PAEDIATRIC ACUTE CARE GUIDELINE	
Lacerations	
Scope (Staff):	All Emergency Department Clinicians
Scope (Area):	Emergency Department

This document should be read in conjunction with this DISCLAIMER
http://kidshealthwa.com/about/disclaimer/

Lacerations

Background

- Minor wounds and lacerations are common injuries in children
- Goals of treatment include:
  - Restoring function and structural integrity
  - Prevention of infection
  - Cosmetically acceptable healing
  - Minimising distress to the child and parents during wound repair

Assessment

History		
To determine the best management for the child's wound the following information should be considered:		
Mechanism of Injury – will assist in determining the degree of devitalised tissue in the surrounding area		
	Shearing	sharp cuts, high velocity missiles
	Tension	flap lacerations, avulsion injuries
	Compression	direct blow causing both laceration and haematoma
Patient Factors – identify risk factors that may delay healing or cause infection / complications		
	General health	e.g. diabetes, malnutrition, shock, anaemia, renal failure, tendency to form keloid scars
	Medication	e.g. steroids or immunosuppressive drugs
	Tetanus status	Refer to Tetanus Prophylaxis

Environment – where the wound occurred will determine likely contamination		
	Age of wound	

Examination		
Assess wound	**Extent of Wound**	Size, shape, site, structure and sensation
	Deeper structures	Tendons, nerves, bones – check distal function, check for fractures – X-Ray if indicated
	Blood supply	Flaps may be dusky, be mindful of damage to end arteries
	Contamination	Dirt, foreign bodies – may require X-Ray or Ultrasound
Tetanus prone wounds	Tetanus can follow apparently trivial, even unnoticed wounds. However, some wounds tend to favour the growth of tetanus organisms: refer to Tetanus Prophylaxis for information regarding tetanus prone wounds.	

Management

Wounds Requiring Surgical Referral
Signs of vascular injury or compromise
Wounds requiring exploration and possible repair of deeper structures
Extremely large wounds – e.g. face > 3cm laceration
Extensive repair in sensitive areas eg perineum, medial canthus eye
Compound fractures
Highly contaminated wounds which require thorough debridement
Uncooperative patient unable to be adequately sedated by conscious sedation
Wounds requiring optimal cosmetic repair

Specific Wounds
Lip Requires exact approximation of the Vermillion border. May require plastics referral.
Tongue and Intraoral Most of these lacerations in children will heal without suturing. Exceptions are free edge of tongue involved or involving facial nerve and salivary ducts.

Eyelids May require referral to Ophthalmology, especially if fat exposed, deep involving muscles or medial lacerations affecting tear duct structures – refer to Eye Trauma
Bites Common injuries prone to infection. All require prophylactic antibiotics – refer to Antibiotics
• **Human Bites** ◦ Often involved in high impact mechanisms i.e. fist fights or sports injuries resulting in tissue crush and devitalisation. ◦ Should not be closed unless thoroughly irrigated and debrided.
• **Animal Bites** ◦ Most common dog bite, then cat ◦ Requires meticulous wound preparation ◦ Rabies prophylaxis not required for bites in Australia, but beware patients presenting from Asian destinations – refer to Rabies and Lyssavirus
Foreign Body • X-Ray if foreign body (FB) is radio-opaque for identifying position • Ultrasound may be necessary for determining presence of radiolucent FB • Wound exploration is essential, this often requires local anaesthetic (nerve block useful for difficult to inject areas) or general anaesthesia • Deep foot FB to be referred to Orthopaedics
Contaminated • Thorough irrigation with 0.9% saline and debridement is essential – may require antiseptic liquid (Chlorhexidine 0.05% or 1% Providine-Iodine) • Delayed primary closure for 4-5 days may be useful in grossly contaminated wounds

Procedure

- Minimise distress to the child and parent during the procedure with appropriate analgesia, local anaesthesia and/or sedation
- Obtain necessary resources for treatment. If in doubt, consult with a senior medical officer or nurse.

Local Anaesthetic

- Infiltration with local anaesthetic (e.g. 1% lignocaine)
- ALA or Laceraine- refer to Anaesthesia – Topical
- Regional nerve blocks – refer to appropriate guideline

Analgesia and sedation

- Refer to Analgesia and appropriate sedation guideline (Nitrous Oxide or Ketamine)

Cleaning and irrigation

- Irrigate with 0.9% saline using a large bore needle and syringe to remove obvious foreign material.
- Antiseptics may damage tissue defences and potentially impede healing. Exception – contaminated wounds may benefit from Chlorhexidine 0.05% or Povidone-iodine

irrigation.

Debridement

- Can reduce wound infections by removing debris, bacteria and devitalised tissues
- May make a jagged wound into a long wound requiring too much tension and wider scar
- Hair can be trimmed around lacerations but avoid shaving large patches
- Never shave eyebrows

Wound Repair Options		
	Suitable wound	**Comments**
Wound tapes (Steristrips or Skinlinks)	Suitable for simple linear lacerations with minimal tension. Not useful on wet (oozing) areas or lacerations with surrounding abrasions.	Prepare intact adjacent skin with tincture of benzoin to aid adhesion, but avoid contaminating wound with it (causes severe pain). Use Leukosan ™ Skinlink as per directions
Tissue adhesive (e.g. Dermabond**)**	Suitable for simple superficial lacerations (less than 3cm) especially on the face.	Avoid accidental spillage into the eye by careful positioning of patient and use of gauze. The applicator tip should never be pressed into the wound.
Suturing	Suitable for clean uninfected wounds where the depth will lead to excess scarring if the edges are not properly opposed. Typically this is when the laceration extends through the dermis. Absorbable (chromic) sutures are suitable for deep structures.	In general use interrupted sutures. Nylon monofilament preferable to silk to reduce suture marks. To avoid the need for removal absorbable (chromic) sutures maybe appropriate if the wound is not under tension, particularly in the frightened and uncooperative child.
Staples	Suitable alternative for linear lacerations through the dermis that have straight edges on the scalp, trunk, arms and legs. Staples will create artefacts on CT scans if imaging is required.	Can be more painful and cosmetically may cause more scarring. Can be placed more rapidly than sutures. Place staples approximately 0.5 – 1cm apart.

Post Repair Wound Care	
Dressings	Wounds and dressing guide
Antibiotics	Not a substitute for meticulous irrigation and debridement. If indicated initiate early.
Elevation	
Immobilisation	

Tetanus	Ensure Tetanus prophylaxis +/- Ig for tetanus prone wounds in non immunised patients refer to Tetanus prophylaxis
Sun Exposure	Healing wounds are more sensitive to the sun. Sun protection maybe required for at least two years post injury.
Removal of sutures	3-5 days face, 7 days scalp, upper limb, anterior trunk, 10-14 days lower limb and back.
Removal of staples	1 week (provide staple remover to parents for LMO to remove)
Tissue adhesive	Remains for 1-2 weeks. Does not require removal.
Leukosan™ Skinlink™	Remain for up to 10 days. Does not require removal. If Skinlink™ begins to curl, the edges may be trimmed with scissors. Limited bathing. Always pat dry if exposed to moisture. Do not scrub.
Wound tapes	Do not remain in place for long periods. Keep dry for 24 hours. Limit bathing. Always pat dry if exposed to moisture.
Health fact sheet	Steristrip Wound closure with Leukosan™ Skinlink™ Wound closure with Dermabond™ (glue) Suture Care Staple care Care of minor lacerations/abrasions

This document can be made available in alternative formats on request for a person with a disability.

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