



Yale School of Medicine



Eastern Association for the Surgery of Trauma  
Advancing Science, Fostering Relationships, and Building Careers

### **Study Title**

Operative Versus Non-Operative Management for Appendicitis  
with Abscess or Phlegmon: An EAST Multicenter Trial

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## **Data Dictionary**

## **Introduction**

This study is designed to investigate, in a multi-institutional fashion, the outcomes of operative and non-operative management of complicated appendicitis with abscess or phlegmon in adults. We hypothesize patients managed with early operative intervention experience a shorter length of stay and fewer complications. This is a prospective, randomized controlled trial.

Data to be collected will include age, gender, comorbidities such that the Charlson comorbidity index can be calculated, additional physiologic data to be collected will be the elements of the APACHE – II score. The CT findings, laboratory values, SIRS/sepsis status, ASA classification, operative duration, operative blood loss, intra-operative transfusion, and intra-operative findings will be recorded. Outcome variables to be collected will include: Failed intervention, need for additional intervention, Recurrent abscess, readmission, number of interventions in 60 days, disability days, and PROMIS GI quality of life variables. Outcomes variables will include number of hospital days, readiness for discharge, wound dehiscence, pneumonia/ventilator associated pneumonia, surgical site infection, acute renal failure, myocardial infarction, in-hospital mortality and discharge disposition.

The variables collected for this study are based on the American College of Surgeons' NSQIP program. The definitions provided here are mostly based on the Operations Manual for the NSQIP program in order to uniformly and consistently acquire data.

## Demographics/General

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### **Center Specific ID**

Options: This is an automatic numbering field to link to de-identified data. No entry is required.

Notes: This is a key code patient identifier

### **Date of Birth**

Options: numeric entry of mm/dd/yyyy

### **Admission Date**

Options: Numeric entry of mm/dd/yyyy

### **Admission Time**

Options: Numeric entry of hh:mm

### **Age**

Options: Numeric entry in years at time of enrollment

### **Gender**

Options: Male

Female

**Race**

Options:

- White
- Black or African-American
- Asian
- American Indian or Alaska Native
- Other

**Ethnicity**

Options:

Hispanic or Latino

Not Hispanic or Latino

**Height**

Options: data fields for either inches or centimeters

Notes: Enter in only one field, automatically displays in other field.

Limit to 36" - 96"; 91cm - 244cm

**Weight**

Options: data fields for either pounds or kilograms

Notes: Enter in only one field, automatically displays in other field.

Limit to 60lbs - 600lbs; 27kg - 273kg

# Comorbidity

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## **Admitted From**

Options:

- Home
- Extended Care Facility
- Other Acute Care Hospital

## **Hypertension requiring medication**

Options: Check box

## **Obesity**

Options: BMI calculation from previously entered height and weight

## **Congestive Heart Failure within 30 days prior to diagnosis of appendicitis**

Options: Check box

## **Coronary Artery Disease**

Options: Check box

## **HIV Infection**

Options: Check box

## **HIV with AIDS**

Options: Check box

## Diabetes

Options:

- No Diabetes
- Non-Insulin
- Insulin Dependent

Notes: For *Non-Insulin*, this is a diagnosis of diabetes requiring therapy with a non-insulin anti-diabetic agent (such as oral agents or other non-insulin agents. This does not include diabetes that is diet-controlled. For *Insulin Dependent*, this is a diagnosis requiring daily insulin therapy. Non-insulin and Insulin Dependent variables are assigned if patients are prescribed treatment and are non-compliant.

## Active Smoker within 1 year

Options: Check box

Notes: Patient has smoked cigarettes within the past 12 months. This excludes cigars, pipes, chewing tobacco, and marijuana.

## Dyspnea

Options:

- None
- With moderate exertion
- At rest

Notes: This is a diagnosis during their usual state of health. This is not assigned for obstructive sleep apnea or paroxysmal nocturnal dyspnea.

## Functional Status

Options:

- Independent
- Partially dependent
- Totally dependent
- Unknown

Notes: Independent patients are those who do not require the assistance of another person for ADLs. This variable is assigned if they are independent even with prosthetics, equipment, or devices.

