Chronic Valvular Disease

Diagnostic Plan
- History
- Physical examination
- Chest auscultation
- Chest palpation
- Blood work
- Urinalysis
- Chest x-rays
- Electrocardiography
- Heartworm check
- Echocardiography
- Angiography

Therapeutic Plan
- Digitalis
- Diuretics
- Drugs that dilate blood vessels
- Drugs that correct abnormal heart rhythms
- Exercise restriction

Dietary Plan
- A mildly restricted sodium diet or a moderately restricted sodium diet
- If necessary, change to a severely restricted sodium diet
Adult heartworms in the pulmonary arteries, right atrium, and right ventricle. Disease within the pulmonary arteries leads to right ventricular dilation, hypertrophy, and failure.

Heartworm Disease

**Diagnostic Plan**
- History
- Physical examination
- Heartworm check
- Blood work
- Urinalysis
- Chest x-rays
- Electrocardiography
- Echocardiography

**Therapeutic Plan**
- Drugs to kill adult worms
- Restricted exercise
- Aspirin
- Corticosteroids
- Drugs to kill larvae in the bloodstream
- Prevention
- Surgery

**Dietary Plan**
- A diet with controlled levels of protein, phosphorus, and sodium
- Consider body condition
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Canine Dilated Cardiomyopathy

A globular-shaped heart with severe dilation of both atria and ventricles

Abnormally thin ventricular walls

Atrophied papillary muscle

Canine Dilated Cardiomyopathy

**Diagnostic Plan**
- History
- Physical examination
- Urinalysis
- Blood work
- Chest x-rays
- Electrocardiography
- Echocardiography
- X-rays of the heart after dye injection

**Therapeutic Plan**
- Enforced rest
- Removal of fluid from the chest and abdomen
- Diuretics
- Drugs that strengthen the heart
- Drugs that dilate blood vessels
- Bronchodilators
- Oxygen therapy

**Dietary Plan**
- A diet that avoids excess levels of sodium
Feline Hypertrophic Cardiomyopathy

Abnormally increased muscle mass due to a hypertrophied, nondilated left ventricle

Feline Hypertrophic Cardiomyopathy

Diagnostic Plan
- History
- Physical examination
- Chest auscultation
- Palpation of femoral pulses and hindlimb musculature
- Blood work
- Urinalysis
- Electrocardiography
- Chest x-rays
- Echocardiography
- X-rays of the heart and abdominal blood vessels after dye injection

Therapeutic Plan
- Enforced rest
- Bronchodilators
- Oxygen therapy
- Removal of fluid from the chest and abdomen
- Drugs that dilate blood vessels
- Aspirin
- Beta blockers
- Heparin
- Surgery

Dietary Plan
- A diet that avoids excess levels of sodium
Feline Dilated Cardiomyopathy

A globular heart with severe dilation of all four chambers. Depressed ventricular contractile performance occurs. Ventricular dilation distorts the atrioventricular valves leading to mitral regurgitation and atrial enlargement.

Feline Dilated Cardiomyopathy

Diagnostic Plan
- History
- Physical examination
- Chest auscultation
- Palpation of femoral pulses and hindlimb musculature
- Blood work
- Urinalysis
- Electrocardiography
- Chest x-rays
- Echocardiography
- X-rays of the heart and abdominal blood vessels after dye injection
- Plasma taurine analysis

Therapeutic Plan
- Enforced rest
- Diuretics
- Bronchodilators
- Oxygen therapy
- Removal of fluid from the chest and abdomen
- Drugs that dilate blood vessels
- Drugs that strengthen the heart
- Heparin
- Surgery

Dietary Plan
- A diet that contains adequate levels of taurine and avoids excess levels of sodium
Normal Lymph Node Architecture

- Cortex
- Lymphocytes
- Efferent lymphatic vessels
- Germinal center
- Afferent lymphatic vessel
- Medulla
Lymphosarcoma

The tumor mass is often white on the cut surface, and the capsule is thinned. Microscopically, malignant cells have replaced normal cells and destroyed the normal architecture of the lymph node.

