Continuing Education Program
Volume I

5 Continuing Education Credits Enclosed

A Hospital No-No: Nosocomial Infections
Careful and Social Hand Washing
Coding the Cost: A History of Medical Economics
HIPPA Privacy Practices
EKG: A to Z
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A Hospital No-No: Nosocomial Infections
1) A B C D 2) A B C D 3) A B C D 4) A B C D 5) A B C D

Careful and Social Hand Washing
1) A B C D 2) A B C D 3) A B C D 4) A B C D 5) A B C D

Coding the Cost: A History of Medical Economics
1) A B C D 2) A B C D 3) A B C D 4) A B C D 5) A B C D

HIPPA Privacy Practices
1) A B C D 2) A B C D 3) A B C D 4) A B C D 5) A B C D

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1) A B C D 2) A B C D 3) A B C D 4) A B C D 5) A B C D

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A Hospital No-No: Nosocomial Infections

A hospital is generally regarded as a safe haven; a place where a patient arrives with a complication, and departs with a clean bill of health. Though this is generally the case, complications may arise when members of the medical staff neglect to take the proper steps necessary to protect their patients from nosocomial infections. The term, nosocomial, is derived from the Greek word nosocomium, which means “hospital”, and is used to describe an infection that is acquired during a patient's stay at a medical facility.

A nosocomial infection is acquired by one of two ways. In certain cases, a patient may arrive to the hospital with an infection that has not developed. Though the cause of the infection may be present, the infection may not have taken hold of the patient's body. This underlying infection may weaken the patient's immune system, leaving them susceptible to any bacteria that may be present within the hospital. This is known as an endogenous, or self-infection.

When a patient arrives to a hospital with no underlying infection, and becomes contaminated, this is known as cross-contamination followed by cross-infection. It is essential to realize that a certain amount of contamination is naturally present in the human body, due to the number of microorganisms that are present within the tissues that line the membrane of the body. Known as the mucous membrane, these tissues contain a reasonable amount of microorganisms that create a state of healthy “flora”. The transition between contamination and infection occurs when the microorganisms penetrate the mucous membrane and travel to underlying areas of the body. Certain factors may create an environment where the body is more susceptible to infection. These include the presence of irritants such as foreign objects that are placed in the body for long periods of time. Examples of these irritants include stents, catheters, and other objects placed in the urinary tract, mouth, or blood vessels.

Each patient will typically fall into one of three categories used to determine the level of risk for infection while they are at the hospital. An immunocompromised patient is considered high-risk, since their immune system is not strong enough to withstand an infection that a healthy patient may easily fight off. Patients with a medical history of severe burns, and other types of trauma are also considered high-risk. Non-immunocompromised patients will also become high-risk after an invasive procedure such as lung or heart surgery.

Previously infected patients that are exposed to biological fluids have a smaller chance for infection, and are considered medium-risk. Biological fluids include urine, blood, and any fluid that may drain from a body cavity. Patients that are catheterized are also considered medium-risk.

A patient has a minimal risk for infection if they are admitted to the hospital without an underlying infection, complete their stay without an invasive procedure, and are not exposed to any biological fluids.

1). What is the level of risk of infection for a patient that has been catheterized?
A. Medium-high risk
B. High risk
C. Medium risk
D. Minimal risk

2). The term “nosocomial” was derived from the Greek word for ______ .
A. Cross-Infection
B. Hospital
C. Risk
D. Patient

3). What does the term “endogenous” mean?
A. Cross-Infection
B. Self Infection
C. Hospital Infection
D. An infection of the endocrine system.

4). A patient can contract a nosocomial infection by one of _____ ways.
A. Three
B. Two
C. Four
D. There is only one way.

