Ethics, Patient Safety and Infection Control – A Complete Review

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Ethics

- Definitions
- Principles of medical ethics
- Code of ethics
- Case studies of ethical dilemmas
Medical Ethics

“I expect to pass through the world but once. Any good therefore that I can do, or any kindness I can show to any creature, let me do it now. Let me not defer it, for I shall not pass this way again.”

Stephen Grellet, French-American religious leader (1773-1855)
Medical Ethics

What is ethics?

- A set of principles of right and wrong conduct.
- A theory or system of moral values.
- Ethics is a system of values that guides behavior in relationships among people in accordance with certain social roles.
Medical Ethics

- Branch of philosophy
- Study of morals and character
- Study of principles in human dignity
- Provides moral principles
- Micro-ethics – individual’s view of right and wrong
- Macro-ethics – global view of right and wrong
Medical Ethics vs. Bioethics

- Medical ethics – Philosophical issues of healthcare, also economic, political, social, and legal dilemmas
- Bioethics – Issues regarding the nature of life and death
Medical Ethics

- 1932-72 Tuskegee Study of Syphilis
- 1949 Nuremberg Trials
- 1954 First Kidney transplant
- 1960 CPR introduced
- 1968 Brain death criteria
- 1972 Informed consent
- 1990 Patient Self-determination Act
- 1996 HIPAA
- 2006 Stem cell research controversy
Ethical Challenges
Principles of Medical Ethics

- Autonomy
- Beneficence
- Nonmaleficence
- Fidelity
- Veracity
- Justice
Autonomy

- Right to be fully informed
- Right to choose among alternatives
- Respect for dignity and intrinsic worth of each person
Beneficence

- Commitment to “do good”
- Work towards optimum outcomes
- Act in best interest of patient
- Act in best interest of society
Nonmaleficence

- Flip side of beneficence
- “Do No Harm”
- Hippocratic Oath
Fidelity

- Faithful and loyal to individual patient
- Subordinate own interests to serve the patient
Veracity

- “Truth telling”
- Avoid deception
- Disclose all relevant information
Justice

- All patients treated fairly, without regard to race, ethnicity, socio-economic background, social status, or education level
- Fair distribution of healthcare resources
Principles in Business Ethics

- Compassion and respect for human dignity
- Commitment to professional competence
- Commitment to a spirit of service
- Honesty
- Good stewardship and administration
AARC Statement of Ethics and Professional Conduct

- Demonstrate behavior that reflects integrity, supports objectivity, and fosters trust in the profession and its professionals. Actively maintain and continually improve their professional competence and represent it accurately.

- Perform only those procedures or functions in which they are individually competent and which are within their scope of accepted and responsible practice.
AARC Statement of Ethics and Professional Conduct

- Respect and protect the legal and personal rights of patients they treat, including the right to privacy, informed consent, and refusal of treatment.
- Divulge no protected information regarding any patient or family unless disclosure is required for responsible performance of duty, or required by law.
- Provide care without discrimination on any basis, with respect for the rights and dignity of all individuals.
AARC Statement of Ethics and Professional Conduct

- Promote disease prevention and wellness
- Refuse to participate in illegal or unethical acts
- Refuse to conceal, and will report, the illegal unethical, fraudulent, or incompetent acts of others
- Follow sound scientific procedures and ethical principles in research
- Comply with state or federal laws which govern and relate to their practice
AARC Statement of Ethics and Professional Conduct

- Avoid any form of conduct that is fraudulent or creates a conflict of interest, and shall follow the principles of ethical business behavior
- Promote health care delivery through improvement of the access, efficacy, and cost of patient care
- Encourage and promote appropriate stewardship of resources

Revised December 2007
ACHE Code of Ethics

- Responsibilities to the profession
- Responsibilities to patients and others served
- Responsibilities to the organization
- Responsibilities to employees
- Responsibilities to community and society
- Responsibility to report violations of code
AHA Ethical Advisory

Community Role

- Health status of the community
- Enhancing public health and continuity of care
- Promote access to comprehensive and affordable health care
- Community service obligations
- Transparency with public
- Truth in advertising
- Sensitive to conflicts of interest
AHA Ethical Advisory