Lymphosarcoma

Diagnostic Plan
- History
- Physical examination
- Blood work
- FIV test
- X-rays
- Urinalysis
- Biopsy of tissues
- Cell studies
- Endoscopy
- Exploratory surgery
- Examinations of chest and abdominal fluid
- Bone marrow biopsy
- Cerebral spinal fluid examination

Therapeutic Plan
- Supportive therapy
- Chemotherapy
- Surgical excision
- Radiation

Dietary Plan
- A diet based on individual patient evaluation including body condition and other organ system involvement or disease
Periodontal Disease

Diagnostic Plan
- History
- Physical examination
- Oral examination

Therapeutic Plan
- Tooth scaling above and below the gumline
- Tooth polishing
- Extraction
- Surgery
- Antibacterials
- Tooth brushing

Dietary Plan
- Postsurgery or extractions, a food with nutritional characteristics that support tissue repair. A soft food may minimize postprocedural discomfort.
- Long term, a food with formulation and texture that slows the accumulation of plaque and tartar.
Carnassial Tooth Abscess

Diagnostic Plan
- History
- Physical examination
- Oral examination

Therapeutic Plan
- Tooth extraction

Dietary Plan
A diet based on overall patient evaluation including body condition and other organ system involvement.
- A soft diet may minimize postsurgical pain.
Hemorrhagic Gastritis with Ulcers

Diffuse redness of the mucosa due to active inflammation and hemorrhage.

Gastric ulcers

**Diagnostic Plan**
- History
- Physical examination
- Blood work
- Stool check for blood
- Stool check for parasites
- Urinalysis
- X-rays of the stomach
- Endoscopy
- Gastric fluid analysis
- Gastric biopsy

**Therapeutic Plan**
- Nothing orally for 12 to 24 hours
- Fluid therapy
- Gastric lavage
- Antiemetic drugs
- Whole blood
- Antacids
- Drugs to inhibit gastric acid secretion
- Surgery

**Dietary Plan**
- A diet based on overall patient evaluation including body condition and other organ systems
- A diet with moderate to low levels of fat, fiber, and protein to minimize dietary-induced delays in gastric emptying
- For pets with gastritis caused by food allergy, a hypoallergenic diet
Normal Stomach

Sequence of Gastric Dilatation with Torsion

Clockwise rotation as viewed from a ventral position

The pyloric antrum is displaced downward.

The pylorus crosses the midline, passes underneath the distended proximal part of stomach, and moves upward along the left abdominal wall.
Gastric Dilatation with Torsion

Clockwise torsion of the stomach; the organ is greatly enlarged.

Duodenum displaced to the left.

Hemorrhages on the stomach’s surface.

The greater omentum covers the stomach’s surface.

The gastric fundus moves ventrally and becomes located in the ventral abdomen.

The continuing gastric dilatation displaces the greater curvature ventrally.

Gastric Dilatation with Torsion

Diagnostic Plan
- History
- Physical examination
- X-rays of the stomach
- Blood work

Therapeutic Plan
- Stomach distention relief
- Shock therapy
- Surgery

Dietary Plan
- A low-residue diet, fed in small portions
- Avoid excessive postprandial exercise
Foreign Bodies

Dilated loops of bowel cranial to the obstruction

Congested mesenteric blood vessels

Foreign body

Foreign Bodies

Diagnostic Plan
- History
- Physical examination
- Abdominal palpation
- Abdominal x-rays
- Upper G.I. series
- Stool analysis
- Blood tests
- Urinalysis
- Endoscopy

Therapeutic Plan
- Fluid therapy
- Antibiotics
- Surgery (to remove foreign bodies)
- Nothing by mouth for 24-48 hours

Dietary Plan
- Postsurgically, a low-residue diet fed in small portions
- Consider overall patient condition when determining the protein level and caloric density of the diet
Parvoviral Enteritis

Viral particle

The virus typically affects the small intestine

Mitochondria

Golgi apparatus

Nucleus

Paroviruses infecting an intestinal epithelial cell

Paroviral Enteritis

Diagnostic Plan
- History
- Physical examination
- Stool analysis
- Blood tests
- Urinalysis
- Abdominal x-rays
- Upper G.I. series
- Endoscopy with tissue biopsy

Therapeutic Plan
- Nothing by mouth
- Fluid therapy
- Intestinal protectants
- Antibacterials

Dietary Plan
- A highly digestible diet
- Consider overall patient condition when determining the protein level and caloric density of the diet
Intussusception

