Surgical Complication, or Not, That Is the Question

Adriane Martin, DO, FACOS, CCDS
Vice President
Enjoin
Eads, TN

HCPro
an H3.Group brand

Program Notes for ACDIS Conference Clinical and Coding Highlight Series

acdis
an H3.Group brand

- Workshop materials and recordings
  - Copies of the slides for all programs in this workshop series can be downloaded at the link below. The workshop recordings will be posted to the same location on a rolling basis within a few days of a program:
  - https://acdis.org/2018-clinical-and-coding-highlight-series
- Continuing education information
  - Please note: In order to receive your continuing education certificate(s) for this workshop series, you must complete the online evaluation, which can be found in the CE instructions file on the download page. **The evaluation will open after the last event in the *entire* series on August 16, 2018.**

Learning Objectives

- At the completion of this educational activity, the learner will be able to:
  - Define a "cause and effect" relationship
  - Identify situations in which diagnoses/conditions are potentially "inherent and/or unavoidable"
  - Describe common diagnoses that are potentially "surgical complications"

Complication?

- A 33-year-old patient undergoes an elective laparoscopic cholecystectomy for acute-on-chronic cholecystitis. The operative report states that "bleeding within the liver bed was controlled with the use of electrocautery." Estimated blood loss is listed as less than 100 cc. No complications were reported by the surgeon.
  - Do you code intra-operative hemorrhage?

General Considerations

Intra-operative and post-operative complications

Cause and Effect

- Official Coding Guidelines 2018, 1.B.16—Documentation of Complications of Care Code:
  - ***Assignment is based on the provider's documentation of the relationship between the condition and the care or procedure, unless otherwise instructed by the classification.*** The guideline extends to any complications of care, regardless of the chapter the code is located in. It is important to note that not all conditions that occur during or following medical care or surgery are classified as complications. ***There must be a cause-and-effect relationship between the care provided and the condition, and an indication in the documentation that it is a complication.*** Query the provider for clarification, if the complication is not clearly documented.

Complication?

- A 25-year-old patient underwent laparoscopic appendectomy 7 days ago. The patient presents to the ED with complaints of fever and increasing abdominal pain. CT scan demonstrates an abscess in the right paracolic gutter. The patient is admitted, placed on IV antibiotics, and undergoes percutaneous drainage of the abscess by interventional radiology. Discharge summary states "intra-abdominal abscess, S/P lap appendectomy."
  - Is this a post-operative complication?

Inherent/Expected

- AHA Coding Handbook 2018, Chapter 33: Complications of Surgery and Medical Care
  - "there must be more than a routinely expected condition or occurrence."

Complication?

- A 57-year-old male presents for radical prostatectomy secondary to prostate cancer. The operative report states “a number 15 blade was used to transect the urethra at the level of the bladder neck. Bleeding from the pelvic venous plexus was noted and controlled with oversewing using a 3.0 silk suture.” The operative report noted the estimated blood loss for this procedure to be 500 cc. No complications were documented by the surgeon.
  - Has an intra-operative complication occurred?

Intra-Operative Complications

Intra-Operative Hemorrhage

- Factors that impact intra-operative blood loss:
  - The body part being operated on; for instance, a large amount of blood loss is to be expected in liver resections
  - Acute inflammation can increase the expected amount of blood loss
- Techniques for control of bleeding:
  - Cautery (Bovie, Harmonic, LigaSure, Thunderbeat, argon laser)
  - Suture
  - Ties
  - Clips
  - Topical hemostatic agents (gelfoam, SurgiSeal, Arista, Fibrillar)
- Clues as to "outside of normal"
  - Conversion from a laparoscopic to open procedure
  - ± transfusion of blood products
  - Resection of a body part
  - Abnormally high report EBL
- These complication codes will not trigger PSI 9, Peri-Operative Hemorrhage and Hematoma

Accidental Puncture/Laceration/Transection

- What is considered to be "expected"?
  - Serosal tears in the setting of adhesions
  - Enterotomy required to free a piece of bowel from mesh
  - Puncture/laceration of body part involved with malignancy
- Clues as to "outside of normal"
  - Conversion from a laparoscopic to an open procedure
  - Transection of a ureter or common bile duct
  - Resection of a body part
  - Intra-operative consultation
- These complication codes have the potential to trigger PSI 15, Unrecognized Abdominopelvic Accidental Puncture/Laceration

Complication?

