

The route to data may include multiple pathways when applicable. Paths listed first tend to be most successful for data retrieval.

Question	EPIC Location
<b>Identifiers</b>	
Center	Assigned by MACS Coordinating Center
Medical Records Number (MRN)	MACS Master List
Visit Number (CSN)	MACS Master List
MACS Case Number	MACS Master List
SCOAP Case Number	SCOAP Work Station (applies only to Michigan Medicine Cases)
<b>Demographics</b>	
First Name	MACS Master List (Check against Patient Select in Epic)
Last Name	MACS Master List (Check against Patient Select in Epic)
Date of Birth (mm/dd/yyyy)	Patient Select
Sex	Patient Select
Race	Patient Select
Ethnicity	Patient Select
Address (1234 Main Street)	Patient Select
City	Patient Select
State	Patient Select
ZIP Code	Patient Select
Phone (XXX-XXX-XXXX)	Patient Select
Email	Patient Select
Insurance	Summary, Facesheet => Coverage Information
<b>Arrival</b>	
ED Arrival Date (mm/dd/yyyy)	Summary, ED Patient Care Timeline
ED Arrival Time (Military Time 00:00)	Summary, ED Patient Care Timeline

Admit Date (mm/dd/yyyy)	Summary, Snapshot => ADT Events
Admit Time (Military Time (00:00))	ED to Unit or Direct to Unit/Transfer use Summary, Snapshot, ADT Event or if ED to OR use Anesthesia, In Room Time
Point of Entry	Summary, ED Patient Care Timeline (top) or Notes, ED, ED Triage Note or Notes, All Notes, Transfer/Referral or Physician/Provider notes (ED, H&P, Consult)
Surgery Consult Date (mm/dd/yyyy)	Notes, H&P/Consult
Consult Surgeon	Notes, H&P/Consult
ACS Service	Notes, H&P/Consult
Type of Service	Summary, Facesheet
<b>Risk Factors</b>	
Height (cm)	Anesthesia if straight to OR or Flowsheet, Vital Signs or Summary, IP Wt
Weight (Kg)	Anesthesia if straight to OR or Flowsheet, Vital Signs or Summary, IP Wt
Ascites	Anesthesia, H&P and Results Review, CT/Ultrasound reports looking for ascites documentation
CHF w/in 30 Days	Anesthesia, H&P or Notes, H&P/Consult/ED Provider
COPD (Severe)	Anesthesia, H&P or Notes, H&P/Consult/ED Provider or Chart Review, Encounters/Notes
COVID-19	Results Review, Laboratory Results, Micro
Current Cancer/Malignancy	Anesthesia, H&P or Notes, H&P/Consult/ED Provider or Chart Review, Encounters/Notes
Diabetes Mellitus	Anesthesia, H&P or Notes, H&P/Consult/ED Provider or Chart Review, Encounters/Notes
Dialysis w/in 2 Weeks	Anesthesia, H&P or Notes, H&P/Consult/ED Provider or Chart Review, Encounters/Notes
Disseminated Cancer	Anesthesia, H&P or Notes, H&P/Consult/ED Provider or Chart Review, Encounters/Notes
Hypertension	Anesthesia, H&P or Notes, H&P/Consult/ED Provider or Chart Review, Encounters/Notes