**Obstruction of the small intestine caused by the telescoping of a segment of intestine into an adjacent segment.**

**Congested mesenteric blood vessels.**

**A loop of intestine within an adjacent segment of intestine.**

**The mesentery and blood vessels supporting the invaginating segment of bowel are included in the intussusception.**

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**Intussusception**

**Diagnostic Plan**
- History
- Physical examination
- Abdominal palpation
- Abdominal x-rays

**Therapeutic Plan**
- Fluid therapy
- Surgery
- Removal of the cause
- Nothing by mouth

**Dietary Plan**
- Postsurgically, a low-residue diet fed in small portions
- Consider overall patient condition when determining the protein level and caloric density of the diet
Chronic Colitis

Diagnostic Plan
- History
- Physical examination
- Stool analysis
- Abdominal palpation
- Rectal palpation
- Stool culture
- Blood work
- Urinalysis
- X-rays of the colon
- Colonoscopy and biopsy

Therapeutic Plan
- Antibacterials
- Dewormers
- Anti-inflammatory drugs

Dietary Plan
- High-fiber diets benefit some cases of colitis
- If a high-fiber diet is ineffective, a dietary trial using a low-residue diet is indicated
- For a food-allergy-induced colitis, a hypoallergenic diet is indicated

Friable mucosa that bleeds easily

Ulcers
Normal Feline Colon

- Rectum
- Descending colon
- Transverse colon
- Ascending colon
- Small intestine
Constipation/Colonic Impaction

Extreme dilation of the descending colon due to impacted feces

Dilated descending colon

Mass of impacted feces in the descending colon

Constipation/Colonic Impaction

**Diagnostic Plan**
- History
- Physical examination
- Rectal palpation
- Abdominal palpation
- Abdominal x-rays

**Therapeutic Plan**
- Fluid therapy
- Laxatives
- Enemas
- Manual removal of impacted stool
- Surgery
- Treat primary cause, if possible

**Dietary Plan**
- A moderate- to high-fiber diet
- Ensure adequate water intake
**Acute Pancreatitis**

**Diagnostic Plan**
- History
- Physical examination
- Blood work
- Urinalysis
- Abdominal x-rays

**Therapeutic Plan**
- Fluid therapy
- No oral medication or food
- Antibacterials
- Drugs to suppress vomiting

**Dietary Plan**
- When resuming enteral nutrition, small portions of a diet low in fat and residue
- After the initial episode, manage hyperlipidemia, if necessary

Swollen, inflamed pancreas with areas of hemorrhage
Exocrine Pancreatic Insufficiency

Diagnostic Plan
- History
- Physical examination
- Stool analysis
- Absorption tests
- Blood work
- Intestinal biopsy

Therapeutic Plan
- Pancreatic enzymes
- Medium-chain fats
- Antacids
- Drugs that inhibit acid secretion in the stomach

Dietary Plan
- A highly digestible diet
- Consider overall body condition
- Feed quantities sufficient to maintain normal body weight

Shrunken pancreatic lobes with reduced production of digestive enzymes
End-Stage Liver Disease

Fibrous connective tissue between regenerative nodules

Regenerative nodules

Fatty change of liver cells

Fibrous connective tissue separating parenchymal nodules

Reduced numbers of normal liver cells

End-Stage Liver Disease

Diagnostic Plan
- History
- Physical examination
- Abdominal palpation
- Blood work
- Abdominal x-rays
- Blood clotting time
- Urinalysis
- Liver biopsy

Therapeutic Plan
- Fluid therapy
- Cage rest
- Corticosteroids

Dietary Plan
- A diet that will reduce the need for certain liver functions
- Provide adequate protein, but avoid excess
- Consider possible need for controlled sodium intake
Normal Liver

- Left lateral lobe
- Caudal vena cava
- Caudate process of caudate lobe
- Portal vein
- Right lateral lobe
- Right medial lobe
- Quadrant lobe
- Gallbladder
- Papillary process of caudate lobe
- Lungs
- Kidney
- Omentum
- Liver
- Heart
- Diaphragm
- Gallbladder
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Hepatic Neoplasia

Central vein

Interlobular connective tissue

Tumors

Disruption of normal liver tissue by sheets of neoplastic cells

Hepatic Neoplasia

Diagnostic Plan
History
Physical examination
Blood work
Urinalysis
X-ray of the liver
Ultrasound
Liver biopsy
Exploratory surgery

Therapeutic Plan
Supportive care
Chemotherapy
Surgery

Dietary Plan
A diet based on individual patient evaluation including body condition and other organ system involvement
Special attention should be given to protein levels and amino-acid balance of the diet
Anal Sac Abscess