- A 45-year-old patient presents for an elective laparoscopic hiatal hernia repair and Nissen fundoplication. The operative report states “there were dense omental adhesions to the superior pole of the spleen. During lysis of these adhesions there was a small capsular tear of the spleen. Bleeding was controlled with Fibrillar.” Estimated blood loss is reported at 300 cc. No complications were reported by the surgeon.
  - Is this intra-operative hemorrhage?
  - Is this accidental puncture/laceration?

Post-Operative Conditions and Complications

Wound Infection

- Wound infections can be classified as superficial (skin or subcutaneous), deep (muscle or fascia), or deep organ space (within the abdominal cavity)
- Wound infections present with signs and symptoms such as redness, warmth, drainage, swelling, abscess, dehiscence, and pain
- The CDC defines the time frame for a surgical site infection as occurring within 30 days of the operation or within one year of the operation if a device/implant was left in place
- Wound infections are treated with all or some of the following: antibiotics, drainage, irrigation, and debridement
- Some surgical site infections get reported as a quality indicator under the Hospital Value-Based Purchasing Program

Wound Dehiscence

http://www.jpalliativecare.com/articles/2013/19/1/images/IndianJPalliatCare_2013_19_1_71_110242_u1.jpg

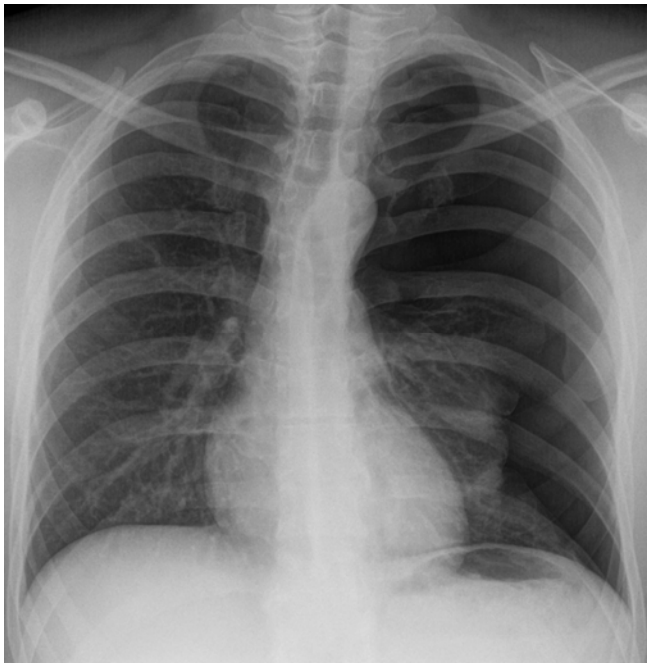
Wound Dehiscence

- Wound dehiscence is defined as the opening of a wound that was once closed. Dehiscence can be further characterized as superficial (skin and subcutaneous) or deep (muscle, fascia, or internal organ).
- Treatment for wound dehiscence is variable depending on the depth and the extent of the dehiscence: antibiotics if infected, debridement as needed, healing by secondary intention, and/or reclosure of the wound.
- These complication codes may trigger PSI 14, Post-Operative Wound Dehiscence.

Complication?

- A 37-year-old patient underwent open umbilical hernia repair with mesh 6 months ago. The patient presents to the ED with complaints of pain, redness, and swelling at her umbilicus. The patient was admitted with a diagnosis of cellulitis and placed on antibiotics.
  - Is this a post-operative wound infection?

Pneumothorax



https://upload.wikimedia.org/wikipedia/commons/b/b1/Spontanpneumothorax.jpg

Pneumothorax

- Pneumothorax refers to air in the pleural space.
- Causes:
  - Spontaneous (bullous emphysema, Marfan's syndrome, etc.)
  - Iatrogenic—caused *inadvertently* by medical/surgical treatment/diagnosis; always a complication
  - Traumatic
- Presentation is variable—can range from asymptomatic to life-threatening pulmonary and circulatory collapse. Most often presents as shortness of breath, chest pain, and/or hypoxia.
- Treatment is also variable—can include observation, supplemental oxygen, needle/catheter aspiration, chest tube decompression, or thoracoscopy.