Functional Health Status	Anesthesia, H&P or Notes, H&P/Consult/ED Provider or Chart Review, Encounters/Notes
Personal History of DVT/PE	Anesthesia, H&P or Notes, H&P/Consult/ED Provider or Chart Review, Encounters/Notes
Preoperative Sepsis	Notes, H&P/Consult/ED Provider AND Results => Laboratory Results => Blood/Micro AND View Flowsheet => Vital Signs
Sleep Apnea	Anesthesia, H&P or BMI (on left side of screen) or Notes, H&P/Consult/ED Provider
Solid Organ Transplant	Anesthesia, H&P or Notes, H&P/Consult/ED Provider or Chart Review, Encounters/Notes
Steroid/Immunosuppressive Medication	Notes, H&P/Consult/ED Provider => medication listed
Tobacco w/in 1 Year-Cigarette	Anesthesia, H&P, Social History or Summary, IP Patient Care Report, Social History
Ventilator Dependent w/in 48 Hours	Anesthesia, H&P or Notes, Progress Notes or View Flowsheet, Lines/Drains/Airways (UNCHECK HIDE COMP'D), scroll down to ET tube for dates
<b>Readmission</b>	
MACS Readmit	Filter master spreadsheet by name in patient name column
Index Disease	Review index case organ system entered in Qualtrics or ArborMetrix
Prior Appendectomy	Notes, H&P/Consult/ED Provider
Prior Cholecystectomy	Notes, H&P/Consult/ED Provider
<b>Disease</b>	
Primary ICD-10 Code (CAPITALIZED)	Pt Inquiry, Hosp Acct Listing (check include closed accounts). Can use Guarantor Account Maintenance if pt has surgery.
Secondary ICD-10 Code (CAPITALIZED)	Pt Inquiry, Hosp Acct Listing (check include closed accounts), scroll down to date (will be associated with building icon, not the bag icon).
Organ System	Notes and coding review
<b>Appendix</b>	
Diagnosis CT Scan	Results Review, Radiology, CT
CT Results	Results Review, Radiology, CT Report
Diagnosis Ultrasound	Results Review, Radiology, Ultrasound
Ultrasound Result	Results Review, Radiology, Ultrasound Report
Diagnosis MRI	Results Review, Radiology, MR

MRI Result	Results Review, Radiology, MR Report
Pathology Result	Results Review, Anatomic Path, Anatomic AND Notes, Operative Report
Appendicitis Type	Results Review, Anatomic Path, Anatomic AND Notes, Operative Report
Medical Management	Summary, IP MAR or Summary, IP Fever
IV Antibiotic #1 Class	Summary, IP MAR or Summary, IP Fever
Duration of IV Antibiotic #1 (calendar days)	Summary, IP MAR or Summary, IP Fever
IV Antibiotic #2 Class	Summary, IP MAR or Summary, IP Fever
Duration of IV Antibiotic #2 (calendar days)	Summary, IP MAR or Summary, IP Fever
IV Antibiotic #3 Class	Summary, IP MAR or Summary, IP Fever
Duration of IV Antibiotic #3 (calendar days)	Summary, IP MAR or Summary, IP Fever
Duration of Home Antibiotic (calendar days)	Summary, IP MAR or Summary, IP Fever
Home Oral Antibiotic #1 Class	Notes, Discharge Summary
Home Oral Antibiotic #2 Class	Notes, Discharge Summary
Home IV Antibiotic Class	Notes, Discharge Summary
Appendectomy within 12 Months	Notes, H&P/Consult/ED Provider or Chart Review, Encounters/Notes
<b>Gallbladder</b>	
Diagnosis Ultrasound	Results Review, Radiology, Ultrasound
Diagnosis CT Scan	Results Review, Radiology, CT
Diagnosis HIDA	Results Review, Radiology, Nuclear Medicine
Diagnosis EUS	Results Review, Medical Procedures Unit, Endoscopy
Diagnosis ERCP	Results Review, Medical Procedures Unit, Endoscopy
Diagnosis MRI/MRCP	Results Review, Radiology, MR
Intra-Op Cholangiogram	Notes, OR, Op Note
Secondary Ultrasound	Results Review, Radiology, Ultrasound
Secondary CT Scan	Results Review, Radiology, CT
Secondary HIDA	Results Review, Radiology, NM
Secondary EUS	Results Review, Medical Procedures Unit, Endoscopy
Secondary ERCP	Results Review, Medical Procedures Unit, Endoscopy
Secondary MRI/MRCP	Results Review, Radiology, MR