## COPD

Options: Check box

Notes: This variable is assigned if the patient has COPD documented with functional disability (dyspnea, inability to complete ADLs).

## Ascites within 30 Days Prior to diagnosis with appendicitis

Options: Check box

Notes: This variable is not assigned if ascites is documented as minimal, trace, or small amount.

## Acute Renal Failure within 24 hours Prior to diagnosis with appendicitis

Options: Check box

Notes: This is assigned if ARF is documented by the surgeon or other attending, OR an increased BUN with creatinine above 3mg/dl (when noted as an elevation from baseline).

**Requiring Dialysis within 2 Weeks of diagnosis with appendicitis**

Options: Check box

Notes: This variable is assigned if dialysis is prescribed even if patient refuses.

**Disseminated Cancer Prior to diagnosis or Found at Surgery**

Options: Check box

Notes: This variable is assigned if the patient has a primary cancer with metastases AND (at least one of) received active treatment within one year, the extent of disease is appreciated at time of surgery, patient has refused prescribed treatment, OR disease is deemed untreatable.

**Chronic Wound at Time of diagnosis with appendicitis**

Options: Check box

Notes: This variable is assigned for wounds undergoing dressing changes, or has negative pressure wound devices in place (wound vac).

**On Chronic Immunosuppression**

Options: Check box

Notes: This variable is assigned if the patient has a regularly administered oral corticosteroid or immunosuppressant for a chronic medical condition within 30 days of surgery (chemotherapy, transplant patients, or other chronic inflammatory conditions). This variable is not assigned for one-time pulse therapy, limited short course therapy, a taper <10 days. It is also not assigned for inhalation therapy, topical medications, or rectal medications.

**Weight Loss >10% in Six Months**

Options: Check box



**Bleeding Disorder or on Anti-Coagulant or Anti-Platelet**

Options: Check box

Notes: This variable is assigned for conditions that place a patient at risk for excessive bleeding (Vitamin K Deficiency, Hemophilia, Thrombocytopenia, chronic anti-coagulant therapy/anti-platelet agents/thrombin inhibitors/thrombolytic therapy).

**Packed Cell Transfusion within 72 Hours Prior to diagnosis with appendicitis**

Options: Check box

# Physiology

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All values are collected at the time of presentation if the initial diagnosis is acute appendicitis. If the diagnosis is made later than the time of presentation the values should be at the time of diagnosis.

## **Heart Rate**

Description: Heart rate on presentation to the emergency department or if already hospitalized at the time of diagnosis of acute appendicitis

Options: Numeric value 30-150

## **Systolic Blood Pressure**

Description: Systolic blood pressure on presentation to the emergency department or if already hospitalized at the time of diagnosis of acute appendicitis

Options: Numeric value 50-250

## **Diastolic Blood Pressure**

Description: Diastolic blood pressure on presentation to the emergency department or if already hospitalized at the time of diagnosis of acute appendicitis

Options: Numeric value 30-130

## **Respiratory Rate**

Description: Respiratory rate on presentation to the emergency department or if already hospitalized at the time of diagnosis of acute appendicitis

Options: Numeric value 5-50

**Oxygen Saturation**

Description: Oxygen saturation on presentation to the emergency department or if already hospitalized at the time of diagnosis of acute appendicitis

Options: Numeric value 70-100

**Core temperature**

Description: Core temperature on presentation to the emergency department or if already hospitalized at the time of diagnosis of acute appendicitis

Options: Numeric value 85-110F or 29-43C

**Altered mental status**

Description: Mental status depressed compared to baseline within 24 hours of presentation or at the time of diagnosis of acute appendicitis, if believed to be due to appendicitis.

Options: Check box

**GCS**

Description: Glasgow Coma Scale

Options: Numeric value 3-15

**Oliguria**

Description: urine output  $<0.5\text{ml/kg/hr}$  x 6 hours after admission or at the time of diagnosis of acute appendicitis.

