



Appropriate Use Criteria (AUC) for Limb Salvage or Early Amputation (LSA)

**Adopted by the American Academy of Orthopaedic Surgeons
Board of Directors**

December 6, 2019

Disclaimer

Volunteer physicians from multiple medical specialties created and categorized these Appropriate Use Criteria. These Appropriate Use Criteria are not intended to be comprehensive or a fixed protocol, as some patients may require more or less treatment or different means of diagnosis. These Appropriate Use Criteria represent patients and situations that clinicians treating or diagnosing musculoskeletal conditions are most likely to encounter. The clinician's independent medical judgment, given the individual patient's clinical circumstances, should always determine patient care and treatment.

Disclosure Requirement

In accordance with American Academy of Orthopaedic Surgeons (AAOS) policy, all individuals whose names appear as authors or contributors to this document filed a disclosure statement as part of the submission process. All authors provided full disclosure of potential conflicts of interest prior to participation in the development of these Appropriate Use Criteria. Disclosure information for all panel members can be found in Appendix B.

Funding Source

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First Edition

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www.OrthoGuidelines.org/auc

To view the clinical practice guideline for this topic, please visit
<http://www.orthoguidelines.org/topic?id=1029>

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I. INTRODUCTION

OVERVIEW

METRC and AAOS have developed this Appropriate Use Criteria (AUC) to determine appropriateness of limb salvage and early amputation (LSA) in patients with high energy lower extremity trauma (HELET).

An “appropriate” healthcare service is one for which the expected health benefits exceed the expected negative consequences by a sufficiently wide margin.¹ Evidence-based information, in conjunction with the clinical expertise of physicians from multiple medical specialties, was used to develop the criteria in order to improve patient care and obtain the best outcomes while considering the subtleties and distinctions necessary in making clinical decisions. To provide the evidence foundation for this AUC, the AAOS Department of Clinical Quality and Value provided the writing panel and voting panel with the AAOS/METRC Clinical Practice Guideline on LSA², which can be accessed via the following link: <http://www.orthoguidelines.org>

The purpose of this AUC is to help determine the appropriateness of clinical practice guideline recommendations for the heterogeneous patient population routinely seen in practice. The best available scientific evidence is synthesized with collective expert opinion on topics where gold standard randomized clinical trials are not available or are inadequately detailed for identifying distinct patient types. When there is evidence corroborated by consensus that expected benefits substantially outweigh potential risks, exclusive of cost, a procedure is determined to be appropriate. The AAOS uses the RAND/UCLA Appropriateness Method (RAM)¹ to assess the appropriateness of a particular treatment. This process includes reviewing the results of the evidence analysis, compiling a list of clinical vignettes, and having an expert panel comprised of representatives from multiple medical specialties to determine the appropriateness of each of the clinical indications for treatment as “Appropriate,” “May be Appropriate,” or “Rarely Appropriate.” To access a more user-friendly version of the appropriate use criteria for this topic online, please visit our AUC web-based application at www.orthoguidelines.org/auc or download the OrthoGuidelines app from Google Play or Apple Store.

These criteria should not be construed as including all indications or excluding indications reasonably directed to obtaining the same results. The criteria intend to address the most common clinical scenarios facing general and other qualified physicians managing patients with high energy lower extremity trauma. The ultimate judgment regarding any specific criteria should address all circumstances presented by the patient and the needs and resources particular to the locality or institution. It is also important to state that these criteria are not meant to supersede clinician expertise and experience or patient preference.

INTERPRETING THE APPROPRIATENESS RATING

To prevent misuse of these criteria, it is extremely important that the user of this document understands how to interpret the appropriateness ratings. The appropriateness rating scale ranges from one to nine and there are three main range categories that determine how the median rating is defined (i.e. 1-3 = “Rarely Appropriate”, 4-6 = “May Be Appropriate”, and 7-9 = “Appropriate”). Before these AUCs are consulted, the user should read through and understand all contents of this document.

INCIDENCE AND PREVALENCE

The incidence and prevalence of severe, limb threatening lower extremity trauma is difficult to ascertain because concrete definitions of appropriate limb salvage and amputation are elusive, and associated data is limited.² However, a study by Ziegler-Graham, et. al found that in the United States 1.6 million individuals had a loss of limb and it is estimated that by the year 2050 that number will rise to 3.6 million.³

ETIOLOGY

Limb salvage and amputation decisions often must be made in response to high energy lower extremity traumas (HELET). Often these injuries include tibia or foot fractures along with severe soft tissue loss.⁴ In many cases injuries of this nature are the result of motor vehicle, motorcycle, and pedestrian accidents, but can also result from gunshot and stab wounds, and the use of machinery.⁴ To characterize patients, the hierarchy of injury can include, the presence of multiple injuries, traumatic amputation presence, Gustillo-Anderson grade, presence of vascular injury, and presence of soft tissue injury.⁴ Medical advances have improved clinician ability to perform successful limb salvage in HELET patients.⁵⁻⁷ However, it is still important to consider all patient factors in combination to ensure proper treatment is administered.²

POTENTIAL BENEFITS, HARMS, AND CONTRAINDICATIONS

All surgical interventions carry the risk of complication and unforeseen consequences. In the case of LSA there are a myriad of factors that influence the decision to proceed with one treatment over the other. Where it is expected that the functional outcome will be worse for patients/injuries receiving limb salvage, or in cases where there is significant risk to a patient’s life, treatment decisions need to be carefully considered. Patients electing to proceed with limb salvage should be appropriately counseled and advised on the potential outcomes ensuring appropriate patient expectations are set. However, while shared-decision making is emphasized, the feasibility and advisability of either treatment option must always be weighed.²

II. METHODS

This AUC for LSA is based on a review of the available literature and a list of clinical scenarios (i.e. criteria) constructed and voted on by experts in orthopaedic surgery and other relevant medical fields. This section describes the methods adapted from RAM¹. This section also includes the activities and compositions of the various panels that developed, defined, reviewed, and voted on the criteria.

Two panels participated in the development of the LSA AUC, a writing panel and a voting panel. Members of the writing panel developed a list of patient scenarios and relevant treatment options. Additional detail on how the writing panel developed the patient scenarios and treatments is below. The voting panel participated in two rounds of voting. During the first round, the voting panel was given approximately one month to independently rate the appropriateness of each the provided treatments for each of the relevant patient scenarios as ‘Appropriate’, ‘May Be Appropriate’, or ‘Rarely Appropriate’ via an electronic ballot. How the voting panel rates for appropriateness is described in more detailed below. After the first round of voting/appropriateness ratings were submitted, AAOS staff calculated the median ratings for each patient scenario and specific treatment. An in-person voting panel meeting was held in Rosemont, IL on Saturday, August 24, 2019. During this meeting voting panel members addressed the scenarios/treatments which resulted in disagreement from round one voting. The voting panel members discussed the list of assumptions, patient indications, and treatments to identify areas that needed to be clarified/edited. After the discussion and subsequent changes, the group was asked to rerate their first-round ratings during the voting panel meeting, only if they were persuaded to do so by the discussion and available evidence. There was no attempt to obtain consensus about appropriateness.