Pneumothorax

- Routinely expected with some surgical procedures (lung resection, CABG, etc.)
- It would be captured as a post-procedural complication if it required additional monitoring/intervention/prolonged the LOS outside of the expected norm
- The code for an iatrogenic pneumothorax will trigger PSI 6, Iatrogenic Pneumothorax

Air Leak

- A condition in which the lung continues to leak air into the pleural space after the occurrence of a pneumothorax
- Routinely expected with some surgical procedures (lung resection)
- It would be captured as a post-procedural complication if it required additional monitoring/intervention/prolonged the LOS outside of the expected norm

Complication?

- A 56-year-old patient undergoes a 3-vessel CABG. Post-operatively, the patient goes to the ICU on a ventilator with chest tubes in place. The patient is extubated within 24 hours of surgery. On POD #2, a small apical pneumothorax is noted on the right, without air leak. The right chest tube is placed to water seal. On the left, a moderate pneumothorax is noted, without air leak. The left chest tube is left on suction. On POD #3, the right apical pneumothorax has resolved. The right chest tube is discontinued. The left pneumothorax has decreased significantly in size. The left chest tube is placed to water seal. The patient is transferred to the floor. On POD #4, the left pneumothorax has resolved and the chest tube is discontinued. The patient is discharged home on POD #6.
  - Is this a post-operative complication?

Hematoma/Seroma

https://upload.wikimedia.org/wikipedia/commons/c/c2/Hematoma_ear.jpg

Hematoma/Seroma

- A hematoma is a fluid collection of blood and a seroma is a fluid collection of serum
  - Both present and are treated in a similar fashion
  - Both predispose a wound to infection and dehiscence
- Clinically these may be asymptomatic or they may present with pain and swelling
  - The diagnosis may be made by physical exam or on imaging
- Both are treated in a similar fashion
  - If no associated infection and are small/asymptomatic, then watchful waiting can be carried out
  - If they are larger or symptomatic, then drainage (percutaneous or open) is indicated
  - If there is evidence of infection, then drainage is indicated and the wound is typically left to heal by secondary intention
- Both hematoma and seroma (especially small ones) are routinely seen after surgical procedures

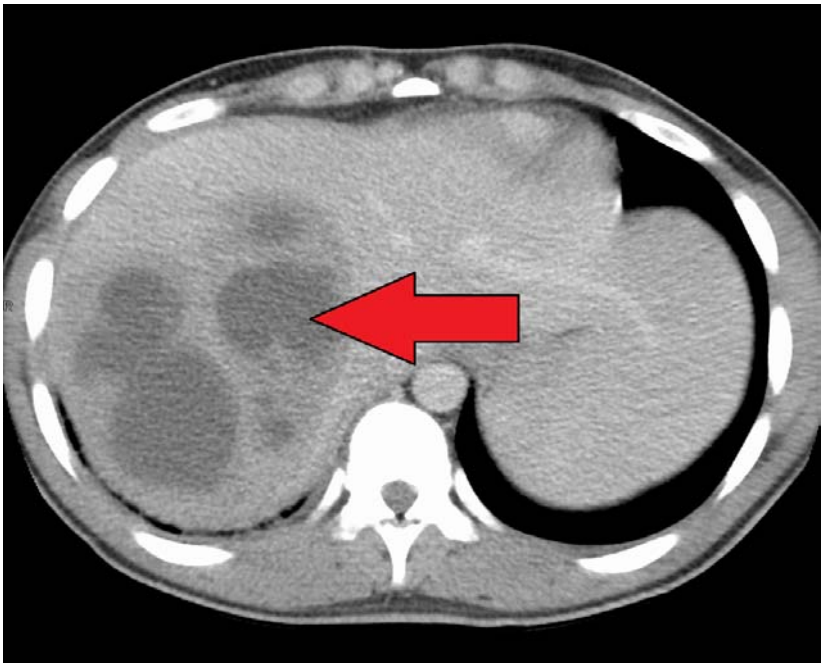
Post-Operative Hemorrhage

- Refers to bleeding in the post-operative period
  - A small amount of bleeding from incision sites, catheter sites, etc. is not unusual
  - Routine care would be reinforcement of the dressing, pressure dressing, position change, etc.
- Clues as to "outside of normal"
  - There is a procedure performed with the intent to control the bleeding (re-exploration in the OR, suturing, embolization)
  - If laboratory monitoring of H/H or transfusion is required
  - If additional imaging is used to assess the bleeding (CT scan)
- Capture of the post-operative hematoma or hemorrhage code could potentially trigger PSI 9, Peri-Operative Hemorrhage/Hematoma

Complication?

