

Common Diseases of Small Animals

- Teacher Notes

Directions:

Fill in the blanks.

Introduction to Disease Segment

1. Disease

- Is a disorder or incorrect **function** of an organ, structure or **system** of an animal's body

2. Disease

- Is transmitted from infected animals to **susceptible** animals through the following methods:
 - direct contact
 - indirect contact
 - **droplet** contact
 - airborne transmission
 - fecal-oral transmission
 - vector-borne transmission

3. Direct Contact

- Occurs when an **infected** animal has direct contact with a susceptible animal
- Examples include:
 - touching an infected animal
 - sexual contact
 - contact with oral **secretions**
 - contact with body lesions

4. Indirect Contact

- Occurs when an animal comes in contact with a **contaminated** surface
- Examples include:
 - sharing feed or water bowls with **infected** animals
 - touching other contaminated surfaces

5. Droplet Contact

- Occurs when droplets containing **microorganisms** come in contact with the eyes, nose or mouth
- Examples include:
 - infected animals **coughing** or sneezing onto susceptible animals

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6. Airborne Transmission

- Occurs when droplets are evaporated or dust **particles** which contain microorganisms are in the air
- Examples include:
 - animals ingesting or breathing in microorganisms into their **respiratory** tract

7. Fecal-Oral Transmission

- Occurs when microorganisms enter the body through **ingestion** of contaminated food or water
- Examples include:
 - animals eating **contaminated** food or water

8. Vector-Borne Transmission

- Occurs when **vectors**, animals or insects, transfer the disease to other susceptible animals
- Examples include:
 - flies, mites and ticks transfer disease through biting susceptible animals
 - rats spread disease through feces which are then **accidentally** ingested by susceptible animals

9. Zoonotic Diseases

- Can be passed between animals and humans
- Can be caused by viruses, bacteria, **parasites** and fungi
- Are transmitted by coming in contact with body fluids, being bitten by a tick or mosquito or eating or drinking something **unsafe**

10. Immunity

- Is an animal's ability to protect and defend their body from **infection**, disease or other unwanted or foreign organisms and objects
- Includes the following processes:
 - **passive** immunity
 - active immunity

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11. Passive Immunity

- Is an immunity which occurs due to the injection of **antibodies** from outside the body to fight an infection or disease
- Is short term and **not** permanent

12. Active Immunity

- Is an **immunity** in which the animal's body produces its own antibodies to fight of infection or disease
- Is **long** term and permanent

13. Disease

- Can be caused by the following:
 - **nutrient** deficiencies
 - pathogens
 - **genetics**

14. Nutrient Deficiencies

- Result from under **consumption** of key nutrients
- Can affect the internal processes of animals
- Lower an animal's immune system and increase chances of **illness**

15. Nutritional Requirements

- Depend on an animal's age and **function**
- Allow animals to receive a well-balanced diet
- Include:
 - vitamins
 - fats
 - **carbohydrates**
 - protein
 - minerals

16. Pathogens

- Are any **organism** causing a disease
- Can be microscopic or **macroscopic**

Clinic Corner: Microscopic is defined as an organism too small to be seen by the unaided eye, but large enough to be studied under a microscope. Macroscopic is defined as an organism large enough to be perceived or examined by the unaided eye such as a worm or tick.

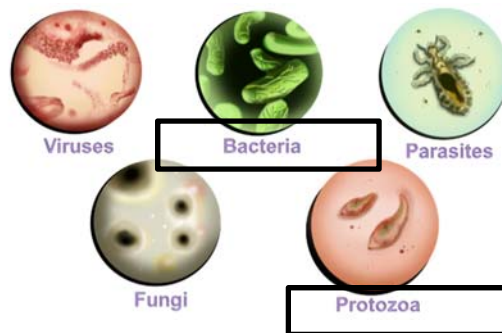
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17. Pathogens

- Are classified as follows:
 - viruses
 - bacteria
 - **parasites**
 - fungi
 - protozoa

18. Pathogens



19. Viruses

- Cannot reproduce without a host
- Consist of DNA or **RNA**
- Can take over the functions of the **host cell**

20. Bacteria

- Are single celled organisms
- May produce **toxins** harmful to the body
- Multiply rapidly without a host
- Can be **identified** by shape

21. Parasite Shapes

- Include:
 - cocci: **spherical**-shaped
 - **bacilli**: rod-shaped
 - spirilli: spiral-shaped

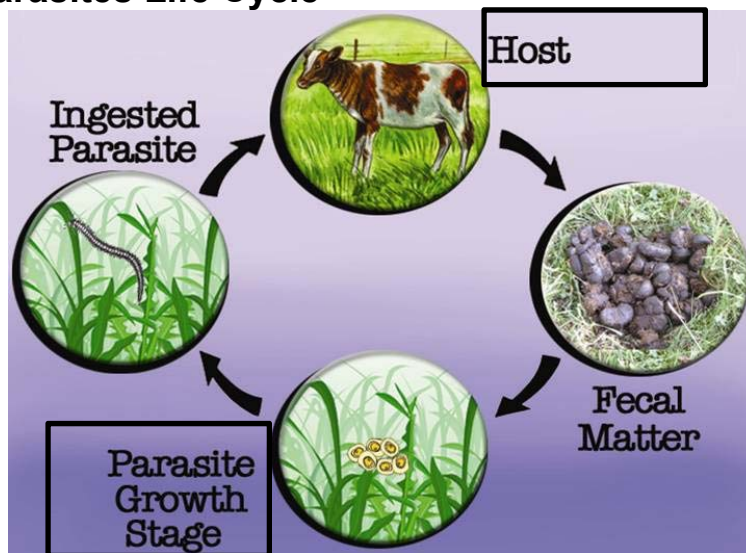
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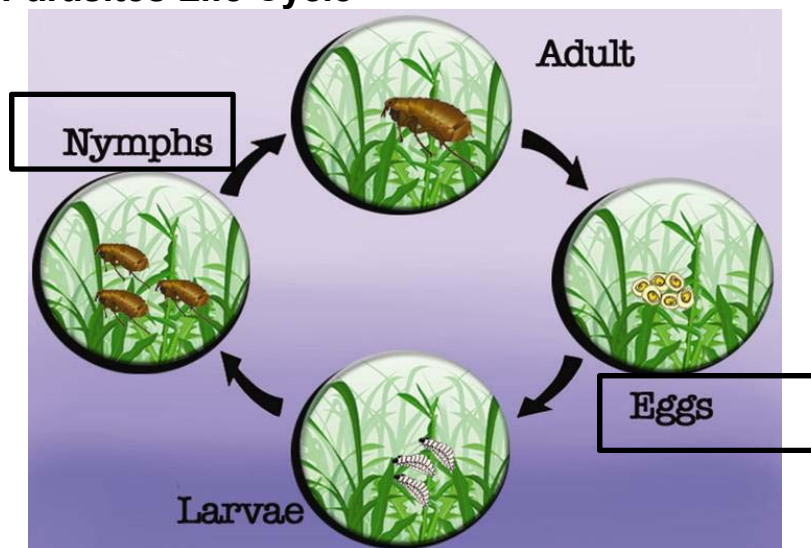
22. Parasites

