Anesthesia

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Objectives

- Describe the effects of anesthesia
- Describe types of anesthesia
- Describe the stages of anesthesia
Anesthetic – eliminates patient’s pain by altering physiology of the patient (anesthesia)

- Anesthesia – a controlled, reversible intoxication of the nervous system

Sedative – reduces irritability (sedation)

Analgesic – relieves pain (analgesia)
Principles of Animal Anesthesia

- Various species of animals react differently to the same anesthetic agent.
- Animals differ in size and temperament even within the same species.
- Animal species differ in anatomy as well as physiology.
- The veterinary patient must be properly restrained, physically and/or chemically, for smooth, effective, and safe anesthetic delivery.
Groups of Anesthetics Based on Effects to Nervous System

- Local anesthetics – deaden sensory nerves
- Spinal anesthetics – interrupt spinal cord nerves
- General anesthetics – influence CNS to produce unconsciousness
Types of Anesthetics Based on Chemistry and Administration

- Volatile anesthetics – inhalation
  - Isoflurane
  - Sevoflurane

- Non-volatile anesthetics – intravenous
  - Propofol
  - Ketamine
  - Dexmedetomidine
Factors for Choice of Anesthesia

- Anesthetic agents available for use
- Species of animal
- Size of the animal
- Location of the operation
- Extent of the operation
- Overall health condition of the animal
- Temperament of the animal
- Cost of the anesthetic agent
- Familiarity of surgeon and staff with anesthetic agent
- Availability of trained personnel and equipment to monitor the patient under anesthesia
Stages of Anesthesia

- Stage 1: Voluntary Movement
- Stage 2: Involuntary Movement
- Stage 3: Surgical Anesthesia
- Stage 4: Paralysis
Observations to Indicate Stage (Depth)

- Opposition by patient to flexing and extending the legs (Stage 1)
- Decrease and loss of reflexes (Stage 2)
- Respiration rate and depth and muscle tone (Stage 3)
- Color of blood in the surgical site (Stage 4)
Patients are monitored carefully when anesthesia is used.