5). What is the level of risk of infection for patient that undergoes lung surgery?
A. Minimal
B. High
C. No
D. Medium

*Source: http://www.who.int/csr/resources/publications/whocdscsreph200212.pdf
Careful and Social Hand Washing

In the medical industry, the human hand can be viewed as a vessel through which a wide variety of services are given and received. Some of its uses are one the casual side, like a reassuring pat given to a patient that is feeling nervous about a procedure they are about to have. Others are a bit more serious, like the methods used to collect specimens and ensure that they reach the appropriate destination. Regardless of the way in which the medical specialist's hands are used throughout the day, it is important to remember that the hand can also function as a different vessel: one that can transfer germs between oneself and a patient or from one patient to the other. With this in mind, it is equally important to be aware and mindful of the importance of proper hand hygiene.

An important aspect of proper hand hygiene is a proper understanding of the various forms of hand washing. It is also essential to use sound judgment when determining which method to use based on the circumstances of a specific situation.

In situations where there has been zero contact between the medical specialist and a patient, the social hand washing technique is an acceptable method of cleansing the hands. This method simply requires the use of non medicated soap and an ample amount of water for a reasonable period of time. This method will reduce transient flora, a term used to refer to microorganisms that are only present on the hands for a short amount of time, and are easy to remove.

If the medical specialist has had direct contact with a patient, it is best to use the careful hand washing technique. This method is similar to social hand washing; it also requires the use of non medicated soap and an ample amount of water. The two methods vary in theory, since social hand washing is at one's discretion, while careful hand washing should be considered as a rule of thumb after each time there is direct contact with a patient.

Should a situation arise in which the medical specialist feels that they have come in contact with contaminated materials, it is essential to use the hygienic hand disinfection technique. This method requires the use of alcohol, paired with rapid hand movements for proper cleansing. This method will kill transient flora and will provide proper disinfection.

The final hand washing technique is known as surgical hand disinfection, and is generally used for preoperative cleansing. This method can be performed two ways: the use of an antibacterial solution paired with rapid hand movements or the use of an alcohol solution paired with slow hand movements. This method will destroy transient flora, and prevent the growth of resident flora, a term used to describe microorganisms that are always present on or in the body and are not easily removed.

1). What is transient flora?
A. Microorganisms that are always present on or in the body and are not easily removed.
B. Microorganisms that are only present on the hands for a short amount of time, and are easy to remove.
C. Microorganisms that are always present in the body and are easy to remove.
D. Microorganisms that are always present in the body and do not need to be removed.

2). What is resident flora?
A. Microorganisms that are always present on or in the body and are not easily removed.
B. Microorganisms that are only present on the hands for a short amount of time, and are easy to remove.
C. Microorganisms that are always present in the body and are easy to remove.
D. Microorganisms that are always present in the body and do not need to be removed.

3). Which of the following hand washing techniques require the usage of the same substance and speed of movement?
A. Careful and Social Hand Washing
B. Careful and Preventative Hand Washing
C. Disinfectant and Social Hand Washing
D. Careful and Hygenic Disinfection Hand Washing

4). Which of the following methods will prevent the growth of resident flora?
A. Careful Hand Washing
B. Hygenic Disinfection Hand Washing
C. Surgical Hand Disinfection
D. Preventative Disinfection

5). Which of the following may call for the use of an antibacterial solution?
A. Careful Hand Washing
B. Hygenic Disinfection Hand Washing
C. Surgical Hand Disinfection
D. Preventative Disinfection

*Source: http://www.who.int/water_sanitation_health/medicalwaste/148to158.pdf
Coding the Costs: A History of Medical Economics

Though the medical delivery system is an industry that is constantly subject to change, the ever present issues of its economics and costs will always remain the same. The spectrum of this controversy spans far and wide, and poses many of the following questions: Who should determine the amount that physicians are allowed to bill their customers? Is the government responsible for providing compulsory, or required, health insurance to all its citizens? Do insurance companies have the right to deny coverage to a perspective customer based on preexisting conditions?

A brief glance into the history of the medical delivery system will reveal that each of these questions have been present since the developmental stages of healthcare. The fact that there is no single resolution reveals the fact that America has continued to struggle with this single most important question: who is ultimately responsible for the cost of healthcare?

