Lesson Plan: Infection and Hygiene

1. Breath of Arrival
2. Howdy Partner
3. Introductions
4. Classroom Rules
5. Attendance
6. Infection and Hygiene
Classroom Rules

Punctuality- everybody's time is precious:

- Be ready to learn by 9:00, we'll have you out of here by 12:30.
- Tardiness: arriving late, late return after breaks, leaving early.

Participation without distractions:

- No side talking.
- No laying down.
- No inappropriate clothing.
- No food or drink except water.
- No phones in classrooms, clinic or bathrooms.

You will receive one verbal warning, then you'll have to leave the room.
“First, do no harm.” – Hippocrates, Father of Western Medicine
**Introduction**

A system of ___infection___ control is needed to protect clients and minimize disease transmission. These measures include ___hand___ hygiene and sanitary ______ lubricant _____ dispensing. Part of client safety includes good personal___ hygiene on the part of the therapist.
Disease Awareness

Autoimmune disease  Overactive **immune** system attacks the body. Examples: rheumatoid arthritis, lupus, and multiple sclerosis.
Disease Awareness

Cancer Abnormal cells metastasize (grow or spread) into tumors. Examples: lung cancer and malignant melanoma.
**Disease Awareness**

**Deficiency disease** Lack of dietary nutrients interferes with growth and metabolism. Examples: *scurvy*, rickets, beriberi, and pernicious anemia.
Disease Awareness

**Degenerative disease**  Overuse or aging deteriorates ___organ___ function. Examples: *osteoporosis*, Alzheimer, Parkinson, and osteoarthritis.
Disease Awareness

Genetic disease  Caused by abnormalities in inherited genetic material. Examples: Turner syndrome, *Down syndrome*, hemophilia, and *albinism*. 
Disease Awareness

**Metabolic disease**  Abnormal metabolic processes disrupt homeostasis. Examples: *Cushing disease* and *diabetes mellitus*. 
Disease Awareness

**Infectious disease**  Disease caused by ___pathogens___.

*impetigo*, malaria, influenza, lice, and mad cow disease.

Fig. 22-10. Impetigo.
Disease Awareness

**Pathogen**  Infectious agent capable of causing ___disease___.  Examples: _virus, bacteria, fungi, protozoa, prions, and pathogenic animals._
Response Moment

**Autoimmune disease**  Immune system.
**Cancer**  Abnormal cells.
**Deficiency disease**  Lack of dietary nutrients.
**Degenerative disease**  Overuse or aging.
**Genetic disease**  Abnormal genetic material.
**Metabolic disease**  Abnormal metabolism.
**Infectious disease**  Infection by pathogen.

**Pathogen**  Infectious agent.
Disease Causing Agents (Pathogens)

**Virus**  Non-____living____ entities that can only ____replicate____ themselves within the cell of a living host; after viral replication, the host cell bursts. Each virus then travels and infects a new host cell. Examples: common cold, influenza, AIDS, herpes simplex, viral hepatitis, and *shingles*.

Fig. 22.12: *Shingles*. 

Disease Causing Agents (Pathogens)

**Bacteria**  Unicellular microorganisms. Most are not pathogenic. Examples: boils, tuberculosis, Lyme disease, and strep throat.
Disease Causing Agents (Pathogens)

**Fungi**  Only a few varieties of this organism are pathogenic. _____Warm_____, moist environments promote their growth. Include ____molds____ and yeast. Examples: *ringworm*, athlete's foot, jock itch, and thrush.
Disease Causing Agents (Pathogens)

Protozoa  Pathogen that can only survive in a ______host____ organism. Examples: trichomoniasis, amoebic dysentry, African sleeping sickness, and malaria.
Prions  Pathogens that are involved in ___central___ nervous system (CNS) diseases. Rare, currently ___untreatable___, and fatal. Composed of proteins in a misfolded form. Examples: bovine spongiform encephalitis (mad cow disease), and Creutzfeldt-Jakob disease.
Disease Causing Agents (Pathogens)

**Pathogenic animals**  Pathogens that live ___in__ or ___on___ a host organism and rely on that host for ___nourishment____. Examples: tapeworms, hookworms, lice, and *scabies*.
Response Moment

**Virus**  Non-living. Replicate in host cells. Cold, influenza, AIDS, herpes.

**Bacteria**  Unicellular microorganisms. Boils, tuberculosis, strep throat.

**Fungi**  Molds/yeast in warm/moist areas. Ringworm, athlete’s foot, jock itch.

**Protozoa**  Can only survive in a host. Trichomoniasis, amoebic dysentery.

**Prions**  Rare, untreatable, and fatal misfolded proteins. Creutzfeldt-Jakob.

**Pathogenic animals**  Rely on a host for nourishment. Worms, lice, and scabies.
Disease Transmission

Reservoir ___Source___ of infection that may lead to disease.