Non-Operative Management	Notes, OR. If no OR case select non-op management.
<b>Small Bowel</b>	
Prior Small Bowel Obstruction	Chart Review, Encounters/Notes and Notes, H&P/Consult/ED Provider
# of Prior Admits for Small Bowel Obstruction	Chart Review, Encounters/Notes and Notes, H&P/Consult/ED Provider
Prior Abdominal Procedures	Chart Review, Encounters/Notes and/or Admit H&P, Anesthesia, Anesthetic Record => search for prior OR
Prior Open Laparotomy	Chart Review, Encounters/Notes and/or Admit H&P, Anesthesia, Anesthetic Record => search for prior OR
Prior Laparoscopy	Chart Review, Encounters/Notes and/or Admit H&P, Anesthesia, Anesthetic Record => search for prior OR
Prior Mesh	Chart Review, Encounters/Notes and/or Admit H&P, Anesthesia, Anesthetic Record => search for prior OR
Prior Radiation	Chart Review, Encounters/Notes and/or Admit H&P, Anesthesia, Anesthetic Record => search for prior OR
Metastatic Malignancy	Chart Review, Encounters/Notes and/or Admit H&P, Anesthesia, Anesthetic Record => search for prior OR
CT Scan	Results Review, Radiology, CT
CT Scan Date (mm/dd/yyyy)	Results Review, Radiology, CT Report =>under Result information (Exam End)
CT Scan Time (Military Time 00:00)	Results Review, Radiology, CT Report =>under Result information (Exam End)
Enteral Contrast	Results Review, CT, Report (will indicate if imaging done w PO contrast)
CT Findings	Results Review, Radiology, CT Report
Obstruction Related to Adhesions	Notes, Consult, H&P and/or OR notes and/or Results Review, Radiology, CT Report
Other CT Findings	Results Review, Radiology, CT Report
Gastrografin Challenge	Summary, IP MAR (look for gastrografin given) then Results Review, XRAY, Read Reports. Cross reference with progress notes and OR note
Gastrografin Challenge Date (mm/dd/yyyy)	Results Review, XRAY, Report => under Result Information (Exam End)
Gastrografin Challenge Time (Military Time 00:00)	Results Review, XRAY, Report => under Result Information (Exam End)

Gastrografin Results	Results Review, XRAY, Report. Often times can be found in Notes, Progress Notes/OR note.
<b>Exploratory Laparotomy</b>	
Abdominal X-Ray	Results Review, Radiology, XRAY
Abdominal X-Ray Date (mm/dd/yyyy)	Results Review, Radiology, XRAY Report => under Result Information (Exam End)
Abdominal X-Ray Time (Military Time 00:00)	Results Review, Radiology, XRAY Report => under Result information (Exam End)
CT Scan	Results Review, Radiology, CT
CT Scan Date (mm/dd/yyyy)	Results Review, Radiology, CT Report => under Result information (Exam End)
CT Scan Time (Military Time 00:00)	Results Review, Radiology, CT Report => under Result information (Exam End)
CT Findings	Results Review, Radiology, CT Report
NEWS 2 Score - Respiratory Rate (bpm)	View Flowsheet, Vital Signs
NEWS 2 Score - Hypercapnic Respiratory Failure	Results Review, Laboratory Results, Blood, ABG
NEWS 2 Score - SpO2	View Flowsheet, Vital Signs
NEWS 2 Score - SpO2 in Respiratory Failure	View Flowsheet, Vital Signs
NEWS 2 Score - Supplemental O2 or Room Air	View Flowsheet, Vital Signs
NEWS 2 Score - Temperature	View Flowsheet, Vital Signs
NEWS 2 Score - Systolic Blood Pressure (mmHg)	View Flowsheet, Vital Signs
NEWS 2 Score - Pulse (bpm)	View Flowsheet, Vital Signs
NEWS 2 Score - Consciousness	View Flowsheet, Neuro Assessment or can use Notes, H&P/Consult
SIRS Criteria - WBC > 12,000/mm, <4,000/mm, or > 10% bands	Results Review, Laboratory Results, Blood, CBC
Blood Gas Type	Results Review, Laboratory Results, Blood, ABG/VBG
Blood Gas Values	Results Review, Laboratory Results, Blood, ABG/VBG

