas registered nurses activate orders for needle procedures as outlined below: Select order from the Needle Pain Management (Single Dose) for Non- Inpatient Areas Orderset and place it, with a communication type of “Cosign Required”; using the name of the appropriate prescriber.
Medication Administration Record	Document dosage and time of administration of pain medication.
Patient Care Flowsheet/ Electronic Documentation	Assess and document the effectiveness of analgesia using a developmentally appropriate pain assessment tool before and after the administration of the analgesic. Refer to Patient Care Manual: Pain Assessment and Management.

Related Content

- Needle Pain Management Protocol: General Information
- Needle Pain Management Protocol: Interventions for Needle Pain
- Needle Pain Management Protocol: Glossary of Terms
- Boston Children’s Hospital Formulary
- Click here for all pain related family education information sheets

Patient Care Manual

- Blood Sampling via Venipuncture
- Pain Assessment and Monitoring

Patient Care References

- Behavioral Distraction Techniques
- Needle Pain Management& (videos) [NetLearning]

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Document Attributes

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General Information

The pain and associated fear of needle procedures will be reduced by:

- Clustering care to decrease the number of needle procedures whenever possible (e.g., combining blood sampling with IV insertion).
- Use of multimodal approaches determined by partnering with the patient and family to consider, preferences and past experiences. See Appendix A for some available options.
- Provision of patient choices and some control whenever possible (e.g., positioning, location, time of procedure, music, distraction, parent presence).
- Nurse coordinated needle pain procedures for inpatients in collaboration with other nurses, phlebotomists, clinical assistants, physicians and others.
- Use of treatment room for needle procedures whenever possible in order to preserve the patients bed a "safe place".
- Use of hospital resources such as other nurses, child life specialists.
- Use of analgesics. Occasionally the urgency of the needle procedure may supersede the use of topical local anesthetics. However, interventions that require less time should be considered.
- For intramuscular injections, use appropriate needle length according to the age of child to decrease pain.

The use of topical analgesics is not currently widely used in pediatric and adult diabetic patients because the amount of local anesthetics for the number of sticks per day would exceed the total daily dosage. For these patients, education of the patient/parent/family on the non-pharmacologic methods of needle pain management is important. These techniques include:

- Gentle hold of the area being injected.
- Behavioral distraction techniques and comfort holds as developmentally appropriate.
- 10 second vigorous rub immediately prior to needle procedure.
- Warming of the hand causing vasodilatation and therefore less finger squeezing to obtain blood for sample.
- Use lancets for finger-sticks that minimize tissue damage to the finger. To minimize discomfort, lance the side of finger not the middle.

Interventions for Needle Pain

Interventions for Needle Pain	Age groups				
	Infant	Toddler	Preschool	School-age	Adolescent
Analgesics:					
Sucrose for infants (works in 1-2 minutes)	X				
L.M.X.-4® (works 30 minutes lasts 1 hour)	X	X	X	X	X
J-Tip with 1% Buffered Lidocaine (works within 1-2 minutes)	>6 months	X	X	X	X
Pain Ease Mist Spray® for children (works instantly lasts < 1 minutes - for injections)			>3 yrs	X	X
Synera™ (works in 10-30 minutes, lasts 2 hours)			>3 yrs	X	X
EMLA® (works in 1 hour, lasts 2 hours)	X	X	X	X	X
Assorted Visuals:					
Interactive toys	X	X	X	X	
Interactive books		X	X	X	X
Videos		X	X	X	X
Breathing Techniques:					
Blowing bubbles		X	X		
Pinwheels			X	X	
Slow deep breathing			X	X	X
Comfort Measures:					
Parent/caregiver presence & involvement	X	X	X	X	X
Modify environment	X	X	X	X	X
Familiar objects	X	X	X	X	X
Comfort holds/Touch	X	X	X	X	X
Ice (verify with RN if appropriate for specific patients)		X	X	X	X
Ten second vibration or rub	X	X	X	X	X
Music	X	X	X	X	X
Diversional Talk:					
Guided imagery				X	X
Encouraging statements	X	X	X	X	X
Use of riddle, jokes, humor			X	X	X
Listen to the child		X	X	X	X
Other:					
Control (allow control whenever possible)		X	X	X	X
Magic glove			X	X	X
Needle Length for Intramuscular Injections					
5/8 inch (For newborns- 2 months)	X				
1 inch (For infants > 2months)	X				
5/8-1 inch (Deltoid)		X	X	X	
1-1 ¼ (Anterolateral thigh)		X	X	X	
1-2 inch					X

Assorted Visuals:

Any object that visually distracts and allows stimulation of the mind

- **Infants:** light up toys, books
- **Toddlers:** pop-up books, magic wands, videos
- **Preschoolers:** bubbles, magic wands, videos
- **School-age:** "I spy," movies, video games
- **Adolescents/adults:** video games, movies

Breathing Techniques:

An active technique that helps the individual breathe slowly, deeply, rhythmically and thereby induces relaxation.

- **Infants:** keeping parents calm, informed and involved, singing
- **Toddlers:** blowing bubbles, singing
- **Preschoolers:** pinwheels, blowing imaginary candles, bubbles, singing
- **School-age:** deep breathing, singing, pinwheels
- **Adolescents/adults:** deep breathing

Comfort Measures:

A variety of sensory techniques that aim to soothe or provide alternate sensation to a painful stimulus.

- **Infants:** comfort holds, swaddling, familiar object, pacifier, music, modify environment, positioning
- **Toddlers:** comfort holds, security item, modify environment, music
- **Preschool:** comfort holds and positioning, modify environment, favorite object, music
- **School-age:** positive touch such as hand holding, warm/cold compresses, comfort holds/positioning, modify environment, music
- **Adolescents/adults:** positive touch such as warm/cold compresses, warm blankets, hand holding, modify environment, music

Diversional Talk:

Words to change focus of attention, to encourage the child and provide a little more courage to get through a painful episode.

- **Infants:** singing, talking, soft music, encouraging statements
- **Toddler:** story telling, "favorites", encouraging statements
- **Preschool:** counting, alphabet, songs, stories, encouraging statements, humor
- **School-age:** riddles, visualizations, encouraging statements, humor/jokes
- **Adolescents/adults:** visualizations, guided imagery, plain conversation, encouraging statements, humor/jokes