Host ___Organism___ in which pathogens reside.
Modes of Transmission

1. Direct contact
2. Vehicle transmission
3. Vector transmission
4. Respiratory droplets
Modes of Transmission

1. Direct contact  Most common route of disease transmission. Types:
   a. Person to person
   b. Animal to person
   c. Mother to fetus
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   a. **Person to person**  Direct contact disease transmission from an infected person to an uninfected person by physical contact (including sexual), and through blood transfusions.

   b. **Animal to person**

   c. **Mother to fetus**
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   b. **Animal to person**  Direct contact disease transmission that includes touching and a bite or ____scratch____ from an infected animal.

   c. **Mother to fetus**
Modes of Transmission

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a. **Person to person**  Direct contact disease transmission from an __infected__ person to an uninfected person by physical contact (including sexual), and through blood transfusions.

   b. **Animal to person**  Direct contact disease transmission that includes touching and a bite or __scratch__ from an infected animal.

   c. **Mother to fetus**  Direct contact disease transmission in which pathogens cross the __placenta__ and can infect an unborn child.
2. **Vehicle transmission**  Disease transmission in which infectious organisms are transmitted in or on a common **vehicle** or source such as *food*, water, or objects such as a *keyboard* or *doorknob*. Examples: Salmonella, gastroenteritis, and some cases of influenza.
3. **Vector transmission**  Disease transmission involving ____stings____ or ____bites____ from insects and/or animals that act as intermediaries of disease exchange between two or more hosts. Examples:
malaria  (**mosquitoes**), Lyme disease (**ticks**), Rocky Mountain spotted fever (**ticks**).
Modes of Transmission

4. Respiratory droplets  Disease transmission spread through the _____air____ by infected respiratory droplets propelled by _____coughing_____ or sneezing. The droplets are inhaled through the nose and mouth into the upper respiratory tract (nose, mouth, and throat). Examples: _______colds, influenza, and pneumonia.
Modes of Transmission

**Infection** The period after disease transmission. Pathogens use host resources to multiply which interrupts normal functioning of the host. Factors:

1. Number of pathogens
2. Areas of the body being attacked
3. Pathogen's ability to spread and replicate
4. Pathogen's resistance to host defenses
Response Moment

**Direct contact**  Most common mode of transmission.  
Physical, sexual, and blood contact.  
Bite or scratch of an infected animal.  
Across the placenta.

**Vehicle transmission**  Object to person.

**Vector transmission**  Sting or bite transmits infection.

**Respiratory droplets**  Transmitted by sneezing and coughing.

**Infection**  The result of successful disease transmission.
Host Defenses

**Host defenses**  Methods used by a host to keep infection from progressing to ___disease___. Types:

1. *Natural defenses*

2. *Immune response*

3. *Fever*

4. *Inflammation*
Host Defenses

1. Natural defenses

   Barriers: intact \textit{skin} and mucosa.
   Chemicals: digestive enzymes and vaginal secretions.
   Reflexes: coughing and \textit{sneezing}.
Host Defenses

2. **Immune response**  Host defense in which infection triggers the production of *white blood cells* that destroy pathogens.
Host Defenses

3. **Fever**  Elevated body temperature. AKA: pyrexia.
4. Inflammation  Protective mechanism in response to pathogens or tissue damage that serves to stabilize the injured area, contain infection, and initiate the healing process for damaged tissue. Factors:

   a. Heat
   b. Redness
   c. Swelling
   d. Pain
   e. Loss of function (rarely seen unless inflammation is severe)
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Fig. 18-15. Cardinal signs of inflammation.
Host Defenses

Immune system suppressors
Chronic stress, malnutrition, radiation, certain medications, pre-existing conditions (diabetes, AIDS).
Contraindications

