Dermatology
SKIN LESIONS
MORPHOLOGY OF SKIN

• Why is morphology an essential feature of small animal dermatological diagnosis?
There are two (2) types of morphological lesions:

- Primary – The direct result of the pathology of the disease.

- Secondary – These are a direct result of the secondary effects of the disease e.g. pruritus
TYPES OF LESIONS

Primary
- Macule
- Patch
- Papule
- Plaque
- Nodule
- Tumour
- Pustule
- Wheal
- Vesicle
- Bulla

Secondary
- Scale
- Crust
- Scar
- Ulcer
- Excoriation
- Lichenification
- Hyperpigmentation
- Hyperkeratosis
No offense, but I'd really prefer to be seen by a dog. I'm sure you understand.
- Circumscribed, flat spot
- < 1cm in diameter
- Characterised by a colour change of the skin
• Circumscribed, flat spot
• > 1cm diameter
• Characterised by colour change
Differential Diagnoses

- **Depigmentation**
  - Vitiligo
  - Discoid Lupus Erythematosus
  - Uveodermatologic syndrome
  - Mucocutaneous pyoderma
- Hyperpigmentation
  - Lentigo
  - Hormonal diseases
  - Post-inflammatory
- Erythema
  - Inflammation
    - Underlying disease
  - Haemorrhage
    - Vasculopathies
    - Coagulopathies
PAPULE

- Solid elevation of skin
- < 1cm in diameter
PLAQUE

- Flat-topped elevation
- Coalesced papules
- > 1cm diameter
Differential Diagnoses

- Demodicosis
- Bacterial folliculitis
- Fungal folliculitis
- Flea bite hypersensitivity
- Scabies
- Contact allergy
- Autoimmune skin disease
- Drug eruption
NODULE

• Small, circumscribed, solid elevation
• Extends into deeper skin layers
Differential Diagnoses

- Sterile granulomatous diseases
- Bacterial infections
- Fungal infections
- Neoplastic diseases
- Calcinosi cutis
TUMOUR

- Neoplastic enlargement
- Composed of:
  - Skin
  - Subcutaneous tissue
Differential Diagnoses

- Sterile granulomatous disease
- Bacterial infection
- Fungal infection
- Neoplasia
**PUSTULE**

- Small, circumscribed skin elevation
- Small superficial skin abscess
- Usually yellow
Differential Diagnoses

- Neutrophils
  - Bacterial infection
  - Fungal infection
  - Autoimmune skin disease

![Pustular Dermatitis](image)
- Eosinophils
  - Flea bite hypersensitivity
  - Contact hypersensitivity
  - Parasites
  - Immune-mediated skin disease
WHEAL

- Sharply circumscribed
- Raised lesion
- Edematous
- Two presentations:
  - White/pink elevated ridge
  - Round edematous swelling
Differential Diagnoses

- Urticaria
- Insect bites
- Other hypersensitivities
- Drug eruption
VESICLE

- Sharply circumscribed
- Elevated
- Filled with clear, free fluid
- ≤ 1cm diameter
**BULLA**

- Sharply circumscribed
- Elevated
- Filled with clear, free fluid
- ≥ 1cm diameter
Differential Diagnoses

- Immune-mediated diseases
- Congenital skin diseases
- Viral diseases
- Irritant dermatitis
SECONDARY LESIONS

"If it doesn't itch, why worry?"
SCALE

- Can be either PRIMARY or SECONDARY
- Accumulation of loose fragments of horny layer of skin
- Final product of epidermal keratinization
- Common in seborrhoea, generalised demodicosis and chronic allergic dermatitis
- Consistency:
  - Branny
  - Fine
  - Powdery
  - Flaky
  - Plate like
  - Greasy
  - Dry
  - Loose
  - Adhering

- Colour:
  - White
  - Silvery
  - Yellow
  - Brown
  - Gray
Differential Diagnoses

- Primary lesion
  - Follicular dysplasia
  - Idiopathic seborrheas
  - Ichthyosis
• **Secondary lesion**
  • Chronic skin inflammation
CRUST

- Can be PRIMARY or SECONDARY
- Dried exudate on surface of a lesion
- Formed when dried fluids (e.g. blood, pus, serum, medication) adhere to surface and mingle with hair
Differential Diagnoses

- Primary lesion
  - Idiopathic seborrhea
  - Zinc-responsive dermatitis
  - Metabolic epidermal necrosis
• Secondary Lesion
  • Variety of skin diseases
  • Discussed previously
SCAR

- Area of fibrous tissue
- Replaces:
  - Damaged dermis
  - Damaged SC tissue
- Usually:
  - Atrophic
  - Depigmented
ULCER

- Break in continuity of epidermis
- Exposes underlying dermis
- Severe pathological process
- Heals with scars
Differential Diagnoses

- Associated with trauma
  - Infection
  - Allergy

- Immune-mediated diseases
EROSION

- Shallow ulcer
- Does not penetrate basal cell layer
- Heals without scars
Differential Diagnoses

- Usually associated with self-trauma due to:
  - Infection
  - Allergy
EXCORIATION

- Superficial removal of epidermis
- Due to:
  - Scratching
  - Biting
  - Rubbing
  - $2^0$ to pruritus
LICHENIFICATION

- Thickened, hardened superficial layers of skin
- Result of friction
- Colour:
  - Normal
  - Hyperpigmented
Differential Diagnoses

- Chronic skin diseases
- Pruritic skin diseases
HYPERPIGMENTATION

• PRIMARY or SECONDARY
• Excessive skin colouration
• Due to increased deposition of melanin
• Varies in colour
  • Light grey → Black
Differential Diagnoses

- Primary Lesion
  - Endocrine dermatoses
- **Secondary Lesion**
  - Post-inflammatory changes
HYPERKERATOSIS

- Increased thickness of horny layer of skin
- Sites:
  - Normal skin
  - Digital pads
  - Planum nasale
- Pattern of keratogenic hyperplasia:
  - Planes
  - Ridges
  - Circular
  - Feathered projections
Differential Diagnoses

- Canine Distemper Virus
- Actinic keratosis
- Seborrheic keratosis