**PHYSICAL EXAMINATION FINDINGS**

* **General**
  + *Attitude* - Most animals have a normal mental status but those with deep pyoderma that has progressed to septicemia are often depressed.
  + *Body condition* - Body condition is usually not affected.
  + *Vital signs* - Fever may be present in animals with deep pyoderma.
  + *Mucous membranes* - Mucous membranes are normal in color with a normal capillary refill time.
  + *Hydration status* - Most animals are adequately hydrated.

Physical exam findings vary depending on the type of pyoderma

* Surface pyoderma often is associated with a focal lesion. Pyogranulomatous dermatitis lesions are intensely erythematous, erosive to ulcerative, alopecic, circumscribed, and the surrounding hairs are often matted over the lesion. Lesions are associated with intense self-trauma such as chewing and scratching. These lesions are pruritic and sometimes painful. They may develop peracutely, i.e. within hours.
* Skin fold pyoderma is associated with erythema and moist and malodorous skin. The lesions are typically pruritic. The hair in the affected folds is often stained brown.
* Superficial pyoderma is typically a papular to pustular dermatitis with crusting. Alopecia and erythema are variable. Additional lesions include scaling, epidermal collarettes and target lesions. Lesions associated with impetigo are typically pustular and are found in the inguinal and ventral abdomen. The pyoderma is not pruritic and the lesions are not associated with the hair follicles.
* Superficial folliculitis also has pustules but they are associated with hair follicles and tend to be more pruritic. In addition, papules, crusts and collarettes may be present.
* Deep pyoderma usually begins as a superficial folliculitis and develops to a deep pyoderma (furunculosis). Pustules and papules tend to become larger, forming hemorrhagic bullae with eventual ulceration and draining. These lesions are common over pressure points (hocks, elbows, chin, muzzle and interdigital spaces) but may be more generalized in some cases. In severe cases, peripheral lymphadenopathy may be present.

**DIAGNOSTIC STUDIES**

**Clinical laboratory tests**

* + *CBC* - If bacteremia or septicemia has developed, leukocytosis with neutrophilia may be present.
  + *Serum biochemical tests* - Often unremarkable
  + *Urinalysis* - Usually unremarkable

**Serology/immunologic tests** - Feline leukemia and feline immunodeficiency virus testing should be performed on all ill cats whose status is unknown.

**Parasitology** - A fecal examination should be performed in young dogs and puppies with impetigo.

**Microbiology** - Culture and sensitivity should be performed on all cases of deep pyoderma. It is rarely indicated in cases of surface or superficial pyoderma since the vast majority is due to *Staphylococcus intermedius*. A poor response to appropriate antibiotic therapy for superficial pyoderma is an indication for bacterial culture. Fungal culture for dermatophytosis may be recommended.

**Pathology**

* + *Cytology (fluid or tissue)* - Cytology from the surface of the affected skin, under crusts, pustular contents or skin exudate often reveals neutrophils and cocci bacteria. In deep pyoderma, macrophages and rod-shaped bacteria may also be present.
  + *Skin scrape -*A deep skin scrape should be performed in cases of superficial and deep pyoderma to exclude the presence of Demodex. Superficial skin scrapings may also be indicated in cases where Sarcoptes or Cheyletiella are suspected. Skin scraping can also reveal the presence of yeast or fungi.
  + *Biopsy/histopathology* - Skin biopsy is rarely recommended in cases of surface and superficial pyoderma. In cases of deep pyoderma, skin biopsy may reveal folliculitis, perifolliculitis or furunculosis with a pyogranulomatous inflammatory infiltrate. Tissue obtained by biopsy provides good material to culture in cases of deep pyoderma - the sample should be obtained from non-ulcerated lesions and only after sterile preparation of the skin to remove surface bacteria.

**DIAGNOSIS AND PROGNOSIS**

**Differential diagnosis**

A variety of disorders can lead to signs similar to pyoderma or can contribute to pyoderma. These include:

* + - Demodicosis
    - Dermatophytosis
    - Pemphigus foliaceus
    - Panepidermal pustular pemphigus
    - Pemphigus erythematosus
    - Sterile pustular diseases (e.g. subcorneal pustular dermatosis, sterile eosinophilic pustulosis)

**Recommended tests**

* Skin scraping and surface cytology are recommended for surface and superficial pyoderma.
* Skin scrape, cytology and bacterial culture and sensitivity are recommended for deep pyoderma.
* Bacterial culture is indicated if rod-shaped bacteria are seen on cytology, in any chronic deep pyoderma, or if there has been a poor response to appropriate empiric antibiotic therapy.