Standard Precautions and Professionalism
Kidney Mentoring and Assessment Program
For Students (Kidney MAPS)
Objectives

- How disease transmission occurs
- Standard Precautions
  - Definitions
  - Key elements
- Medical professionalism
  - Principles
  - Responsibilities
  - Patient privacy and HIPAA regulations
Disease Transmission
Methods of Disease Transmission

- **Source** (reservoir) of infectious agents
- **Susceptible host** with a portal of entry receptive to the agent
- **Mode of transmission** for the agent
Methods of Disease Transmission

- **Source** (reservoir) of infectious agents
  - Patients
  - Healthcare personnel
  - Household members/visitors
Methods of Disease Transmission

- **Susceptible host** with a portal of entry receptive to the agent
  - Immune state at the time of exposure (presence of chronic diseases, medications that suppress immune function, age)

- Virulence factors intrinsic to the agent are important predictors of an individual’s outcome
Methods of Disease Transmission

- **Mode of transmission** for the agent
  - **Contact: most common**
    - Direct: Pathogen spread through blood/body fluid contact with caregiver through mucous membranes or broken skin
    - Indirect: Pathogen spread by contaminated intermediate object (hands, medical devices)
  - **Respiratory droplet**
    - Pathogen from respiratory tract of affected individual to mucosal surface (nasal mucosa, conjunctive, mouth) of caregiver
    - Generally 3 to 10 feet
  - **Airborne**
    - Pathogen spread through air and remains infective over time and long distances (spores of *Mycobacterium tuberculosis*, anthrax)
Standard Precautions
Definitions

- **Universal Precautions**
  - Approach to infection control to treat all human blood and blood-containing body fluids as if they were known to be infectious for HIV, Hepatitis B, Hepatitis C, other bloodborne pathogens

- **Body Substance Isolation**
  - Emphasized avoiding contact with all moist and potentially infectious body substances except sweat, even if blood not present

- **Standard Precautions**
  - Incorporates both Universal Precautions and Body Substance Isolation
  - Infection practices that apply to all patient care in all healthcare settings

Standard Precautions: Key Elements

- Hand hygiene
- Personal protective equipment (PPE)
- Surgical masks for coughing patients
- Safe handling of sharps
- Cleaning and disinfection of all patient care areas
- Cleaning and disinfection of all medical devices
Hand Hygiene

- Soap and water for visibly soiled hands
- Soap and water for suspected *Clostridium difficile* exposure
- Alcohol-based hand sanitizer is appropriate for other exposures
Handwashing Technique:
40 to 60 seconds

[Diagram showing steps of handwashing technique]

0. Wet hands with water;
1. Apply enough soap to cover all hand surfaces;
2. Rub hands palm to palm;
3. Right palm over left dorsum with interlaced fingers and vice versa;
4. Palm to palm with fingers interlaced;
5. Backs of fingers to opposing palms with fingers interlocked;
6. Rotational rubbing of left thumb clasped in right palm and vice versa;
7. Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;
8. Rinse hands with water;

http://www.who.int/gpsc/5may/How_To_HandWash_Poster.pdf
Hand Sanitizer: 20-30 seconds

1a. Apply a palmful of the product in a cupped hand, covering all surfaces;
1b. Rub hands palm to palm;
2. Right palm over left dorsum with interlaced fingers and vice versa;
3. Palm to palm with fingers interlaced;
4. Backs of fingers to opposing palms with fingers interlocked;
5. Rotational rubbing of left thumb clasped in right palm and vice versa;
6. Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;
7. Once dry, your hands are safe.

