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Contact Stephanie Spain:
 Trauma Prgm
 Mgr Adult
 Area Trauma Surgical
 Critical Care
 Applicability Erlanger Health -
 Baroness

Traumatic Wound Closure Practice Management Guideline

1. Process/Procedure Description

To develop a standard for closure of traumatic wounds

2. Who Should Read This Process/Procedure?

Trauma Residents, Trauma Attending

3. Process/Procedure

Step:	Process Instructions/Description:
A.	Background You will encounter a large variety of wounds while on the service and will manage the majority of these. Full thickness wounds involving the eyelid or associated with an extremity fracture usually necessitate consultation with the plastic or orthopedic service. Wounds of the forearm or hand involving tendon or joint space similarly require the consultation of the hand service.
B.	Wound Classification We will use the Current Procedural Terminology (CPT) manual wound classification system to describe all wounds managed by the trauma service. All wound closures performed need a procedure note documented in EPIC. - Simple Wounds These are generally linear or curved linear lacerations with minimal contamination that can be closed in one layer without debridement. - Intermediate Wounds

	These are basically wounds that require two-layer closure that may either be a superficial fascia layer and skin layer or be a closure of subcutaneous fat and skin layers. There may be little or moderate contamination associated with these wounds but excisional or sharp debridement is not necessary. 3. Complex Wounds Wounds that require three-layer closure of deep and superficial fascia or muscle layer or subcutaneous fat and skin are considered complex. a. Wounds with ongoing bleeding that require suture ligation of bleeding vessels are also classified as complex wounds, even if there is only one or two layer closure. b. Those wounds requiring excisional debridement of devitalized tissue with a scalpel or scissors also classify as complex wounds. If excisional debridement is necessary, please be certain to clearly state this in your procedure note. c. Avulsion wounds requiring tacking down of flaps created by trauma or those wounds which require mobilization of wound edges to permit closure also classify as complex wounds.
C.	Anatomic Location Each classification has a separate anatomic location that also needs to be specified in the procedure note. 1. Simple These are basically two anatomical locations for simple wounds: a. facial b. truncal • truncal wounds should be sub-classified as follows: 1) chest 2) back 3) abdomen 4) flank 5) upper extremity 6) lower extremity 7) foot 8) hand 2. Intermediate Intermediate wounds have three general anatomic locations: a. Scalp, axilla, extremities, chest, back, abdomen or flank b. neck, hands, feet and/or external genitalia c. face, ears, eyelids, nose, lips and/or mucous membranes 3. Complex wounds Complex wounds have four anatomic areas a. trunk b. scalp, arms, and/or legs c. forehead, cheeks, chin, mouth, neck, axillae, genitalia, hands, and/or feet d. eyelids, nose, ears, and/or lips
D.	Categorizing Wounds The final way of categorizing wounds in addition to complexity and anatomic location is length. All wounds need to be measured and the total length of wound per anatomic

	location needs to be recorded per wound grade (e.g. all simple wounds in a certain anatomic location need to have the lengths totaled. All intermediate wounds per anatomic location need their lengths totaled as well as all complex wounds per each anatomic location.) Therefore, each procedure note should contain wound grade, anatomic location by grade and total length of each type of wound.
E.	Contaminated Wounds The solution to the pollution is dilution. Irrigation with pressurized saline either from syringes or perforated 1 liter saline bottles is essential. All particulate matter must be thoroughly cleansed free. A large amount of concentrated Betadine impairs wound healing. If wounds cannot adequately be cleansed due to pain or heavy soiling, these patients should be considered for transfer to the operating room. Deep wounds exposed to lake, river or pond water may also be considered for operative irrigation and debridement.
F.	Antibiotics The three factors that have been shown to contribute to wound infection following laceration closure are the length, the depth of the wound and the amount of contamination. Most contaminated wounds do not need antibiotic administration. Complex, deep contaminated wounds should have antibiotic administration discussed with the chief or attending on an individual basis for appropriate coverage, if indicated. Wounds involving animal or human bites and/or contamination with lake or river water should also be considered for antibiotic coverage. Current recommendations advise to utilize Augmentin 875mg/125mg Q12 for 3 days or Unasyn 3gm Q6 for 3 days for human or animal bites. Levaquin 750mg Q day for 3 days should be utilized for wounds contaminated with lake or river water. These recommendations are different if contaminated wounds include open fractures. For antibiotic coverage related to open fractures see Trauma Orthopedic PMG #7135.14.
G.	Instruments Disposable laceration trays available in the ER are usually sufficient for most wounds. For complex lacerations and lacerations to the face, "plastic surgery trays" are available with finer instruments and retractors when necessary.
**	(The physician closing the wound should document an Operative or Procedure note as directed by the Trauma Attending Surgeon.)

References:

Approval Signatures

Step Description

Approver

Date

VP Approval	Jessica Holladay: VP & ACNO Surg & Trauma Svcs	04/2025
Trauma Services Committee Approval	Stephanie Spain: Trauma Prgm Mgr Adult	03/2025
	Stephanie Spain: Trauma Prgm Mgr Adult	03/2025

Applicability

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