Infectious Disease Epidemiology LA Office of Public Health Spring 2012 Edition

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A Quarterly Newsletter for Infection Preventionists

Check out these papers!

- Centers for Disease Control and Prevention. Reducing Bloodstream Infections in an Outpatient Hemodialysis Center – New Jersey, 2008-2011. Morbidity and Mortality Weekly Report 61, 2012: 10.
 - http://www.cdc.gov/mmwr/pdf/wk/mm6110.pdf
- Haley VB et al. Risk factors for coronary artery bypass graft chest surgical site infections in New York State, 2008. American Journal of Infection Control 40, 2012: 22-8.





Your Hysterectomy Coding Questions Answered

Reproduced from the April 2012 NHSN Newsletter AHA Coding Clinic for ICD-9-CM, Vol. 29, NO. 1. First Quarter 2012, pages 3-5

"Total Laparoscopic Abdominal Hysterectomy and Laparoscopically Assisted Vaginal Hysterectomy"

Effective October 1, 2006, new procedure codes were created to distinguish between laparoscopic hysterectomies that utilize tiny incisions and traditional hysterectomies that require a large incision. For additional information on the other types of laparoscopic hysterectomy procedures, please refer to *Coding Clinic*, Fourth Quarter 2006, pages 130-134.

An important factor in assigning the correct ICD-9-CM hysterectomy procedure code is to determine what structures were detached and how they were detached based on the medical record documentation. The focus should be on the surgical technique or approach used for the detachment of those structures. Code assignment should not be based on the location of where the structures were physically removed from the patient's body.

A total *laparoscopic* abdominal hysterectomy (TLH) involves detachment of the entire uterus and cervix from the surrounding supporting structures via the *laparoscopic technique*. The uterus is then removed through the vagina or abdomen. It may include bivalving, coring, or morcellating the excised tissues, as required. The procedure concludes with suturing of the vaginal cuff, removal of instruments and closure of the incisions.

The fact that the uterus is removed through the vagina does not indicate that the procedure performed was a laparoscopically assisted vaginal hysterectomy. For ICD-9-CM coding purposes, the key is that the structures were detached from surrounding structures or tissues laparoscopically via the abdomen.

A *laparoscopically assisted* vaginal hysterectomy involves use of the *laparoscope* to guide the procedure and visualize structures in addition to detaching the uterine body from the surrounding upper supportive structures (such as the infundibular pelvic and round ligaments), while the vaginal portion of the procedure involves an *incision being made within the vagina to detach the cervix and uterus from the remaining supporting structures*. The uterus is then removed through the vagina. The procedure concludes with the top part of the vagina being sutured, removal of instruments and closure of the incisions.

Question: What is the procedure code assignment for a laparoscopic total abdominal hysterectomy when the uterus is pulled out through the vagina?

Answer: Assign code 68.41, Laparoscopic total abdominal hysterectomy. In a laparoscopic totally hysterectomy, the uterine attachments are ligated and transected via a laparoscopic approach. The uterus and cervix are then removed intact through the vagina. Occasionally, the uterus is enlarged and cannot be taken out through the vagina. The surgeon can then morcellate the uterus and remove it via the port incision.

Question: How should a laparoscopically assisted vaginal hysterectomy (LAVH) with bilateral laparoscopic salpingo-oophorectomy be coded?

Answer: Assign codes 68.51, Laparoscopically assisted vaginal hysterectomy; and 65.63, Laparoscopic removal of both ovaries and tubes at same operative episode. In contrast to the laparoscopic total abdominal hysterectomy, the LAVH involves making an incision within the vagina to detach the cervix and uterus and removing the organs through the vagina.