http://www.who.int/gpsc/5may/How_To_HandRub_Poster.pdf
Gloves

- Health Care Workers should always wear gloves when...
  - Touching blood and body fluids
  - Touching mucous membranes (i.e. inside mouth, rectum, vagina)
  - Touching any non-intact skin (or when the health care worker’s skin is not intact)
  - Handling items or surfaces soiled by blood or other body fluids when processing blood or any body fluid specimen
- Hands should be washed
  - Before and after the examination
  - Before gloving
  - Before leaving the examination room
- Gloves must be changed
  - After contact with each patient
  - Between tasks and procedures on the same patient after contact with materials that may contain a high concentration of microorganism
- After removing gloves, perform hand hygiene

## Bloodborne Virus Transmission

<table>
<thead>
<tr>
<th>Virus</th>
<th>Risk from Sharps Injury</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B virus</td>
<td>6%-30%*</td>
</tr>
<tr>
<td>Hepatitis C virus</td>
<td>Approx. 2%</td>
</tr>
<tr>
<td>Human immunodeficiency virus</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

*Risk applies to unvaccinated workers only*

http://www.cdc.gov/sharpssafety/tools.html
Sharps Safety

- **Plan ahead** – use sharps in a safe environment with a sharps container nearby
- **Dispose** of used sharps in puncture proof receptacles immediately after use
- **Do not recap** needles

http://www.cdc.gov/sharpssafety/tools.html
If you experience a needlestick injury...

- Immediately **flood** the exposed area with water
- **Clean** any wound with soap and water or a skin disinfectant if available
- **Report** immediately to employer and seek medical attention

Hep B Post-exposure Prophylaxis

**TABLE 3. Recommended postexposure prophylaxis for exposure to hepatitis B virus**

<table>
<thead>
<tr>
<th>Vaccination and antibody response status of exposed workers*</th>
<th>Source HBsAg† positive</th>
<th>Source HBsAg† negative</th>
<th>Source unknown or not available for testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unvaccinated</td>
<td>HBIG* x 1 and initiate HB vaccine series#</td>
<td>Initiate HB vaccine series</td>
<td>Initiate HB vaccine series</td>
</tr>
<tr>
<td>Previously vaccinated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Known responder**</td>
<td>No treatment</td>
<td>No treatment</td>
<td>No treatment</td>
</tr>
<tr>
<td>Known nonresponder††</td>
<td>HBIG* x 1 and initiate revaccination or HBIG* x 2&lt;sup&gt;3&lt;/sup&gt;</td>
<td>No treatment</td>
<td>If known high risk source, treat as if source were HBsAg positive</td>
</tr>
<tr>
<td>Antibody response unknown</td>
<td>Test exposed person for anti-HBs&lt;sup&gt;††&lt;/sup&gt;</td>
<td>No treatment</td>
<td>Test exposed person for anti-HBs&lt;sup&gt;††&lt;/sup&gt;</td>
</tr>
<tr>
<td>1. If adequate,** no treatment is necessary</td>
<td>1. If adequate,&lt;sup&gt;†&lt;/sup&gt; no treatment is necessary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. If inadequate,&lt;sup&gt;††&lt;/sup&gt; administer HBIG* x 1 and vaccine booster</td>
<td>2. If inadequate,&lt;sup&gt;†&lt;/sup&gt; administer vaccine booster and recheck titer in 1–2 months</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

http://www.cdc.gov/mmwr/PDF/RR/RR5011.pdf
Hepatitis C Post-exposure Management

- Test source patient for anti-HCV
- Baseline testing for anti-HCV and ALT activity
- Follow-up testing (e.g., at 4–6 weeks) for HCV RNA
- Follow-up testing (e.g., at 4–6 months) for anti-HCV and ALT activity