In 1920, the American Association for Labor Legislation, also known as AALL, provided support for legislation that would call for compulsory insurance. Under this legislation, nationwide health insurance would be available and required, for all. The proposal failed on many counts; since the concept of health insurance was fairly new, many legislators were unwilling to provide support for a large scale idea that was not in demand. Both physicians and pharmacists were equally unenthusiastic about the proposal, fearing that their profits would be under close surveillance of the government, and therefore subject to change.

As the American lifestyle evolved, it became clear that health insurance was on its way to becoming a necessity. During this period, the American industry was in the process of shifting its focus from small farms to large factories. The industrialization of America, along with rising numbers of immigrants meant that more and more people were beginning to work and live in confined spaces, a circumstance that made it easier for germs to travel from one person to another. This lifestyle shift also allowed for more interaction between neighbors, and coworkers, which meant easier access to information than what was available in rural areas. Thus, information began to spread regarding advances in medicine, and solutions that were beginning to become available for conditions that were remedied at home in the past.

Since this period in history, there have been countless efforts to create a working system for health insurance, and determine a solution for its economics. Various organizations such as the Committee on the Costs of Medical Care, also known as the CCMC, would continue to build upon the efforts previously made by the American Association for Labor Legislation to establish compulsory insurance. Today, we have successfully created what appears to be a working system for health insurance; however we are still struggling with the question of cost and responsibility.

1). What does the AALL stand for?
A. Accredited Association for Labor Legislation.
B. American Association for Labor Legislation.
C. American Association for Legal Legislation.
D. American Authorship for Legal Legislation.

2). According to the article, in which year did the AALL propose the idea of compulsory insurance?
A. 1920
B. 1930
C. 1820
D. 1928

3). Which of the following factors did not contribute to an increase in demand for medical attention?
A. Immigration.
B. Industrialization.
C. Increased need for workers in factories.
D. Influenza.

4). What is the CCMC?
A. Committee on the Costs of Medical Care
B. Committee on the Costs of Multiple Charities
C. Committee on the Costs of Medical Campaigns
D. None of the above

5). What is compulsory insurance?
A. Insurance available through an employer.
B. Income-based financial assistance.
C. Insurance that a group of people are required to have.
D. Insurance provided by MEDICAID.

*Source
http://eh.net/encyclopedia/article/thomasson.insurance.health.us
http://whatisencyclopedia.com/committee-on-the-costs-of-medical-care-ccmc/
Dear Patients and Visitors,

We respect the privacy of each person who uses our services. Through this notice, we aim to bring your attention to a federal law that is designed to help protect the privacy of your health information. This recently implemented law is known as the HIPAA Privacy Rule.

The Privacy Rule requires us to do the following:

- Provide each patient with a copy of our Notice of Privacy Practices ("the Notice")
- Explain our use of your delicate medical and/or health information.
- Ask each patient to complete a form that states they have received a copy of our Notice. ("the Acknowledgement").

We hope that the Notice of Privacy Practices will provide insight into the methods we use to protect your health information. If you have any questions about this Notice and/or our privacy practices, please feel free to contact us at any time.

Sincerely, The Hospital

1). The HIPAA Privacy Rule is a subcategory of which of the following titles of HIPAA
A. Title IV
B. Title VII
C. Title II
D. Title 2.5

2). The term “HIPAA” stands for:
A. Health Insurance Portability and Accountability Act
B. Health Insurance Privacy and Accountability Act
C. Health Insurance Privacy and Action Act
D. Health Insurance Privacy and Accountability Attestation

3). Medical facilities are required to respond to a patient’s request regarding PHI in ___ days.
A. 30
B. 60
C. Depends on the patient's balance.
D. 15

4). The Privacy rule falls under which of the following titles:
A. Preventing Health Care Fraud and Abuse; Administrative Simplification; Medical Liability Reform
B. Preventing Health Care Fraud and Theft; Administrative Simplification; Medical Liability Reform
C. Preventing Health Care Fraud and Abuse; Administrative Procedures; Medical Liability Reform
D. Preventing Health Care Fraud and Abuse

5). Which of the following is not considered PHI:
A. Diagnosis
B. Copy of insurance card
C. Copy of payment plan
D. None of the above