Options: Check box

## Laboratory Values

Description: Earliest serum lab values within 24 hours of presentation or at the time of diagnosis of acute appendicitis if different from time of presentation. Note: decimal places specified within the range

WBCs: Numeric value 1.0 – 200.0 (K/mm<sup>3</sup>)

Platelet count: Numeric value 0 – 2000 (K/mm<sup>3</sup>)

Hematocrit: Numeric value 0.0 – 70.0 (%)

International Normalized Ratio: Numeric value 0.00 - 30.00

Partial Thromboplastin Time (PTT): Numeric value 0-150 (seconds)

Serum Sodium (Na): Numeric value 100-180 (mmol/L)

Serum Potassium (K): Numeric value 1.0-10.0 (mmol/L)

Blood Urea Nitrogen (BUN): Numeric value 0-200 (mg/dl)

Serum Creatinine (Cr): Numeric value 0.00-30.00 (mg/dl)

Albumin (Alb): Numeric value 0.0-10.0 (g/dl)

Arterial Partial pressure of Oxygen (PaO<sub>2</sub>): Numeric value 30-600 (mmHg)

Fraction of inspired oxygen (FiO<sub>2</sub>): Numeric value 0-100 (%)

Arterial pH: Numeric value 6.5-8.0

**Meets Criteria for SIRS/Sepsis/Septic Shock at Presentation or Time of Diagnosis if different**

Options:

- None
- SIRS
- Sepsis
- Septic Shock

Notes:

- SIRS: Two of the following- Temperature  $>38^{\circ}\text{C}$  ( $100.4^{\circ}\text{F}$ ) or  $<36^{\circ}\text{C}$  ( $96.8^{\circ}\text{F}$ ); Heart Rate  $>90$ ; Respiratory Rate  $>20$ /PaCO<sub>2</sub>  $<32$ mmHg; WBC  $>12,000$  cell/mm<sup>3</sup>; anion gap acidosis
- Sepsis: Meets SIRS criteria AND positive blood culture or clinical documentation of purulence/positive site culture OR suspected preoperative clinical condition of infection/infarction
- Septic Shock: Meets Sepsis criteria AND documented organ/circulatory dysfunction

**Abdominal symptoms at time of presentation or time of diagnosis of acute appendicitis if different from time of presentation.**

- Periumbilical pain  
Options: Check box
- Right lower quadrant pain  
Options: Check box
- Other area of pain  
Options: Check box
- Duration of abdominal pain  
Options: Numeric value: 0-20 (days)
- Nausea  
Options: Check box
- Vomiting  
Options: Check box
- Anorexia  
Options: Check box

**Physical exam findings**

- Periumbilical tenderness  
Options: Check box
- Right lower quadrant tenderness  
Options: Check box
- Other location of tenderness  
Options: Check box  
Specify:

- Clinical Rovsing sign  
Options: Check box
- Abdominal distension  
Options: Check box
- Localized peritonitis  
Options: Check box
- Generalized peritonitis  
Options: Check box

### **Ultrasound imaging findings**

- Ultrasound performed  
Options: Check box
- Appendix visualized  
Options: Check box
- Appendicolith/fecolith visualized  
Options: Check box
- Appendiceal diameter  
Options: none, <6mm, 7mm, 8mm, 9mm, 10mm, >10mm
- Generalized ascites  
Options: Check box
- Abscess visualized  
Options: Check box
- Phlegmon visualized  
Options: Check box

- Suspicious for appendiceal perforation  
Options: Check box
- Intraperitoneal air present  
Options: Check box
- Non-compressible appendix  
Options: Check box
- Hyperemia of appendix  
Options: Check box
- Target lesion or “bull’s eye” appearance of appendix  
Options: Check box
- Appendicitis present  
Options: Check box

### CT scan imaging Findings

- Appendiceal diameter  
Options: none, <6mm, 7mm, 8mm, 9mm, 10mm, >10mm
- Abscess present  
Options: Check box

If present length (cm) x width (cm)

The abscess size should be measured such that the length and width are maximized and recorded in centimeters

- Phlegmon present  
Options: Check box

If present length (cm) x width (cm)

The phlegmon size should be measured such that the length and width are maximized and recorded in centimeters