Diagnostic Plan
- History
- Physical examination
- Abscess culture

Therapeutic Plan
- Lancing of the abscess
- Anal sac expression
- Hot soaks
- Antiseptic solutions
- Antibacterials
- Anal sac removal

Dietary Plan
- Post-surgically, a diet adequate for tissue repair
Skin Abscess

Diagnostic Plan
- History
- Physical examination
- Abscess culture
- X-rays

Therapeutic Plan
- Hot compresses
- Abscess drainage
- Dead tissue removal
- Antibacterial therapy
- Surgery

Dietary Plan
- A diet adequate for tissue repair

Staphylococcus intermedius organisms

Ruptured abscess caused by a bite wound

Collection of pus in the walled-off abscess

Thickened skin walls around the abscess
Flea-Allergy Dermatitis

Flea punctures skin to feed.
Flea saliva sets up an antigen-antibody reaction.
Excoration and inflammation result from self-inflicted trauma.
Acute bacterial infection results.

Sequence of flea-allergy dermatitis

Flea-Allergy Dermatitis

Diagnostic Plan
- History
- Physical examination
- Detection of fleas, flea dirt, and tapeworm segments
- Intradermal skin testing

Therapeutic Plan
- Flea control
- Corticosteroids

Dietary Plan
- A diet adequate for tissue repair

Self-inflicted trauma results in erythema, papules, pustules, crusts, and hair loss in areas where fleas feed.
Intervertebral Disk Disease

Diagnostic Plan
- History
- Physical examination
- Neurologic examination
- X-rays of the spine

Therapeutic Plan
- Enforced rest
- Anti-inflammatory drugs
- Analgesics
- Muscle relaxants
- Surgery
- Physical therapy

Dietary Plan
- Post-surgically, a diet adequate for tissue repair
- If obesity is a complicating factor, restrict caloric intake so the patient reaches and maintains an ideal body weight
Normal Shoulder

- Scapula
- Shoulder joint
- Humeral head
- Humerus
Osteochondritis Dissecans

Diagnostic Plan
History
Physical examination
X-rays

Therapeutic Plan
Surgery

Dietary Plan
Post-surgically, a diet adequate for tissue repair and patient growth
Avoid overeating throughout life

Free-floating fragment of cartilage and bone within the shoulder joint
Site of detachment
Normal Elbow

- Humerus
- Ulna
- Radius
- Anconeal process
Ununited Anconeal Process/Panosteitis

Ununited Anconeal Process
Diagnostic Plan
- History
- Physical examination
- X-rays of the elbow

Therapeutic Plan
- Surgery

Dietary Plan
- Postsurgically, a diet adequate for tissue repair and patient growth

Panosteitis
Diagnostic Plan
- History
- Physical examination
- Palpation
- X-rays

Therapeutic Plan
- Analgesics

Dietary Plan
- A diet adequate for growth
- Avoid overfeeding throughout life

Anconeal process that has failed to unite with the ulna
Lesions of panosteitis in the proximal radius
Ununited Anconeal Process/Panosteitis

Anconal process that has failed to unite with the ulna

Ununited Anconeal Process

Diagnostic Plan
- History
- Physical examination
- X-rays of the elbow

Therapeutic Plan
- Surgery

Dietary Plan
- Postsurgically, a diet adequate for tissue repair and patient growth

Panosteitis

Diagnostic Plan
- History
- Physical examination
- Palpation
- X-rays

Therapeutic Plan
- Analgesics

Dietary Plan
- A diet adequate for growth
- Avoid overfeeding throughout life

Lesions of panosteitis in the proximal radius
Hip Dysplasia

Diagnostic Plan
- History
- Physical examination
- Palpation of the hips
- X-rays of the hips

Therapeutic Plan
- Enforced rest
- Mild analgesics
- Anti-inflammatory drugs
- Surgery

Dietary Plan
- Postsurgically, a diet adequate for tissue repair
- If obesity is a complicating factor, restrict caloric intake so the patient reaches and maintains an ideal body weight

Degenerative joint disease in older dogs

Shallow hip joint with subluxated femoral head in younger dogs
Normal Rear Leg

- Pelvis
- Femur
- Tibia
- Quadriceps muscles
- Patella
Femoral Fracture

Diagnostic Plan
- History
- Physical examination
- Palpation of the femur
- X-rays