- A 27-year-old patient presents to the ER with complaints of right groin pain. The patient underwent right inguinal hernia repair with mesh one week ago. On exam, there is some moderate swelling and mild erythema at the inguinal incision site. An 18-gauge needle is used to aspirate 30 cc of serous fluid. Fluid is sent for culture. The patient is admitted for possible infected seroma and started on antibiotics. The swelling and redness improve significantly over 24 hours. Cultures are negative. The patient is discharged home without antibiotics. Discharge summary states that infected seroma was ruled out.
  - Is this a post-operative complication?

Abscess



https://upload.wikimedia.org/wikipedia/commons/d/dc/LargeHepaticAbscessMark.png

Post-Operative Abscess

- Abscess—a localized collection of pus surrounded by inflammatory tissue
- Abscess can occur in many settings:
  - Perforated organ
  - Acute diverticulitis
  - Acute appendicitis
  - Acute cholecystitis
  - Inflammatory bowel disease—Crohn's, UC
  - Pelvic inflammatory disease
  - Anastomotic leak—*always a complication*
  - Wound infections—traumatic, surgical

Complication?

- A 25-year-old patient underwent laparoscopic appendectomy 7 days ago. The patient presents to the ED with complaints of fever and increasing abdominal pain. CT scan demonstrates an abscess in the right paracolic gutter. The patient is admitted, placed on IV antibiotics, and undergoes percutaneous drainage of the abscess by interventional radiology. Discharge summary states "intra-abdominal abscess, S/P lap appendectomy."

  - Is this a post-operative complication?

Ileus

http://www.ganfyd.org/images/b/be/Gallstone_ileus.jpg

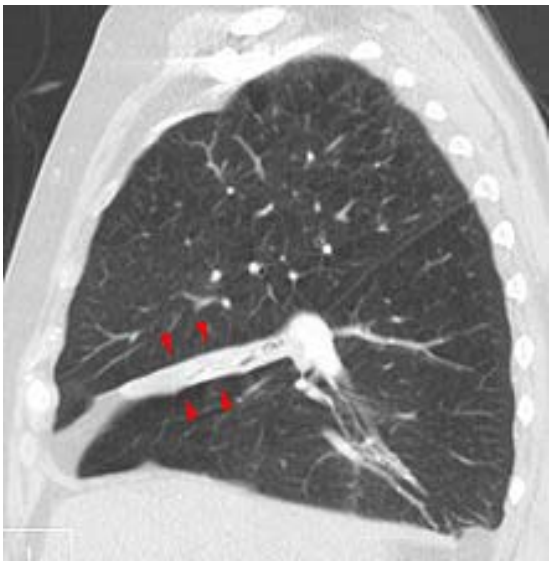
Ileus

- Ileus—"intestinal distention and the slowing or absence of passage of luminal contents without mechanical obstruction"
- Some degree of physiologic illness is expected after surgery
  - No clear consensus on what defines "prolonged ileus."
  - The degree of "expected" ileus depends on many factors, one of which is the type of surgery. Lower GI surgery tends to produce a more lengthy "expected" ileus.
  - A ballpark idea of "expected" is 3–5 days.

Ileus

- Clues as to "outside of normal"
  - Delay in starting oral intake or inability to advance diet due to signs/symptoms of ileus
  - Prolonged duration of NG decompression due to signs/symptoms of ileus
  - Signs/symptoms of ileus cause need for further evaluation (x-ray, CT scan, etc.)
  - Return to NPO status and/or need for NG decompression due to signs/symptoms of an ileus

Atelectasis



https://upload.wikimedia.org/wikipedia/commons/thumb/8/85/Mittellappenatelektase_CT_sagittal.jpg/220px-Mittellappenatelektase_CT_sagittal.jpg