- Patient care
  - Appropriate and necessary care
    - Utilization Review
    - Quality Assurance
  - Continuity of care
  - Offering patient care alternatives
  - Appropriate credentials/accreditations
  - Informed consent
  - Advance Directives
AHA Ethical Advisory

- Patient care (continued)
  - Confidentiality of PHI
  - Psychological, social, spiritual, and physical needs are met
  - Cultural beliefs are respected
  - Religious/social beliefs are accommodated
  - Process for resolving complaints/grievances
  - Process for addressing ethical issues
AHA Ethical Advisory

- Organizational culture
  - Professional code of ethics
  - Fair and equitable personnel practices
  - Accommodate employee religious/moral values, if possible
  - Conflict of interest policies
  - Communicate mission, values, and priorities
Ethics in Patient-Provider Relationship

- Nature of relationship
  - Be professional
  - Treat with compassion and respect
  - Maintain appropriate boundaries

- Payment
  - Expect to be paid fairly
  - Duty to patients before money
Ethics in Patient-Provider Relationship

- Patient confidentiality
- Disclosure and consent
  - Fully disclose health status and treatment options
  - Patient able to consent or refuse
- Medical risk
  - Duty to prevent medical errors
  - Unethical to refuse treatment based on infectious state
Ethics in End of Life Care

- Palliative care
  - Provide comfort
  - Address all patient needs
  - Legality and ethics of high-dose opiates

- End of life decisions
  - Right to refuse life-sustaining treatment
  - Respect patient’s decision
Ethics in End of Life Care

- Withdrawal of treatment
  - Withdrawal and withholding are equal
  - Follow organization’s policy

- Organ donation
  - Patients made aware of option
  - Separate care of donor from recipient

- Physician-assisted suicide and euthanasia
  - Illegal in most states
  - Don’t confuse with patient’s consent for withholding care or unintentional shortening of life with treatment of pain
Ethics around peer relationships

- Protect patient from incompetent providers
- Help colleagues who lack competency
- Work with other providers to optimize care
- Respect other members of team
- Discipline colleagues who engage in fraud or other misconduct
Ethics and society

- Advocate for health and well-being of the public
- Report infectious diseases as required
- Provide accurate information about healthcare and preventive medicine
- Serve as expert witness in civil and criminal legal proceedings
Ethics

Ethical Decisions have integrity when:

- Comprehensive
- Coherent
- Transparent
Ethical decision making is the process of deciding what the right thing to do is in the event of a moral dilemma.
You are the day shift RT in a Medical Center, working in the Intensive Care Unit. You are taking care of an 84 year old female patient, with multiple co-morbidities, who is ventilator dependent and unable to be weaned. There is no Advance Directive. The patient has two elderly sisters who are disagreeing about the plan of care. One sister wants her sister removed from the vent to “stop the suffering”. The other sister says her sister would want her to “fight” for her life and she does not want to give up hope. The physician decides to withdraw life support and orders you to remove the vent and extubate the patient.
Case study # 2

You are the evening shift RT working in a community hospital. During shift report, the day shift RT relays that an 88 year old female patient with end stage COPD is on bi-level therapy and deteriorating. ABG at 2 PM showed pH – 7.28, PCO2 – 64, PO2 – 51. The RT reports that he received an order to increase FIO2 to 60% and IPAP to 18. The RT states he made the changes at 2:45 PM. You begin your afternoon assignment. At 4:15 PM, a Code Blue is called on the above patient. You respond and resuscitation is successful. You find the bi-level unit at the previous settings of FIO2 – 50%, IPAP – 12. You make the appropriate adjustments.
Case study # 3

You are the day shift supervisor in a tertiary Medical Center. One of your RTs contacts you, visibly shaken. She reports that she was taking care of a 42 year old male multiple trauma ventilator patient. She had just brought the patient back to the Surgical ICU from CT. She placed the patient on the critical care vent, which was in standby mode, but forgot to switch the vent back into operation. Several minutes later, a Code Blue was called and the patient expired. The RT tells you that no one else is aware of the error.
You are the Director of Respiratory Services for a large home medical equipment company. Your ventilator program is expanding quickly and you have purchased 25 new portable ventilators. The vendor visits several weeks later and takes you out to lunch at the local Applebee’s. At the end of lunch he gives you a sealed Hallmark card. He tells you that it is a thank you card for your support. When you get home that night, you open the card and find a $500 United Airlines voucher in the card. The vendor’s note thanks you for your business, says he has included a token of his appreciation and looks forward to a long working relationship.
References

