Is There a Fungus Among Us? How to Deal with Fungal Infections in the Clinic
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The intent of this presentation is to disseminate information. It is not intended for medical diagnosis and treatment, as this is beyond the massage therapist scope of practice. The presenter will not be responsible for participant’s actions as a result of viewing this presentation. Being a participant in this workshop indicates you agree, and will abide by, the intent of this presentation, and release the presenter from any legal ramifications. Many of the treatments described in this presentation are intended for healthy adults with disease. Pregnant or lactating women, children and immune-compromised adults typically have alternate treatments, dosing, frequency, etc. that are beyond the scope of this presentation.

Part 1: Introduction and Background

Skin Assessment
- Color
- Moisture
- Temperature
- Texture

Checking in... (Your Intake)
- Skin Assessment:
  - Normal
  - Abnormal

Skin Anatomy
- Epidermis
- Dermis
- Skin appendages
- Subcutaneous

Part 2: Critical Terms, “Clean Up,” and Contraindications

Defining Critical Terms
What is “Cleaning?”
- “Cleaning is the removal of visible soil (e.g., organic and inorganic material) from objects and surfaces... normally accomplished manually or mechanically using water with detergents or enzymatic products.”

What is “Disinfecting”
- “Disinfection” is to destroy or inactivate most bacteria*, fungi, viruses and protozoa. *(not bacterial spores)
- “Disinfectants” are antimicrobials applied only to inanimate objects.

What is “Sterilization”
- “Sterilization describes a process that destroys or eliminates all forms of microbial life and is carried out in health-care facilities by physical or chemical methods.”

Which Contain Infectious Pathogens? (put an “X” for “yes”) 
- Blood
- Non-intact Skin
- Mucous Membranes
- Body Fluid secretions:
  - urine
  - vomit
  - menstrual blood
  - sweat

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“Clean-up:” Clean and Eliminate Pathogens

Hands (forearms, etc)
A. Soiled hands (e.g., with dirt, blood, etc):
   Wash hands with soap (non-antimicrobial or antimicrobial) and water.
B. Non-visualy soiled hands
   Use an alcohol-based hand rub (preferred method), or wash hands using an antimicrobial soap and water.

Table (face-cradle, etc)
Follow manufacturer’s instructions for cleaning...

Approximate Dilutions:
10% bleach solution (1:10 dilution): 1.5 cup bleach + 1 gallon of water.
1% bleach solution (1:100 dilution): ¼ cup bleach + 1 gallon of water.

Linens
No consensus.
Most pathogens are destroyed by:
• machine agitation, detergent
• dryer – “heat” or iron

Commercial laundry facilities use
• hot water (minimum 160°F) ≥ 25 min, or
• warm water with chlorine bleach (approx ¼ cup/gallon)
• dryer – “heat” or iron

Massage Tools
Hand tools, stones, etc that have direct contact with clients’ intact skin:
• Low-level disinfectant (i.e., bleach 1:500)
If these items contact non-intact skin:
• Intermediate-level disinfectant (bleach 1:50).

Environment
“Clean housekeeping surfaces (e.g., floors, tabletops) on a regular basis, when spills occur, and when these surfaces are visibly soiled.”
• Small spills: use a 1:100 dilution to decontaminate nonporous surfaces.
• Large spills: 1:10 dilution.

Alternative Disinfectants?
Some “environmentally safe products are not recognized and registered by the EPA because they”...
Do not destroy some bacteria:
• Ammonia, vinegar, Borax, baking soda, and liquid detergent does not destroy S. aureas.
• Borax, baking soda, and liquid detergent do not destroy Salmonella Typhi and E.coli.

Define Contraindication
• Local Contraindication
  • Client and therapist do not have systemic illness.
  • Client has an “affected” area; therapist should avoid.
• What should you do?
  • Use ________________________________ Precautions.
  • Massage may be appropriate in other areas.
• Body area that has:
  • A recent injury.
  • Inflammation.
  • Tender, painful sites.
  • A rash, lump, suspicious mole, lesion.
  • A medical patch, chemo port, or pacemaker.
• Absolute Contraindication
  • Client or therapist has systemic illness, or widespread disease.
• What should you do?
  • Likely use ________________________________-based Precautions.
  • Postpone massage.
Part 3: Superficial Fungal Infections

Superficial versus Systemic
Superficial: affects keratin with skin, nails and hair.
Systemic: typically enters via lungs, affecting pulmonary and circulatory systems; causing skin eruptions.

Various types of superficial fungal infections:
Tinea...is caused by microscopic fungi called “dermatophytes.”
Yeast...can cause various infections, such as Candidiasis and pityriasis (Tinea) versicolor.

Superficial Fungal Infections of Skin

Tinea
- Tinea Corporis= body
- Tinea Capitis= head
- Tinea Faciei/Barbae= face
- Tinea Manus= hand(s)
- Tinea Cruris= groin
- Tinea Pedis=feet
- Tinea Unguium (Onychomycosis) = fingernail or toenail

Tinea infections...tend to get worse during the summer. One exception: toe fungus.

Massage? Tinea
Local contraindication.
Person-to-person spread can occur if close body contact is frequent. Dermatology websites suggest that spread may occur via public shower floors. Unresolved: spread by contact with a fomite.

Yeast Infections

Candidiasis
Candidiasis is part of our normal flora but, if allowed, can overgrow when not kept in check. Candida species, of which Candida albicans is the most common. Candida can infect skin, nails, mucous membranes.

Massage? Candidiasis
Local Contraindication for stable patients without systemic illness.

Pityriasis (Tinea) Versicolor
Common skin condition caused by an overgrowth of yeast on skin.

Massage? Pityriasis Versicolor
Not contagious: unlikely spread by direct contact.
Local Contraindication: if affected area is irritated.

Pityrosporum Folliculitis
This yeast is a normal skin inhabitant. Tends to affect young to middle-age males and females.

It is unknown why this condition occurs. Possible reasons: greasy sunscreens, oil emollients, oily skin.

Massage? Pityrosporum Folliculitis
Not contagious: unlikely spread by direct contact.
Local Contraindication: if affected area is irritated.
NOTE: Massage oil may promote and exacerbate the condition.

Resources
American Academy of Dermatology (www.aad.org)
American Academy of Family Physicians (www.aafp.org)
American Society of Plastic and Reconstructive Surgeons
CDC, 2008 Disinfection Guidelines
Medline Medical Encyclopedia
MedicineNet.com

THANK YOU for taking my workshop! I look forward to seeing you again in the near future!
Cheers, Dr. Annie ☺