Therapeutic Plan
- Surgery

Dietary Plan
- A diet adequate for tissue repair

Oblique femoral fracture
Hemorrhage into the muscle
Ruptured Cranial Cruciate Ligament

Diagnostic Plan
- History
- Physical examination
- Palpation of the knee
- X-rays of the knee

Therapeutic Plan
- Enforced rest
- Analgesics
- Surgery

Dietary Plan
- Post-surgically, a diet adequate for tissue repair
- If obesity is a complicating factor, restrict caloric intake so the patient reaches and maintains an ideal body weight.
Normal Stifle

- Patella
- Quadriceps tendon
- Femur
- Cranial border of the tibia
- Tibia
- Fibula
Patellar Luxation

Diagnostic Plan
- History
- Physical examination
- Stifle palpation
- Stifle x-rays

Therapeutic Plan
- Surgery

Dietary Plan
- Post-surgically, a diet adequate for tissue repair
- If obesity is a complicating factor, restrict caloric intake so the patient reaches and maintains an ideal body weight
Tonsillitis

Diagnostic Plan
- History
- Physical examination
- Examination of the tonsils
- Culture of the tonsils
- Cytologic study of tonsillar exudate
- X-rays

Therapeutic Plan
- Elimination of the cause
- Antibacterials
- Tonsillectomy

Dietary Plan
- A diet based on overall patient evaluation including body condition and other organ system involvement
- A soft diet may minimize postsurgical pain
Collapsing Trachea

Diagnostic Plan
- History
- Physical examination
- Tracheal palpation
- Chest auscultation
- Chest x-rays
- Tracheoscopy
- Cultures of tracheal wash fluid

Therapeutic Plan
- Activity restriction
- Corticosteroids
- Steam vaporization
- Bronchodilators
- Antitussives
- Antibacterials
- Surgery

Dietary Plan
If surgery is performed, a diet adequate for tissue repair
If obesity is a complicating factor, restrict caloric intake so the patient reaches and maintains an ideal body weight

Grade IV collapsed trachea; the airway lumen is essentially obliterated

The tracheal cartilage is inverted dorsally and contacts the tracheal membrane

Normal tracheal ring
Pulmonary Edema

**Diagnostic Plan**
- History
- Physical examination
- Chest auscultation
- Chest x-rays
- Electrocardiography
- Blood work
- Urinalysis

**Therapeutic Plan**
- Activity restriction
- Oxygen therapy
- Morphine
- Diuretics
- Corticosteroids
- Nebulization
- Bronchodilators
- Vasodilators
- Drugs to strengthen the heart

**Dietary Plan**
- A diet based on individual patient evaluation including body condition and other organ system involvement or disease
- Also, consider sodium restriction
Normal Canine Kidney
Chronic Renal Disease

**Diagnostic Plan**
- History
- Physical examination
- Abdominal palpation
- Urinalysis
- Blood work
- Blood pressure measurement
- Abdominal x-rays
- Kidney biopsy

**Therapeutic Plan**
- Fluid therapy
- Sodium bicarbonate
- Drugs to control stomach acidity
- Phosphate binders
- Blood transfusions
- Anabolic steroids
- Peritoneal dialysis

**Dietary Plan**
A diet with controlled and appropriate levels of protein, phosphorus, sodium, and calories

Pale, shrunken, firm kidney with a pitted surface

Scarring
Acute Renal Failure

Diagnostic Plan
- History
- Physical examination
- Abdominal palpation
- Urinalysis
- Blood work
- Abdominal x-rays
- Kidney biopsy

Therapeutic Plan
- Fluid therapy
- Diuretics
- Phosphate binders
- Sodium bicarbonate
- Drugs to control stomach acidity
- Peritoneal dialysis

Dietary Plan
- A diet with controlled and appropriate levels of protein, phosphorus, sodium, and calories

Pale, swollen kidney
Bladder Stones

Diagnostic Plan
- History
- Physical examination
- Palpation of the urethra and urinary bladder
- Urinalysis
- Urine culture
- Blood work
- X-rays of the urinary tract
- Quantitative analysis of passed bladder stones

Therapeutic Plan*
- Fluid therapy
- Antibacterials
- Urease inhibitors
- Xanthine oxidase inhibitors
- Urine alkalinizers
- Thiol-containing drugs
- Surgery
* Determined by stone type