- Can be **external** or internal
- Effect host animals through contact or ingestion
- Have various life **cycles**
- Are living organisms

23. Internal Parasites Life Cycle



24. External Parasites Life Cycle



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25. Fungi

- Studies are known as **mycology**
- Live in air, soil, plants and water
- Produce transmittable spores which can cause **funga** diseases

Clinic Corner: Mycology is defined as the study of the characteristics of fungi.

26. Protozoa

- Is Greek for first animal
- Is a single-celled **organism**
- Breath, move and reproduce similar to multi-cellular animals
- Can be **classified** into many different types

27. Genetics

- Is the study of heredity, which is a process where parents pass genes onto their **offspring**
- Causes parents to pass DNA mutations to their offspring which often leads to **transmission** of disease

28. Prevention

- Starts with proper management and **care**
- Reduces chance of **disease**
- Results in a healthy animals

29. Proper Management

- Allows animal owners to prevent causes, prevent symptoms and treat diseases
- Involves the following techniques:
 - providing **shelter**
 - cleaning and sanitizing
 - providing a good diet
 - monitoring **health daily**
 - isolating new animals

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30. Signs of Healthy Animals

- Include the following:
 - **alertness**
 - normal feces and urine
 - normal vital signs
 - **sleek** coat
 - eating and drinking normally

31. Signs of Unhealthy Animals

- Include the following:
 - lethargic
 - rough hair coat
 - dull eyes
 - abnormal feces or urine
 - elevated vital signs
 - **labored** breathing or coughing
 - loss of appetite
 - runny nose
 - **swelling**

32. Vital Signs

- Refers to the temperature, **respiration** rate and pulse of the body
- Provide critical information about an animal's state of health and can be used to not only detect but also monitor **medical** issues, such as diseases

33. Temperature

- Is defined as the degree of **heat** of a living body
- Is considered a fever when it is elevated or above normal or considered **hypothermic** when it is below normal
- Is measured in degrees Fahrenheit in the U.S.

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34. Respiration

- Is the act of breathing and is determined through the following examinations:
 - rate
 - number of **inspirations** per minute
 - depth
 - intensity or indication of strain
 - rhythm
 - change in duration of inspiration and expiration
 - sound
 - absence of noise
 - **dyspnea**
 - labored breathing

35. Pulse Rate

- Is the measurement of the heart rate or the number of times the heart beats per minute
- Is determined through the following examinations:
 - **frequency**
 - number of beats per minute
 - rhythm
 - regular repeated pattern of beats
 - quality
 - tension on the arterial wall and volume of **blood flow**

36. Animal Body Systems

- Are **complex** structures made up of millions of cells
- Each work together to carry out a special job
- Are highly affected by **pathogens** which disrupt normal cell functions while sometimes resulting in killing cells and tissues

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37. Animal Body Systems

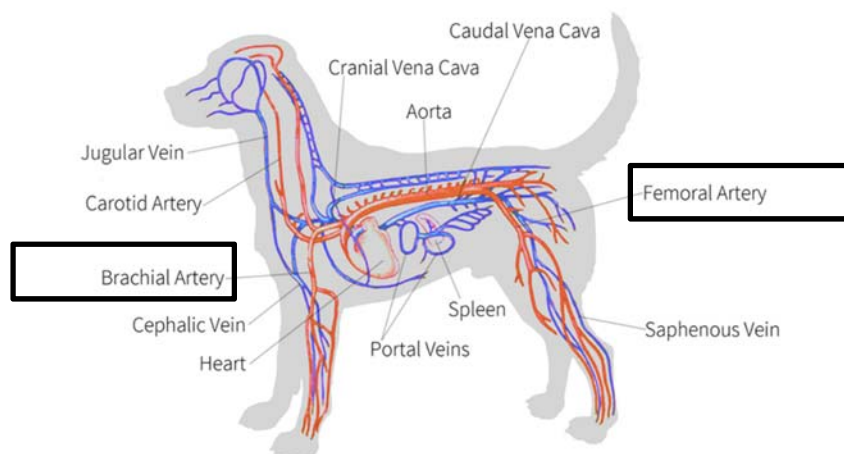
- Include:
 - circulatory
 - respiratory
 - digestive
 - **endocrine**
 - immune
 - integumentary
 - nervous
 - **skeletal**
 - reproductive

38. Circulatory System

- Is designed to pump and deliver blood to the body's tissues
- Is made up of the heart, **arteries**, veins and blood
- Is affected through disease by changes to blood levels, **abnormal** heart sounds and beats, fluid around the heart and anemia

