



# Panosteitis

## Basics

### OVERVIEW

- A self-limiting, painful condition affecting one or more of the long bones of young, medium- to large-breed dogs that is characterized clinically by lameness and increased density of the marrow cavity on x-rays (radiographs)
- “Osteitis” is inflammation of bone; “panosteitis” is inflammation of an entire bone

### GENETICS

- No proven transmission
- Predominance of German shepherd dogs in the affected population strongly suggests a genetic basis

### SIGNALMENT/DESCRIPTION OF PET

#### Species

- Dogs

#### Breed Predispositions

- German shepherd dogs and German shepherd mixes—most commonly affected
- Medium- to large-breed dogs—most commonly affected

#### Mean Age and Range

- Usually 5–18 months of age
- Affected dogs have been as young as 2 months and as old as 5 years of age

#### Predominant Sex

- Male

### SIGNS/OBSERVED CHANGES IN THE PET

- Lameness—if no distinct abnormalities noted on physical examination or x-rays (radiographs), repeat examination and x-rays (radiographs) 4–6 weeks later
- No history or signs of associated trauma
- Lameness—varying intensity; usually involves the front legs initially; may affect the hind legs; may see shifting leg lameness (that is, lameness in one leg and then in another leg); may be non-weight-bearing
- Severe disease—mild depression; lack of appetite; weight loss
- Pain—on deep palpation of the shaft (known as the “diaphysis”) of the long bones in an affected limb; distinguishing characteristic; palpate firmly along the entire shaft of each bone while carefully avoiding any pinching of nearby muscle
- Bones—ulna in the lower front leg is affected most commonly; may affect radius (second bone in the lower front leg), humerus (bone in the upper front leg), femur (bone in the thigh), and tibia (bone in the lower rear leg)—in decreasing order of frequency—may affect bones either at the same time or subsequently

- May have low-grade fever
- May have loss of muscle mass (known as “muscle atrophy”)

## CAUSES

- Unknown

## RISK FACTORS

- Purebred German shepherd dog or German shepherd mixed-breed dog

## Treatment

### HEALTH CARE

- Outpatient
- Maintenance and replacement fluid therapy—occasionally needed, owing to prolonged periods of lack of appetite and fever (known as “pyrexia”)

### ACTIVITY

- Limited—not shown to hasten recovery; lessens pain
- Moderate to severe disease—pain may cause self-limited movement, leading to muscle atrophy

## 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

- Symptomatic therapy has no bearing on the duration of the disease
- Nonsteroidal anti-inflammatory drugs (NSAIDs) minimize pain; decrease inflammation; include such drugs as carprofen, etodolac, meloxicam, deracoxib, firocoxib, buffered or enteric-coated aspirin—use only under the direction of your pet's veterinarian
- Steroids to decrease inflammation, such as prednisone; goal for long-term use is low-dose, alternate-day therapy

## Follow-Up Care

### PATIENT MONITORING

- Recheck lameness every 2–4 weeks
- Monitor for more serious orthopedic problems that may occur at the same time as panosteitis

### EXPECTED COURSE AND PROGNOSIS

- Self-limiting disease
- Treatment—symptomatic; appears to have no influence on duration of clinical signs
- Multiple limb involvement—common
- Lameness—typically lasts from a few days to several weeks; may persist for months
- Occasional pet has unrelenting pain and lameness that is unresponsive to therapy; euthanasia has been recommended in this situation

## Key Points

- Dog may develop other juvenile bone (orthopedic) diseases
- Signs of pain and lameness may last for several weeks to months
- Recurrence of clinical signs is common up to 2 years of age

# Notes

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