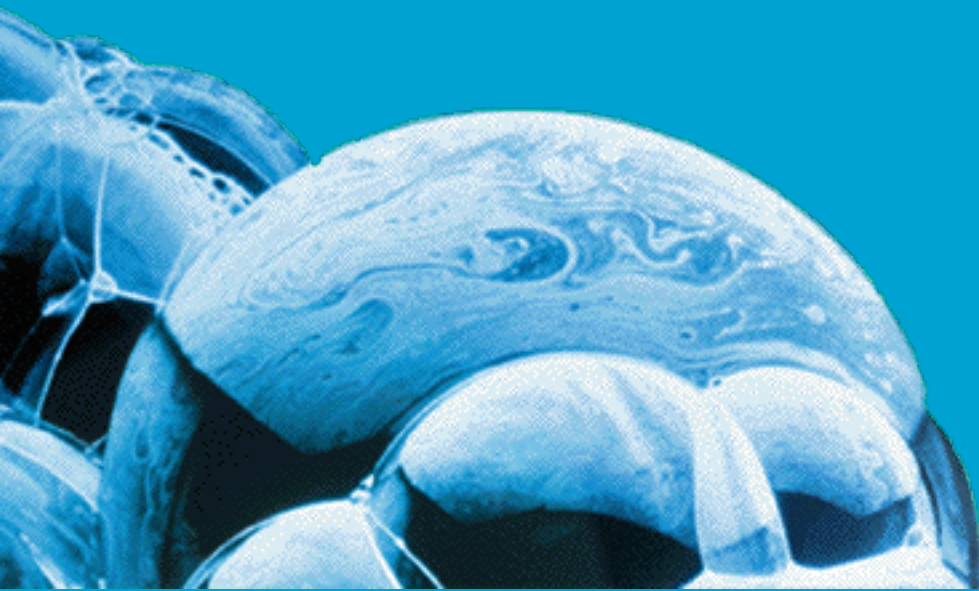


# handwashingforlife™

Skin & Hand Hygiene  
Dr. Lee Adler



# Foodborne Illness

## A Physician's View

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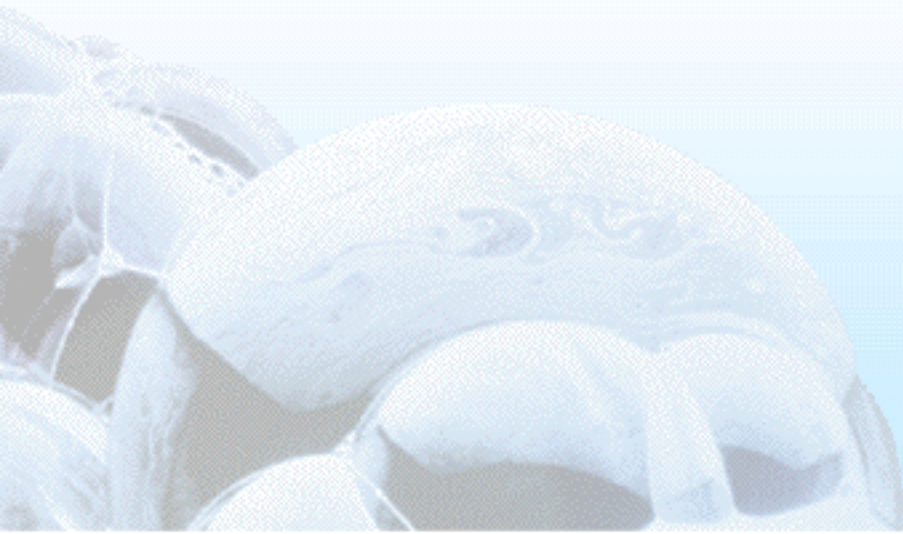
“Restaurants are from Venus and Physicians are from Mars”

- “What Food Codes”?
- “Call the Health Department!”
- “You must have food poisoning”
- “Stay home from work”

# Mechanisms to reduce risk

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- Contact while working
- Fecal-oral route
- Handwashing!