- Generalized abdominal free fluid  
Options: Check box
- Evidence of bowel obstruction or ileus  
Options: Check box
- Extra-luminal air  
Options: Check box
- Appendicolith/fecolith visualized  
Options: Check box
- Suspicious for appendiceal perforation  
Options: Check box
- AAST EGS Grading Scale Imaging Criteria grade  
Options: I, II, III, IV, V  
AAST EGS grading scale for acute appendicitis grades the severity of appendicitis by description, clinical criteria, imaging criteria, operative criteria, and pathologic criteria. Please use grade based on imaging alone here  
<http://www.aast.org/emergency-general-surgery-anatomic-grading-scales>

## Group Assignment/Outcome

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### **Date of Randomization:**

Options: Numeric entry of mm/dd/yyyy

### **Group Assignment** (Choose only one)

- Assigned to non-operative group, treatment successful at 30 days  
Defined as off antibiotics, out of hospital and no drains in place 30 days after presentation.

- Assigned to non-operative group with treatment failure.  
Crossed over to surgery due to failure of non-operative management. Off antibiotics, out of hospital and no drains in place 30 days after presentation
- Assigned to non-operative group with treatment failure.  
Crossed over to surgery due to failure of non-operative management. Remains on antibiotics, in the hospital or with drains in place 30 days after presentation.
- Assigned to non-operative group with treatment failure.  
Did NOT crossover to surgery. Remains on antibiotics, in the hospital or with drains in place 30 days after presentation.
- Assigned to surgical intervention without complication.  
Off antibiotics, out of hospital and no drains in place 30 days after presentation.
- Assigned to surgical intervention with post-operative complications.  
Required repeat intervention (return to the operating room or percutaneous drainage). Off antibiotics, out of hospital and no drains in place 30 days after presentation.
- Assigned to surgical intervention with post-operative complications.  
Required repeat intervention (return to the operating room or percutaneous drainage). Remains on antibiotics, in the hospital or with drains in place 30 days after presentation.
- Assigned to surgical intervention with post-operative intra-abdominal complication(s).  
Did NOT require repeat intervention (return to the operating room or percutaneous drainage). Off antibiotics, out of hospital and no drains in place 30 days after presentation.

- Assigned to surgical intervention with post-operative intra-abdominal complication(s).  
Did NOT require repeat intervention (return to the operating room or percutaneous drainage). Remains on antibiotics, in the hospital or with drains in place 30 days after presentation.

**Initial Treatment, (Planned treatment immediately after randomization, choose one)**

- Antibiotics only
- Antibiotics and planned follow up imaging
- Antibiotics and percutaneous drainage
- Antibiotics and appendectomy

## Operation Characteristics

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**Operative Data (if multiple, first surgery only)**

**Operation performed**

Options (check boxes) choose all that apply:

- Laparoscopic appendectomy
- Laparoscopic converted to open appendectomy
- Laparoscopic ileocectomy
- Laparoscopic right hemicolectomy
- Laparoscopic small bowel resection
- Conversion from laparoscopy to open surgery
- Open ileocectomy
- Open right hemicolectomy
- Open small bowel resection
- Other operation:
  - Opens free text field for data entry

**OR Date**

Options: numeric entry dd/mm/yyyy

**Start Time of Operation (military time)**

Options: numeric time data field

**End Time of Operation (military time)**

Options: numeric time data field

**Pre-Op Diagnosis**

Options: Free text field

**Post-Op Diagnosis**

Options: Free text field

**Operative Findings**

Options: Multiple check boxes

- Acute appendicitis
- Perforated appendicitis
- Abscess in the area of the appendix
- Abscess away from appendix
- Phlegmon surrounding the appendix
- Thin fluid in the abdomen
- Purulent fluid in the abdomen
- Feces in the abdomen
- Iatrogenic perforation of the appendix
- Any intra-operative complication

Opens free text field

## **AAST EGS Grading Scale Operative Criteria grade**

Options: I, II, III, IV, V

AAST EGS grading scale for acute appendicitis grades the severity of appendicitis by description, clinical criteria, imaging criteria, operative criteria, and pathologic criteria. Please use grade based on operative criteria alone here