- Perry, Frankie, *The Tracks We Leave*, Health Administration Press, 2002
- Pozgar, George D., *Legal and Ethical Issues*, Jones and Bartlett, 2005
- AARC Statement of Ethics and Professional Conduct
- ACHE Code of Ethics
- AHA Ethical Advisory
Ethics

“We will forever be known by the tracks we leave”

Native American Proverb

Questions????
Risky Business: Patient Safety and the RT

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Risky Business: Patient Safety and the RT

- Overview of Patient Safety
- Cost of Medical Errors
- National Patient Safety Goals
- Additional Patient Safety Standards
- Patient Safety and the RT
- Building a Culture of Safety
Overview of Patient Safety

“First, do no harm”       Hippocrates (460 BC)
“Most men die of their remedies, not their diseases.

- Moliere (1622-1673)

“There are some patients we cannot help; there are none who we cannot harm”

– Arthur Bloomfield (1888-1962)

“Don’t make the wrong mistakes”

- Yogi Berra (1925 -)
Overview of Patient Safety

- Institute of Medicine Report – “To Err is Human” (1999)
- 44,000 – 98,000 deaths annually from medical errors
- Equal to a commercial jet crash EVERY DAY!!
- 15 million errors with patient harm annually
Overview of Patient Safety

Accidents
Near Misses
Dangerous Situations
Errors and Deviations

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Overview of Patient Safety

Some holes due to active failures
Other holes due to latent conditions

SUCCESSIVE LAYERS OF DEFENSES
Overview of Patient Safety
Cost of Medical Errors

- Avoidable medical errors - $19.5 billion (2008)
  - $17 billion to provide in-patient and out-patient care, and prescription drugs to those affected
  - $1.4 billion related to increased mortality
  - $1.1 billion lost productivity
- Total cost per error = $13,000
- 7% of hospital admissions result in some type of injury
Cost of Medical Errors

1. Pressure ulcers ($3.858 B)
2. Post-op infections ($3.676 B)
3. Mechanical complications of device, implant, or graft ($1.123 B)
4. Post-laminectomy syndrome ($1.123 B)
5. Hemorrhage complicating a procedure ($960 M)
Cost of Medical Errors

6. Infection following infusion, injection, transfusion, vaccination ($691 M)
7. Pneumothorax ($617 M)
8. Infection due to central venous catheter ($589 M)
9. Other complications of internal prosthetic device, implant ($462 M)
10. Ventral hernia ($440 M)
National Patient Safety Goals

- Released by The Joint Commission, starting in 2003
- Based on sentinel events identified and reported
- Applicable to all sites of care, as appropriate
- Reviewed annually
- Some goals become embedded in TJC standards
National Patient Safety Goals

- Identify patients correctly
  - Use at least two forms of identification
  - Must be performed for all medication administration and testing/treatments
  - Room number cannot be used
  - Specific procedure for blood transfusion
National Patient Safety Goals

- Improve staff communication
  - Critical tests/critical values
  - Identify critical tests
  - Specify critical values (panic values)
  - Establish appropriate timeframe for MD to be notified
  - Document MD notification
  - Monitor compliance

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National Patient Safety Goals

- Medication safety
  - Label all medications
  - Includes syringes, basins, cups
  - Anticoagulation therapy

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National Patient Safety Goals

- Medication reconciliation
  - Document medications on admission
  - Assess for therapeutic duplication
  - Prevents missed doses
  - Provide list to next caregiver upon transfer
  - Provide list to patient/family on discharge
National Patient Safety Goals

- Prevent infections
  - Comply with hand hygiene guidelines
  - Implement guidelines for resistant organisms, central line infections, surgical site infections, and catheter-associated urinary tract infections
National Patient Safety Goals

- Identify patient safety risks in the environment
  - Suicide risk (Hospital)
  - Home fires with oxygen (Home care)
National Patient Safety Goals

- Wrong site procedures (Universal protocol)
  - Site marking
  - Time out
  - Respiratory specific
    - Chest tube insertion
    - Bronchoscopy
    - Chest percussion
National Patient Safety Goals