# Foodborne Illness

## USA

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- Annual Incidence
  - 6.4 million to 76 million cases
- Annual Mortality
  - 5000 to 9,000 cases
- Hospitalizations
  - 325,000 cases

# Foodborne Illness

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	ONSET	DURATION
Salmonella	6-48 Hours	1-4 Days
Shigella	1-7 Days	4-7 Days
E. coli O157	12-60 Hours	2-9 Days
C. jejuni	8-22 Hours	1-14 Days
V. parahaem.	4-96 Hours	4-7 Days
Hepatitis A	1-7 Weeks	2-24 Weeks

# Foodborne Illness

## Infectious Doses

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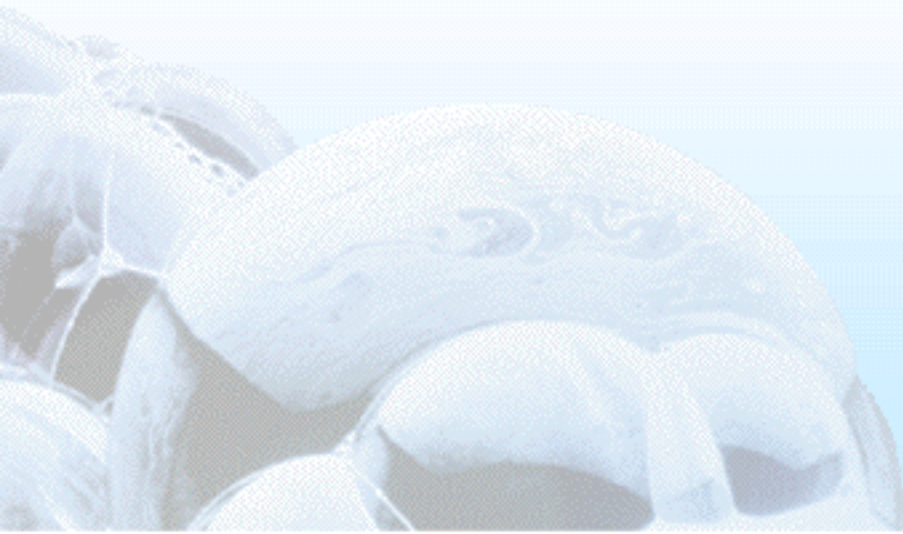
Salmonella species	15 to 20
Shigella Species	10
E. coli O157:H7	10 to 100
Campylobacter jejuni	400 to 500
V. parahaemolyticus	1,000,000
Hepatitis A virus	10 to 100
Norwalk virus	unknown

# Skin Infection and Hygiene

## Variation

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- Food worker
  - Immunity
  - Hand condition
  - Behavior
- Antiseptic Products
- Gloves



