American Medical Certification Association

Continuing Education Program
Volume III

5 Continuing Education Credits Enclosed

Patient Safety Goals: JCAHO
Blood: The Glue That Holds our Body Puzzle Together
Medical Ethics: Codes for Contrast
Feedback: Positive and Negative
The Rhythm of Life
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**Congratulations** on your Allied Healthcare Career. In order to keep you AMCA Certification active, you are required to complete 10 continuing education credits over 2 years. In order to do this the AMCA has developed a Continuing Education Program that fits your busy schedule.

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**Patient Safety Goals: JCAHO**
1) ABCD  2) ABCD  3) ABCD  4) ABCD  5) ABCD

**Blood: The Glue That Holds our Body Puzzle Together**
1) ABCD  2) ABCD  3) ABCD  4) ABCD  5) ABCD

**Medical Ethics: Codes for Contrast**
1) ABCD  2) ABCD  3) ABCD  4) ABCD  5) ABCD

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1) ABCD  2) ABCD  3) ABCD  4) ABCD  5) ABCD

**The Rhythm of Life**
1) ABCD  2) ABCD  3) ABCD  4) ABCD  5) ABCD

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Candidates will have up to one year to reinstate their expired certification. A $25.00 Reinstatement Fee will be assessed.

Candidates that are expired for more than one year are not eligible for reinstatement and are required to re-test.
Patient Safety Goals: JCAHO

Our current medical delivery system is structured to provide medical care through a wide array of systems, including inpatient and outpatient services, direct care centers, and private offices. Overall, each system is unified by a universal goal of providing accurate and efficient patient care, but divided in the methods of doing so. Regardless of the difference of services provided, there needs to be another unifying goal: patient safety. Each year, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), publishes a document that highlights various patient safety goals, and provides strategies for achieving them. Please review the current National Patient Safety goals, then proceed to the questions at the end of the document.

Goal #1
Improve the accuracy of patient identification.
Plan of Action
1. Use at least two patient identifiers when administering blood or blood components; when collecting blood samples and other specimens for clinical testing; and when providing other treatments or procedures. The patient's room number or physical location is not used as an identifier.
2. Label containers used for blood and other specimens in the presence of the patient.

Goal #2
Improve the effectiveness of communication among caregivers.
1. Collaborate with organization leaders to develop written procedures for managing the critical results of tests and diagnostics procedures that address the following:
   • The definition of critical results and diagnostic procedures
   • By whom and to whom critical results of tests and diagnostics procedures are reported
   • The acceptable length of time between the availability and reporting of critical results of tests and diagnostic procedures
2. Implement the procedures for managing the critical results of tests and diagnostic procedures.
3. Evaluate the timelines of reporting the critical results of tests and diagnostic procedures.

Goal #3
Reduce the risk of health care-associated infections.
1. Implement a program that follows categories IA, IB, and IC of either the current Centers for Disease Control and Prevention (CDC) or the current World Health Organization (WHO) hand hygiene guidelines.
2. Set goals for improving compliance with hand hygiene guidelines.
3. Improve compliance with hand hygiene guidelines based on established goals.

1). What is the JCAHO?
A. Joint Commission on Accreditation of Healthcare Organizations
B. Joint Commission on Healthcare and Organization
C. Joint Care and Health Organizations
D. None of the above

2). In order to improve accuracy of patient identification, the JCAHO recommends the use of _____ patient identifiers.
A. One
B. Three
C. Two
D. Four

3). Which of the following was not listed as one of the National Patient Safety Goals?
A. Improve the accuracy of patient identification.
B. Improve the effectiveness of communication among caregivers.
C. Reduce the risk of health care associated infections.
D. Reduce the risk of prescription related errors

4). What is the CDC?
A. Center for Disease Control and Planning
B. Center for Disease Control and Prevention
C. Center for Direct Control and Protection
D. None of the above

5). Which of the following is not listed as a strategy for reducing the risk of health care associated infections?
A. Implement a program that follows CDC guidelines.
B. Implement a program that follows WHO guidelines.
C. Improvement of hand hygiene compliance.
D. None of the above