39. Circulatory System

HEART AND BLOOD VESSELS



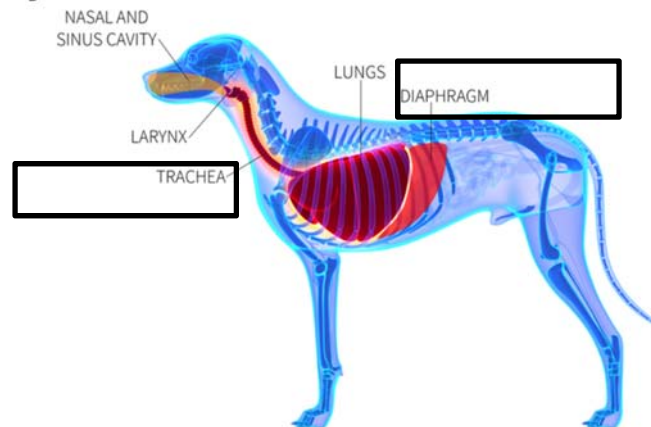
40. Respiratory System

- Is made up of the nose, mouth, **trachea**, bronchi and lungs
- Provides the body with the exchange of oxygen and carbon dioxide
- Is affected by disease through coughing, **damage** to the lungs and labored breathing

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41. Respiratory System



42. Digestive System

- Breaks down food into simple substances which can be absorbed by the body
- Absorbs digested parts of food into the blood stream
- Is affected by disease through diarrhea, weight loss, intestinal damage and poor appetite

43. Digestive System

- Includes four basic types of systems:
 - monogastric (simple)
 - ruminant (polygastric)
 - hindgut-fermenter
 - avian

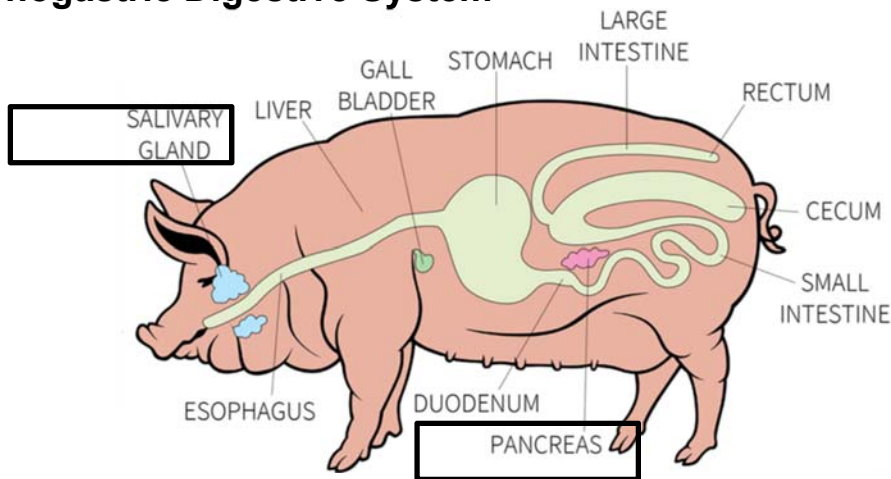
44. Monogastric Digestive System

- Contains a single-chambered stomach
- Stomach is very muscular and stores ingested food and moves it into the small intestine
- Is found in humans, swine, dogs and cats

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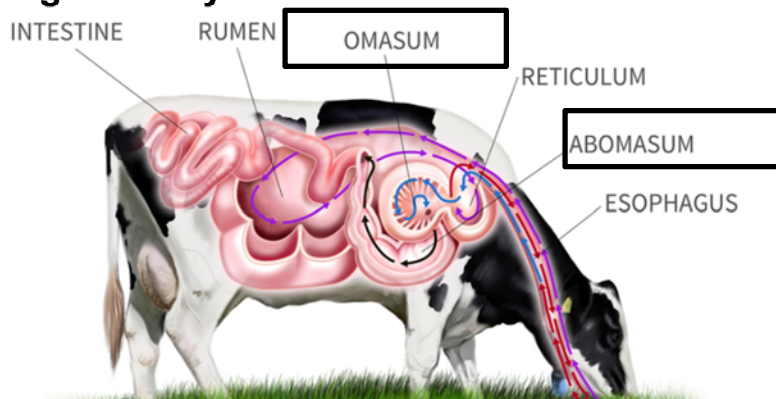
45. Monogastric Digestive System



46. Ruminant Digestive System

- Also known as polygastric
- Contains one large stomach which is divided into **four** compartments
 - Including:
 - **rumen**
 - reticulum
 - omasum
 - abomasum
- Is found in cattle, sheep and goats

47. Ruminant Digestive System



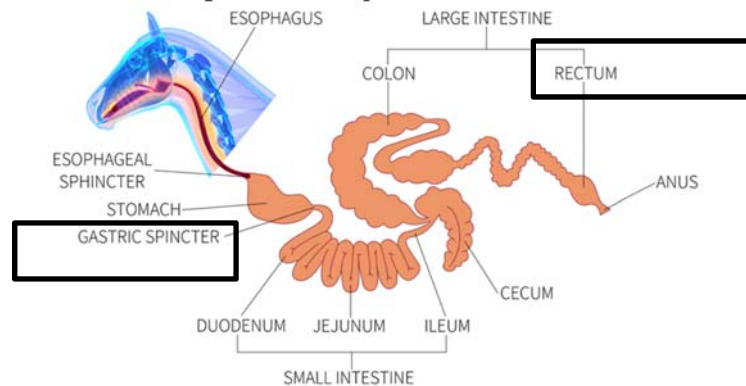
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48. Hindgut-Fermenter Digestive System

- Is found in animals who eat large amounts of roughage
- Is similar to ruminants, however does not have stomachs with several compartments
- Is found in horses, rabbits, guinea pigs and hamsters