The AAOS Committee on Evidence Based Quality and Value, the AAOS Council on Research and Quality, and the AAOS Board of Directors sequentially approve all AAOS AUC.

DEVELOPING CRITERIA

Panel members of the LSA AUC developed patient scenarios using the following guiding principles:

- 1) **Comprehensive** – Covers a wide range of patients.
- 2) **Mutually Exclusive** - There should be no overlap between patient scenarios/indications.
- 3) **Homogenous** –The final ratings should result in equal application within each of the patient scenarios.
- 4) **Manageable** – Number of total voting items (i.e. # of patient scenarios x # of treatments) should be practical for the voting panel. Target number of total voting items = 2000-6000. This means that not all patient indications and treatments can be assessed within one AUC.

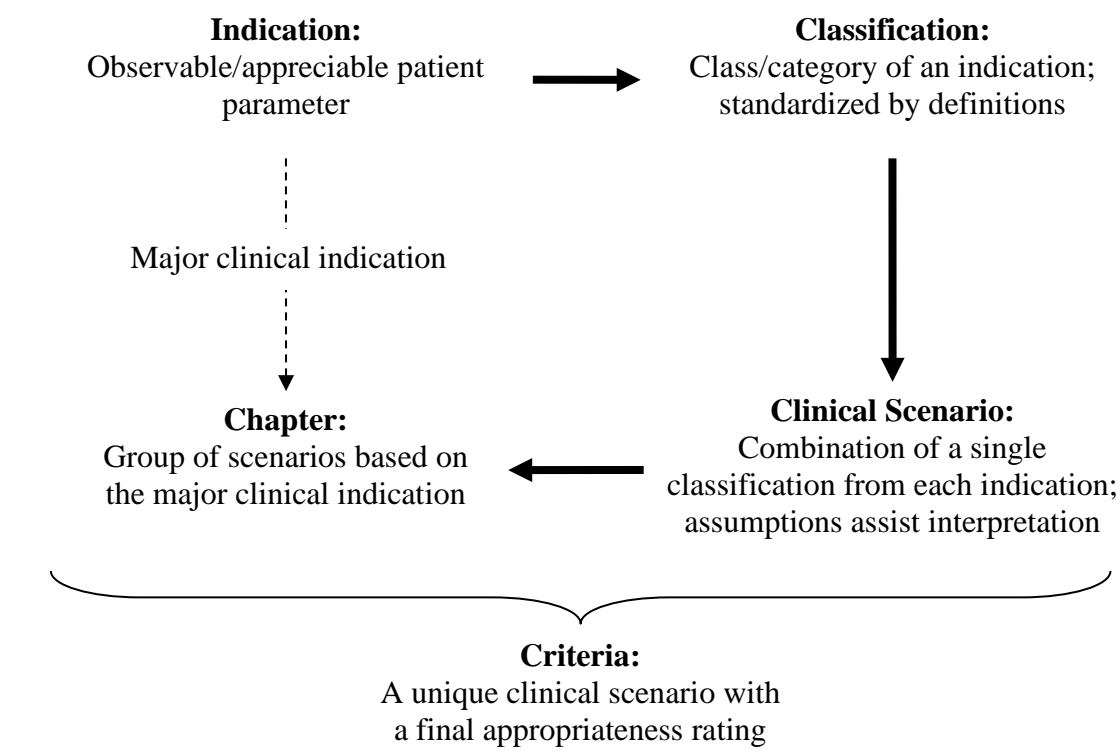
The writing panel developed the scenarios by categorizing patients in terms of indications evident during the clinical decision-making process. These scenarios relied upon definitions and general assumptions, mutually agreed upon by the writing panel during the development of the scenarios. These definitions and assumptions were necessary to provide consistency in the

interpretation of the clinical scenarios among experts voting on the scenarios, and readers using the final criteria.

FORMULATING INDICATIONS AND SCENARIOS

The AUC writing panel began the development of the scenarios by identifying clinical indications typical of patients with high energy lower extremity trauma in clinical practice. Indications are most often parameters observable by the clinician, including symptoms or results of diagnostic tests. Additionally, “human factors” (e.g. activity level) or demographic variables can be considered.

FIGURE 1. DEVELOPING CRITERIA



Indications identified in clinical trials, derived from patient selection criteria, and/or included in AAOS Clinical Practice Guidelines² (<http://www.orthoguidelines.org>) served as a starting point for the writing panel, as well as ensured that these AUCs referenced the evidence base for this topic. The writing panel considered this initial list and other indications based on their clinical expertise and selected the most clinically relevant indications. The writing panel then defined distinct classes for each indication to stratify/categorize the indication.

The writing panel organized these indications into a matrix of clinical scenarios that addressed all combinations of the classifications. The writing panel was given the opportunity to remove any scenarios that rarely occur in clinical practice but agreed that all scenarios were clinically relevant. The major clinical decision-making indications chosen by the writing panel divided the

matrix of clinical scenarios into chapters, as follows: extremity, bone injury, muscle injury, joint injury, soft tissue injury, contamination, and advanced/end stage comorbidities.

CREATING DEFINITIONS AND ASSUMPTIONS

The LSA AUC writing panel constructed concise and explicit definitions for the indications and classifications. This standardization helps ensure that the way the writing panel defined the patient indications is consistent among those reading the clinical scenario matrix or the final criteria. Definitions create explicit boundaries when possible and are based on standard medical practice or existing literature.

Additionally, the writing panel formulated a list of general assumptions in order to provide more consistent interpretations of a scenario. These assumptions differed from definitions in that they identified circumstances that exist outside of the control of the clinical decision-making process. Assumptions also address the use of existing published literature regarding the effectiveness of treatment and/or the procedural skill level of physicians. Assumptions also highlight intrinsic methods described in this document such as the role of cost considerations in rating appropriateness, or the validity of the definition of appropriateness. The main goal of assumptions is to focus scenarios so that they apply to the average patient presenting to an average physician at an average facility.

The definitions and assumptions should provide all readers with a common starting point in interpreting the clinical scenarios. The list of definitions and assumptions accompanied the matrix of clinical scenarios in all stages of AUC development and the final list appears below in the “Patient Indications and Treatments” section of this document.

LITERATURE REVIEW

The Clinical Practice Guideline on Limb Salvage and Amputation², was used as the evidence base for this AUC (see here: <http://www.orthoguidelines.org>). This guideline helped to inform the decisions of the writing panel and voting panel where available and necessary.

VOTING PANEL MODIFICATIONS TO WRITING PANEL DOCUMENT

At the start of the in-person voting panel meeting, the voting panel was reminded that they can amend the original writing panel materials if the amendments resulted in more clinically relevant and practical criteria. To amend the original materials, instructed voting panel member must make a motion to amend and another member must “second” that motion, after which a vote is conducted. If the majority of voting panel members voted “yes” to amend the original materials, the amendments were accepted.