Sources:
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1079361/
http://homes.chass.utoronto.ca/~cpercy/courses/6361pochop.htm
Blood: The Glue That Holds our Body Puzzle Together

One way to explore the concept of medicine is to view it as a puzzle, lying on the floor of an age old family home. As the years pass, the puzzle is placed together by various people that arrange the pieces, to fit the vision they have in their minds. After they grow tired of arranging the pieces, a framework is left for the next person to build upon. That framework is essential in the sense that it can serve one of two purposes. It can both shed light on a pattern for the next person to create, or encourage them to take a few pieces apart, and start to work in a different way. Either way, each piece of the puzzle, and each puzzle maker is essential to the completion of the task. And so it is, with medicine. Our knowledge of the various practices and beliefs that were used before our time, is the framework for the advancements that our being made in the present moment. As we learn and progress, we continue to add to the puzzle, connecting our visions with the visions of those before us and the ones to come.

There are various medical practices that we could explore under this theory, but let’s take a moment to discuss the topic of blood. This subject is one that is entirely fitting, since blood can be viewed as a tool that is used to connect the various parts of our existence, and in a sense, the glue that holds our bodily puzzle together.

Technically speaking, the term “blood” is used to define a substance composed of plasma, red blood cells, white blood cells, and platelets. An essential component of the body, blood travels through the body, functioning as both a delivery and waste removal system. It delivers important fluids such as sugar and oxygen to the body’s major systems, and then removes waste such as sweat and carbon dioxide.

In the past, the concept of blood was a fascination shared by doctors and scientists alike. Early Greek medical theory surrounded the belief that the body was composed of four humors: phlegm, black bile, yellow bile, and blood. Many believed that the human body needed to maintain a balance of these four elements in order to remain in a state of health and well being. This idea, which surfaced during the time of Hippocrates, “The Father of Science”, was further developed by scientists such as, Galen of Pergamum, who later declared that blood was, in fact the most important element, or humor of the body. Any imbalance would ultimately cause sickness, and possibly death. Eventually, many physicians began to subscribe to the theory of “bloodletting”, a term used to refer to the process of releasing excess blood in order to cure illnesses. This was accomplished by performing an arteriotomy, the process of opening an artery to release blood. Many physicians believed that this was the cure to various illnesses, ranging from fever and seizures, to gout and yellow fever.

As time passed, the practice of bloodletting grew to become a controversial issue, as many questioned whether it was effective or safe. Ultimately, physicians disposed of the practice, and began to implement the more traditional practices of current day phlebotomy.

1). Blood is composed of each of the following elements except:
A. Red blood cells
B. Yellow bile
C. White blood cells
D. Plasma

2). Who is known as the Father of Medicine?
A. Galen of Pergamum
B. Dr. Arterionomy
C. Hippocrates
D. None of the above

3). Which of the following are not considered one of the four humors?
A. Sweat
B. Yellow Bile
C. Black Bile
D. Phlegm

4). The process of opening an artery to release blood is known as:
A. Vessel release
B. Arteriontomy
C. Vesselonomy
D. None of the above

5). All of the following had a significant impact on the evolution of the practice of bloodletting except:
A. Dr. Arterionomy
B. Early Greek scientists
C. Hippocrates
D. Galen of Pergamum

Sources:
http://www.history.com/news/a-brief-history-of-bloodletting
http://www.bcmj.org/premise/history-bloodletting

AMCA Continuing Education Credits: 1 (Blood: The glue that holds our body puzzle together, 10/2013)
Medical Ethics: Codes for Contrast

One of the most interesting aspects of the human experience is the sharp contrast between the ways in which we are all so similar, yet so different at the same time. As far as similarities are concerned, each of us share the same anatomical structure, require the same basic necessities to remain alive, and generally, desire the same basic comforts that life has to offer. However, the existence of varying degrees of different social, religious, and financial circumstances creates a significant impact on each individual human experience, causing one experience to be completely different from another. Ultimately, this prevents each of us from sharing the same, exact view of what is right or wrong, fair or unfair. This can cause conflict in a large number of areas, including the medical practice. One staff member’s perspective of the right course of action for a patient might be the complete opposite of the perspective of someone else on the medical staff. Who would determine which staff member is right or wrong? And what factors would be considered? For this, and many other reasons, a standard code of ethics has been established to assist medical practitioners in making the best choice for whatever decisions they are forced to make on a daily basis.