<http://www.aast.org/emergency-general-surgery-anatomic-grading-scales>

## **Estimated Blood Loss**

Options: The fields are volume in milliliters

- Minimal
- <200
- 200-400
- 401-800
- 801-1200
- 1201-2000
- >2000

## **Wound Class**

Options:

- Clean/Contaminated
- Contaminated
- Dirty/Infected

Notes:

- Clean/Contaminated: controlled condition operative wounds entering the respiratory, alimentary, genital, or urinary tracts without unusual contamination.
- Operative procedures that encounter gross GI spillage, non-purulent inflammation, should be the choice acute non-perforated appendix

- Dirty/Infected: old traumatic wounds with devitalized tissue (I&D of abscess, perforated bowel, peritonitis, ruptured appendix, gangrenous gallbladder).

## **ASA Class**

Options:

- I
- II
- III
- IV
- V

Notes: This is anesthesia driven, found on the anesthesia record. If not found in record, leave field blank.

- I-normal health patient
- II-patient with mild systemic disease
- III-patient with severe systemic disease
- IV-moribund patient who is not expected to survive without operation

## **Number of Units of FFP (fresh frozen plasma) in the OR**

Options: numeric data field (0-20)

## **Number of Platelets in the OR**

Options: numeric data field (0-20)

## **Number of Units of PRBCs (packed red blood cells) in the OR**

Options: numeric data field (0-20)

**Other Procedure Performed**

Options (check boxes), choose all that apply:

- Percutaneous drainage

**Duration of percutaneous drain**

Options: Numerical value for number of days drain is in place

**Timing of drain placement**

Options: Numerical value for number of days from admission until drain placement

## Outcome/Complications

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**Additional interventions required after initial non-operative management.**

Options: (check all that apply)

- Percutaneous drainage for phlegmon progressing to abscess, abscess unresponsive to antibiotics or worsening abscess despite antibiotics.
- Repeat percutaneous drainage for inadequate initial drainage
- Recurrent abscess drainage after initial successful drainage and drain removal
- Crossover to surgery for:
  - Bleeding control
  - Bowel perforation
  - Inadequate source control requiring surgery

**Recurrent abscess**

Options: Check box

An abscess that requires ongoing antibiotic or interventional treatment more than ten days after initial surgical treatment or after drainage procedure

**Readmission**

Options:

- Check box
- Numerical value of readmission date

Date of any readmission after discharge from index hospitalization and within 60 days on index hospital admission date.

**Duration of antibiotics**

Options: Numerical value in days

Total days of antibiotic used to treat the appendicitis or sequelae from treatment within the first 60 days following index hospital admission.

**Persistent abscess**

Options: check box

Intra-abdominal abscess present for 7 or more consecutive days after date of index admission

**Number of interventions in 60 days**

Options: Numerical value for total number of procedures



**Superficial/Deep SSI**

Options: Check Box

Notes: Diagnosis of same by attending physician or surgeon. Superficial SSI involves skin or subcutaneous tissue WITH purulence (with or without lab confirmation), pain/tenderness, swelling, redness, or heat. Deep SSI involves deep soft tissue WITH above superficial symptoms AND fever >38C; wound dehiscence.

**Organ Space SSI**

Options: Check Box

Notes: This is assigned when there is an infection that involves any part of the anatomy that was manipulated in the operation, other than the incision. This infection is accompanied by purulence, cultures isolating an organism, abscess (found on exam, reoperation, histopathologic, or radiologic exam).

**Fascial Dehiscence within 30 Days of Operation**

Options: Check Box

**Other Iatrogenic intra-operative injury**

Options: Check Box

Notes: This is assigned if there is an injury to an organ distinct from the biliary tree. This is assigned for all liver, duodenal, pancreas, bowel, etc, injuries.

**Pneumonia within 30 Days Post-Op or During index hospitalization if no operation**

Options: Check Box

Notes: This is assigned if there is one definitive radiologic exam (CXR) AND one of: new/progressive infiltrate, consolidation/opacity, cavitation

**On Ventilator >48 Hours Post-op**

Options: Check Box

**Pulmonary Embolism within 30 Days Post-Op or During index hospitalization if no operation**

Options: Check Box

Notes: This variable is assigned if there is a NEW diagnosis of blood clot in a pulmonary artery, and is confirmed by definitive imaging (V-Q scan, arteriogram, CT angiogram).