DETERMINING APPROPRIATENESS

VOTING PANEL

As mentioned above, a multidisciplinary panel of clinicians was assembled to determine the appropriateness of treatments for the LSA AUC. A non-voting moderator, who is an orthopaedic surgeon, but is not a specialist in the diagnosis or management of LSA, moderated the voting panel. The moderator was familiar with the methods and procedures of AAOS Appropriate Use

Criteria and led the panel (as a non-voter) in discussions. Additionally, no member of the voting panel was involved in the development, i.e. writing panel, of the scenarios.

The voting panel used a modified Delphi procedure to determine appropriateness ratings. The voting panel participated in two rounds of voting while considering evidence-based information provided in the literature review.

RATING APPROPRIATENESS

When rating the appropriateness of a scenario, the voting panel considered the following definition:

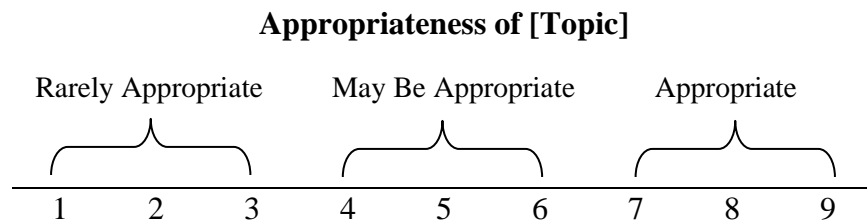
“An appropriate procedural step for a patient with high energy lower extremity trauma is one for which the procedure **is** generally acceptable, is a reasonable approach for the indication, and is likely to improve the patient’s health outcomes or survival.”

The voting panel rated each scenario using their best clinical judgment, taking into consideration the available evidence, for an average patient presenting to an average physician at an average facility as follows:

FIGURE 2. INTERPRETING THE 9-POINT APPROPRIATENESS SCALE

Rating	Explanation
7-9	<p style="text-align: center;">Appropriate:</p> <p>Appropriate for the indication provided, meaning treatment is generally acceptable and is a reasonable approach for the indication and is likely to improve the patient’s health outcomes or survival.</p>
4-6	<p style="text-align: center;">May Be Appropriate:</p> <p>Uncertain for the indication provided, meaning treatment may be acceptable and may be a reasonable approach for the indication, but with uncertainty implying that more research and/or patient information is needed to further classify the indication.</p>
1-3	<p style="text-align: center;">Rarely Appropriate:</p> <p>Rarely an appropriate option for management of patients in this population due to the lack of a clear benefit/risk advantage; rarely an effective option for individual care plans; exceptions should have documentation of the clinical reasons for proceeding with this care option (i.e. procedure is not generally acceptable and is not generally reasonable for the indication).</p>

Each panelist uses the scale below to record their response for each scenario:



ROUND ONE VOTING

The first round of voting occurred after approval of the final indications, scenarios, and assumptions by the writing panel. The voting panel rated the scenarios electronically using the AAOS AUC Electronic Ballot Tool, a personalized ballot created by AAOS staff. There was no interaction between voting panel members while completing the first round of voting. Panelists considered the following materials:

- The instructions for rating appropriateness
- The completed literature review, that is appropriately referenced when evidence is available for a scenario
- The list of indications, definitions, and assumptions, to ensure consistency in the interpretation of the clinical scenarios

ROUND TWO VOTING

The second round of voting occurred after the in-person voting panel meeting on August 24, 2019. Prior to the in-person meeting, each voting panelist received a personalized document that included his/her first-round ratings along with summarized results of the first-round ratings that resulted in disagreement. These results indicated the frequency of ratings for a scenario for all panelists. The document contained no identifying information for other panelists' ratings. The moderator also used a document that summarized the results of the panelists' first round voting. These personalized documents served as the basis for discussions of scenarios which resulted in disagreement.

During the discussion, the voting panel members were allowed to add or edit the assumptions list, patient indications, and/or treatments if clarification was needed. Voting panel members were also able to record a new rating for any scenarios/treatments, if they were persuaded to do so by the discussion and/or the evidence. There was no attempt to obtain consensus among the panel members. After the final ratings were submitted, AAOS staff used the AAOS AUC Electronic Ballot Tool to export the median values and level of agreement for all voting items.

FINAL RATINGS

Using the median value of the second-round ratings, AAOS staff determined the final levels of appropriateness. Disagreement among raters can affect the final rating. Agreement and disagreement were determined using the BIOMED definitions of Agreement and Disagreement, as reported in the RAND/UCLA Appropriate Method User's Manual¹, for a panel of 11-13 voting members (see Figure 3 below). The 11-13 panel member disagreement cutoff was used for this voting panel. For this panel size, disagreement is defined as when ≥ 4 members' appropriateness ratings fell within the appropriate (7-9) and rarely appropriate (1-3) ranges for

any scenario (i.e. ≥ 4 members' ratings fell between 1-3 and ≥ 4 members' ratings fell between 7-9 on any given scenario and its treatment). If there is still disagreement in the voting panel ratings after the last round of voting, that voting item is labeled as "5" regardless of median score. Agreement is defined as ≤ 3 panelists rated outside of the 3-point range containing the median.

FIGURE 3. DEFINING AGREEMENT AND DISAGREEMENT FOR APPROPRIATENESS RATINGS

Panel Size	Disagreement	Agreement
	Number of panelists rating in each extreme (1-3 and 7-9)	Number of panelists rating outside the 3-point region containing the median (1-3, 4-6, 7-9)
8,9,10	≥ 3	≤ 2
11,12,13	≥ 4	≤ 3
14,15,16	≥ 5	≤ 4

Adapted from RAM¹

The classifications in the table below determined final levels of appropriateness.

FIGURE 4. INTERPRETING FINAL RATINGS OF CRITERIA

Level of Appropriateness	Description
Appropriate	<ul style="list-style-type: none"> • Median panel rating between 7-9 and no disagreement
May Be Appropriate	<ul style="list-style-type: none"> • Median panel rating between 4-6 or • Median panel rating 1-9 with disagreement
Rarely Appropriate	<ul style="list-style-type: none"> • Median panel rating between 1-3 and no disagreement

REVISION PLANS

These criteria represent a cross-sectional view of current methods for management of high energy lower extremity trauma and may become outdated as new evidence becomes available or clinical decision-making indicators are improved. In accordance with the standards of the National Guideline Clearinghouse, AAOS will update or withdraw these criteria in five years. AAOS will issue updates in accordance with new evidence, changing practice, rapidly emerging treatment options, and new technology.

DISSEMINATING APPROPRIATE USE CRITERIA



All AAOS AUCs can be accessed via a user-friendly app that is available via the OrthoGuidelines website (www.orthoguidelines.org/auc) or as a native app via the Apple and Google Play stores.

Publication of the AUC document is on the AAOS website at [<http://www.aaos.org/auc>]. This document provides interested readers with full documentation about the development of Appropriate Use Criteria and further details of the criteria ratings.