Each member of a medical practice should make it their priority to familiarize themselves with various principles and moral values that apply to the practice of medicine. To name a few, each medical practitioner should be familiar with the term, “nonmaleficence”. This term, which is derived from a Latin proverb which states, “First, do no harm”, calls for the medical practitioner to be aware of their actions at all time. It is their responsibility to maintain a level of awareness that prevents intentional harm or unintentional harm that may arise from carelessness.

Another essential aspect of ethical medical delivery is the concept of “autonomy”, a term that refers to a sense of respect for a patient's rights as an individual, and their rights to make decisions regarding their health. The medical practitioner should not attempt to influence a patient's decision for the benefit of the practice, or for any other reason. The medical practitioner should also avoid “medical paternalism”, a term used to refer to the act of denying a patient the ability to make an informed decision, by withholding information.

1). Which factor will most likely prevent a group of people from having a universal sense of right and wrong?
A. Anatomical structure
B. Shape of the brain
C. Different social, religious, and financial circumstances
D. Autonomy

2). The term, nonmaleficence, is derived from a Latin proverb which states, “__________”
A. “Never harm”
B. “First, do no harm”
C. “Above all, do no wrong”
D. “When in doubt, do nothing”

3). ________ is a term used to refer to the act of denying a patient the ability to make an informed decision, by withholding information.
A. Medical paternalism
B. Autonomy
C. Medical autonomy
D. Autonomic paternalism

4). Which of the following is most likely to cause a patient to make an uninformed decision?
A. Different social, religious, and financial circumstances
B. Autonomy
C. A conversation with a medical practitioner that is rude and impatient.
D. A conversation with a medical practitioner who withholds information.

5). Which of the following is most likely to lead to unintentional harm?
A. Carelessness
B. Medical paternalism
C. Different social, religious, and financial circumstances
D. A conversation with a medical practitioner who is rude and impatient

Sources:
http://biotech.law.lsu.edu/map/PaternalisminMedicine.html
http://samples.jbpub.com/9780763773274/Chapter3.pdf
The human body is a self-regulating structure that is programmed to execute a chain of actions that allows life to thrive under normal and abnormal circumstances. Under favorable conditions, the body operates in a manner that is comparable to a machine in self-pilot mode. All the essential processes of life occur with accuracy and ease, allowing internal life to flourish as we busy ourselves with the daily activities of our external life. Every now and then, a hiccup occurs and causes a brief interruption in the easy rhythm that the body maintains in its "self-pilot" mode. At this moment, the body prepares to undertake an emergency preparedness plan to return itself to a point of normalcy.

Let's get technical. When the body is in the "self-pilot" mode, it is actually in a state of homeostasis. This term was coined by a French physician named Claude Bernard, and is a connection of the root words, "homeo", meaning same, and "stasis", meaning stable. It is used to describe a state in which the body is at set point, where various bodily functions are executed in a manner that allows the body to maintain a constant, stable internal environment, despite external conditions.

This state is maintained through an internal system of negative and positive feedback, which is known as the feedback loop. The feedback response relies on three components:

- **Receptor.** Any part of the body that detects change
- **Control Center.** Typically the brain, or any part of the body that sends signals to initiate feedback responses.
- **Effects.** The process of converting signals into actions

Each feedback response occurs when the body senses a shift from its set point. The difference, however, lays in the way the body reacts to that shift. During a positive feedback response, the body detects any substance or process that is in excess, and encourages the increase to continue.

Alternately, negative feedback occurs when the body attempts to regain a sense of homeostasis, and return to its set point. An example of negative feedback is sweating, a physiological process that occurs when the body senses an increase in temperature. Let's take a close look at how this process works.