Legacy	Operative Procedure	Description	ICD-9-CM Codes/ CPT Codes			
HYST	Abdominal hysterectomy; Includes that by	Removal of uterus through abdominal wall; includes that	68.31, 68.39, 68.41, 68.49, 68.61, 68.69			
	laparoscope	by laparoscope	58150, 58152, 58180, 58200, 58210, 58541, 58542, 58543, 58544, 58548, 58570, 58571, 58572, 58573, 58951, 58953, 58954, 58956			
COLO	Colon surgery	Incision, resection, or anastomosis of the large intestine; includes large-to-small and small-to-large bowel anastomosis; does not include rectal operations	17.31-17.36, 17.39, 45.03, 45.26, 45.41, 45.49, 45.52, 45.71-45.76, 45.79, 45.81-45.83, 45.92-45.95, 46.03, 46.04, 46.10, 46.11, 46.13, 46.14, 46.43, 46.52, 46.75, 46.76, 46.94 44140, 44141, 44143, 44144, 44145, 44146, 44147, 44150, 44151, 44160, 44204, 44205, 44206, 44207, 44208, 44210			

Changes to Urinary Tract Infections (UTI) Surveillance

Reproduced from the April 5, 2012 NHSN E-mail

CAUTI surveillance protocol was recently amended by the NHSN team. The following changes have been in effect since April 1, 2012. Changes aimed to streamline and simplify CAUTI surveillance without sacrificing data usefulness. Updates to the NHSN manual are in process and will be shared as soon as they are available.

- 1. It is difficult for Infection Preventionists to distinguish irrigated urinary catheters from non-irrigated urinary catheters. Additionally, irrigation of urinary catheters represents a risk for UTI and, therefore, such patients should be included in CAUTI surveillance. The exclusion of continuously irrigated indwelling urinary catheters from the CAUTI data should be discontinued. Instead, ALL indwelling urinary catheter days should be included in the CAUTI data and ALL patients with indwelling urinary catheters are eligible for CAUTIs, regardless of whether the catheter has been irrigated in ANY way.
- 2. Laboratories at many facilities do not report white blood cell counts lower than 5 for urinalyses performed. Therefore, all references of pyuria included in the UTI definitions are now changed from "...or ≥ 3 WBC/high power field of spun urine" to "...or > 5 WBC/high power field of spun urine". This change involves UTI criteria 2a, 2b, and 4 and includes non-catheter-associated UTI as well as CAUTI.

State Contacts for End-Stage Renal Disease Facilities

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Outpatient Procedure Module Development

Sampled from Ryan Fagan's (CDC) slide set presented to State Users of NHSN Call April 11, 2012

The new NHSN surveillance module specifically for Outpatient Procedures has been under development since January 2011 in partnership with Ambulatory Surgery Center (ASC) Quality Collaboration. The module is targeted for full implementation by CY 2014. Piloting is currently underway and phasing in will begin mid-to-late 2013. Free-standing ASCs and Hospital Outpatient Departments (HOPDs) will be directly affected by this measure.

Surveillance in ASCs tend to be specialty-specific. The most common procedures completed include the following: GI endoscopy, ophthalmology, orthopedics, plastic-reconstructive, and pain management centers. The majority of ASCs lack dedicated information technology or infection control departments. Post-discharge surveillance is not standardized, though some form of patient follow-up is the industry norm.

There are plans for a 3-part Outpatient Procedure Module:

- 1. Process measures (track events during the ASC/HOPD visit)
- 2. New outcome measure: hospitalization or emergency department encounter after procedure
- 3. SSI surveillance, to support states with pre-existing SSI reporting mandates for outpatient procedures

There are currently 6 NQF-endorsed ASC Quality Measures:

- 1. Appropriate surgical site hair removal
- 2. (Direct) Hospital transfer/ admission
- 3. Patient burn
- 4. Patient fall in the ASC
- 5. Prophylactic IV antibiotic timing (preoperative abx)
- Wrong site, wrong side, wrong patient, wrong procedure, wrong implant

The next steps for Outpatient Procedure Module Development include continuing the discussion with ASC QC on the use of NHSN to report NQF-endorsed process measures and expand surveillance to all payers (FY 2012 will be Medicare beneficiaries only). The current SSI module does not appear to be useful or appropriate for the ASC setting. Additional work will be done to develop an SSI module for ASCs/ HOPDs that will better support state mandates. More information on this measure will be distributed as it becomes available.