- Clinical alarm safety (effective 7/1/14)
  - Identify most important clinical alarms

- RT considerations:
  - Ventilator alarms
    - 22% of vent deaths due to alarm issues
  - Monitoring alarms (cardiac, oximeter)
  - Typical ICU has more than 40 alarm sources
  - Adequately audible, distance and competing noises
  - Desensitization (“alarm fatigue”)

- Establish policies (effective 1/1/16)
Additional Patient Safety Standards

- Patient identification
  - Labeling of specimens
  - Must be performed at patient bedside
  - Must be performed even if drawing from only one patient
Additional Patient Safety Standards

- **Patient falls**
  - Assessed initially and ongoing reassessment
  - Identify falls risks
  - Provide patient education
- **Respiratory risks**
  - Power cords
  - Oxygen tubing
  - Equipment
Additional Patient Safety Standards

- Patient involvement in their care
  - Patient/family are partners in care
  - Patient education
  - Inform of patient safety measures
  - Smoking cessation
Additional Patient Safety Standards

- Patient deterioration
  - Rapid Response Teams
    - Identification of patient deterioration
    - Response by appropriate personnel
    - Treat urgent issues
    - Provide staff education and support
    - Reduce “codes” outside critical care
Additional Patient Safety Standards

- Read back of verbal/telephone orders
  - Write order down when provided by MD
  - Read back to MD to verify accuracy
Patient Safety and the RT

- Oxygen use and safety
  - Cylinder safety
    - Secure cylinders
  - Gas mix-ups
    - Segregate cylinders
  - Managing delivery
    - Monitoring device and flow
  - Tubing misconnections

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Patient Safety and the RT

- Ventilator care
  - Prevention of VAP
    - VAP bundle
      - Elevation of head of bed (30-45 degrees)
      - Daily sedation vacation & assess readiness to wean
      - Peptic ulcer disease prophylaxis
      - Deep vein thrombosis (DVT) prophylaxis
      - Daily oral care
  - Alarms
  - Tubing disconnect
  - Dislodged ET/trach tube

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Patient Safety and the RT

- **Intubation**
  - Training
  - Competency
  - Difficult airway
  - Timeliness
  - Complications
    - Failed intubation
    - Trauma
    - Cardiac effects
    - Airway perforation
Patient Safety and the RT

CPR

- **Timeliness**
  - Long Island infant case ($7.3M settlement)
  - 3.5 minute delay in resuscitation

- **Competency**
- **Certification**
- **Do Not Resuscitate (DNR)**
- **Family presence during CPR**
- **Documentation**

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Patient Safety and the RT

OSA

Prevalence
- 23 million Americans symptomatic
- 12 million – moderate to severe OSA

Identification of non-diagnosed patients
- In-patients
- Post op patients

Treatment
- Pt’s own CPAP
- Pressure ulcers

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Building a Culture of Safety

- Recognize that people are human and will make mistakes
- Systems are designed to catch mistakes before they become errors
- The need to review “near misses” to further reduce opportunities for error
Building a Culture of Safety

- Leadership driven – must guide every decision
- Acknowledge that our systems are most likely to cause errors, not our people
- No healthcare decision is removed from patient safety
- Need to recognize and correct at-risk behavior
Building a Culture of Safety

- **ERROR**
  - Preventing errors from being made in the first place
  - Detecting and reversing error before it causes harm
  - Repairing or minimizing the damage caused by errors that cannot be prevented or reversed

**ADVERSE EVENT**

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“The single greatest impediment to error prevention in the medical industry is that we punish people for making mistakes.”

