

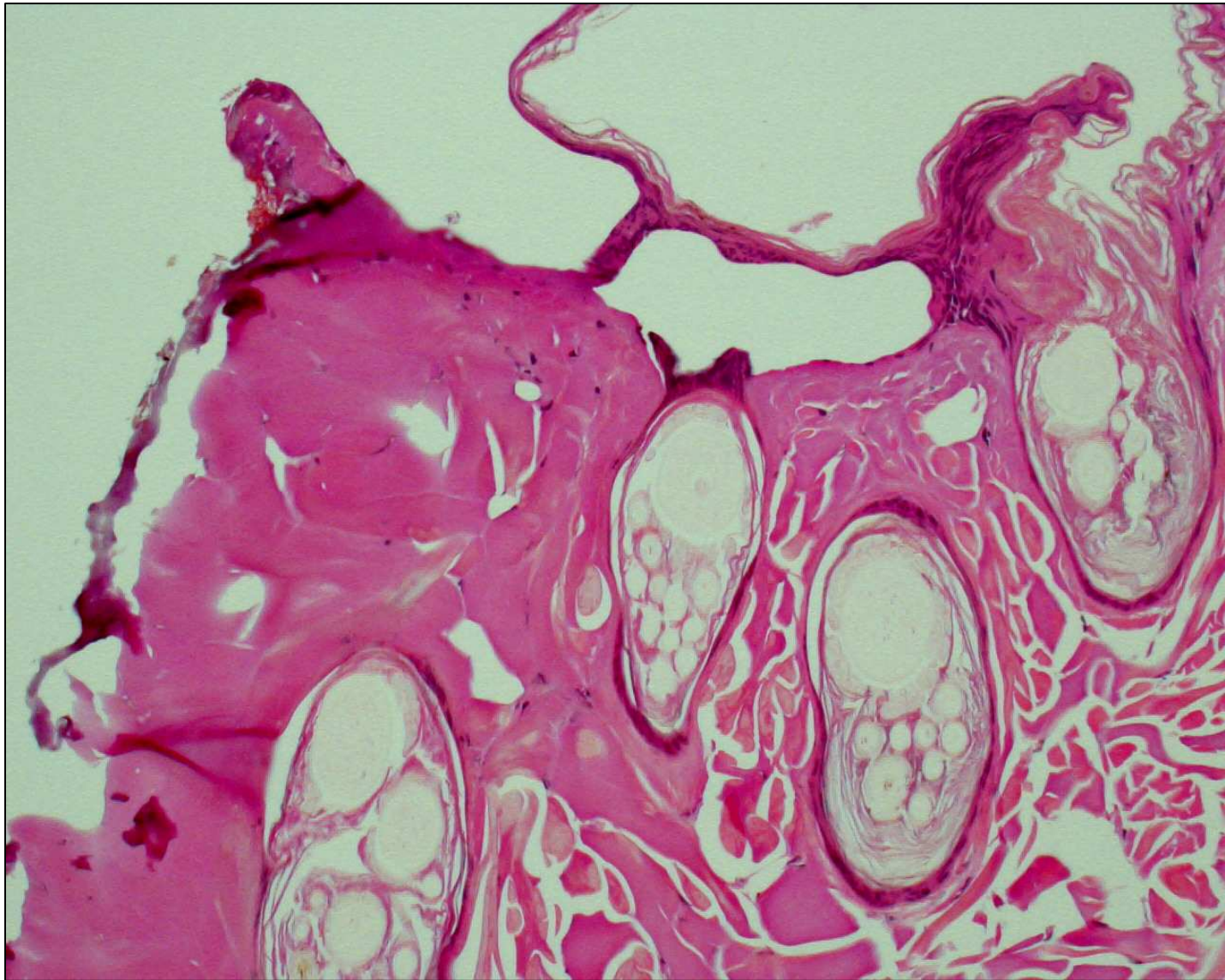
# Practical Approach to Reading Skin Biopsies

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Electrocautery artifact

# Reasons that clinicians submit biopsies



They know that the disease can be diagnosed by a skin biopsy.