http://www.cdc.gov/mmwr/PDF/RR/RR5011.pdf
## HIV Post-exposure Prophylaxis

<table>
<thead>
<tr>
<th>Exposure type</th>
<th>HIV-positive, class 1*</th>
<th>HIV-positive, class 2*</th>
<th>Source of unknown HIV status†</th>
<th>Unknown source§</th>
<th>HIV-negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less severe†</td>
<td>Recommend basic 2-drug PEP</td>
<td>Recommend expanded ≥3-drug PEP</td>
<td>Generally, no PEP warranted; however, consider basic 2-drug PEP** for source with HIV risk factors††</td>
<td>Generally, no PEP warranted; however, consider basic 2-drug PEP** in settings in which exposure to HIV-infected persons is likely</td>
<td>No PEP warranted</td>
</tr>
<tr>
<td>More severe§§</td>
<td>Recommend expanded 3-drug PEP</td>
<td>Recommend expanded ≥3-drug PEP</td>
<td>Generally, no PEP warranted; however, consider basic 2-drug PEP** for source with HIV risk factors††</td>
<td>Generally, no PEP warranted; however, consider basic 2-drug PEP** in settings in which exposure to HIV-infected persons is likely</td>
<td>No PEP warranted</td>
</tr>
</tbody>
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†† HIV risk factors include: injection drug use, multiple sexual partners, or sex work.

§§ More severe exposure includes injuries with visible contamination by blood or tissues from a source with an unknown HIV status that has high-risk exposure (e.g., injection drug use, multiple sexual partners, or sex work).

§§§ Less severe exposure includes other injuries from percutaneous transmission.

** PEP (post-exposure prophylaxis) is the use of HIV medications immediately after exposure to prevent HIV infection.
Medical Professionalism
“The good physician treats the disease; the great physician treats the patient who has the disease.”

-Sir William Osler
Principles of Medical Professionalism

- **Patient welfare** first (altruism)
- **Patient autonomy** (empower patients to make informed decisions about their own treatment)
- **Social justice** (eliminate discrimination in health care)

Professional Responsibilities

- Professional competence (lifelong learning)
- Honesty (informed consent)
- Confidentiality
- Maintaining appropriate relations with patients
- Improving quality of care
- Improving access to care
- Just distribution of finite resources
- Scientific knowledge
- Maintaining trust by managing conflicts of interest
- Professional responsibility (collaboration, respect)

Recently, your brother’s closest friend has been seeking medical care more frequently. Your brother, who is in medical school in a different state, asks you to check the medical record to see if he has a severe illness. He emphasizes that he is worried about his friend and wants to help in whatever way he can. Do you:

- Check the medical record, and tell your brother the findings
- Check the medical record, but keep the information private
- Do not check the medical record, because you are not the patient’s direct medical provider
Professional Dilemmas

Recently, your brother’s closest friend has been seeking medical care more frequently. Your brother, who is in medical school in a different state, asks you to check the medical records to see if he has a severe illness. He emphasizes that he is worried about his friend and wants to help in whatever way he can. Do you:

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- Do not check the medical record, because you are not the patient’s direct medical provider
You diagnose a severe medical illness that will limit your patient’s longevity. Based on your literature review, you conclude that her likely 5-year survival less than 20% unless if she receives a specific treatment with potential severe side effects. Do you:

- Choose the best treatment for the patient, and inform her of that option only?
- Inform the patient of all potential treatment options, and give her your professional opinion about the best likely options?
- Inform the patient of all potential treatment options, and ask her to choose the treatment option without your bias?
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- Inform the patient of all potential treatment options, and ask her to choose the treatment option without your bias?
Professionalism and Health Screenings

- Be on time, neat, clean, and look professional
- Be courteous and respectful of all patients
- Seek advise from your physician mentors if any concerns
- You represent the medical profession!
Health Insurance Portability and Accountability Act: HIPAA

- Effective April 14, 2003
- National standards of handling protected health information (PHI) and medical records
- **PHI is only used to perform your role as medical provider**
- Every institution has a Privacy Officer to oversee HIPAA, implementation, violations
Concluding Points

- Health care workers are at risk of infectious disease transmission
- Hand hygiene, wearing gloves, careful sharps care, and disinfection are key elements of preventing disease transmission
- Professionalism is a key element of physician’s interaction with the community

Thank you for your interest in leading the fight against kidney disease!