IDENTIFICATION OF INFECTION
DISEASE PROCESSES
(18 QUESTIONS)
Preparing for the CBIC Test
OBJECTIVES

• Differentiate among colonization, infection, and contamination
• Identify occurrences, reservoirs, incubation periods, periods of communicability, modes of transmission, signs and symptoms, and susceptibility associated with the disease process
• Interpret results of diagnostic/laboratory reports
• Recognize limitations and advantages of types of tests used to diagnose infectious processes
• Recognize epidemiologically significant organisms for immediate review and investigation
• Differentiate among prophylactic, empiric, and therapeutic uses of antimicrobials
• Identify indications for environmental microbiologic monitoring
• Colonization - presence of microorganisms in or on a host with growth but without tissue invasion or damage

• Infection - entry of an infectious agent in the tissues of the host that multiplies and creates symptoms

• Contamination – presence of microorganisms on inanimate objects (e.g. clothing, surgical instruments), on skin or in substances (e.g., water, food, milk)

DIFFERENTIATE AMONG COLONIZATION, INFECTION, AND CONTAMINATION
Chain of Infection

1. Causative agent
2. Reservoir of the agent
3. Portal of exit of the agent from the reservoir
4. Mode of transmission of the agent
5. Portal of entry into host
6. Susceptible host
Microbial pathogenicity

Human immune system (humoral and cellular)

Host defended
Direct Examination: gram stain, histology
Detection of Antigen/Antibody reaction: varicella, MMR
Molecular Diagnostic Testing; PCR for TB
Test for Infectious Process: CBC, urinalysis, CSF analysis
RECOGNIZE LIMITATIONS AND ADVANTAGES OF TYPES OF TESTS USED TO DIAGNOSE INFECTIOUS PROCESSES

Sensitivity: a test to prove that a positive test is truly positive
Specificity: a test to prove that a negative test is really negative
RECOGNIZE EPIDEMIOLOGICALLY SIGNIFICANT ORGANISMS FOR IMMEDIATE REVIEW AND INVESTIGATION

- Anthrax
- Aspergillosis
- Botulism
- Brucella
- Candidiasis
- Chickenpox/Herpes Zoster – Varicella/Shingles
- Foodborne Illnesses
- Salmonella, Shigella, Campylobacter, Norovirus, Rotavirus
- Hepatitis A, B, C
- HIV
- Influenza
- Legionella
- Measles
- Meningitis
- Mumps
- Pertussis
- RSV
- Rubella-German Measles
- SARS or other emerging respiratory disease
- Scabies, Lice
- STD’s
- TB
DIFFERENTIATE AMONG PROPHYLACTIC, EMPIRIC, AND THERAPEUTIC USES OF ANTIMICROBIALS

Prophylactic – antimicrobial given to prevent infection
Empiric – antimicrobial therapy
Therapeutic – pathogen directed
Generally not recommended

Routine environmental monitoring – ie quality assurance

Biologicals for sterilizers

Monthly dialysis

Special environmental monitoring – ie epidemiologic investigation
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