Sepsis Antibiotic Date (mm/dd/yyyy)	Review Notes, H&P/Consult then Summary, IP MAR. Abx order will usually have indication (Intra-abdominal).
Sepsis Antibiotic Time (Military Time 00:00)	Summary, IP MAR => time nurse administered medication
Goal Directed Fluid Therapy	View Flowsheet, Vital Signs or Summary, Flowsheets, Monitoring Device Data. Also look at Results Review, Laboratory Results, Blood to look for ABG/VBG data
Total Ventilator Calendar Days	First check Anesthesia, Anesthetic Record to see if pt extubated awake. Then check View Flowsheet, Mechanical Vent or Lines/Drains/Airways, UNCHECK HIDE COMP'd, scroll down for ETT duration.
ICU Admission Date (mm/dd/yyyy)	Summary, Snapshot, ADT Events
ICU Admission Time (Military Time 00:00)	Summary, Snapshot, ADT Events
ICU Discharge Date (mm/dd/yyyy)	Summary, Snapshot, ADT Events
ICU Discharge Time (Military Time 00:00)	Summary, Snapshot, ADT Events
<b>Interventional Radiology</b>	
Interventional Radiology	Results Review, Radiology/Others
IR Procedure	Results Review, Radiology/Others/Image Guided Procedures, IR report
IR Procedure Date (mm/dd/yyyy)	Results Review, Radiology/Others/Image Guided Procedures, IR report => under Result information (Exam End)
IR Procedure Time (Military Time 00:00)	Results Review, Radiology/Others/Image Guided Procedures, IR report => under Result information (Exam End)
<b>Operation 1-8</b>	
Operation	Notes, OR, Op Note
Operation Incision Date (mm/dd/yyyy)	Anesthesia, Anesthetic Record, click on surgery date
Operation Incision Time (Military Time 00:00)	Anesthesia, Anesthetic Record, click on surgery date
Operation Dressing Date (mm/dd/yyyy)	Anesthesia, Anesthetic Record, click on surgery date
Operation Dressing Time (Military Time 00:00)	Anesthesia, Anesthetic Record, click on surgery date
Operative Surgeon	Notes, OR, Op Note

ASA Score	Anesthesia, Anesthetic Record, click on surgery date
Operative Type	Notes, OR, Op Note
Conversion	Notes, OR, Op Note
AAST Grade	Notes, OR, Op Note AND Results Review, Anatomic Path, Anatomic
Procedure CPT Code	Guarantor Account Maintenance, Enter pt MRN in "Patient", Prof Tx Inquiry, Set Restriction to 'Service Date", enter date of surgery, click on Gen Surg billing lines (procedure CPT code will usually be on same line with the highest numbers)
Cholecystectomy Technique	Notes, OR, Op Note
Additional Operations	Notes, OR, Op Note
Operation	Notes, OR, Op Note (for SBO surgery)
Operation Findings	Notes, OR, Op Note (for SBO surgery)
<b>Intraoperative</b>	
Bowel Anastomosis Technique	Notes, OR, Op Note
Ostomy Performed	Notes, OR, Op Note
Associated Hernia Requiring Repair	Notes, OR, Op Note
<b>Hernia Repair</b>	
Previous Hernia Repair	Notes, Consult/H&P/ED Provider/OR notes
Hernia Type	Notes, OR, Op Note
Hernia Location	Notes, OR, Op Note
Hernia Length (cm)	Notes, OR, Op Note
Hernia Width (cm)	Notes, OR, Op Note
Mesh Location	Notes, OR, Op Note
<b>Hernia Mesh</b>	
Sublay Position	Notes, OR, Op Note
Mesh Length (cm)	Notes, OR, Op Note
Mesh Width (cm)	Notes, OR, Op Note
Mesh Type	Notes, OR, Op Note
Brand of Mesh Used	Notes, OR, Op Note or Summary, Surgery Report, Click on Case, Implants
Mesh Fixation	Notes, OR, Op Note