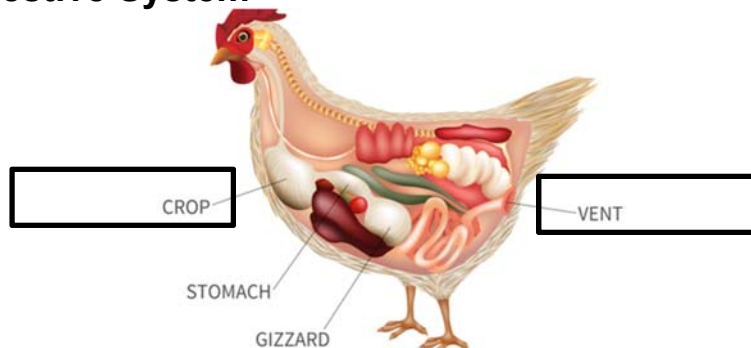
49. Hindgut-Fermenter Digestive System



50. Avian Digestive System

- Highly differs from the previous digestive systems because the bird has no teeth
- Is made up of the esophagus which empties directly into the crop, where the food is stored and then grinded by the gizzard with stones or grit
- Is a very fast process

51. Avian Digestive System



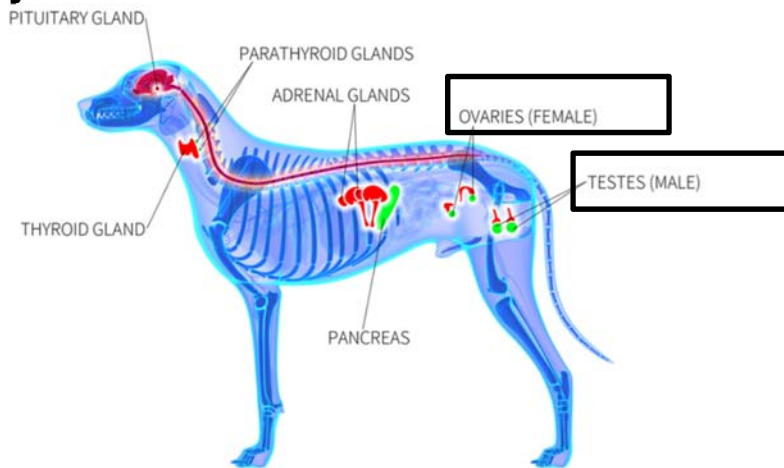
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52. Endocrine System

- Produces hormones which regulate metabolism, growth and development, tissue and sexual function, **reproduction**, sleep and mood
- Is made up of the pituitary gland, **thyroid gland**, parathyroid glands, adrenal glands, pancreas, ovaries and testicles
- Is affected by disease through poorly developed or swollen glands

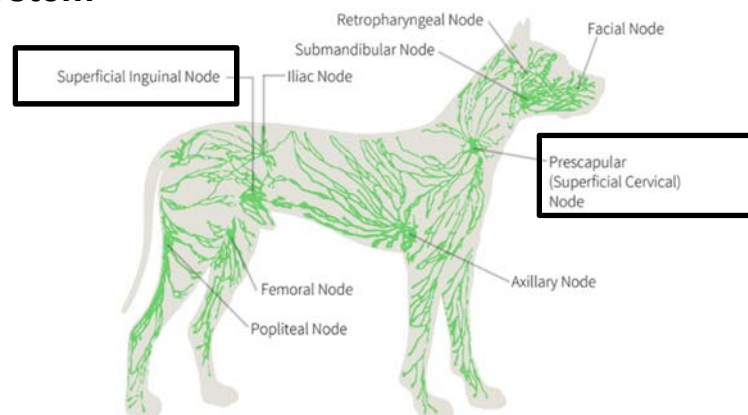
53. Endocrine System



54. Immune System

- Defends the body against **infectious** organisms and other invaders
- Attacks organisms and substances which invade an animal's system and causes diseases
- Is made up of **lymph nodes**, cells, proteins, tissues and organs
- Is affected by disease through reduced immune response

55. Immune System



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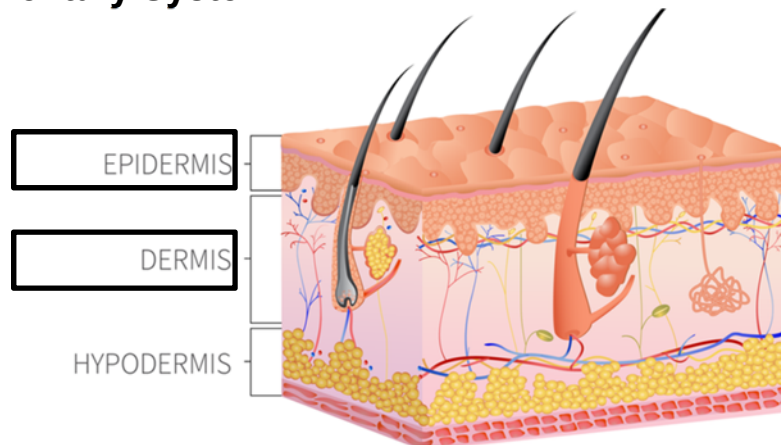
56. Integumentary System

- Protects the animal's body from disease by providing a **barrier** to viruses and bacteria
- Protects the body from dehydration, overheating or freezing
- Is affected by disease through **irritation**, itching, scratching, rough hair coat, hair falling out, crusty skin and lesions

57. Integumentary System

- Is the largest organ in the body and includes the following:
 - hair
 - feathers
 - scales
 - nails
 - **hooves**
 - horns
 - skin

58. Integumentary System



59. Nervous System

- Transmits signals to different parts of the animal's body and operates basic body functions like **breathing** and digestion
- Is affected by disease through poor coordination, tremors, **convulsions** and changes to behavior