Contraindication  The presence of a disease or condition that makes it __unsafe__ to treat a particular client in the usual manner. Usually determined during the intake. Types:

1. Local contraindication

2. Regional contraindication

3. Absolute contraindication
Contraindications

1. **Local contraindication**  Factor or condition in which massage can be administered safely while avoiding an ____area____ of the body. Examples: recent *injury*, inflammation, tender with pressure, lump, lesion, suspicious mole, or localized skin rash.
Contraindications

2. **Regional contraindication**  Factor or condition in which massage can be administered safely while avoiding a body region.
Contraindications

3. **Absolute contraindication**  Factor or condition for which receiving massage might put you or your client at serious health risk or the client's condition may be made worse with massage; massage is not advised. Examples: reported disease that is highly contagious, widespread infection or inflammation, *fever*, exacerbated chronic disease, medical emergency.
Response Moment

1. **Local contraindication**  Recent injury, inflammation, tender with pressure, lump, lesion, suspicious mole, or localized skin rash.

2. **Regional contraindication**  A body region.

3. **Absolute contraindication**  Reported disease that is highly contagious, widespread infection or inflammation, fever, exacerbated chronic disease, medical emergency.
Contraindications

Treatment modifications  Adjustments that can be made in the case of local or regional contraindications; Types:

1. Positional modifications

2. Procedural modifications / modifications of technique
Contraindications

1. Positional modifications
   - Use of a seated or semi-reclining position.
   - Avoidance of the prone position (laying face down)
   - Placement of a supportive cushion for side-lying position
Contraindications

2. Procedural modifications / modifications of technique
   - Use of lighter-than-normal pressure
   - Avoiding percussion or joint mobilizations
   - *Assisting the client on or off the massage table* (blood pressure medication, pregnancy, elderly, or frail)

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*Fig. 7-21 cont'd. E, Therapist rotating client until feet dangle off table edge. F. Therapist maintaining drape while client gets off table, using therapist's other arm as support.*
Infection Control for Massage Therapists

As a massage therapist, you are at a slightly higher risk for contracting infection by direct contact and inhalation of infected respiratory droplets. Infection control decreases the risk of disease transmission.
Ways that infection can spread in a massage context:

1. Unknowingly massage over an infectious rash.

2. Fluid from a boil may seep and enter broken skin.

3. Client with a cold sore touches their lip. Later you massage their hands. Later by you touch your lip before you have washed you hands.

4. Contact with contaminated linens, massage tools, and open containers of massage lubricant.
Infection Control for Massage Therapists

Using sanitation to break the chain of infection:

1. Remove the infectious agent:
   - Hand washing
   - Laundering linens
   - Disinfecting contaminated surface

2. Create a barrier against entry:
   - Gloves

3. Prevent disease transmission:
   - Dispensing uncontaminated massage lubricant
Fig. 9-1. Chain of infection.

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Hygiene

Hygiene  Collective principles of health preservation.

1. Keep hair clean and off your face. *Secure long hair* so it does not accidentally touch your client while you are leaning over the table.
Hygiene

2. *Fingernails* should be clean, short, and without colored polish. Be sure the polish is not chipped.
Hygiene

3. Wear a clean garment each day. Clothing should not fit too loosely because it may brush against your client as you lean over the table. Sleeves should be short (mid-arm or higher).

Fig. 2-2. The massage therapist is a professional in demeanor, dress, and speech.
Hygiene

4. Avoid wearing wristwatches or ornate jewelry while massaging especially *rings*.
Hygiene

5. Bathe or shower daily. Use an antiperspirant or deodorant if necessary.
Hygiene

6. Brush your teeth at least twice a day, and floss daily.
Hygiene

7. Shave or keep facial hair trimmed and groomed.
Hygiene

8. If you perspire heavily while performing massage, then wear sweatbands at the wrists and forehead to ensure that perspiration does not drip onto your client's skin.
Any questions about Personal Hygiene Guidelines?
Standard Precautions for Massage Therapy