Myofascial Release	Notes, OR, Op Note
Type of Myofascial Release	Notes, OR, Op Note
<b>Occurrences</b>	
RBC Transfusions w/in 72 hr Postop (# Units Transfused)	View Flowsheet, I & O and/or Blood Admin, UNCHECK HIDE COMP'D, scroll to dates applicable
Anastomotic Leak Date (mm/dd/yyyy)	Notes, Discharge Summary/Progress Notes, and Results Review, Radiology, CT scan reports
Anastomotic Leak Intervention	Notes, Discharge Summary/Progress Note/OR notes
Cardiac Arrest Requiring CPR Date (mm/dd/yyyy)	Notes, Discharge Summary. Notes, Consults (looking for rapid response team).
C. Difficile Date (mm/dd/yyyy)	Results Review, Laboratory Results, Micro, Cdiff
Common Bile Duct injury Date (mm/dd/yyyy)	Notes, Discharge Summary/Progress Notes and Results Review, Radiology, CT/MR reports
Cystic Duct Leak Date (mm/dd/yyyy)	Notes, Discharge Summary/Progress Notes and Results Review, Radiology, CT/MR reports
COVID-19 Date (mm/dd/yyyy)	Results Review, Laboratory Results, Micro, Covid-19
DVT Requiring Therapy Date (mm/dd/yyyy)	Results Review, Diagnostic Vascular Unit, LE Doppler/DVT scan
Enterocutaneous Fistula Date (mm/dd/yyyy)	Notes, Consults/Progress/Discharge/OR note. CT scan report
Ileus Requiring NG Tube or NPO Date (mm/dd/yyyy)	View Flowsheet, Lines/Drains/Airways, UNCHECK HIDE COMP'd, scroll down for NGT placement. Progress notes and DC Summary.
Infected Pancreas Date (mm/dd/yyyy)	Results Review, Radiology, CT Report
Myocardial Infarction Date (mm/dd/yyyy)	Notes, Discharge Summary or Notes, Consults (Cardiology) or Results Review, Cardiology Reports or Lab Results for cardiac biomarkers.
Necrotic Pancreas Date (mm/dd/yyyy)	Results Review, Radiology, CT Report
Pneumonia Date (mm/dd/yyyy)	Results Review, Radiology, CT/CXR Report. Then view Flowsheet, Vital Signs/Resp Therapy
Pulmonary Embolism Date (mm/dd/yyyy)	Results Review, Radiology, CT Report

Retained Common Bile Duct Stone Date (mm/dd/yyyy)	Notes/Discharge Summary, and Chart Review, Encounter (looking for readmits) and Radiology, CT imaging studies or MPU, Endoscopy
Sepsis Date (mm/dd/yyyy)	Notes looking for possible infection, imaging studies for abscess, Laboratory Results Blood/Micro (looking for positive cultures); Summary, IP Vitals Graph (to screen for criteria)
Severe Sepsis/Septic Shock Date (mm/dd/yyyy)	Notes looking for possible infection, imaging studies for abscess, Laboratory Results Blood and Micro (looking for positive cultures); Summary, IP Vitals Graph (to screen for criteria)
SSI Deep Incisional Date (mm/dd/yyyy)	Notes, Progress/Discharge Summary. Chart Review, Notes to review documentation after discharge. OR reports and CT imaging, cultures.
SSI Organ/Space Date (mm/dd/yyyy)	Notes, Progress/Discharge Summary. Chart Review, Notes to review documentation after discharge. OR reports and CT imaging, cultures.
SSI Superficial Incisional Date (mm/dd/yyyy)	Notes, Progress/Discharge Summary. Chart Review, Notes to review documentation after discharge. Culture if applicable.
Stroke/CVA Date (mm/dd/yyyy)	Notes, Discharge Summary/Progress Notes, Consult(Neurology), and Results Review, Radiology, CT/MR brain results. View Flowsheet, Neuro assessment.
Urinary Tract Infection CAUTI Date (mm/dd/yyyy)	Results Review, Laboratory Results, MICRO, Urine Culture. Check View Flowsheet, Lines/Drains/Airways, UNCLICK HIDE COMP'D, scroll down to get foley cath dates. Then make sure it has all components to qualify. Progress notes and/or flowsheets for symptoms.
Urinary Tract Infection Non-CAUTI Date (mm/dd/yyyy)	Results Review, Laboratory Results, MICRO, Urine Culture. Check View Flowsheet, Lines/Drains/Airways, UNCLICK HIDE COMP'D, scroll down to get foley cath dates. Then make sure it has all components to qualify. Progress notes and/or flowsheets for symptoms.
Wound Disruption	Notes, Consults/Progress/Discharge/OR note
<b>Discharge</b>	
Hospital Discharge Date (mm/dd/yyyy)	Summary, Snapshot, ADT Events
Hospital Discharge Time (Military Time 00:00)	Summary, Snapshot, ADT Events

Discharge Status	Notes, Discharge
Discharge Disposition	Notes, Discharge and Notes, Progress (Nurse Case Manager note)
Return to ED/UC Date (mm/dd/yyyy)	Chart Review, Encounters
Readmission Date	Chart Review, Encounters
Death Date Within 30 Days Post Operation (mm/dd/yyyy)	Chart Review, Encounters/Notes. Google Obituaries (if deceased but date is not in record).
Last Date of Follow Up (mm/dd/yyyy)	Chart Review, Encounters/Notes
Comments	