Sources: http://www.hhs.gov/ocr/privacy/hipaa/administrative/privacyrule/index.html
http://en.wikipedia.org/wiki/Health_Insurance_Portability_and_Accountability_Act#Privacy
EKG: A-Z

As a medical specialist, it is important to have a firm grasp of the hands-on practices required to complete the day’s activities. It is equally important to constantly refresh one’s knowledge of medical terminology that is relevant to their particular field. Medical terminology functions as a tool used to accurately describe the various functions and components of the human body. It is essential for use when reporting medical findings, and required to communicate the details of a patient’s condition. Below, you will find an A-Z list of the EKG technician’s medical terminology:

- **Angina**: Medical term used to describe the presence of chest pain; usually caused due to an inadequate supply of oxygen to the heart muscle.
- **Bundle branch block**: Medical term used to describe a condition in which the conduction system is faulty and unable to conduct the electrical signal normally.
- **Camel Hump T Waves**: ECG term coined by Amal Mattu, used to describe T-waves that appear to have a double peak or ‘camel hump’ appearance.
- **Defibrillator**: A machine that delivers an electric shock which restores the heart’s normal rhythm.
- **Edema**: Swelling that results from excessive accumulation of fluid within the tissue.
- **Fibrillation**: Medical term used to describe irregular twitching of the heart muscle fibers.
- **Galvanometer**: An instrument once used to detect and record the electrical currents produced by the heart.
- **Holter monitor**: A portable heart monitor; may be used to capture records of a patient’s heart rhythm over a 24-hour period.
- **Inferior vena cava**: A large vein that receives blood from the lower extremities, pelvis and abdomen and delivers it to the right atrium of the heart.
- **J Osborn**: Historical figure for whom the J point wave was named after in 1953.
- **K+**: Symbol used to refer to potassium on the periodic table of elements. Patient may be diagnosed with hyperkalemia when their potassium levels are too high. This condition will alter the appearance of the P wave and T wave.
- **LBB**: Acronym used to indicate Left Bundle Branch
- **Myocardial Infarction**: Medical terminology used to indicate a heart attack.
- **NCT**: Narrow Complex Tachycardia
- **Occluded artery**: An artery in which the blood flow has been impaired by a blockage.
- **PAT**: Acronym used to indicate Paroxysmal Atrial Tachycardia
- **QRS**: Acronym used to indicate Ventricular Depolarization
- **RBB**: Acronym used to indicate Right Bundle Branch
- **Systole**: Medical terminology used to describe pressure within the aorta and peripheral branches during ventricular contraction.

**Tachycardia**: Medical terminology used to describe an abnormal heart rhythm. Usually occurs when the heart is beating too quickly i.e. a heart rate that is greater than 100 beats a minute.

**Vein**: Medical terminology used to refer to structure within the body. Responsible for carrying deoxygenated blood to the heart.

1). Which of the following is a medical term used to describe the presence of chest pain? 
   A. Myocardial Infarction  
   B. Angina  
   C. Tachycardia  
   D. Edema

2). Which of the following is a medical term used to describe swelling that results from excessive accumulation of fluid within the tissue? 
   A. Angina  
   B. Edema  
   C. Interstitial Swelling  
   D. Artificial Swelling

3). LBB stands for ______ . 
   A. Left Bundle Branch  
   B. Left Bundle Block  
   C. Left Branch Block  
   D. Left Bunch Branch

4). Which of the following terms is used to indicate a heart attack? 
   A. Myocardial Ischemia  
   B. Myocardial Infarction  
   C. Angina  
   D. Myocardium

5). Which of the following is a historical figure for whom the J point wave was named after in 1953? 
   A. J Osborn  
   B. JJ Ackerman  
   C. J Edgar Hoovers  
   D. Osborne Jerome Jackson

*Sources:
http://www.emedicinehealth.com/electrocardiogram_ecg/glossary_em.htm
http://texasheart.org/HIC/Gloss/  
http://www.pdsheart.com/glossary.html