Veterinary Science
Preparatory Training for the Veterinary Assistant
Floron C. Faries, Jr., DVM, MS
Sterilization

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Objectives

- Understand and utilize correct sterilization and antiseptic techniques
- Distinguish between sterilization and antiseptics
- List the characteristics of an ideal antiseptic
- Describe sterilizing agents and rank their effectiveness
- Discuss time/temperature relationship in destroying microorganisms
- Sterilization – process of killing all microorganisms
- Disinfectant – chemical that kills pathogenic microorganisms on inanimate, non-living objects
- Antiseptic – chemical that inhibits pathogenic microorganisms on animate, living objects
- Sepsis (septic) – presence of pathogenic microorganisms
- Asepsis (aseptic, sterile) – absence of pathogenic microorganisms
Steam Sterilization

- Autoclave – steam under pressure
- Temperature – 250 °F or 275 °F
- Pressure – 15 lbs per square inch
- Time – 15 min at 250 °F
  10 min at 275 °F
Cold Chemical Sterilization

- Chemical – 2% glutaraldehyde solution
- For heat sensitive items
  - Plastics, electrical equipment and instruments
Chemical Gas Sterilization

- Ethylene oxide
- For heat sensitive items
- Can cause numerous health problems
- Is environmentally harmful
- Use of it is strictly regulated
Plasma Sterilization

- Reactive ions: electrons, neutrons
- Temperature – 122 °F
- Time – 45 min
- For heat sensitive items
Ionization Radiation Sterilization

- Radioactive source – cobalt 60
- Commercial use
Antiseptics

- Prevent growth of microorganisms
- Do not destroy microorganisms
- Do not harm patient
- Safe for patient and handler
- Stable in presence of organic matter