Dr. Lucian Leape
Professor, Harvard School of Public Health
Testimony before Congress on Health Care Quality Improvement

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Building a Culture of Safety

- Human error - inadvertent action; inadvertently doing other than what should have been done; slip, lapse, mistake.
- At-risk behavior – behavioral choice that increases risk where risk is not recognized or is mistakenly believed to be justified.
- Reckless behavior - behavioral choice to consciously disregard a substantial and unjustifiable risk.
HOSPITAL MEDICAL ERRORS KILL 98,000 AMERICANS EACH YEAR. -- HEARST NEWS INVESTIGATION
Risky Business:
Patient Safety and the RT

QUESTIONS???
Infection Control and the RT: Back to Basics

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Infection Control and the RT

- Impact of healthcare-associated infections
- Transmission
- Cleaning, disinfection, and sterilization
- Standard precautions
- Hand hygiene
- Personal protective equipment (PPE)
- Needle sticks
- Isolation precautions
- RT related infection issues
Impact of Healthcare-associated Infections (HAI)

- Over 2 million HAI every year in the U.S.
- Approximately 100,000 deaths
  - 1/3 preventable
- Formerly known as “nosocomial infections”
- CDC replaced with term “HAI”
- Risk increased by:
  - Complex medical procedures
  - Invasive technology
  - Resistant organisms
Impact of Healthcare-associated Infections (HAI)

- Infection prevention a priority!
- Initiatives by multiple groups:
  - The Joint Commission (TJC)
  - Professional organizations (APIC, AARC, etc)
  - Government regulators (CMS)
  - Payers (Blue Cross, Aetna, Leapfrog Group)
  - Consumer Advocacy Groups
  - Center for Disease Control and Prevention (CDC)
  - Institute for Healthcare Improvement (IHI)
Transmission of Infection

- For transmission, three conditions must exist:
  - Source of infectious agents
  - Susceptible host with portal for entry
  - Mode of transmission for the agent

- Transmission during patient care primarily via human contact or inanimate sources
## Transmission Routes

<table>
<thead>
<tr>
<th>Mode of Transmission</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact</td>
<td></td>
</tr>
<tr>
<td>Direct contact</td>
<td>HIV</td>
</tr>
<tr>
<td>Indirect contact</td>
<td>Staph, Pseudomonas, Hepatitis B</td>
</tr>
<tr>
<td>Droplet</td>
<td>Rhinovirus, SARS, Rubella</td>
</tr>
<tr>
<td>Airborne</td>
<td>TB, Legionella, Varicella</td>
</tr>
<tr>
<td>Vehicle</td>
<td>Waterborne: Cholera</td>
</tr>
<tr>
<td>Foodborne</td>
<td>Foodborne: Salmonella</td>
</tr>
<tr>
<td>Vector-borne</td>
<td>Ticks, Lyme disease, Malaria</td>
</tr>
</tbody>
</table>
Cleaning, Disinfection, and Sterilization

- Cleaning – Removes gross contamination such as dirt, secretions, or other visible materials, reducing number of microorganisms and removing potential growth medium
- Equipment should be cleaned according to manufacturer’s guidelines
- Cleaning is usually a prerequisite for disinfection and sterilization
Cleaning, Disinfection, and Sterilization (cont.)

- Designated areas needed for dirty equipment, cleaning equipment, and storing equipment
- Equipment must be disassembled and examined
- Equipment must be cleaned with a brush, ultrasonic washer, or other method to remove debris
- Equipment must be rinsed and dried after cleaning
Cleaning, Disinfection, and Sterilization (cont.)

- Disinfection – Reduces number of potentially infectious organisms by killing most present

- Disinfection occurs through physical or chemical methods and is affected prior cleaning, type of contamination, temperature, and pH of disinfection solution
# Cleaning, Disinfection, and Sterilization (cont.)

<table>
<thead>
<tr>
<th>Agent</th>
<th>Examples of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>Stethescopes, scissors</td>
</tr>
<tr>
<td>Chlorine/Chlorine compounds</td>
<td>CPR training manikins, spot disinfection</td>
</tr>
<tr>
<td>Gluteraldehyde</td>
<td>Spirometry tubing, anesthesia resuscitation bags</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>Ventilator surfaces</td>
</tr>
<tr>
<td>Iodophors</td>
<td>Thermometers, Hydrotherapy tanks</td>
</tr>
<tr>
<td>OPA</td>
<td>Endoscopes</td>
</tr>
<tr>
<td>Peracetic acid</td>
<td>Endoscopes</td>
</tr>
<tr>
<td>Phenols</td>
<td>Environmental surfaces (bed rails, tables, etc)</td>
</tr>
<tr>
<td>Quaternary ammonium compounds</td>
<td>Floors, furniture, walls, blood pressure cuffs</td>
</tr>
</tbody>
</table>
Cleaning, Disinfection, and Sterilization (cont.)