Clinical Document Architecture (CDA) NHSN Update

Sampled from Paul Malpiedi's (CDC) slide set presented to State Users of NHSN Call April 11, 2012

Health Level Seven (HL7) Clinical Document Architecture (CDA) for healthcare-associated infection (HAI) reporting enables hospitals using commercial infection control surveillance systems to report HAI data electronically to NHSN.

Reporting no events: Facilities importing device-associated or MDRO module data summary forms still need to manually return to those screens after entry to click any needed "report no events" boxes. For procedure-associated data, "no procedures performed" and "no SSI events" boxes must be selected using the Alerts tabs.

<u>Dialysis CDA rollout:</u> CDC is working with new vendors from the dialysis electronic medical record community to introduce CDA for dialysis event reporting.

Currently Accepted via CDA Import:

- Central line-associated bloodstream infection event
- Catheter-associated urinary tract infection event
- Device-associated module denominator form
- Central line insertion practices
- Surgical site infection event
- Surgical procedure denominator form
- MDRO laboratory identified organism event
- Antimicrobial use (pilot at limited number of facilities)
- Coming fall 2012:
 - o Dialysis event and denominator
 - o MDRO module denominator

Questions related to CDA in general or the NHSN CDA import can be directed to nhsncda@cdc.gov.

Improving Surveillance for Ventilator-Associated Events in Adults

Centers for Disease Control and Prevention (CDC)

Overview and Proposed New Definition Algorithm

What is the National Healthcare Safety Network (NHSN)?

NHSN is the CDC's healthcare-associated infections (HAI) surveillance system (www.cdc.gov/nhsn). NHSN uses standard methodology and definitions to collect data from U.S. healthcare facilities. More than 5000 healthcare facilities in all 50 states now participate in NHSN. Most participating facilities report data on device-associated HAIs, including ventilator-associated pneumonia (VAP). Many states require hospitals to report HAIs using NHSN.

How is VAP surveillance currently conducted in NHSN?

- NHSN's current pneumonia (PNEU) definitions were last updated in 2002, and were designed to be used for surveillance of all healthcare-associated pneumonia events, including (but not limited to) VAP.
- Three components make up the current PNEU definitions: an "X-Ray" component (required), a "Signs and Symptoms" component (required), and a "Laboratory" component (optional).
- VAP is specifically defined as a PNEU event that occurs at the time a ventilator is in place, or within 48 hours after a ventilator has been in place. There is currently no required duration that the ventilator must be/have been in place for a PNEU to qualify as a VAP.

Why is the CDC changing the way VAP surveillance is done in NHSN?

• The current PNEU definitions are useful for internal quality improvement purposes, but are limited by their subjectivity and complexity. It is necessary to have objective, reliable surveillance definitions for use in public reporting and inter-facility comparisons of event rates and federal pay-for-reporting and -performance programs.

What is the CDC's process for improving NHSN VAP surveillance?

- The CDC's Division of Healthcare Quality Promotion (DHQP) is collaborating with the CDC Prevention Epicenters
 (http://www.cdc.gov/hai/epicenters), the Critical Care Societies Collaborative (CCSC, http://ccsconline.org),
 other professional societies and subject matter experts, and federal partners.
- DHQP initiated a collaboration with the CCSC in September 2011, and convened a VAP Surveillance Definition Working Group, consisting of representatives from several organizations with expertise in critical care, infectious diseases, healthcare epidemiology and surveillance, and infection control.

Organization	Representative(s)				
American Association of Critical-Care Nurses	Ms. Suzanne Burns and Ms. Beth Hammer				
American College of Chest Physicians	Drs. Robert Balk and David Gutterman				
American Thoracic Society	Drs. Nicholas Hill and Mitchell Levy				
Association of Professionals in Infection Control and Epidemiology	Ms. Linda Greene				
Council of State and Territorial Epidemiologists	Ms. Carole VanAntwerpen				
HICPAC Surveillance Working Group	Dr. Daniel Diekema				
Infectious Diseases Society of America	Dr. Edward Septimus				
Society for Healthcare Epidemiology of America	Dr. Michael Klompas				
Society of Critical Care Medicine	Drs. Clifford Deutschman, Marin Kollef, and Pamela Lipsett				

