Mosby’s PATHOLOGY for Massage Therapists

Chapter 1
Disease Awareness and Infection Control

Lesson 1.1 Objectives

- List and define terms related to the language of pathology.
- Identify risk factors of diseases.
- Discuss types and various agents of diseases.
- Discuss physical effects of aging.
- Contrast and compare relationships among pathogens, reservoirs, and resultant infection or disease.

Introduction to Pathology

- Steps to understanding pathology:
  - Acquire basic terminology
  - Review of normal anatomy and physiology
- Goal of learning pathology in massage schools is public safety
  - Continually check for most up-to-date medical information

Language of Pathology

- Disease – condition of abnormal function involving anatomic structures or body systems
  - Characterized by recognizable set of signs and symptoms
- Pathology – study of disease
  - Includes causes and effects of disease
- Diagnosis determines presence of disease

Language of Pathology (cont’d.)

- Diagnosis – evaluation of physical signs and symptoms, medical history, physical examination, and other procedures that lead to identifying particular diseases
- Prognosis – prediction of how disease will progress and chances of recovery

Language of Pathology (cont’d.)

- Signs – objective indicators of disease obvious to someone other than affected individual
  - Can be measured and observed
- Symptoms – subjective feelings of which only the affected person is aware
- Asymptomatic – disease without symptoms
Language of Pathology (cont'd.)

- Syndrome – group of signs and symptoms occurring together to present a disease or abnormality
- Etiology – causes or origins of disease
- Idiopathic – disease without a known cause
- Risk factors – tendencies that promote disease development

Language of Pathology (cont'd.)

- Disease can be described by its degree of involvement:
  - Local disease: affects one body area
  - Systemic disease: distributed throughout the body
  - Acute disease: abrupt onset and runs a brief course
  - Chronic disease: develops gradually, vague or mild symptoms, lasts longer than 6 mo.

Language of Pathology (cont'd.)

- Remission – period of partial or complete disappearance of signs and symptoms
- Exacerbation – period of increased signs and symptoms
- Complications – conditions arising after onset of original disease

Language of Pathology (cont'd.)

- Epidemic – occurs when a disease affects a large number of people at the same time within a region
- Pandemic – disease that involves large numbers of people in several regions, even worldwide
- Morbidity – rate a disease occurs within a group or area
- Mortality – number of deaths resulting from a disease in a given time period


1. Heart disease
2. Cancer
3. Stroke
4. Chronic lower respiratory disease
5. Accidents
6. Diabetes
7. Pneumonia/influenza
8. Kidney disease
9. Septicemia
10. Liver disease

Language of Pathology (cont'd.)

- Incidence – number of new cases in a particular population during a period of time
- Prevalence – number of existing new and old cases of a disease within a specific population and time period
Risk Factors for Disease

- Risk factors make a group or individual more likely to contract a disease
- Examples of risk factors are:
  - Age
  - Gender
  - Genetics
  - Lifestyle
  - Environment
  - Stress

Types of Diseases: Autoimmune

- Inappropriate or excessive immune system response
- Immune system doesn’t distinguish between body tissue and foreign material
- Immune system attacks body tissue
- Depletes immune system and its ability to respond to real threats

Types of Diseases: Cancerous

- Uncontrollable growth of abnormal cells
  - Cancerous (malignant) tumors will often metastasize (spread) to other body parts
- Noncancerous (benign) tumors don’t metastasize, but may become life threatening if they put pressure on vital areas

Types of Diseases: Deficiency

- Deficiencies result from:
  - Lack of an essential vitamin, nutrient, or mineral in the diet
  - Inability to digest or absorb nutrients
  - Interferes with growth, development, and metabolism

Types of Diseases: Degenerative

- Caused by tissue breakdown from:
  - Overuse
  - The aging process

Types of Diseases: Genetic

- Caused by abnormality in genetic code
- Can be:
  - Inherited
  - Result from spontaneous mutation
Types of Diseases: Infectious

- Caused by biologic agents such as bacteria and fungi
- Transmitted by a reservoir (sources of infection) onto a host where pathogens reside
- Hosts – organisms in which pathogens reside
- Infectious diseases are contagious
- Also called communicable diseases

Types of Diseases: Metabolic

- Physiologic dysfunctions that disrupt metabolism

Types of Diseases: Congenital Disorders

- Present at birth
- Result from:
  - Genetic abnormalities
  - Maternal diet
  - Habits of pregnant mother (smoking, alcohol use)
  - Fetal oxygen deprivation