Atelectasis

- Atelectasis can be defined as a loss of lung volume due to collapse of lung tissue
  - Surgical patients who have undergone thoracic or abdominal surgery are at increased risk for the development of atelectasis
  - Measures aimed at the prevention of atelectasis are routinely taken in post-operative patients (IS, early ambulation, etc.)
- Presentation of atelectasis may range from asymptomatic to acute respiratory failure
  - Shortness of breath and hypoxemia are common signs/symptoms of atelectasis
- Clues as to "outside normal"
  - Increasing oxygen requirements
  - Need for additional imaging
  - Chest physiotherapy
  - Prolongation of hospital stay
  - Consultants (pulmonologist, respiratory therapy)

Post-Operative Respiratory Failure

- Acute respiratory failure:
  - Abnormal gas exchange: pO2 < 60, O2 saturation < 90%, pCO2 > 50 with a pH of < 7.35 or P/F ratio < 300

    and
  - Increased work of breathing: accessory muscle use, tachypnea, etc.

    and
  - Need for increased respiratory support: high-flow oxygen, close monitoring, invasive/non-invasive mechanical ventilation, etc.
- Acute respiratory/pulmonary insufficiency:
  - An abnormality of gas exchange that does not meet the criteria for acute respiratory failure

Post-Operative Respiratory Failure

- Points to keep in mind
  - Some degree of respiratory support after surgery is to be expected. Expectation of what is considered "normal" support will vary with the surgery (e.g., lung resection vs. appendectomy).
  - Respiratory failure after surgery may be temporal in nature rather than cause-and-effect. (e.g., acute COPD exacerbation occurring after surgery)
  - Post-operative respiratory failure code will trigger PSI 11, Post-Procedural Respiratory Failure

Complication?

- A 55-year-old patient undergoes a lap cholecystectomy for biliary dyskinesia. In recovery the patient is noted to be tachypneic with a respiratory rate of 26. O2 saturation, on room air, is 87%. On exam the patient is noted to have wheezing bilaterally. Review of the patient's medical history demonstrates a diagnosis of COPD. The patient is placed on 4l NC and admitted to telemetry for post-operative respiratory failure and COPD exacerbation. IV steroids and nebulizers are started.
  - Is this a post-operative complication?

Complication?

- A 63-year-old patient undergoes CABG x3. Patient is transferred to ICU, post-operatively, on the ventilator. On POD #1, the patient is extubated to 6l NC with a respiratory rate of 20. Over the next 72 hours, the patient is weaned down to room air. Acute post-operative respiratory failure is documented by critical care.
  - Is this a post-operative complication?

Complication?

- A 35-year-old patient undergoes an open ventral hernia repair. The patient is admitted post-operatively for pain control. While on the floor, nursing notes patient to have an O2 saturation of 88% on room air with a respiratory rate of 19. The patient is placed on 2l NC. While sleeping, the patient desaturates to 84%, and the oxygen is increased to 4l NC.
  - Is this a post-operative complication?

Complication?

- A 35-year-old patient undergoes an open ventral hernia repair. The patient is admitted post-operatively for pain control. While on the floor, nursing notes patient to have an O2 saturation of 88% on room air with a respiratory rate of 25. The patient is placed on 2l NC. Patient continues to have O2 saturations below 90% and is given a nebulizer treatment and the oxygen is increased to 6l.
  - Is this a post-operative complication?

Thank you. Questions?

adriane.martin@enjoincdi.com

To submit a question, go to the questions window located on the right side of your screen. Type your question into the box at the bottom then click the "Send" button.

Conclusion

- Workshop materials and recordings
  - Copies of the slides for all programs in this workshop series can be downloaded at the link below. The workshop recordings will be posted to the same location on a rolling basis within a few days of a program:
  - https://acdis.org/2018-clinical-and-coding-highlight-series
- Continuing education information
  - Please note: In order to receive your continuing education certificate(s) for this workshop series, you must complete the online evaluation, which can be found in the CE instructions file on the download page. **The evaluation will open after the last event in the *entire* series on August 16, 2018.**

Thank You!

The next program in the

ACDIS Conference Clinical and Coding Highlight Series,

Making Sense and Demystifying the Relationships Within the Grouper,

will be broadcast live on Tuesday, August 14 at 1 p.m. ET.