60. Nervous System

- Includes:
 - central **nervous** system

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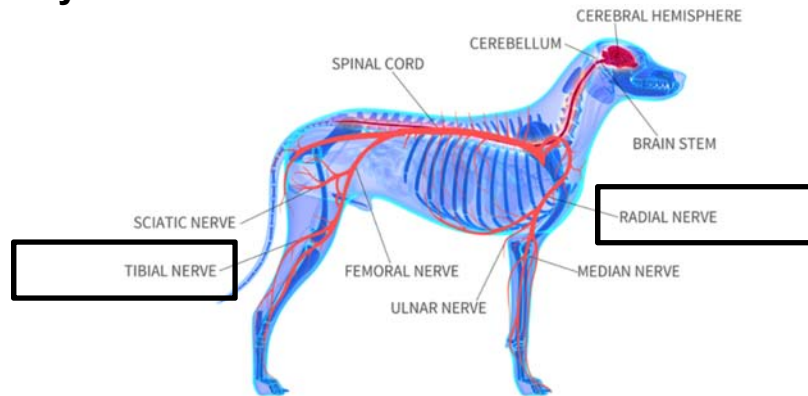
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- which is the brain and spinal cord
- peripheral nervous system
 - which is made up of the nerves and **ganglia**

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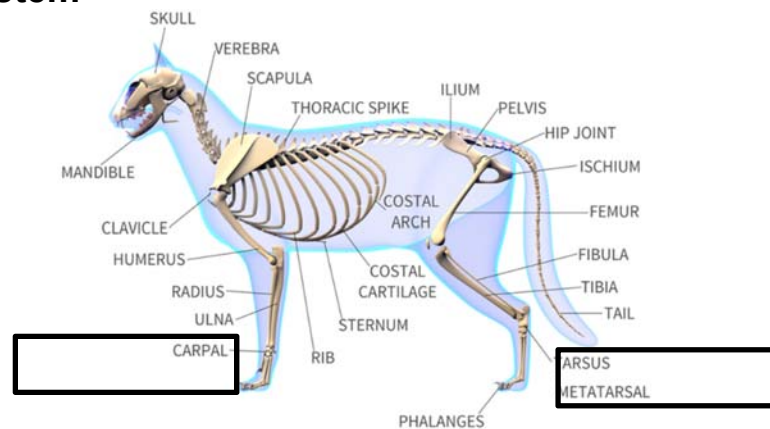
61. Nervous System



62. Skeletal System

- Protects and supports the body tissues and internal organs
- Is made up of bones and other **connective** tissues
- Is affected by **disease** through poor growth, muscle weakness, stiffness, lameness and muscle tremors

63. Skeletal System



64. Reproductive System

- Is a **system** of sex organs within animals which work together for the purpose of sexual reproduction
- Is affected by disease through lowered **fertility** rates, lactation problems and reproductive unsoundness

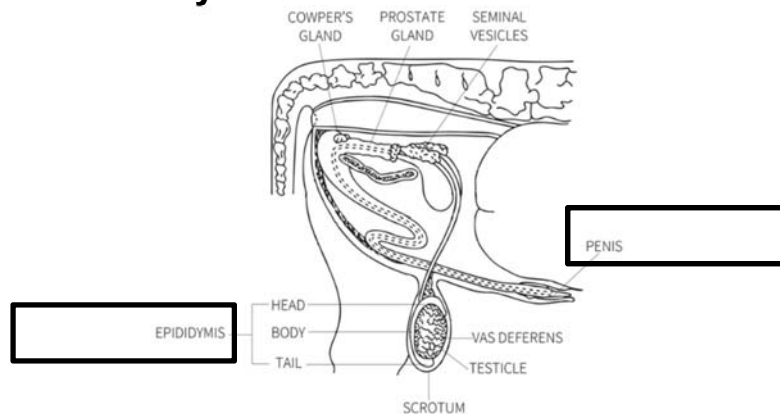
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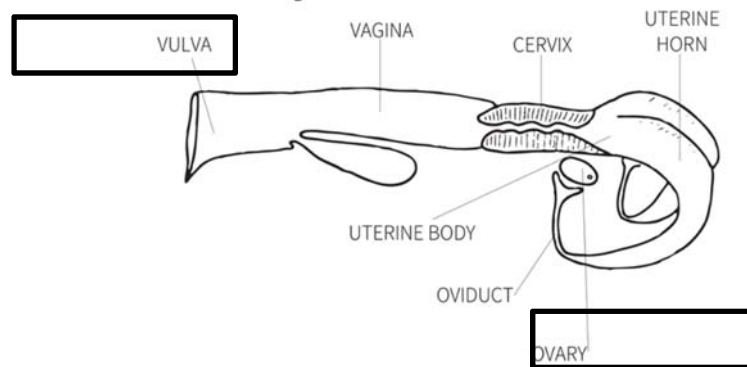
65. Reproductive System

- Female anatomy includes:
 - ovaries
 - **uterus**
 - vagina
 - vulva
 - utter
- Male anatomy includes:
 - penis
 - **testes**

66. Male Reproductive System



67. Female Reproductive System



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Disease in Dogs Segment

1. Common Dog Diseases

- Include:
 - heart disease
 - **heartworm** disease
 - canine distemper
 - canine parvovirus
 - kennel cough
 - **lyme** disease

2. Canine Heart Disease

- Can be present at birth or acquired
- Normally develops during **middle age**
- Causes heart failure
 - results from the heart's **inability** to pump blood at a rate required to meet the body's needs

3. Canine Heart Disease

- Symptoms include:
 - early stages have no **visible signs**
 - heart enlargement
 - coughing
 - difficulty **breathing**
 - loss of appetite

4. Canine Heart Disease

- Treatment includes:
 - there is no cure, but medications can be provided by your **veterinarian** to treat the symptoms
- Prevention includes:
 - regular check-ups
 - **moderate** exercise
 - balanced diet

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5. Heartworms

- Can affect any dog whether it is an indoor or outdoor pet
- Occurs when an infected female **mosquito** bites a dog and the larvae migrate through the tissues and eventually into a dog's heart
- When mature are from **six to 14 inches** long