- The Working Group recognized that there is currently no gold standard, valid, reliable definition for VAP. Even
 the most widely-used VAP definitions are neither sensitive nor specific for VAP. Therefore, the Working Group
 decided to pursue a different approach—development of a surveillance definition algorithm for detection of
 ventilator-associated events (VAEs). This algorithm will detect a broad range of conditions or complications
 occurring in mechanically-ventilated adult patients.
- Because the reliability of HAI definitions has become particularly important in recent years, the Working Group
 focused on definition criteria that use objective, clinical data that are expected to be readily available across
 the spectrum of mechanically-ventilated patients, intensive care units and facilities—in other words, criteria
 that are less likely to be influenced by variability in resources, subjectivity, and clinical practices—and that are
 potentially amenable to electronic data capture.

What progress has the Working Group made?

• The Working Group has proposed a new surveillance definition algorithm to detect VAEs in adult patients. It is not designed for use in the clinical care of patients. The Working Group anticipates that the new definition algorithm will continue to be refined, based on the results of field experience and additional research. The definition algorithm refinement process is, and will continue to be iterative, and will require the ongoing engagement of the critical care, infection prevention, infectious diseases and healthcare epidemiology communities.

What is the new, proposed NHSN surveillance definition algorithm?

- The definition algorithm (presented on page 3) is only for use with the following patients:
 - Patients ≥ 18 years of age;
 - o Patients who have been intubated and mechanically ventilated for at least 3 calendar days; and
 - o Patients in acute and long-term acute care hospitals and inpatient rehabilitation facilities.
- NOTE: Patients receiving rescue mechanical ventilation therapies (e.g., high-frequency ventilation, extracorporeal membrane oxygenation, or mechanical ventilation in the prone position) are excluded from surveillance using the new, proposed definition algorithm.

How is the new surveillance definition algorithm different from the current PNEU definitions?

• The new algorithm: 1) will detect ventilator-associated conditions and complications, including (but not necessarily limited to) VAP; 2) requires a minimum period of time on the ventilator; 3) focuses on readily-available, objective clinical data; and 4) does not include chest radiograph findings.

Why are chest radiographs not included in the new surveillance definition algorithm?

• Evidence suggests that chest radiograph findings do not accurately identify patients with VAP. Furthermore, the variability in radiograph ordering practices, technique, interpretation, and reporting make chest radiograph findings less well-suited for inclusion in an objective, reliable surveillance definition algorithm to be used for public reporting and inter-facility comparisons of event rates and pay-for-reporting and -performance programs.

How will I find cases using the new algorithm?

• CDC is working on operational guidance to help healthcare facility staff implement the new algorithm for electronic or manual event detection, once it is ready for deployment in NHSN. A possible method to make VAE surveillance more efficient is to organize data elements in a flow sheet at the patient's bedside. In the example below, the shaded area highlights the period during which a possible VAP event is detected.

VentDay	PEEPmin	FiO₂min	Tmin	Tmax	WBCmin	WBCmax	Antimicrobials	Spec	Polys	Epis	Organism
1	10	60	37.9	38.1	12.1	14.2	None				
2	5	40	37.1	37.5	11.8	11.8	None				
3	5	40	36.9	37.6	12.1	12.1	None	ETA	≥25/lpf	<1/lpf	S. aureus
4	8	60	38.1	39.2	14.5	16.8	PIPTAZ, VANC				
5	8	50	38.4	38.9	12.6	15.9	PIPTAZ, VANC				
6	7	40	36.5	37.8	11.1	13.6	PIPTAZ, VANC				
7	5	40	36.2	37.0	11.5	13.0	PIPTAZ, VANC				
8	5	40	36.7	37.3	8.3	8.3	PIPTAZ, VANC	ETA	<1/lpf	.0-25/lpf	Oral flora

PEEPmin=minimum positive end-expiratory pressure. FiO₂min=minimum fraction of inspired oxygen. Tmin, Tmax=minimum temperature, maximum temperature. ETA=endotracheal aspirate. PIPTAZ=piperacillin/tazobactam. VANC=vancomycin. Spec=specimen type. Polys=polymorphonuclear leukocytes. Epis=epithelial cells. Ipf=low power field.