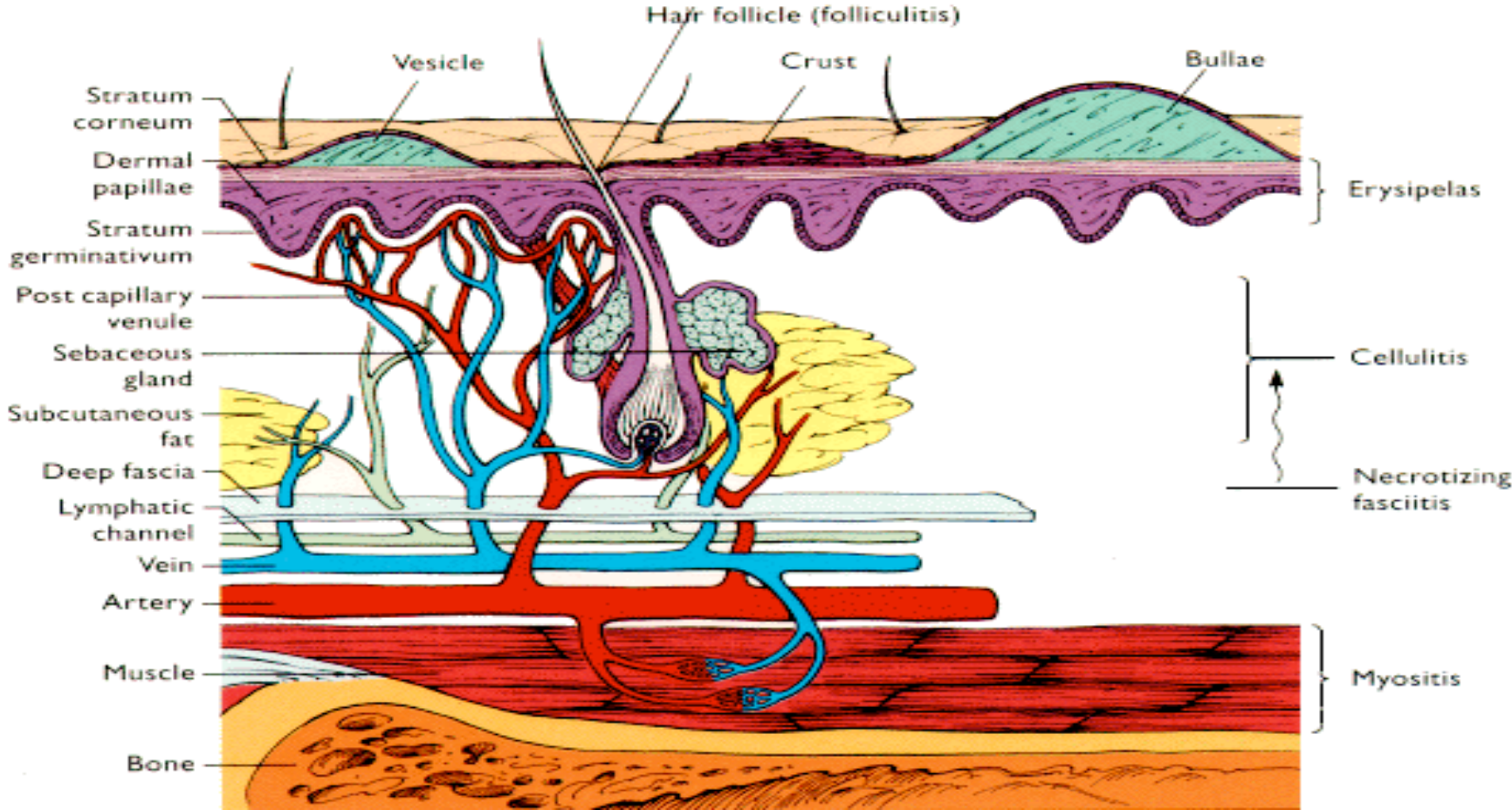
# Variation

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- Handwashing Technique
  - Wash
  - Scrub time
  - Rinse
  - Dry
- Temperature
- Bacterial load



# The skin's structure



# Skin Infection and Hygiene

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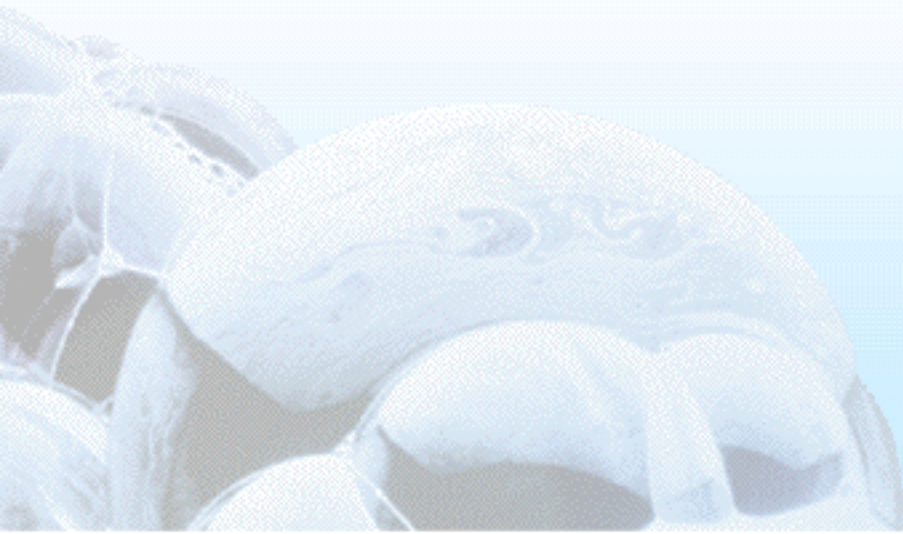
- Skin as a barrier
- Primary Protective Barrier
  - Epidermidis superficial layer forms tough, horny layer (15).
  - Layer replaced every day, total change every 14 days
  - Lipids & Corneocytes
- Water keeps skin soft & pliable
- Normally acidic pH
  - Soap increases pH  $>7.0$  for  $>3$  hours



# Skin Infection and Hygiene

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- Handwash Changes
- Short Term (transient)
  - Reduce surface fat & reduce superficial bacteria
- Long Term
  - Chronic Damage, irritant contact dermatitis (<40% for HCW), eczema and flora changes (more bacteria and difficult to reduce numbers)



# Skin Infection and Hygiene

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- Skin Microbiology
- Transient Bacteria
  - Few layers of stratum corneum
  - Wash reduces bacterial count shed
- Resident Bacteria
  - Throughout the layers of stratum corneum
  - Stable numbers; however, changes with handwash damage

# Contact us:

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