Dietary Plan
For dissolution, the proper calculolytic diet
To aid in prevention or recurrence, a diet that allows the body to produce the appropriate urine pH and avoids excesses of the urolith's precursors
If surgery is necessary, a diet adequate for tissue repair
Canine Urethral Obstruction

Diagnostic Plan
- History
- Physical examination
- Urethral palpation
- Abdominal palpation
- X-rays of the urinary tract
- Urinalysis
- Urine culture
- Blood work
- Analysis of passed bladder stones

Therapeutic Plan
- Emptying of the bladder
- Fluid therapy
- Flushing of the urethral calculi into the bladder
- Surgery

Dietary Plan
- For dissolution, the proper calculoletic diet
- To aid in prevention or recurrence, a diet that allows the body to produce the appropriate urine pH and avoids excesses of the urolith’s precursors
- If surgery is necessary, a diet adequate for tissue repair

Distended urinary bladder caused by an obstructing urethral calculus

Hemorrhages on the surface of the bladder

Urethral calculus immediately behind the os penis; the calculus is obstructing the outflow of urine from the bladder
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Feline Urologic Syndrome

Feline Urologic Syndrome

Diagnostic Plan
History
Physical examination
Abdominal palpation
Urethral palpation
Urinalysis
Urine culture
X-rays of the urinary tract
Blood work

Therapeutic Plan
Emptying of the bladder
Fluid therapy
Removal of the urinary obstruction

Dietary Plan
For dissolution, the proper
calculolytic diet
To aid in prevention or recurrence,
a diet that allows the body to
produce the appropriate urine
pH and avoids excesses of the
uroolith’s precursors
If surgery is necessary, a diet
adequate for tissue repair

Distended urinary bladder
caused by an obstructing
urethral plug

Hemorrhages on the surface
of the bladder

Urethral plug obstructing
the tip of the penis
Normal Prostate Gland

- Ductus deferens
- Descending colon
- Ureter
- Urethra
- Prostate gland
- Urinary bladder
- Ductus deferens
- Prostate gland
- Urethra
Benign Prostatic Hyperplasia

Diagnostic Plan
History
Physical examination
Rectal palpation
Abdominal palpation
X-rays
Ultrasound
Urinalysis
Urine culture
Blood work
Prostate biopsy

Therapeutic Plan
Emptying of the bladder
Enemas
Stool softeners
Castration
Estrogen therapy

Dietary Plan
If surgery is necessary, a diet adequate for tissue repair
A moderate- to high-fiber diet with adequate water intake
Ovariohysterectomy

**Indications**
- Sterilization
- Ovarian disease
- Uterine disease
- Behavioral problems
- Vaginal hyperplasia
- Diabetes
- Epilepsy
- Mammary tumor prevention

**Dietary Plan**
Post-surgically, a diet adequate for tissue repair
Pyometra

Cut section showing an enlarged, pus-filled uterus

Congestion of uterine body walls

The tissue is friable and easily torn

Normal Anatomy

Uterine horns

Body of the uterus

Cervix

Vagina

Pyometra

Diagnostic Plan
History
Physical examination
Vaginal cytologic study
Abdominal palpation
Rectal palpation
Blood work
Urinalysis
Urine culture
Abdominal x-rays

Therapeutic Plan
Fluid therapy
Surgery
Antibacterials
Prostaglandins

Dietary Plan
A diet based on individual patient evaluation including body condition and other organ system involvement
Post-surgically, a diet adequate for tissue repair
Canine Castration

Indications
- Sterilization
- Testicular disease
- Prostatic disease
- Behavioral problems
- Retained testicles

Dietary Plan
- Postsurgically, a diet adequate for tissue repair
Testicular Tumors

Testicular Tumors
Diagnosis Plan
History
Physical examination
Testicular palpation
X-rays of abdomen
Biopsy

Therapeutic Plan
Surgery
Chemotherapy

Dietary Plan
Postoperatively, a diet adequate for tissue repair
Consider body condition; feed a diet appropriate to maintain ideal body weight
Nuclear Sclerosis/Cataracts

Diagnostic Plan
- History
- Physical examination
- Ophthalmic examination
- Blood tests
- Urinalysis

Therapeutic Plan
- Surgery
- Therapy for any concurrent disease
- No therapy is necessary for nuclear sclerosis

Dietary Plan
- A diet based on individual patient evaluation including body condition and other organ system involvement or disease

Nuclear sclerosis is a normal aging change that results from compaction and hardening of the lens fibers.