**Acute Renal Failure: Creatinine increased 2mg/dl or More from presentation during hospitalization**

Options: Check Box

**New Dialysis Requirement within 30 Days Post-Op or During index hospitalization if no operation**

Options: Check Box

**New UTI within 30 days Post-Op or During index hospitalization if no operation**

Options: Check Box

Notes: This variable is assigned based on two series of factors:

- One of the following: fever, urgency, frequency, dysuria, tenderness
- AND urine culture >100,000

OR

- Two of the following: fever, urgency, frequency, dysuria, tenderness

- AND one of: pyuria, organisms seen on gram stain, two urine cultures with repeated isolation of same uropathogen, physician diagnosis

**Stroke/CVA within 30 Days Post-Op or During index hospitalization if no operation**

Options: Check Box

**Cardiac Arrest within 30 Days Post-Op or During index hospitalization if no operation**

Options: Check Box

**Myocardial Infarction within 30 Days Post-Op or During index hospitalization if no operation**

Options: Check Box

**DVT Requiring Therapy within 30 Days Post-Op or During index hospitalization if no operation**

Options: Check Box

Notes: This is assigned for NEW diagnosis of superficial or deep thrombus

**Unplanned Return to the Operating Room**

Options: Check Box

Notes: This is assigned if the patient underwent operation for appendicitis then returned to the OR within 30 days postoperatively from primary surgical intervention, it was related to the primary surgical intervention and it was unexpected.

**Number of Units PRBCs within 72 Hours Post Op**

Options: Numeric data field

**New or Recurrent SIRS/Sepsis/Septic Shock within 30 Days Post Op or During index hospitalization if no operation**

Options:

- None
- SIRS
- Sepsis
- Septic Shock

Notes:

- SIRS: Two of the following- Temperature  $>38^{\circ}\text{C}$ ( $100.4^{\circ}\text{F}$ ) or  $<36^{\circ}\text{C}$ ( $96.8^{\circ}\text{F}$ ); Heart Rate  $>90$ ; Respiratory Rate  $>20$ /PaCO<sub>2</sub>  $<32$ mmHg; WBC $>12,000$  cell/mm<sup>3</sup>; anion gap acidosis
- Sepsis: Meets SIRS criteria AND positive blood culture or clinical documentation of purulence/positive site culture OR suspected preoperative clinical condition of infection/infarction
- Septic Shock: Meets Sepsis criteria AND documented organ/circulatory dysfunction

**Discharge Disposition**

Options:

- Home
- Rehabilitation
- Other acute care facility
- Skilled care, not home
- Unskilled care, not home
- Death

**Date of Hospital Discharge**

Options: numeric entry dd/mm/yyyy

**Death Within 30 Days of Operation or During index hospitalization if no operation**

Options: check box

**Date of Death (if known)**

Options: numeric entry dd/mm/yyyy



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## **EAST MULTICENTER STUDY DATA COLLECTION TOOL**

**Multicenter Study:** Operative or Non-operative management for Appendicitis with Abscess or Phlegmon

Enrolling Center: \_\_\_\_\_  
Enrolling Co-investigator: \_\_\_\_\_

### **Demographics:**

Age: \_\_\_\_\_ Gender: \_\_\_\_\_

### **Admission Vital Signs :**

Temperature: \_\_\_\_\_  
Blood pressure: \_\_\_\_\_  
Heart rate: \_\_\_\_\_  
Respiratory rate: \_\_\_\_\_  
Oxygen saturation: \_\_\_\_\_

### **Admission Lab values:**

White blood cell: \_\_\_\_\_ Hemoglobin: \_\_\_\_\_ Hematocrit: \_\_\_\_\_ Platelets: \_\_\_\_\_ Creatinine: \_\_\_\_\_  
Glucose: \_\_\_\_\_ Lactate: \_\_\_\_\_