AUCs are first announced by an Academy press release and then published on the AAOS website. AUC summaries are published in the *AAOS Now* and the *Journal of the American Academy of Orthopaedic Surgeons (JAAOS)*. In addition, the Academy's Annual Meeting showcases the AUCs on Academy Row and at Scientific Exhibits.

The dissemination efforts of AUC include web-based mobile applications, webinars, and online modules for the Orthopaedic Knowledge Online website, radio media tours, and media briefings. In addition, AUCs are also promoted in relevant Continuing Medical Education (CME) courses and distributed at the AAOS Resource Center.

Other dissemination efforts outside of the AAOS include submitting AUCs to the National Guideline Clearinghouse and to other medical specialty societies' meetings.

PATIENT INDICATIONS AND TREATMENTS

ASSUMPTIONS

1. Adults (17-64) with high-energy lower extremity trauma (below the knee joint)
2. Consultations with trauma, vascular, and plastic surgeons have been undertaken as necessary
3. Adequate distal perfusion is present or can be restored
4. This AUC only addresses those patients initially admitted to the hospital and prior to definitive wound closure

Definitions:

- High-energy = Type III fractures, crush or blast injuries, or severe soft tissue degloving injuries
- Trauma injury = crushed/mangled extremity, burn, muscle loss, bone loss, soft tissue coverage deficit indirect injury, improvised explosive devices (IED), ballistic injury
- “Advanced/End Stage Comorbidities” include liver, kidney, heart, lung, peripheral vascular disease (PVD), cancer, neuropathic limb

Exclusions:

1. Patients with traumatic amputation
2. Patients in extremis not rapidly correctable due to other systemic injuries and/or polytrauma (i.e. those not able to undergo immediate limb salvage surgery or may need an immediate amputation for survival)

INDICATIONS

PATIENT INDICATIONS AND CLASSIFICATIONS

Extremity

1. Leg
2. Foot/ankle
3. Both segments

Bone Injury

1. Major/critical segments (*segments that may require restoration, grafting, transport, etc.*)
2. Minimal/none

Muscle Injury

1. Major/critical injury (*significant dead muscle (intercalary loss), loss of function, loss of >1 leg compartment, etc.*)
2. Minimal/none (*loss of some muscle but muscle remains functional, some localized necrosis, etc.*)

Joint Injury

1. Major Fracture (*sufficient surface loss; AO complex-type B.3 and all C, arthrodesis*)
2. None/Minor Fracture (*AO simple-type A*)

Soft Tissue Injury

1. Laceration with edges that approximate
2. Laceration with edges that do not approximate or laceration associated with extensive degloving

Contamination

1. Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.)
2. Minimal/none or surface only

Advanced/End Stage Comorbidities

1. Yes
2. No

TREATMENTS

1. Early amputation
2. Limb salvage

III. RESULTS OF APPROPRIATENESS RATINGS

For a user-friendly version of these appropriate use criteria, please access our AUC web-based application at www.orthoguidelines.org/auc. The OrthoGuidelines native app can also be downloaded via the Apple or Google Play stores.

Web-Based AUC Application Screenshot

The screenshot displays the AUC application interface, divided into two main sections: Indication Profile and Procedure Recommendations.

Indication Profile

- Extremity** (Information icon):
 - Leg
 - Foot/ankle
 - Both segments
- Bone Injury**:
 - Major/critical segments
 - Minimal/none
- Muscle Injury**:
 - Major/critical injury
 - Minimal/none
- Joint Injury**:
 - Major Fracture
 - None/Minor Fracture
- Soft Tissue Injury**:
 - Laceration with edges that approximate and no/minimal/surface contamination only
 - Laceration with edges that do not approximate or laceration associated with extensive degloving
- Contamination**:
 - Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.)
 - Minimal/none or surface only
- Advanced/End-Stage Comorbidities**:
 - Yes
 - No

Procedure Recommendations

<input checked="" type="checkbox"/>	Early Amputation	+
		7
<input checked="" type="checkbox"/>	Limb Salvage	+
		3

E-mail Results Print

Submit

RESULTS

The following Appropriate Use Criteria tables contain the final appropriateness ratings assigned by the members of the voting panel. Patient characteristics are found under the column titled “Scenario”. The Appropriate Use Criteria for each patient scenario can be found within each of the treatment rows. These criteria are formatted by appropriateness, median rating, and + or - indicating agreement or disagreement amongst the voting panel, respectively.

Out of 384 total voting items, 121 (32%) voting items were rated as “Appropriate”, 175 (46%) voting items were rated as “May Be Appropriate”, and 88 (23%) voting items were rated as “Rarely Appropriate” (Figure 5). Additionally, the voting panel members were in statistical agreement on 161 (42%) voting items with no statistical disagreement on any voting items (Figure 6).