A cataract is an opacity of the lens fibers or capsule.
Normal Feline Eye

- Cornea
- Iris
- Vitreous body
- Ciliary body
- Lens
- Retina
- Optic nerve
- Anterior chamber
- Optic disk
- Filtration angle
Glaucoma

Cloudy, edematous, insensitive cornea

Increase in intraocular pressure

The globe is enlarged, pain may be present, the episcleral vessels are congested, and vision loss occurs.

Intraocular pressure is increased due to a disorder of the drainage angle

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**Glaucoma**

**Diagnostic Plan**
- History
- Physical examination
- Ocular examination
- Measurement of intraocular pressure

**Therapeutic Plan**
- Drugs that relieve intraocular pressure

**Dietary Plan**
- A diet based on individual patient evaluation including body condition and other organ system involvement or disease
Corneal Ulceration

**Diagnostic Plan**
- History
- Physical examination
- Ocular examination
- Fluorescein stain
- Culture
- Cytologic examination

**Therapeutic Plan**
- Antibacterial ointments and solutions
- Drugs that dilate the pupil
- Surgery
- Drugs to lessen the risk of pigment formation in the cornea

**Dietary Plan**
- A diet based on individual patient evaluation including body condition and other organ system involvement or disease
Otitis Externa, Media, Interna

**Otitis Interna**
- Neurologic changes
- Head tilt and circling

**Otitis Externa**
- Inflamed, reddened ear
- Partial occlusion of the ear canal due to cellular hyperplasia
- Inflammatory exudate

**Otitis Media**
- Inflammatory exudate in the tympanic bulla
- Osteomyelitis due to the infectious process

**Diagnostic Plan**
- History
- Physical examination
- Ear examination
- Ear cultures
- Thyroid hormone levels
- Intradermal skin testing
- X-rays
- Therapeutic trials with insecticides and hypoallergenic diets

**Therapeutic Plan**
- Removal of ear-canal hair
- Ear cleaning
- Topical application of antibacterials/corticosteroids
- Systemic antibacterials
- Systemic corticosteroids
- Surgery

**Dietary Plan**
- A diet based on individual patient evaluation including body condition and other organ system involvement or disease
Heartworms

Infected mosquitoes deposit heartworm larvae into the animal’s hemolymph by puncturing the animal’s skin.

Mature females release microfilariae into the bloodstream where they are picked up by mosquitoes.

Larvae migrate to subcutaneous tissues where they mature to a young-adult stage.

Young adults migrate to the pulmonary arteries and heart.

Heartworms

**Diagnostic Plan**
- History
- Physical examination
- Heartworm check
- Chest x-rays
- Blood work
- Urinalysis

**Therapeutic Plan**
- Drugs to kill adult worms
- Aspirin
- Corticosteroids
- Restricted exercise
- Drugs to kill larvae in the bloodstream
- Prevention
- Surgery

**Dietary Plan**
- A diet with controlled levels of protein, phosphorus, and sodium
- Consider body condition
Giardia species exist as motile trophozoites and nonmotile cysts. Both forms are transmitted by ingestion and are passed intermittently in the host's feces.

Giardia

Diagnostic Plan
- History
- Physical examination
- Stool analysis
- Analysis of intestinal scrapings collected during endoscopy

Therapeutic Plan
- Drugs to kill the parasite

Dietary Plan
- A diet based on individual patient evaluation including body condition and other organ system involvement or disease
Hookworms

**Diagnostic Plan**
- History
- Physical examination
- Stool analysis
- Blood work

**Therapeutic Plan**
- Dewormers
- Blood transfusions
- Supportive therapy

**Dietary Plan**
A diet based on individual patient evaluation including body condition and other organ system involvement or disease

Adult hookworms are bloodsucking parasites of the small intestine.

Pups may ingest milk containing larvae.

Infective larvae are ingested or penetrate the skin.

Eggs are passed in the feces.

Infective third-stage larvae in the environment
The adult whipworm is embedded in the wall of the large intestine and cecum.

Infected larva develops inside the egg but does not hatch unless the egg is swallowed.

Eggs are passed in the feces.