### **Admission Comorbidities:**

Functional status: Independent: \_\_\_\_ Partially dependent: \_\_\_\_ Totally dependent: \_\_\_\_  
ASA class: I: \_\_\_\_ II: \_\_\_\_ III: \_\_\_\_ IV: \_\_\_\_ V: \_\_\_\_  
Ascites within 30 days prior to surgery: Yes \_\_\_\_ No \_\_\_\_  
Systemic sepsis within 30 days prior to surgery: Yes \_\_\_\_ No \_\_\_\_  
Disseminated cancer: Yes \_\_\_\_ No \_\_\_\_  
Diabetes mellitus (insulin dependence if diabetic): Yes \_\_\_\_ No \_\_\_\_ Insulin: Yes \_\_\_\_ No \_\_\_\_  
Hypertension requiring medication: Yes \_\_\_\_ No \_\_\_\_  
Congestive Heart Failure in 30 days prior to surgery: Yes \_\_\_\_ No \_\_\_\_  
Dyspnea: Yes \_\_\_\_ No \_\_\_\_  
Current smoking within 1 year: Yes \_\_\_\_ No \_\_\_\_  
History of severe COPD: Yes \_\_\_\_ No \_\_\_\_  
Acute renal failure: Yes \_\_\_\_ No \_\_\_\_  
Obesity: Yes \_\_\_\_ No \_\_\_\_

### **AAST EGS Grading Scale:**

Grade 5: Yes \_\_\_\_ No \_\_\_\_  
Grade 6: Yes \_\_\_\_ No \_\_\_\_

CT scan findings:

Abscess size: \_\_\_\_  
Phlegmon size: \_\_\_\_  
Free fluid: Yes \_\_\_\_ No \_\_\_\_  
Bowel obstruction: Yes \_\_\_\_ No \_\_\_\_  
Ileus: Yes \_\_\_\_ No \_\_\_\_  
Extra-luminal air: Yes \_\_\_\_ No \_\_\_\_

**Operative variables at time of appendectomy:**

Case performed: \_\_\_\_\_

Bowel resection: Yes \_\_\_\_ No \_\_\_\_  
What was resected: \_\_\_\_\_

Blood loss:	_____	CC
Intra-operative crystalloid given:	_____	CC
Total Intra-operative blood products given:	_____	CC
PRBC volume:	_____	CC
FFP volume:	_____	CC
Platelet volume:	_____	CC
Intra-operative non-blood colloid given:	_____	CC

Case Time: \_\_\_\_\_ minutes

**Procedure Variables – Non-Operative Group**

Percutaneous drainage: Yes \_\_\_\_ No \_\_\_\_

Hospital day of drainage: HD # \_\_\_\_\_

**Hospital Course – Variables**

Antibiotic duration: \_\_\_\_\_ days  
Drain duration: \_\_\_\_\_ days  
Persistent Abscess: Yes \_\_\_\_ No \_\_\_\_  
Number of interventions: \_\_\_\_  
Malignancy on pathology: Yes \_\_\_\_ No \_\_\_\_

**Outcomes:**

Length of stay: \_\_\_\_\_ days

Did the primary intervention fail? Yes \_\_\_\_ No \_\_\_\_

If Yes, what additional intervention did the patient receive? (check the one that applies)

\_\_\_\_\_ Percutaneous drainage  
Reason: \_\_\_\_\_  
\_\_\_\_\_ Recurrent abscess  
\_\_\_\_\_ Residual abscess

\_\_\_\_\_ Unplanned return to the operating room

Reason:

Bleeding: \_\_\_\_\_

Peritonitis \_\_\_\_\_

Inadequate source control requiring surgery: \_\_\_\_\_

Bowel perforation: \_\_\_\_\_

Recurrent appendicitis: \_\_\_\_\_

Malignancy on pathology requiring right hemicolectomy: \_\_\_\_\_

\_\_\_\_\_ Reamission

Readmitted on HD# \_\_\_\_\_

\_\_\_\_\_ Delayed appendectomy

Disability days: \_\_\_\_\_ days

PROMIS quality of life score: \_\_\_\_\_





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## **EAST MULTICENTER STUDY DATA DICTIONARY**