6. Heartworms

- Symptoms may not be visible until later stages of **infection**
- Symptoms include:
 - dull coat
 - lack of energy
 - coughing and difficulty **breathing**
 - enlarged abdomen

7. Heartworms

- Treatment can be dangerous, expensive and includes the following:
 - involves a series of injections
 - no **vigorous** activity
 - large amounts of rest
 - preventive medication given once **heartworms** are eliminated

8. Heartworms

- Prevention includes:
 - once-a-month heart worm oral **medication** year round
 - **testing** for heartworms at least once a year

9. Canine Distemper

- Is a virus
- Damages a dog's **nervous** system
- Is highly contagious
- Is transmitted by contact with **infected** urine, fecal material or saliva

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10. Canine Distemper

- Symptoms can be mild to extreme and include the following:
 - constant squinting
 - **congestion** of the eyes
 - pus discharge from the eyes and nose
 - **weight** loss
 - vomiting

11. Canine Distemper

- Treatment includes:
 - there is no cure, but medications can be given to treat **symptoms**
- Prevention includes:
 - **vaccination** is the best method
 - should occur when dogs receive early shots
 - isolation of sick dogs away from non-infected dogs

12. Canine Parvovirus (CPV)

- Is also called Parvo
- Is a viral disease which attacks the intestinal tract, **white** blood cells and the heart
- Is spread by dog-to-dog contact
 - fecal material of infected dogs can be carried on the hair and feet of dog, **contaminated** cages or shoes
- Is less likely to occur in single dog homes

13. Canine Parvovirus (CPV)

- Symptoms include:
 - **depression**
 - loss of appetite
 - vomiting
 - **diarrhea**
 - fecal discoloration
 - blood in feces

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14. Canine Parvovirus (CPV)

- Treatment includes:
 - combat dehydration with water and **electrolytes**
 - **antibiotics** given in the form of a shot or IV
 - rest

15. Canine Parvovirus (CPV)

- Prevention includes:
 - vaccination
 - **booster** vaccinations
 - proper cleaning of kennels
 - keeping dogs away from **fecal waste** of other dogs

16. Kennel Cough

- Is formally known as canine **bordetellosis** or bordetella
- Is caused by the bacteria Bordetella bronchiseptica
- Causes a severe **chronic** cough
- Is transmitted by contact with the nasal secretions of infected dogs

17. Kennel Cough

- Symptoms include:
 - dry hacking cough followed by **gagging**
 - watery nasal discharge
 - **lethargic**
 - fever
 - pneumonia

18. Kennel Cough

- Treatment includes:
 - for **mild cases**, let the disease run its course with a cough suppressant being administered
 - for severe cases, **antibiotics** are administered, water should be kept available at all times

19. Kennel Cough

- Prevention includes:
 - avoid contact with other dogs, especially **puppies**
 - **vaccinate**

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20. Lyme Disease

- Is a bacterial infectious disease syndrome
- Is spread primarily by **ticks**
- Symptoms can last months after the **disease** has been treated

21. Lyme Disease

- Symptoms include:
 - fever
 - loss of appetite
 - **acute** lameness
 - arthritis
 - **weight** loss

22. Lyme Disease

- Treatment includes:
 - administering **antibiotics**
 - giving pain relievers
 - is a long process
- Prevention includes:
 - avoiding ticks
 - applying **tick dips**
 - vaccinations

Disease in Cats Segment

1. Common Cat Diseases

- Include:
 - heartworm disease
 - feline **panleukopenia**
 - feline leukemia virus
 - feline **respiratory** disease

2. Heartworms

- Can affect any cat whether it is an indoor or outdoor pet
- Occurs when an infected female mosquito bites a cat and the **larvae** migrate through the tissues and eventually into a cat's heart
- Can also reside in the pulmonary **arteries**
- When mature are from nine to 11 inches long

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3. Heartworms

- Symptoms may not be visible until later stages of infection
- Symptoms include:
 - dull coat
 - lack of energy
 - coughing and **difficulty** breathing
 - enlarged abdomen
 - **convulsions**
 - sudden death

4. Heartworms

- Treatment includes:
 - there are no approved treatments for cats
 - can use some dog treatments, but there are some side **effects** which can cause pulmonary failure
 - treat the **symptoms** of heart worms and hope the cat outlives the worms

5. Heartworms

- Prevention includes:
 - once-a-month heart worm oral **medication** year round
 - testing for heartworms at least once a **year**

6. Feline Panleukopenia

- Is also called feline distemper
- Is a highly **contagious** viral disease
- Usually occurs in groups of cats
- Is passed from cat-to-cat by direct contact or by fecal waste from infected cats
- Destroys a cat's cells making them more susceptible to other diseases and **infections**
- Has a very high mortality rate

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7. Feline Panleukopenia

- Symptoms include:
 - loss of **appetite**
 - depression
 - high fever
 - lethargy
 - **vomiting**
 - dehydration

8. Feline Panleukopenia

- Treatment includes:
 - if reached is limited to supportive **therapy**
 - there are no antibiotics
 - try to combat **dehydration** and malnutrition
 - strict isolation
 - constant attention

9. Feline Panleukopenia

- Prevention includes:
 - some cats will have immunity due to a **survived** mild case or have received the **immunity** from their mother
 - vaccinations

10. Feline Leukemia Virus

- Is a fatal **retrovirus** affecting the cat's immune system
- Increases the cat's susceptibility to other disease
- Can be spread by contaminated nasal secretions, infected urine, feces and milk
- Does not survive for long **outside** of a cat's body

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11. Feline Leukemia Virus

- Symptoms include:
 - weight loss
 - recurring **chronic** illness
 - lethargy
 - fever
 - diarrhea
 - erratic **breathing** patterns
 - yellow color around the mouth

12. Feline Leukemia

- Treatment includes:
 - there is no cure
 - confine cat to prevent exposure to **non-infected** cats
 - feed nutritionally balanced diets
 - avoid feeding raw foods
 - schedule check-ups for cat
- Prevention includes:
 - **avoidance** of infected cats
 - vaccination