Types of Diseases: Traumatic Disorders

- Result from injuries
- Examples are:
  - Wounds
  - Fractures
  - Spinal cord injuries
  - Head injuries

Agents of Disease

- Pathogen – agent of disease
- Contamination - occurs when pathogens reside on an organism
- Four basic pathogenic agents:
  - Bacteria
  - Fungi
  - Protozoa
  - Viruses

Agents of Disease: Bacteria

- Unicellular microorganisms
- Most are not pathogenic
- May be transmitted from another person, an animal, a fomite (inanimate object), ingestion of contaminated food, or from not washing hands after toilet use
Agents of Disease: Fungi
- Examples are molds and yeasts
- They thrive in warm, moist environments
- Usually transmitted by a fomite
- Infections are usually superficial but can be systemic

Agents of Disease: Protozoa
- Simplest form of animal life
- Pathogenic protozoa can survive only in a living subject
- Transmitted through feces, contaminated food or water, or insect bites and stings

Agents of Disease: Viruses
- Nonliving entities
-Viruses inject their genetic material into host cells, then use host cells to replicate
- Viruses cannot be killed by antibiotics

Agents of Disease: Other
- Parasites – rely on host for nourishment
- Plant resins such as poison oak can cause disease
- Prions cause a few diseases in mammals and humans
  - Affect the central nervous system
  - Untreatable and fatal
  - Extremely rare

Lesson 1.2 Objectives
- Explain modes of disease transmission.
- Discuss host-pathogen relationships.
- List ways therapists can reduce disease transmission.
- List examples of universal precautions.
- Discuss glove use in massage therapy.
- Explain and demonstrate hand-washing procedure.

Modes of Transmission
- Direct physical contact
  - Mucous membranes
  - Intact skin
  - Broken skin
- Indirect physical contact
  - Inhalation
  - Ingestion
Host-Pathogen Relationship

- A pathogen’s success depends on:
  - Ability to gain access
  - Areas of body attacked
  - Ability to spread and replicate
  - Resistance to host defenses

(continuation)

- Defense mechanisms:
  - Physical and chemical barriers
  - Inflammation (helps contain infection)
  - Immune response

Host-Pathogen Relationship (cont’d.)

- Immune system can be suppressed by chronic stress, malnutrition, some medications, and illnesses already present
- Various signs and symptoms show that the immune system is fighting infection
  - Fever
  - Nausea
  - Elevated white blood cell count
  - General feeling of low energy

(continuation)

- Disease process includes:
  - Course of infection
  - Incubation (time between exposure and symptom onset)
  - Exacerbation (period of symptoms)
  - Remission (partial or complete symptom disappearance)

Infection Control in a Massage Practice

- Infectious agents can be spread through contact with:
  - Contaminated linens
  - Contaminated massage tools
  - Open containers of contaminated lubricant

(continuation)

- Have a plan to prevent cross-contamination (passing of microorganism from one person to another)
- Apply sanitation (measures to promote a healthful, disease-free environment)
- Receive recommended or required vaccinations
Infection Control in a Massage Practice

- Universal Precautions
  - Established by the Centers for Disease Control and Prevention (CDC)
  - Requires health care providers to prescribe to a plan that helps prevent exposure to and spreading of blood-borne and fluid-borne pathogens
  - These reduce transmission of communicable diseases

Sanitary Guidelines

- Use an approved hand-washing procedure
- Avoid wearing jewelry
- Keep nails clean, short, and without polish
- Keep hair clean and away from face
- Use clean linens and launder after use
- Prescribe to a safe method of handling contaminated linens and massage tools

Sanitary Guidelines (cont’d.)

- Treat any substance that cannot be identified as unsafe
- Wear a clean uniform each day
- Use a pump dispenser or clean single-use dish for massage lubricant
- Use gloves when appropriate
- Do not perform massage when ill

Glove Use

- Use gloves when:
  - Handling any form of blood or other body fluid or secretions
  - Any time the therapist has a break in the skin or skin infection on the hands
  - When working in the oral cavity
  - When the client requests it

Glove Use (cont’d.)

- Latex gloves
  - Are thin, strong, and conform to therapist’s hands
  - Requires water-based lubricants
  - Some people have latex allergies
- Vinyl gloves
  - Are thicker and more expensive
  - Can be used with oil-based lubricants

Avoid massaging clients who are ill
Be prepared for emergency situations

Avoid working under the influence of alcohol or recreational drugs
Glove Use (cont’d.)

- Removing gloves:

Hand Washing Procedure (cont’d.)

- Hand Washing Procedure:

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