FIGURE 5. BREAKDOWN OF APPROPRIATENESS RATINGS

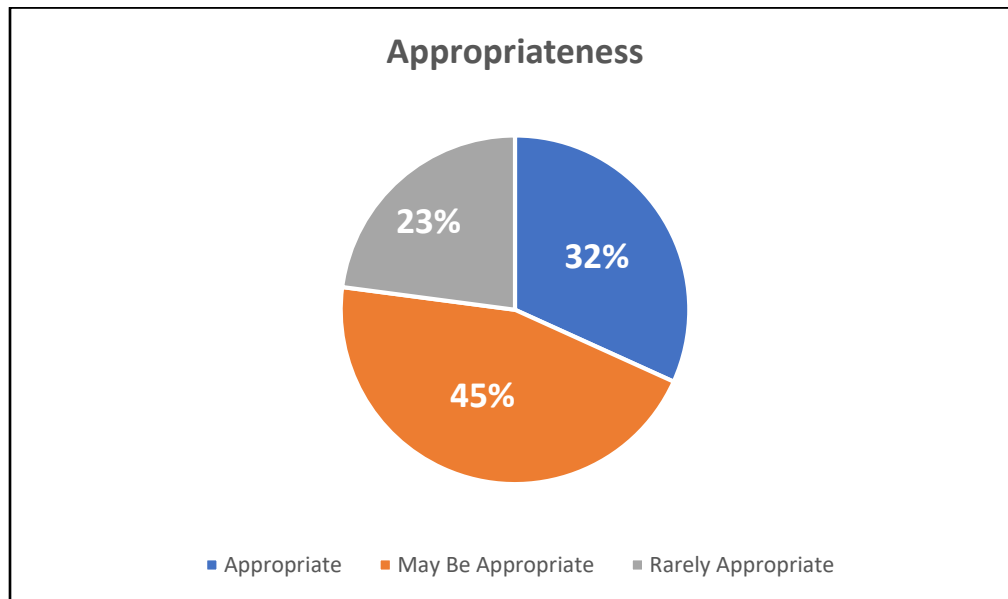


FIGURE 6. BREAKDOWN OF AGREEMENT AMONGST VOTING PANEL

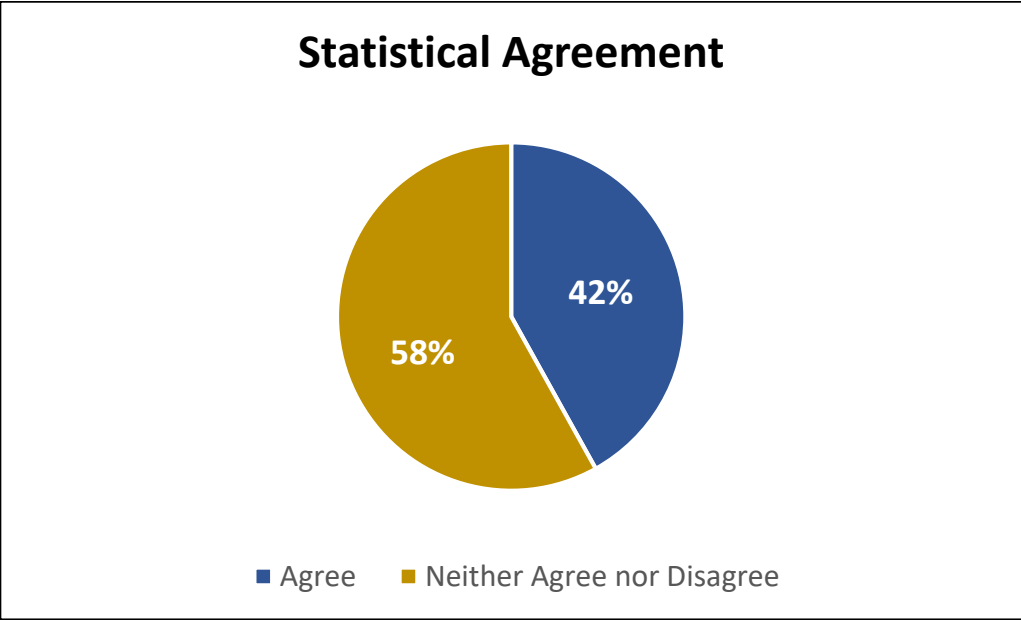
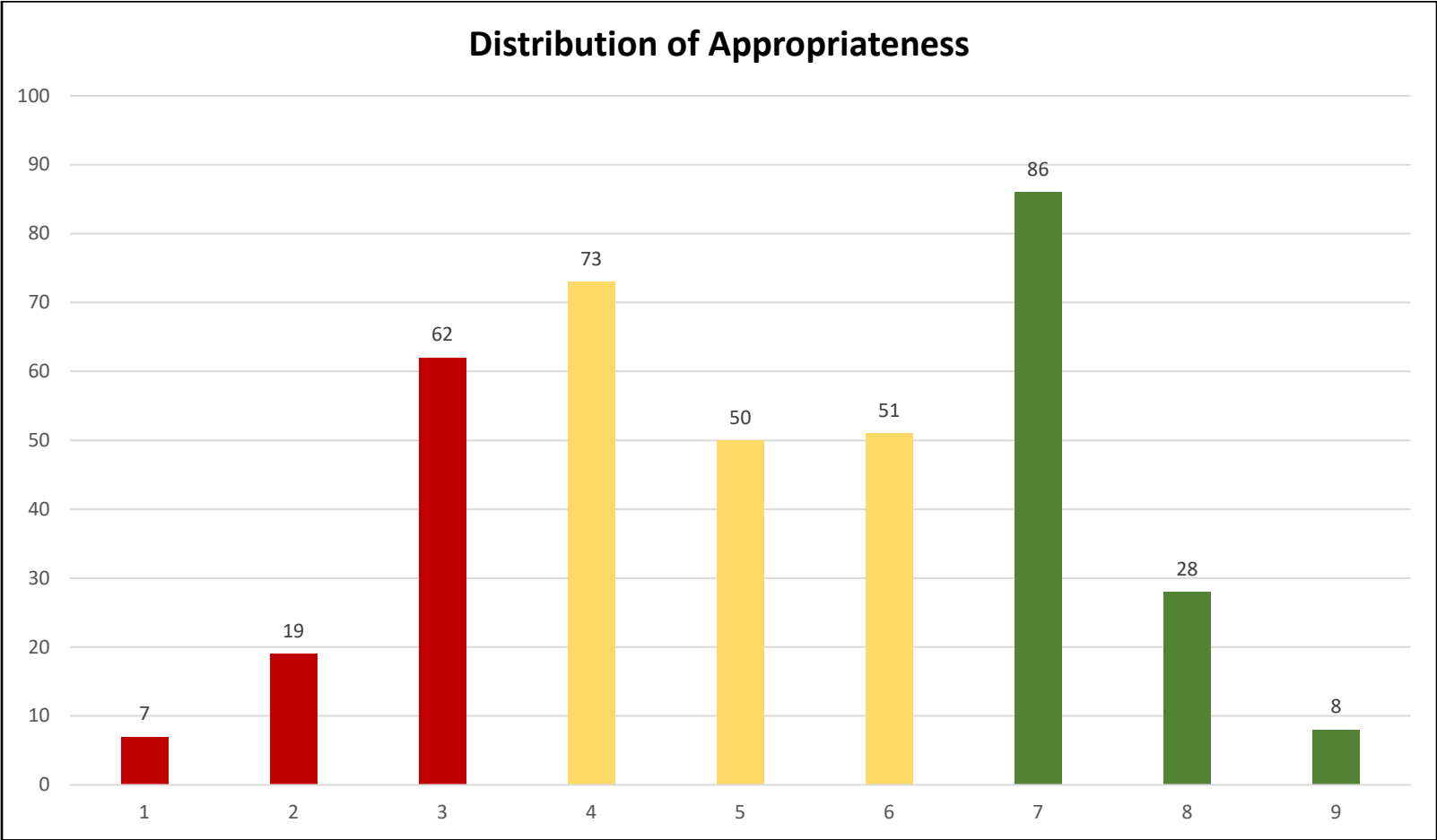


FIGURE 7. DISTRIBUTION OF APPROPRIATENESS ON 9-POINT RATING SCALE



APPROPRIATENESS RATINGS BY PATIENT SCENARIO

Interpreting the AUC tables:

- Each procedure contains the appropriateness (i.e. appropriate, may be appropriate, or rarely appropriate) for each patient scenario, followed by the median panel rating, and the panel’s agreement represented by “+”, in parentheses.