What are the next steps, and when will the new algorithm be implemented in NHSN?

- The Working Group has identified key research agenda items, which include:
 - Evaluation of candidate variables to use in achieving additional unit-level risk adjustment or stratification of ventilator-associated condition and complication rates.
 - Rates (events per 1000 ventilator days) will be stratified according to the current NHSN standard—by intensive care unit type, and for selected unit types, by bed size and academic affiliation.
 - Evaluation of denominator (ventilator day) data collection strategies.
- The goal for implementation in NHSN is January 2013.

For additional information, please contact your organization or CDC:

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 CDC Contact: Dr. Shelley Magill Email: smagill@cdc.gov
 Phone: (518) 474-3343
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Surveillance Definitions for Ventilator-Associated Events:

Possible Ventilator- Associated Pneumonia

For use in acute and long-term acute care hospitals and inpatient rehabilitation facilities. For use in patients \geq 18 years of age who are on mechanical ventilation for \geq 3 calendar days. NOTE: patients on rescue mechanical ventilation (e.g., HFV, ECMO, mechanical ventilation in prone position) are EXCLUDED. Patient has a baseline period of stability or improvement on the ventilator, defined by ≥ 2 calendar days of stable or decreasing FiO₂ or PEEP. Baseline FiO₂ and PEEP are defined by the minimum daily FiO₂ or PEEP measurement during the period of stability or improvement. After a period of stability or improvement on the ventilator, the patient has at least one of the following indicators of worsening oxygenation: 1) Minimum daily FiO₂ values increase \geq 0.20 (20 points) over baseline and remain at or above that increased level for \geq 2 calendar days. 2) Minimum daily PEEP values increase ≥ 3 cmH₂O over baseline and remain at or above that increased level for ≥ 2 calendar days. **Ventilator-Associated Condition (VAC)** Public Reporting Definition On or after calendar day 3 of mechanical ventilation and within 2 calendar days before or after the onset of worsening oxygenation, the patient meets both of the following criteria: 1) Temperature > 38 °C or < 36°C, OR white blood cell count ≥ 12,000 cells/mm³ or ≤ 4,000 cells/mm³. AND 2) A new antimicrobial agent(s) is started, and is continued for \geq 4 calendar days. Infection-related Ventilator-Associated Complication (IVAC) Public Reporting Definition On or after calendar day 3 of mechanical ventilation and within 2 On or after calendar day 3 of mechanical ventilation and within 2 calendar days before or after the onset of worsening oxygenation, calendar days before or after the onset of worsening oxygenation, ONE of the following criteria is met: ONE of the following criteria is met: 1) Purulent respiratory secretions (from one or more specimen 1) Purulent respiratory secretions (from one or more specimen collections—and defined as for possible VAP) collections) • Defined as secretions from the lungs, bronchi, or trachea that AND one of the following: contain >25 neutrophils and <10 squamous epithelial cells per Positive culture of endotracheal aspirate, ≥ 10⁵ CFU/ml or low power field [lpf, x100]. equivalent semi-quantitative result • If the laboratory reports semi-quantitative results, those results Positive culture of bronchoalveolar lavage, ≥ 10⁴ CFU/ml or must be equivalent to the above quantitative thresholds. equivalent semi-quantitative result 2) Positive culture (qualitative, semi-quantitative or quantitative) of Positive culture of lung tissue, ≥ 10⁴ CFU/ml or equivalent sputum, endotracheal aspirate, bronchoalveolar lavage, lung semi-quantitative result tissue, or protected specimen brushing Positive culture of protected specimen brush, ≥ 10³ CFU/ml or equivalent semi-quantitative result 2) One of the following (without requirement for purulent respiratory secretions): Positive pleural fluid culture (where specimen was obtained during thoracentesis or initial placement of chest tube and NOT from an indwelling chest tube) · Positive lung histopathology • Positive diagnostic test for Legionella spp. Positive diagnostic test on respiratory secretions for influenza virus, respiratory syncytial virus, adenovirus, parainfluenza virus

Internal Quality

Improvement

Probable Ventilator-Associated Pneumonia