**Self assessment:**

How often do you disinfect equipment used in the provision of patient care?

Is the process according to manufacturer’s specifications?
Cleaning, Disinfection, and Sterilization (cont.)

- Sterilization – Complete destruction of all microorganisms, including spores
- Prevents transmission of diseases
- Effective when processes adhere to recommendations and instructions
- Two sterilization processes
  - Physical
  - Chemical
### Cleaning, Disinfection, and Sterilization (cont.)

<table>
<thead>
<tr>
<th>Agent</th>
<th>Example of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steam (autoclave)</td>
<td>Critical and semi-critical items that are heat and moisture resistant; respiratory and anesthesia equipment, hemostats, surgery utensils, laboratory specimens</td>
</tr>
<tr>
<td>Hydrogen peroxide gas plasma</td>
<td>Materials that cannot tolerate high temperatures or humidity, such as plastics and electrical devices</td>
</tr>
<tr>
<td>Ethylene oxide (ETO)</td>
<td>Critical items and some semi-critical items that are moisture or heat sensitive and cannot be sterilized by steam sterilization</td>
</tr>
<tr>
<td>Peracetic acid</td>
<td>Endoscopes</td>
</tr>
</tbody>
</table>
Standard Precautions

- Established by CDC in 1996
- Applied to all patients in all healthcare settings
- Designed to prevent transmission of HIV, HBV, and other bloodborne pathogens
- Includes hand hygiene
### Standard Precautions (cont.)

<table>
<thead>
<tr>
<th>Component</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand hygiene</td>
<td>After touching blood, body fluids, secretions, excretions, after removing gloves, between patient contacts</td>
</tr>
<tr>
<td><strong>PPE</strong></td>
<td></td>
</tr>
<tr>
<td>Gloves</td>
<td>Touching blood, body fluids, secretions, excretions, contaminated items, mucous membranes, and nonintact skin</td>
</tr>
<tr>
<td>Gowns</td>
<td>During procedures and patient care when contact of clothing/ exposed skin with blood or body fluids</td>
</tr>
<tr>
<td>Masks, eye protection</td>
<td>During procedures and patient care likely to generate splashes or sprays of blood or body fluids (suctioning, intubation)</td>
</tr>
<tr>
<td>Patient placement</td>
<td>Single patient room if increased risk of transmission or acquiring infection</td>
</tr>
<tr>
<td>Resuscitation</td>
<td>Use pocket mask, BVM, or other ventilation device to prevent contact with mouth and oral secretions</td>
</tr>
<tr>
<td>Component</td>
<td>Recommendation</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Soiled patient care equipment</td>
<td>Handle to prevent transfer of microorganisms to others and environment. Wear gloves if visibly contaminated. Perform hand hygiene.</td>
</tr>
<tr>
<td>Textiles and laundry</td>
<td>Handle to prevent transfer of microorganisms to others and environment.</td>
</tr>
<tr>
<td>Environmental control</td>
<td>Develop procedures for routine care, cleaning, and disinfection of environmental surfaces, especially frequently touched surfaces in patient care areas</td>
</tr>
<tr>
<td>Needles and sharps</td>
<td>Do not recap, bend, break, or manipulate used needles. If recapping required, use one handed scoop technique. Use safety features when available. Place used sharps in puncture-resistant container</td>
</tr>
<tr>
<td>Respiratory hygiene/cough etiquette</td>
<td>Instruct symptomatic persons to cover mouth/nose when sneezing/coughing; use tissues and dispose in no-touch container; perform hand hygiene after soiling hands with respiratory secretions; wear surgical mask, if tolerated; social distancing (3 feet or greater)</td>
</tr>
</tbody>
</table>
Hand Hygiene

- Most important standard precaution
- Single most important measure to reduce transmission of microorganisms
- Handwashing with soap and water for 15 - 20 seconds OR
- Use of alcohol-based gels, foams, or rubs
  - Volume sufficient to cover all hand surfaces
  - At least 15 seconds of rubbing before dry
Hand Hygiene (cont.)

- Alcohol based products preferred:
  - Superior microbicidal activity
  - Reduced drying of skin
  - Convenience

- Effectiveness reduced by:
  - Type and length of fingernails
  - Nail extenders
  - Jewelry

- Should be performed before and after patient contact
Hand Hygiene (cont.)