Operative Versus Non-Operative Management for Appendicitis with Abscess or Phlegmon:  
An EAST Multicenter Trial – Data Dictionary

Data Entry Points and appropriate definitions / clarifications:

Entry space	Definition / Instructions
<b><u>Standard Study Questions</u></b>	
Admit Date	Admission date of the patient enrolled
Admit Time	Admission time of the patient enrolled
Age	Age of patient enrolled
Gender	Gender of Patient enrolled
Vital Signs	Vital signs at time of admission: Blood pressure Heart rate Respiratory rate Oxygen saturation Temperature
NSQIP comorbidities	Comorbid conditions at the time of index admission listed in NSQIP: Functional status ASA class Ascites within 30 days prior to surgery Systemic sepsis within 30 days prior to surgery Disseminated cancer Diabetes mellitus (insulin dependence if diabetic) Hypertension requiring medication Congestive Heart Failure in 30 days prior to surgery Dyspnea Current smoking within 1 year History of severe COPD Acute renal failure Obesity
AAST EGS Grading Scale	Characteristics of appendicitis severity <a href="http://www.aast.org/emergency-general-surgery-anatomic-grading-scales">http://www.aast.org/emergency-general-surgery-anatomic-grading-scales</a>

CT findings	Size of abscess: measured on a single CT image such that measure of length x width is maximized. Size of phlegmon: measured on a single CT image such that measure of length x width is maximized. Presence of free fluid Evidence of bowel obstruction or ileus Extra-luminal air
Laboratory values	White blood cell count Hemoglobin Hematocrit Platelets Creatinine Glucose Lactate

### **Case Information – Operative Group**

Case performed	Laparoscopic appendectomy Laparoscopic converted to open appendectomy
Blood loss	Amount of blood lost during the surgery
Intraoperative crystalloid	Amount of crystalloid given during surgery
Blood products	Amount and type of blood products given if any Number of units of packed red blood cells Number of units of Fresh frozen plasma Number of units of Platelets
Conversion to open	If the surgeon made an additional incision or enlarged one of the laparoscopic incisions to insert a hand into the abdomen.
Bowel resection	If surgery requires resection of the ileo-cecal valve.
Operative time	Total case time from incision to closure
Operative findings	AAST appendicitis grade as defined by the AAST grading scales for EGS Thin fluid in the abdomen Purulent fluid in the abdomen Feces in the abdomen Any identified or iatrogenic perforation in addition to the appendix Any intra-operative complication.

### **Procedure Information – Non-Operative Group**

Percutaneous drainage	Drainage procedure performed – yes or no
Timing	Number of days from admission until drain placement
Drain duration	Total days drain is in place

### **Management Variables**

Failed intervention	Defined as need for additional operation or procedure
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Need for additional intervention	Additional interventions required: Percutaneous drainage for phlegmon progression to abscess Percutaneous drainage for inadequate initial drainage Recurrent or residual abscess Unplanned return to the operating room Bleeding Bowel resection Inadequate source control requiring surgery Bowel perforation Recurrent appendicitis
Recurrent	An abscess that requires ongoing antibiotic or interventional treatment more than ten days after initial surgical treatment or after
Readmission	Date of any readmission after discharge from index hospitalization and within 60 days of index hospitalization.
Duration of antibiotics	Total days of antibiotic used to treat the appendicitis or sequelae from treatment within the first 60 days following index hospital admission.
Persistent abscess	intra-abdominal abscess present for 7 or more consecutive days after date of index admission
Number of interventions in 60 days	Total number of procedures received to treat abscess or phlegmon
Delayed appendectomy	Undergoing delayed elective appendectomy
Malignancy	The presence of any neoplastic process on a appendectomy
Disability days	Total days away from work or school in 60 days after index hospital admission
Quality of life	PROMIS GI symptoms quality of life scores

### **Outcomes**

Number of hospital days	Total number of hospital days hospitalized within 60 days from admission .
Readiness for discharge	The day when medical treatment and recovery from treatment does not prohibit discharge as assessed by the attending surgeon. Patients may be hospitalized longer due to needs for social or physical therapy reasons.
Discharge disposition	Based on NSQIP definitions.