Scenario 1:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7, +)
	Limb Salvage	Rarely Appropriate (3)
Scenario 2:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (5, +)
	Limb Salvage	May Be Appropriate (5)
Scenario 3:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (5)
	Limb Salvage	May Be Appropriate (5, +)
Scenario 4:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7)
Scenario 5:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (8, +)
	Limb Salvage	Rarely Appropriate (3, +)
Scenario 6:	Treatment	Appropriateness Rating
Early Amputation	Appropriate (7)	

Leg, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Limb Salvage	May Be Appropriate (4)
Scenario 7:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	Appropriate (7, +)
	Limb Salvage	Rarely Appropriate (3, +)
Scenario 8:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 9:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7, +)
	Limb Salvage	Rarely Appropriate (3)
Scenario 10:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 11:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 12:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7, +)
Scenario 13:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (8, +)
	Limb Salvage	Rarely Appropriate (3, +)
Scenario 14:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive	Early Amputation	May Be Appropriate (5, +)
	Limb Salvage	May Be Appropriate (5)

degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No		
Scenario 15:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (5)
	Limb Salvage	May Be Appropriate (5)
Scenario 16:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7, +)
Scenario 17:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (4)
Scenario 18:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7)
Scenario 19:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7)
Scenario 20:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (2, +)
	Limb Salvage	Appropriate (8, +)
Scenario 21:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7)
	Limb Salvage	Rarely Appropriate (3, +)
Scenario 22:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7)

Scenario 23:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (5)
Scenario 24:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3, +)
	Limb Salvage	Appropriate (7)
Scenario 25:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (5)
	Limb Salvage	May Be Appropriate (5)
Scenario 26:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Rarely Appropriate (3, +)
	Limb Salvage	Appropriate (7, +)
Scenario 27:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7, +)
Scenario 28:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (2, +)
	Limb Salvage	Appropriate (9, +)
Scenario 29:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7)
	Limb Salvage	May Be Appropriate (5)
Scenario 30:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7, +)
Scenario 31:	Treatment	Appropriateness Rating
	Early Amputation	May Be Appropriate (5)

Leg, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Limb Salvage	Appropriate (7)
Scenario 32:	Treatment	Appropriateness Rating
Leg, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (2, +)
	Limb Salvage	Appropriate (8, +)
Scenario 33:	Treatment	Appropriateness Rating
Leg, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7)
	Limb Salvage	May Be Appropriate (4)
Scenario 34:	Treatment	Appropriateness Rating
Leg, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7)
Scenario 35:	Treatment	Appropriateness Rating
Leg, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7)
Scenario 36:	Treatment	Appropriateness Rating
Leg, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3, +)
	Limb Salvage	Appropriate (8, +)
Scenario 37:	Treatment	Appropriateness Rating
Leg, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7, +)
	Limb Salvage	Rarely Appropriate (3, +)
Scenario 38:	Treatment	Appropriateness Rating
Leg, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (5, +)
	Limb Salvage	May Be Appropriate (5)
Scenario 39:	Treatment	Appropriateness Rating
Leg, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (5)
	Limb Salvage	May Be Appropriate (5, +)

Scenario 40:	Treatment	Appropriateness Rating
Leg, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7, +)
Scenario 41:	Treatment	Appropriateness Rating
Leg, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (5, +)
	Limb Salvage	May Be Appropriate (5, +)
Scenario 42:	Treatment	Appropriateness Rating
Leg, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Rarely Appropriate (3, +)
	Limb Salvage	Appropriate (7, +)
Scenario 43:	Treatment	Appropriateness Rating
Leg, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7)
Scenario 44:	Treatment	Appropriateness Rating
Leg, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (1, +)
	Limb Salvage	Appropriate (9, +)
Scenario 45:	Treatment	Appropriateness Rating
Leg, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (4)
Scenario 46:	Treatment	Appropriateness Rating
Leg, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7)
Scenario 47:	Treatment	Appropriateness Rating
Leg, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 48:	Treatment	Appropriateness Rating
Early Amputation	Rarely Appropriate (2, +)	

Leg, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Limb Salvage	Appropriate (8, +)
Scenario 49:	Treatment	Appropriateness Rating
Leg, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (5)
	Limb Salvage	May Be Appropriate (6)
Scenario 50:	Treatment	Appropriateness Rating
Leg, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Rarely Appropriate (2, +)
	Limb Salvage	Appropriate (8, +)
Scenario 51:	Treatment	Appropriateness Rating
Leg, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7)
Scenario 52:	Treatment	Appropriateness Rating
Leg, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (1, +)
	Limb Salvage	Appropriate (9, +)
Scenario 53:	Treatment	Appropriateness Rating
Leg, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (4)
Scenario 54:	Treatment	Appropriateness Rating
Leg, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7, +)
Scenario 55:	Treatment	Appropriateness Rating
Leg, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7)
Scenario 56:	Treatment	Appropriateness Rating
Leg, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (2, +)
	Limb Salvage	Appropriate (8, +)

Scenario 57:	Treatment	Appropriateness Rating
Leg, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7)
Scenario 58:	Treatment	Appropriateness Rating
Leg, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Rarely Appropriate (1, +)
	Limb Salvage	Appropriate (9, +)
Scenario 59:	Treatment	Appropriateness Rating
Leg, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	Rarely Appropriate (2, +)
	Limb Salvage	Appropriate (8, +)
Scenario 60:	Treatment	Appropriateness Rating
Leg, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (1, +)
	Limb Salvage	Appropriate (9, +)
Scenario 61:	Treatment	Appropriateness Rating
Leg, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7)
Scenario 62:	Treatment	Appropriateness Rating
Leg, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Rarely Appropriate (2, +)
	Limb Salvage	Appropriate (8, +)
Scenario 63:	Treatment	Appropriateness Rating
Leg, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	Rarely Appropriate (2, +)
	Limb Salvage	Appropriate (8, +)
Scenario 64:	Treatment	Appropriateness Rating
Leg, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (1, +)
	Limb Salvage	Appropriate (9, +)
Scenario 65:	Treatment	Appropriateness Rating
	Early Amputation	Appropriate (7)

Foot/ankle, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Limb Salvage	Rarely Appropriate (3)
Scenario 66:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (5)
	Limb Salvage	May Be Appropriate (5)
Scenario 67:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 68:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7)
Scenario 69:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7, +)
	Limb Salvage	Rarely Appropriate (3)
Scenario 70:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Appropriate (7)
	Limb Salvage	Rarely Appropriate (3)
Scenario 71:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (4)
Scenario 72:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7)
Scenario 73:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7)
	Limb Salvage	May Be Appropriate (4)

Scenario 74:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (5, +)
	Limb Salvage	May Be Appropriate (6, +)
Scenario 75:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 76:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3, +)
	Limb Salvage	Appropriate (7, +)
Scenario 77:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7, +)
	Limb Salvage	Rarely Appropriate (3)
Scenario 78:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (4)
Scenario 79:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (5)
Scenario 80:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 81:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7, +)
	Limb Salvage	Rarely Appropriate (3)
Scenario 82:	Treatment	Appropriateness Rating
	Early Amputation	May Be Appropriate (4)

Foot/ankle, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Limb Salvage	May Be Appropriate (6)
Scenario 83:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 84:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7, +)
Scenario 85:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7, +)
	Limb Salvage	Rarely Appropriate (3)
Scenario 86:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (5)
	Limb Salvage	May Be Appropriate (5)
Scenario 87:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (5, +)
	Limb Salvage	May Be Appropriate (5)
Scenario 88:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 89:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (6, +)
	Limb Salvage	May Be Appropriate (4)
Scenario 90:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7)