13. Feline Respiratory Diseases

- Include the following:
 - feline viral rhinotracheitis
 - feline calicivirus
 - feline **pneumonitis**
- Are highly contagious
- Are transmitted from cat-to-cat through direct contact, through the air by sneezing or **coughing** or by humans if they have been close to infected cats

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14. Feline Respiratory Diseases

- Symptoms include:
 - runny nose
 - **sneezing**
 - coughing
 - lethargy
 - fever
 - loss of **appetite**

15. Feline Respiratory Diseases

- Treatment includes:
 - **administering** antibiotics
 - ensuring food and water intake
 - rest
- Prevention includes:
 - vaccination
 - **avoidance** of infected animals

Disease in Birds Segment

1. Common Bird Diseases

- Include the following:
 - psittacine beak and feather disease
 - **pacheco's** disease
 - polyoma virus
 - **psittacine** wasting disease
 - bacterial infections
 - aspergillosis

2. Psittacine Beak & Feather Disease

- Is a highly contagious viral infection
- Is mainly found in cockatoos, but is potentially contagious to all **psittacine** birds
- Is an airborne virus normally spread in bird nurseries, pet shops, bird fairs and when birds are brought together in **stressful** conditions
- Attacks the beak and feathers of birds as well as decreases the efficiency of the immune system

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3. Psittacine Beak & Feather Disease

- Symptoms include:
 - irreversible loss of feathers
 - shedding of **developing** feathers
 - abnormal feather development
 - loss of powder down
 - **abnormal** beak with lesions
 - weight loss

4. Psittacine Beak & Feather Disease

- Treatment includes:
 - there is no **treatment** available at this time
- Prevention includes:
 - there is no vaccine available at this time
 - strict isolation of diseased birds to **inhibit** the spread of the disease
 - DNA testing of birds
 - keep facilities clean

5. Pacheco's Disease

- Is caused by a herpes virus which attacks the liver
- Results in liver failure and eventually **death**
- Is spread through infected feces and nasal discharge
- Is very stable outside the **host body** so it can contaminate the air, surfaces, food and water aiding in the spread of the disease

6. Pacheco's Disease

- Symptoms include:
 - lethargy
 - diarrhea
 - **ruffled** feathers
 - weight loss
 - **eye** infections
 - tremors in the neck, wings and legs

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7. Pacheco's Disease

- Treatment includes:
 - is limited to **supportive** care
 - treat with antibiotics to minimize the spread of the virus
 - acyclovir, an antiviral **medication**, is helpful on decreasing the mortality of the disease

8. Pacheco's Disease

- Prevention includes:
 - **vaccination** and yearly boosters
 - quarantine and test new birds
 - isolate any bird which could be **shedding** the virus
 - disinfect all surfaces with bleach

9. Polyoma Virus

- Is a virus also known as Budgerigar Fledgling Disease
- Is one of the most significant **threats** to caged birds
- Infects almost all parrot species
- Is most lethal to young birds
- Is spread through feather dust, aerosols, **parental** feeding of chicks, direct contact with infected environments and carrier birds

10. Polyoma Virus

- Symptoms include:
 - swollen **abdomen**
 - depression
 - loss of appetite
 - weight loss
 - **regurgitation**
 - diarrhea
 - dehydration
 - tremors
 - paralysis

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11. Polyoma Virus

- Treatment includes:
 - no **treatment** is available at this time
- Prevention includes:
 - vaccination of all birds
 - **quarantine** new birds
 - disinfect all surfaces the bird comes in contact with using bleach

12. Bacterial Infections

- Often occur when the bird is stressed, suffers from poor nutrition, inadequate care or the **bacterial** population overwhelms the bird's immune system
- Can be given to birds by humans
- Can cause organ damage and even death
- Include:
 - upper **respiratory** infections
 - urinary tract infections
 - intestinal infections

13. Upper Respiratory Infections

- Symptoms include:
 - sneezing
 - **nasal** discharge
 - inflamed eyes
 - **swelling** of the head

14. Upper Respiratory Infections

- Treatment includes:
 - administration of an oral **antibiotic**
 - eye or nasal drops
 - increased fluid intake
- Prevention includes:
 - reduce stress of the bird
 - feed a **balanced** diet
 - keep areas where the bird will be clean

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15. Intestinal Infections

- Symptoms include:
 - loss of **appetite**
 - vomiting
 - **diarrhea**
 - depression

16. Intestinal Infections

- Treatment includes:
 - administering an antibiotic
 - supportive therapy
 - **incubation**
 - tube feeding
- Prevention includes:
 - check food for **spoilage**
 - keep water and cage clean
 - do not feed birds from your mouth

17. Aspergillosis

- Is a fungal infection
- Is caused by an endotoxin which is produced by the **fungus**
- Is considered to be opportunistic as it mainly occurs in birds with a suppressed immune system
- Can be caused by **malnutrition**, inadequate housing and contaminated feed
- Is grown in the air sacs of a bird's upper respiratory system

18. Aspergillosis

- Symptoms include:
 - respiratory distress
 - voice changes
 - **abnormal** feces
 - regurgitation
 - poor appetite
 - **lesions** in the lungs, air sacs and trachea

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19. Aspergillosis

- Treatment includes:
 - **antifungal** treatments
 - immune stimulants
 - surgery (if needed)
- Prevention includes:
 - minimize stress and **overcrowding**
 - provide proper ventilation
 - feed a proper diet

Disease in Rabbits Segment

1. Common Rabbit Diseases

- Include the following:
 - snuffles
 - **heat stroke**
 - wryneck

2. Snuffles

- Is a bacterial infection caused by the bacterial **organism** Pasteurella
- **Bacteria** resides in the nose, lungs and eye membranes

