

# ABSCESS

## BASICS

### OVERVIEW

- An abscess is a localized collection of pus contained within a cavity somewhere in the body

### SIGNALMENT/DESCRIPTION of ANIMAL

- Cats and dogs

### SIGNS/OBSERVED CHANGES in the ANIMAL

- Determined by organ system and/or tissue affected
- A rapidly appearing, painful swelling with or without discharge (if affected area is visible)
- Associated with a combination of inflammation (seen as pain, swelling, redness, heat, and loss of function), tissue destruction, and/or organ system dysfunction caused by accumulation of pus
- A discrete mass of varying size may be detectable; the mass may be firm or fluid-filled
- Inflammation and discharge from a draining tract may be visible if the abscess is superficial and has ruptured to an external surface
- Fever, if abscess is not ruptured and draining
- Generalized bacterial infection (sepsis) occasionally, especially if abscess ruptures internally

### CAUSES

- Trauma (such as fight wounds) or previous infection
- Foreign objects
- Pus-causing (pyogenic) bacteria—*Staphylococcus*; *Escherichia coli*;  $\beta$ -hemolytic *Streptococcus*; *Pseudomonas*; *Mycoplasma* and *Mycoplasma*-like organisms (L-forms); *Pasteurella multocida*; *Corynebacterium*; *Actinomyces*; *Nocardia*; *Bartonella*
- Bacteria that can only live and grow in the absence of oxygen (known as “obligate anaerobic bacteria”)—*Bacteroides*; *Clostridium*; *Peptostreptococcus*; *Fusobacterium*

### RISK FACTORS

Risk factors for the formation of an abscess are determined by the organ system and/or tissue affected. The following organs and tissues are listed with their risk factors:

- Anal sac—impaction; anal sac inflammation
- Brain—inner ear infection (otitis interna); sinus infection (sinusitis); infection in the mouth (oral infection)
- Liver—inflammation of the umbilical veins (omphalophlebitis); generalized bacterial infection (sepsis)
- Lung—foreign object aspiration; bacterial pneumonia
- Mammary gland—mastitis
- Tissues around the eye (periorbital tissues)—dental disease; chewing of wood or other plant material
- Skin—fighting (fight wounds)
- Prostate gland—bacterial infection of the prostate (bacterial prostatitis)
- Immunosuppression (diseases or drug therapy that lead to an inability to develop a normal immune response)—feline leukemia virus (FeLV) or feline immunodeficiency virus (FIV) infection, immunosuppressive chemotherapy, acquired or inherited immune system dysfunctions, underlying predisposing disease (such as diabetes mellitus, chronic kidney failure, hyperadrenocorticism [condition in which the adrenal glands produce excessive steroids])

## TREATMENT

### HEALTH CARE

- Depends on location of abscess and treatment required
- Outpatient—bite-induced abscesses
- Inpatient—generalized bacterial infection (sepsis); extensive surgical procedures; treatment requiring extended hospitalization
- Establish and maintain adequate drainage of pus
- Surgical removal of the center of the infection (known as the “nidus”) or foreign object(s), if present
- Appropriate antimicrobial or antibiotic therapy; length of time for antibiotic therapy varies based on the bacteria causing the infection and the location of the abscess/infection
- Apply warm compresses or packs to inflamed area as directed by your pet’s veterinarian
- Use protective bandaging and/or Elizabethan collars as directed by your pet’s veterinarian

- Accumulated pus—the veterinarian will drain the abscess and maintain drainage by medical and/or surgical means
- Generalized bacterial infection (sepsis) or bacterial infection of the lining of the abdomen (peritonitis)—aggressive fluid therapy and support

#### **ACTIVITY**

- Restrict until the abscess has resolved and adequate healing of tissues has taken place

#### **DIET**

- Sufficient nutritional intake is required to promote healing and recovery
- Depends on location of abscess and treatment required

#### **SURGERY**

- Appropriate removal of infected tissue (débridement) and drainage of the abscess—may need to leave the wound open to an external surface of the body to promote drainage; may need to place surgical drains
- Early drainage—to prevent further tissue damage and formation of abscess wall
- Remove any foreign object(s), dead (necrotic) tissue, or center (nidus) of infection

#### **MEDICATIONS**

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive.

- Antimicrobial drugs or antibiotics—effective against the infection-causing bacteria; gain access to site of infection
- Broad-spectrum antimicrobial drugs or antibiotics—kill many types of bacteria (bactericidal) with activity against bacteria that can live and grow in the presence of oxygen (aerobic bacteria) and bacteria that can live and grow in the absence of oxygen (anaerobic bacteria) until results of bacterial culture and sensitivity are known; dogs and cats: amoxicillin; amoxicillin/clavulanic acid; clindamycin; and trimethoprim/sulfadiazine; cats with *Mycoplasma* and L-forms: doxycycline
- Aggressive antimicrobial therapy is required for generalized bacterial infection (sepsis) or bacterial infection of the lining of the abdomen (peritonitis)

#### **FOLLOW-UP CARE**

##### **PATIENT MONITORING**

- Monitor for progressive decrease in drainage, resolution of inflammation, and improvement of clinical signs

##### **PREVENTIONS AND AVOIDANCE**

- Anal sac abscesses—prevent impaction; consider surgical removal of the anal sacs (anal saculectomy) for repeated episodes of anal sac abscess
- Mastitis—prevent lactation (such as by spaying)
- Abscesses in the tissues around the eye—do not allow chewing on foreign object(s)
- Skin abscesses—prevent fighting
- Prostatic abscesses—castration possibly helpful

##### **POSSIBLE COMPLICATIONS**

- Generalized bacterial infection (sepsis)
- Inflammation of the lining of the abdomen (peritonitis) and/or inflammation of the lining of the chest (pleuritis) if an abscess located in the abdomen or chest ruptures
- Compromise of organ function
- Delayed drainage and treatment may lead to chronically draining tracts

##### **EXPECTED COURSE AND PROGNOSIS**

- Depend on organ system involved and amount of tissue destruction

#### **KEY POINTS**

- Correct or prevent risk factors
- Adequate drainage of the abscess
- Surgical removal of the center of the infection (known as the “nidus”) or foreign object(s), if present
- Start appropriate antimicrobial or antibiotic therapy; length of time for antibiotic therapy varies based on the bacteria causing the infection and the location of the abscess/infection