Body temperature is regulated by an area of the brain known as the hypothalamus. The body is able to detect internal temperature changes through receptors that are located in the hypothalamus, as well as various parts of the skin. If the internal temperature climbs past the body's set point, the hypothalamus sends the appropriate signals to allow the body to begin sweating, to lower the body's temperature. This process allows the body to regain its sense of homeostasis, and return to a state of balance and health.

1). The term, “homeostasis” was coined by a physician named,
   A. Claude Bernard
   B. St. Claude Pergamum
   C. Galen of Pergamum
   D. Benjammin Rush

2). What is the body's set point?
   A. At birth
   B. A constant, stable state
   C. Point between a negative and positive feedback response
   D. None of the above

3). What does the term “stasis” mean?
   A. Set
   B. Same
   C. Self
   D. Stable

4). Body temperature is regulated by the
   ________.
   A. Hypothalmus
   B. Sweat glands
   C. Kidney
   D. Receptors

5). The feedback loop relies on all of the following components, except:
   A. Receptor
   B. Control Center
   C. Effects
   D. Preceptor

Sources:
http://www.biologymad.com/resources/A2%20Homeostasis.pdf
http://science.jrank.org/pages/3365/Homeostasis.html
The Rhythm

At any given moment, the human body is executing a wide variety of tasks that are necessary to maintain a perfect, balanced state of health. For the most part, we are largely unaware of the constant buzz of activity within our bodies. Although we may experience certain sensations, such as the occasional rumble of a hungry stomach, or the frenzy of a sneeze when dust enters one of our nostrils, we are mostly oblivious to our internal goings on, until something is wrong. In one sense, we are lucky. Imagine how tiring it would be to feel every single sensation involved in processes such as digestion, or respiration. But on the other hand, we are rendered helpless when it comes to determining whether or not things are awry within the body, unless we feel pain.

Fortunately, there is one aspect of our internal activity that can be measured and monitored: our pulse. Technically speaking, the term “pulse” is used to describe the pattern of vibrations that occur when the heart contracts, a function, which provides blood to various parts of the body. Since the blood that is being pumped throughout the body must provide the major organs with oxygen, we can certainly understand how important it is for this process to occur as accurately as possible. A normal pulse for a healthy human being is roughly 60 to 80 beats a minute. Pulse is usually detected at any point on the body where an artery, a blood vessel that carries blood away from the heart, travels over a bone, and is near to the surface of the skin.

Below, you will find a description of five points of the body where your fingers can be used to measure the rhythm of a patient’s pulse. Review each description, and then continue to the questions at the end of the article.

**Carotid Artery:** An artery that can be found along both sides of the neck. It can be located by placing fingers right below the jaw, between the earlobe and chin.

**Femoral Artery:** An artery that begins in the abdomen, with a pulse point that can be located at the connecting point of the lower abdomen and upper thigh.

**Radial Artery:** An artery located on the side of the wrist closest to the thumb, when looking at the palm of the hand.

**Brachial Artery:** An artery with a pulse point located half way between the shoulder and the elbow, between the biceps and triceps.

**Dorsalis Pedis Artery:** An artery located on the top of the foot, close to the big toe.

1) The term, “pulse” is used to describe which of the following:
A. A single heartbeat
B. The pattern of vibrations that occur when the heart contracts
C. A skipped heartbeat
D. None of the above

2) What is the frequency of a normal pulse?
A. 6 to 8 beats per second
B. 6 to 8 beats per minute
C. 60 to 80 beats per minute
D. 60 to 80 beats per hour

3) What is an artery?
A. A blood vessel that carries blood to the heart
B. A blood vessel that carries oxygen to the heart
C. A blood vessel that carries blood away from the heart
D. None of the above

4) Which of the following arteries runs along the side of the neck
A. Carotid
B. Radial
C. Brachial
D. Femoral

5) Which of the following arteries is located in the abdomen?
A. Carotid
B. Radial
C. Brachial
D. Femoral

Sources:
http://meded.ucsd.edu/clinicalmed/extremities.htm