Scenario 91:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7, +)
Scenario 92:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3, +)
	Limb Salvage	Appropriate (8, +)
Scenario 93:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7, +)
	Limb Salvage	Rarely Appropriate (3)
Scenario 94:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 95:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (5)
	Limb Salvage	May Be Appropriate (5)
Scenario 96:	Treatment	Appropriateness Rating
Foot/ankle, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7, +)
Scenario 97:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7)
	Limb Salvage	May Be Appropriate (4)
Scenario 98:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 99:	Treatment	Appropriateness Rating
	Early Amputation	Rarely Appropriate (3)

Foot/ankle, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Limb Salvage	Appropriate (7, +)
Scenario 100:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3, +)
	Limb Salvage	Appropriate (7, +)
Scenario 101:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7, +)
	Limb Salvage	Rarely Appropriate (3, +)
Scenario 102:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (5)
	Limb Salvage	May Be Appropriate (5)
Scenario 103:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (4)
Scenario 104:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7)
Scenario 105:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (6, +)
	Limb Salvage	May Be Appropriate (5, +)
Scenario 106:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7, +)
Scenario 107:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (8, +)

Scenario 108:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (2, +)
	Limb Salvage	Appropriate (8, +)
Scenario 109:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (4)
Scenario 110:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7)
Scenario 111:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6, +)
Scenario 112:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3, +)
	Limb Salvage	Appropriate (8, +)
Scenario 113:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (5)
	Limb Salvage	May Be Appropriate (5, +)
Scenario 114:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Rarely Appropriate (3, +)
	Limb Salvage	Appropriate (7, +)
Scenario 115:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7)
Scenario 116:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	Rarely Appropriate (2, +)

Foot/ankle, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Limb Salvage	Appropriate (8, +)
Scenario 117:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7)
	Limb Salvage	May Be Appropriate (4)
Scenario 118:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 119:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (5)
	Limb Salvage	Appropriate (7)
Scenario 120:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3, +)
	Limb Salvage	Appropriate (7, +)
Scenario 121:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7, +)
Scenario 122:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Rarely Appropriate (2, +)
	Limb Salvage	Appropriate (8, +)
Scenario 123:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	Rarely Appropriate (2, +)
	Limb Salvage	Appropriate (8, +)
Scenario 124:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (1, +)
	Limb Salvage	Appropriate (9, +)

Scenario 125:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7)
Scenario 126:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Rarely Appropriate (3, +)
	Limb Salvage	Appropriate (7, +)
Scenario 127:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (8, +)
Scenario 128:	Treatment	Appropriateness Rating
Foot/ankle, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (2, +)
	Limb Salvage	Appropriate (8, +)
Scenario 129:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (8, +)
	Limb Salvage	Rarely Appropriate (3)
Scenario 130:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Appropriate (7)
	Limb Salvage	May Be Appropriate (4)
Scenario 131:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (5)
Scenario 132:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3, +)
	Limb Salvage	Appropriate (7, +)
Scenario 133:	Treatment	Appropriateness Rating
Early Amputation	Appropriate (7, +)	

Both segments, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Limb Salvage	Rarely Appropriate (3, +)
Scenario 134:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Appropriate (7)
	Limb Salvage	May Be Appropriate (4)
Scenario 135:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	Appropriate (7, +)
	Limb Salvage	Rarely Appropriate (3, +)
Scenario 136:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 137:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7, +)
	Limb Salvage	Rarely Appropriate (3)
Scenario 138:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (4)
Scenario 139:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (5)
	Limb Salvage	May Be Appropriate (5)
Scenario 140:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7, +)

Scenario 141:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7, +)
	Limb Salvage	Rarely Appropriate (3)
Scenario 142:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (4)
Scenario 143:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (4)
Scenario 144:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7, +)
Scenario 145:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7)
	Limb Salvage	May Be Appropriate (4)
Scenario 146:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 147:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (5)
	Limb Salvage	May Be Appropriate (6)
Scenario 148:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3, +)
	Limb Salvage	Appropriate (7, +)
Scenario 149:	Treatment	Appropriateness Rating
Early Amputation	Appropriate (7, +)	

Both segments, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Limb Salvage	Rarely Appropriate (3, +)
Scenario 150:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (5)
	Limb Salvage	May Be Appropriate (6)
Scenario 151:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (4)
Scenario 152:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 153:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7)
	Limb Salvage	May Be Appropriate (4)
Scenario 154:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 155:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 156:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (2, +)
	Limb Salvage	Appropriate (8, +)
Scenario 157:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with	Early Amputation	Appropriate (7)
	Limb Salvage	May Be Appropriate (4)

extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes		
Scenario 158:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 159:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (5, +)
	Limb Salvage	May Be Appropriate (5, +)
Scenario 160:	Treatment	Appropriateness Rating
Both segments, Major/critical segments, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3, +)
	Limb Salvage	Appropriate (7, +)
Scenario 161:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (4)
Scenario 162:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 163:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 164:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3, +)
	Limb Salvage	Appropriate (7, +)
Scenario 165:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7, +)
	Limb Salvage	Rarely Appropriate (3, +)

Scenario 166:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (4)
Scenario 167:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (6)
	Limb Salvage	May Be Appropriate (4)
Scenario 168:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Major/critical injury, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7)
Scenario 169:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (5, +)
	Limb Salvage	May Be Appropriate (5)
Scenario 170:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7)
Scenario 171:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	Appropriate (7, +)
Scenario 172:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (2, +)
	Limb Salvage	Appropriate (8, +)
Scenario 173:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (6, +)
	Limb Salvage	May Be Appropriate (4)
Scenario 174:	Treatment	Appropriateness Rating
	Early Amputation	May Be Appropriate (5, +)

Both segments, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Limb Salvage	May Be Appropriate (5, +)
Scenario 175:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (5, +)
	Limb Salvage	May Be Appropriate (5, +)
Scenario 176:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Major/critical injury, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7, +)
Scenario 177:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (6, +)
	Limb Salvage	May Be Appropriate (5, +)
Scenario 178:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7, +)
Scenario 179:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7, +)
Scenario 180:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (2, +)
	Limb Salvage	Appropriate (8, +)
Scenario 181:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	Appropriate (7, +)
	Limb Salvage	Rarely Appropriate (3)
Scenario 182:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving,	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)

Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No		
Scenario 183:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6)
Scenario 184:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Minimal/none, Major Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (8, +)
Scenario 185:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (4)
	Limb Salvage	May Be Appropriate (6, +)
Scenario 186:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Rarely Appropriate (3, +)
	Limb Salvage	Appropriate (8, +)
Scenario 187:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, Yes	Early Amputation	Rarely Appropriate (2)
	Limb Salvage	Appropriate (8, +)
Scenario 188:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that approximate, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (1, +)
	Limb Salvage	Appropriate (9, +)
Scenario 189:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), Yes	Early Amputation	May Be Appropriate (6, +)
	Limb Salvage	May Be Appropriate (4)
Scenario 190:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Contaminant embedded in bone or deep soft tissue or high risk environmental (barnyard, fecal, dirty water, IED, etc.), No	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7, +)

Scenario 191:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, Yes	Early Amputation	Rarely Appropriate (3)
	Limb Salvage	Appropriate (7, +)
Scenario 192:	Treatment	Appropriateness Rating
Both segments, Minimal/none, Minimal/none, None/Minor Fracture, Laceration with edges that do not approximate or laceration associated with extensive degloving, Minimal/none or surface only, No	Early Amputation	Rarely Appropriate (2, +)
	Limb Salvage	Appropriate (8, +)

IV. APPENDICES

APPENDIX A. DOCUMENTATION OF APPROVAL

AAOS BODIES THAT APPROVED THIS APPROPRIATE USE CRITERIA

Evidence-Based Quality and Value Committee: Approved on <DATE>

The AAOS Committee on Evidence Based Quality and Value consists of 23 AAOS members. The overall purpose of this committee is to plan, organize, direct, and evaluate initiatives related to Clinical Practice Guidelines, Appropriate Use Criteria, and Quality Measures.