3. Snuffles

- Is a respiratory disease, but may also include ear infections, pneumonia, heart problems, abscesses, eye problems and **septicemia**
- Is spread among chronically **infected** animals and their litters or between breeding males and females

4. Snuffles

- Symptoms include:
 - sneezing
 - runny nose
 - stained yellow nose and paws from the **mucus**
 - **matted** eyes

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5. Snuffles

- Treatment includes:
 - administer **antibiotics** to treat clinical signs
 - bacteria will never be completely removed from an infected rabbit, so **relapsing** can occur which will require additional treatment

6. Snuffles

- Prevention includes:
 - test new rabbits prior to exposure with other rabbits
 - **quarantine** new rabbits
 - sanitize areas where the rabbit will be located
 - decrease **stress**
 - provide proper food, water and housing

7. Heat Stress

- Is the common cause of heat strokes in rabbits
- Is **extremely** likely to occur in overweight or heavily furred rabbits, when the environmental temperature is above 85°F (29°C) and high **humidity**

8. Heat Stress

- Symptoms include:
 - panting
 - salivation
 - **ear reddening**
 - weakness
 - delirium
 - convulsions

9. Heat Stress

- Treatment includes:
 - **lower** body temperature
 - spray or bathe rabbits with cool water
 - apply cold running water to **ear flaps**
 - increase fluids

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10. Heat Stress

- Prevention includes:
 - provide adequate shade from the sun, proper **ventilation**
 - continuous **mist** or spray of water
 - have a fan in the area of the rabbit to keep it cool

11. Wryneck

- Is a severe twisting of the head which causes coordination problems and sometimes total **incapacitation**
- Is most often a result of a bacterial infection of the inner ear
- Can also be caused by ear mites, cancer or **nutritional** imbalances

12. Wryneck

- Symptoms include:
 - rabbit's head is often turned to one side
 - recent ear infection
 - **uncoordination**
 - shaking head
 - lethargic
 - loss of **appetite**

13. Wryneck

- Treatment is dependent upon the cause, includes the following:
 - if caused by ear infection, an **antibiotic** is used
 - if caused by ear mites, the mites should be removed with an approved pesticide
 - if caused by a nutritional **imbalance**, the imbalance should be identified and corrected through the use of supplements

14. Wryneck

- Prevention includes:
 - keep rabbit's ears **clean**
 - feed a **balanced** diet

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Disease in Guinea Pigs Segment

1. Common Guinea Pig Diseases

- Include the following:
 - scurvy
 - **bordetellosis**
 - salmonellosis

2. Scurvy

- Is caused by a **Vitamin C** deficiency
- Causes connective tissue cells to not produce **collagen** at a normal rate
- Causes weak bones which are easily traumatized

3. Scurvy

- Symptoms include:
 - **hemorrhages** in the joints and gums
 - loose teeth
 - rough hair coat
 - loss of appetite
 - **lameness**

4. Scurvy

- Treatment includes:
 - supplementation with vitamin C by **injection** or orally
 - balancing the diet to include more vitamin C
- Prevention includes:
 - feed a balanced diet which includes plenty of vitamin C to meet the needs of the **guinea pig**

5. Bordetellosis

- Is a bacterial infection of the **respiratory** system caused by Bordetella bronchiseptica
- Affects guinea pigs of all ages
- Is spread from animal to animal through direct contact
- Is carried by guinea pigs who have had the **disease** and survived

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6. Bordetellosis

- Symptoms include:
 - **abnormal** breathing patterns
 - nasal discharge
 - loss of **appetite**
 - weight loss

7. Bordetellosis

- Treatment includes:
 - is often **unsuccessful**
 - antibiotics can be given to ease symptoms
- Prevention includes:
 - **vaccination**

8. Salmonellosis

- Is a bacterial infection
- Is transmitted by **ingesting** contaminated food, water, bedding or feces
- Can be spread by animal's who have survived the disease and are now carriers
- Bacteria can enter the guinea pig's **system** through the eyes

9. Salmonellosis

- Symptoms include:
 - depression
 - lethargy
 - **anorexia**
 - weight loss
 - rough hair coat
 - eye **infections**

10. Salmonellosis

- Treatment includes:
 - administer antibiotics to treat **symptoms**
- Prevention includes:
 - **quarantine** new animals
 - keep housing clean
 - always feed clean food and keep water clean

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Disease in Hamsters Segment

1. Common Hamster Diseases

- Include the following:
 - **wet** tail
 - cancer
 - **bladder** stones

2. Wet Tail

- Is also known as **proliferative** ileitis
- Is a serious bacterial intestinal disease
- Is an extremely **contagious** disease

3. Wet Tail

- Symptoms include:
 - **lethargy**
 - hunched posture
 - extreme **diarrhea**
 - rectal prolapse

4. Wet Tail

- Treatment includes:
 - fluid replacement therapy
 - oral **anti-diarrheal** medication
 - antibiotics
 - is often not successful
- Prevention includes:
 - sanitize cage often
 - do not breed **hamsters** which have had wet tail
 - keep the stress level of the hamster low

5. Cancer

- Is a disease caused by an **uncontrolled** division of abnormal cells
- Is extremely common in hamsters
- Is more likely to affect the **female** than the male

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6. Cancer

- Symptoms include:
 - tumors or **abscesses**
 - lethargy
 - loss of **appetite**

7. Cancer

- Treatment includes:
 - removal of tumors or abscesses if **malignant**
 - is very difficult to complete and very expensive
- Prevention includes:
 - no known **method** of prevention in hamsters

8. Bladder Stones

- Are also known as **urinary calculi**
- Can occur in all animals, but are very **prevalent** in hamsters due to their small size

9. Bladder Stones

- Symptoms include:
 - **urinary** tract infection
 - trouble urinating
 - increased water **consumption**

10. Bladder Stones

- Treatment includes:
 - removing bladder stones
 - administering **antibiotics**
- Prevention includes:
 - managing hamster's diet, but is not **practical**