1. Use clean linens to cover or drape everything that touches your client.

Fig. 7-19. Client with feet uncovered, turning over to prone while her therapist lifts and holds the sheet in place.
2. Contaminated linens (body fluids or possible infection source):
   • Put on gloves and remove the linens from the table.
   • Wash with hot water, detergent, and 1/4 cup of bleach. Dry using hot air.
   • Discard gloves and put on a new pair of gloves.
   • Clean massage table with paper towels, soap and water.
   • Disinfect massage table using paper towels and a 1:10 solution of household bleach and water.
   • Discard paper towels and gloves, and wash and dry your hands.
Fig. 9-3. **Glove removal.** A, Pulling off one glove. B, Putting the removed glove in the palm of the gloved hand. C, Removing the other glove with the first removed glove inside. D, Disposal of the used gloves.
Standard Precautions for Massage Therapy

3. Contaminated massage tools (body fluids or possible infection source):
   - Put on gloves
   - Immerse 10 minutes in 1:10 solution of household bleach and water. You may instead use a 1:7 solution of isopropyl alcohol and water.
   - Discard gloves and wash and dry your hands
Standard Precautions for Massage Therapy

4. Avoid lubricant cross-contamination:
   - Flip-top, *pump mechanism*, or single-use quantities
5. Hand hygiene:
   - Wash with soap and water or alcohol-based hand sanitizer.

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Fig. 5-2. Hand washing. A, Wetting hands, forearms, and elbows. B, Soaping the hands. C, Rinsing. D, Drying the hands. E, Turning off the water.
Standard Precautions for Massage Therapy

6. Disposable gloves when appropriate:
   - Therapist has open wound on hands
   - Handling contaminated linens or tools
   - Contacting mucous membranes of mouth or nose
Standard Precautions for Massage Therapy

7. Do not perform massage when ill or when experiencing symptoms such as sneezing, coughing, fever, or runny nose.
Standard Precautions for Massage Therapy

8. Do not massage clients who are *ill*. 
9. Maintain a *clean and sanitary office* and treatment environment:

- Line trash receptacles with disposable bags
- Remove trash daily
- *Exterminate* insects or rodents
Standard Precautions for Massage Therapy

10. Do not massage while under the influence of *alcohol or recreational drugs*. 
Standard Precautions for Massage Therapy

11. Follow a personal health plan and get regular physical examinations.

Response Moment

Any questions about
Standard Precautions for Massage Therapy?
Hand Hygiene

The number one source of disease transmission is contact with human hands. Cleaning your hands with soap and water or alcohol-based hand sanitizer is the best measure to prevent infection.
Hand Hygiene

When to wash hands:
- After using the toilet
- Before, during, and after food preparation
- Before eating
- Before inserting or removing contact lenses
- After touching animals or animal waste
- Before and after caring for or visiting someone who is ill
- Treating wounds
- Handling something that could be contaminated
- After sneezing or coughing
Hand Washing Procedure

1. Wet hands, forearms, and elbows with warm running water. Keep your forearms lower than your elbows to prevent water, soil, and germs from running up the arms and onto garments.

Fig. 9-2. Hand washing. A, Wetting hands, forearms, and elbows. B, Soaping the hands. C, Rinsing. D, Drying the hands. E, Turning off the water.

Hand Washing Procedure

2. Apply soap and generate lather. Then, using firm circular motions, rub the soap to lather your hands, forearms, and elbows briskly. Be sure to include the backs of hands, wrists, between fingers, tips of fingers, and under fingernails (a nailbrush is best). Do this for 15 seconds. Friction is essential.
Hand Washing Procedure

3. Rinse thoroughly until all lather is removed.

Fig. 9-2 Hand washing. A, Wetting hands, forearms, and elbows. B, Soaping the hands. C, Rinsing. D, Drying the hands. E, Turning off the water.
Hand Washing Procedure

4. Using clean paper towels, pat dry the hands and forearms well.
Hand Washing Procedure

5. Using the same paper towels, turn off the water and use them to open and close doors.
6. Discard the paper towels.
Hand Hygiene

**Hand sanitizer**  More effective and takes less time than had washing with water and soap; if hands are visibly soiled, wash them with soap and water before using hand sanitizer. Procedure:
Hand Sanitizing Procedure

1. Apply product to palm of one hand

2. Rub hands together, covering all surfaces of hands, forearms, and elbows.

3. Continue rubbing until product is absorbed (about 15 seconds)
“First, do no harm.” – Hippocrates, Father of Western Medicine