Whipworms

Diagnostic Plan
- History
- Physical examination
- Stool analysis
- Colonoscopy
- Therapeutic deworming

Therapeutic Plan
- Dewormers
- Supportive therapy

Dietary Plan
- A diet based on individual patient evaluation including body condition and other organ system involvement or disease
Tapeworms (Taenia)

**Diagnostic Plan**
- History
- Physical examination
- Detection of tapeworm segments in the stool

**Therapeutic Plan**
- Dewormers
- Control of patient’s hunting and eating habits

**Dietary Plan**
- A diet based on individual patient evaluation including body condition and other organ system involvement or disease

The oncosphere hatches in the intermediate host and differentiates into a metacestode.
The host becomes infected by eating an infected intermediate host.
Proglottids shed in the feces.

Adult tapeworm in the small intestine.
Tapeworms (Dipylidium caninum)

Adult tapeworms attach to the mucosa of the small intestine.

Ingestion of fleas containing infective cysts results in infection.

Terminal proglottids laden with eggs are shed in the feces.

Dipylidium eggs are ingested by the larvae of fleas.

Tapeworm larvae encyst in flea larvae and become infective.

Tapeworms (Dipylidium caninum)

**Diagnostic Plan**
- History
- Physical examination
- Detection of tapeworm segments in the stool
- Detection of fleas or flea dirt

**Therapeutic Plan**
- Dewormers
- Flea control

**Dietary Plan**
- A diet based on individual patient evaluation including body condition and other organ system involvement or disease
Adult fleas lay eggs on damp ground, in carpets and air ducts, and behind paneling.

Eggs hatch into larvae that molt three times.

The third molt produces a white larva that spins a cocoon in which the larva pupates for up to one year.

The adult flea emerges from the cocoon and seeks a host on which to feed.

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Fleas

Diagnostic Plan
History
Physical examination
Stool inspection for tapeworm segments

Therapeutic Plan
Flea control

Dietary Plan
A diet based on individual patient evaluation including body condition and other organ system involvement or disease
Adult ticks lay thousands of eggs, which undergo two molts: larva to nymph and nymph to adult.

Larvae, nymphs, and adults feed on blood and lymph.

*Dermacentor variabilis* larvae and nymphs feed on small mammals and drop off between molts.

Adults feed on pets.

*Rhipicephalus sanguineus* larvae, nymphs, and adults all feed on pets.

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**Ticks**

**Diagnostic Plan**
- History
- Physical examination

**Therapeutic Plan**
- Tick removal
- Insecticide baths or dips

**Dietary Plan**
- A diet based on individual patient evaluation including body condition and other organ system involvement or disease.
Female mites burrow into the skin and lay eggs in the tunnels that they form.

Larvae and nymphs develop in these tunnels,

The patient response is often severe self-inflicted trauma.

**Sarcoptes**

**Diagnostic Plan**
- History
- Physical examination
- Skin scrapings
- Skin biopsy
- Therapeutic trial

**Therapeutic Plan**
- Coat clipping
- Parasiticide dips
- Antibacterials

**Dietary Plan**
- A diet based on individual patient evaluation including body condition and other organ system involvement or disease
Demodex is part of the normal skin fauna and is usually present in small numbers in healthy animals.

The entire life cycle is spent on the host in the hair follicles or sebaceous glands.

Adult Demodex mite

Demodex

Diagnostic Plan
- History
- Physical examination
- Skin scrapings
- Skin biopsy
- Skin culture

Therapeutic Plan
- Topical keratolytic agents
- Antibacterials
- Topical drugs to kill the mite

Dietary Plan
- A diet adequate for tissue repair
- A diet based on individual patient evaluation including body condition and other organ system involvement or disease
Cheyletiella

These mites live in keratin on the skin’s surface and feed on tissue fluids.

The entire life cycle is thought to occur on the host.

Diagnostic Plan
- History
- Physical examination
- Skin scrapings
- Skin biopsy
- Acetate tape impressions
- Direct visualization of the parasite

Therapeutic Plan
- Parasiticideal dips

Dietary Plan
- A diet based on individual patient evaluation including body condition and other organ system involvement or disease
Ear Mites

**Diagnostic Plan**
- History
- Physical examination
- Ear examination
- Microscopic examination of ear canal exudate

**Therapeutic Plan**
- Ear canal cleaning
- Drugs to kill the mites
- Surgical repair of aural hematomas
- Antibacterials, if needed

**Dietary Plan**
- A diet adequate for tissue repair
- A diet based on individual patient evaluation including body condition and other organ system involvement or disease

Adult mites live on the surface of the skin, most commonly in the ear canals.

The entire life cycle occurs on the host.