Council on Research and Quality: Approved on <DATE>

To enhance the mission of the AAOS, the Council on Research and Quality promotes the most ethically and scientifically sound basic, clinical, and translational research possible to ensure the future care for patients with musculoskeletal disorders. The Council also serves as the primary resource to educate its members, the public, and public policy makers regarding evidenced-based medical practice, orthopaedic devices and biologics regulatory pathways and standards development, patient safety, and other related areas of importance.

Board of Directors: Approved on <DATE>

The 16 member AAOS Board of Directors manages the affairs of the AAOS, sets policy, and determines and continually reassesses the Strategic Plan.

APPENDIX B. DISCLOSURE INFORMATION

LSA WRITING PANEL MEMBER DISCLOSURES

Michael J Bosse, MD

Orthopaedic Implant Company: Stock or stock Options Number of Shares: 0

Benjamin Kyle Potter, MD

Biomet: Unpaid consultant

Clinical Orthopaedics and Related Research: Editorial or governing board (\$5,000) Deputy Editor (Self)

Journal of Orthopaedic Trauma: Editorial or governing board (\$0)

Journal of Surgical Orthopaedic Advances: Editorial or governing board (\$0)

Society of Military Orthopaedic Surgeons: Board or committee member (\$0)

Jason M Wilken, PhD, PT

This individual reported nothing to disclose

Laura K Dawson, DO

American Orthopaedic Foot and Ankle Society: Board or committee member (\$0)

James R Ficke, MD

AAOS: Board or committee member (\$0)

American Orthopaedic Association: Board or committee member (\$0)

Journal of Southern Orthopedic Association: Editorial or governing board (\$0)

Orthopaedic Research and Education Foundation: Board or committee member (\$0)

Orthopedics Today: Editorial or governing board (\$0)

Southern Orthopaedic Association: Board or committee member (\$0)

Springer: Publishing royalties, financial or material support (\$0)

David G. Mohler, MD

Exelixis (EXEL): Stock or stock Options Number of Shares: 0

Guided Therapeutics (GTHP): Stock or stock Options Number of Shares: 0

Johnson & Johnson: Stock or stock Options Number of Shares: 0

Musculoskeletal Transplant Foundation: Other financial or material support (\$0)

PayMD: Unpaid consultant

Stroma Inc: Unpaid consultant

Synthes: Stock or stock Options Number of Shares: 0

Rosanna Wustrack, MD

This individual reported nothing to disclose

Andrew Fras, MD

This individual reported nothing to disclose

Derek Maroto, MD

This individual reported nothing to disclose

Amy Moore, MD

Renerva: Unpaid consultant

Trimed: Paid presenter or speaker (\$0) Number of Presentations: 0

Jose Diaz, MD

Acumed, LLC: Paid presenter or speaker (\$6,000) Number of Presentations: 2 Acute Innovations(Self)

Acumed, LLC: Paid consultant (\$6,000) Consultant(Self)

Acute Innovations: Research support (\$31,000) Research(Self)

Atox Bio LTD: Research support (\$30,000) research study(Self)

Cook: Research support (\$5,000) Educational(Self)

Injury: Editorial or governing board (\$0) Editorial board(Self)

Journal of Trauma: Editorial or governing board (\$0) Editorial board(Self)

KCI: Paid presenter or speaker (\$7,043) Number of Presentations: 2 KCI(Self)

KCI: Research support (\$62,000) Educational(Self)

Springer: Publishing royalties, financial or material support (\$400) Editor(Self)

Todd Rasmussen, MD

This individual reported nothing to disclose

LSA VOTING PANEL MEMBER DISCLOSURES

Michael Swords, MD

American Orthopaedic Foot and Ankle Society: Board or committee member (\$0)
AO Foundation: Board or committee member (\$0)
Ferring Pharmaceuticals: Research support (\$0)
Fuss and Sprengelenk: Editorial or governing board (\$0)
KCI: Paid presenter or speaker (\$0) Number of Presentations: 0
Pacira Pharmaceuticals: Paid presenter or speaker (\$0) Number of Presentations: 0
SMV Medical: Unpaid consultant
Synthes: Paid presenter or speaker (\$0) Number of Presentations: 0
Synthes: Paid consultant (\$0)
Synthes: Research support (\$0)
Wright Medical Technology, Inc.: Research support (\$0)

Brian M Weatherford, MD

BESPA Global: Paid consultant (\$0)
Orthobullets: Paid consultant (\$0)
Synthes: Paid presenter or speaker (\$0) Number of Presentations: 0

MAJ Daniel Stinner, MD

AAOS: Board or committee member (\$0)
Orthopaedic Trauma Association: Board or committee member (\$0)
Society of Military Orthopaedic Surgeons: Board or committee member (\$0)

Kory Cornum, MD Brig Gen (Ret)

Arthroscopy Association of North America: Board or committee member (\$0)
Orthopaedic Trauma Association: Board or committee member (\$0)
Stryker: Stock or stock Options Number of Shares: 0

James M. Donley, MD

This individual reported nothing to disclose

Eric Secemsky, MD, MSc

This individual reported nothing to disclose

Ehrin Armstrong, MD

Abbott: Paid consultant (\$5,000) N/A(Self)
Medtronic: Paid consultant (\$5,000) N/A(Self)
Philips: Paid consultant (\$5,000) N/A(Self)

Justin Thomas Fowler, MD

This individual reported nothing to disclose

Jean Claude D'Alleyrand, MD

This individual reported nothing to disclose

Chris DeRosier, MD

KCI: Paid presenter or speaker (\$15,000) Number of Presentations: 5 Speakers Bureau(Self)
KCI: Paid consultant (\$2,000) Consultant-payments are combined with speakers fees and number is an

estimation(Self)

North American Center for Continuing Medical Education,: Paid presenter or speaker (\$15,000) Number of Presentations: 5

North American Center for Continuing Medical Education(Self)

Andrew Chen, MD

This individual reported nothing to disclose

*Financial Conflicts of Interest (FCOI) reported were not relevant to the topics addressed in this AUC.

APPENDIX C. REFERENCES

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