Self assessment:

What percent of the time do you perform hand hygiene before AND after patient contact?

Do you or a co-worker have fingernails/extenders that do not comply with hospital policy?
Hand Hygiene (cont.)

- National Patient Safety Goal by The Joint Commission
  - Implement a program that complies with CDC or WHO hand hygiene guidelines
  - Set goals for improving compliance with hand hygiene guidelines
  - Improve compliance based on established goals
Self assessment:

What is your hospital’s current compliance with hand hygiene?

What is your hospital’s goal for hand hygiene?

What actions are being taken to improve compliance with hand hygiene?
Personal Protective Equipment (PPE)

- Used to protect mucous membranes, skin, airways, and clothing of healthcare workers.
- Type of PPE used based on nature of patient interaction and mode of transmission.
Personal Protective Equipment (PPE)

- **Gloves:**
  - Protect patient and healthcare worker
    - Blood and body fluids
    - Persons colonized or infected with pathogens on hands
    - Handling patient equipment and environmental surfaces contaminated with pathogens
    - Non-sterile gloves worn during any patient care
    - Sterile gloves worn for invasive procedures
    - Need to be changed between procedures and touching computers or mobile equipment
    - Perform hand hygiene after removal
Personal Protective Equipment (PPE)

- **Gowns**
  - Used as barrier from contamination of clothes and any exposed body area
  - Always worn in combination with other PPE
  - Usually first PPE to be donned
  - Should be removed before leaving patient care area
  - When removed, outer side turned inward, rolled up, and disposed
Personal Protective Equipment (PPE)

- Masks, goggles, face shields
  - Protect healthcare workers eyes, skin, mouth, and nose
  - Personal glasses/contact lenses are not adequate eye protection
  - Don before entering and remove before leaving patient room
Personal Protective Equipment (PPE)

**Self assessment:**

How often do you wear eye protection when performing a high risk procedure?
Needle Sticks

- Associated with transmission of HIV, Hepatitis C, and other pathogens
- Prevention is major focus for healthcare workers
- Use needle protection devices on ABG syringes
- Properly dispose of needles
- If needle stick occurs, wash immediately with soap and water
<table>
<thead>
<tr>
<th>Type</th>
<th>Patient selection</th>
<th>Major specifications</th>
</tr>
</thead>
</table>
| Standard | All patients                                          | Hand hygiene before and after contact  
Gloves, gowns, eye protection, as required  
Cleaning or safe disposal of equipment/supplies  
Cough etiquette |
| Contact  | MRSA, VRE, C Difficile, Scabies, Impetigo             | Private room or cohorting  
Gloves required, change after contact  
Gown required if contact expected/pt has diarrhea  
Pt wears gown during transport |
| Droplet  | Influenza, Meningococcal, Epliglottitis, Diphtheria, Pneuomic plague, Rubella, Mumps, Adenovirus, Parvovirus | Private room or cohorting  
Surgical mask within 3 feet of patient  
Patient wears surgical mask during transport  
Cough etiquette |
| Airborne | TB, Smallpox, Measles, SARS                          | Negative pressure room (6-12 air exchanges/hour)  
Room exhaust discharged outdoors or HEPA filter  
N-95 worn when entering room  
Patient transport minimized, wears surgical mask  
Cough etiquette |
RT Related Infection Issues

- Ventilator-related issues
  - Vent circuits NOT routinely changed, only when visual or known contamination
  - Condensate in vent tubing
  - Use of tap water for humidification
  - Open suctioning requires RT to maintain a sterile field
  - In-line suction advantage since circuit remains intact
RT Related Infection Issues (cont.)

- Nebulizers
  - Between patients, rinse with sterile water and air dry
  - In-line nebs can be contaminated by colonized condensate
  - Reasonable to use MDI as IC measure
  - Change nebs every 24 hours
Self assessment:

Are you following best practices to prevent ventilator-associated infections?

What is your infection control practice for handling nebulizers?
Infection Control and the RT: Back to Basics

http://www.youtube.com/watch?v=2PuRQZEL1oU
REFERENCES


www.jointcommission.org
Infection Control and the RT: Back to Basics