e.g. sebaceous adenitis in Akita



## Curiosity

Bizarre nasal hyperkeratosis in a dog on long-term cyclosporine

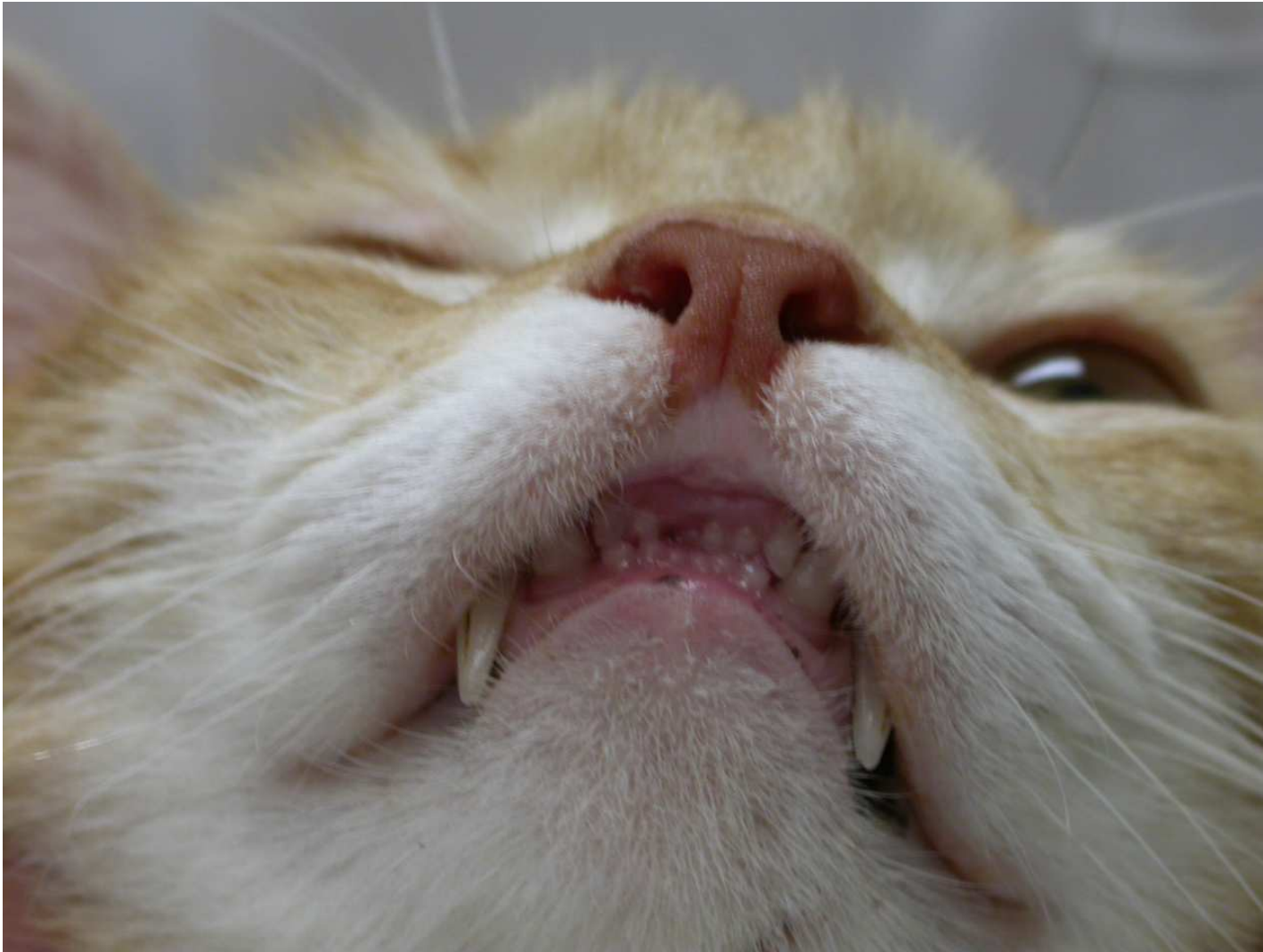


- Confirm a diagnosis
- Legal documentation

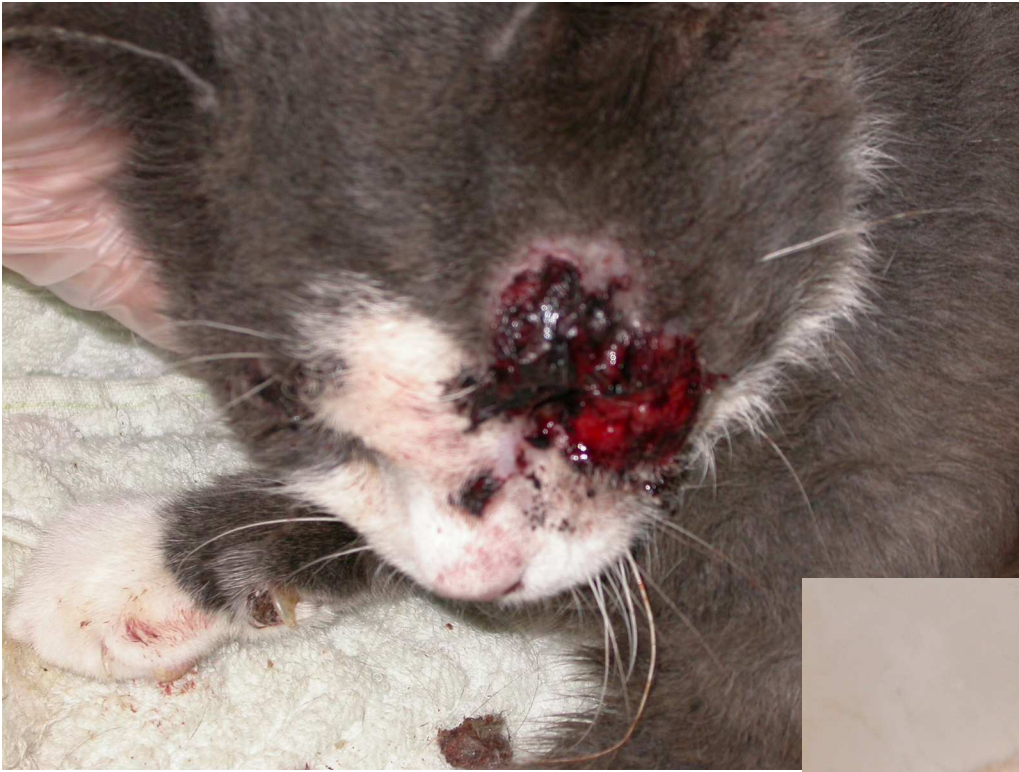
e.g. *Pemphigus foliaceus*



Lost in treatment of patient  
and need direction/guidance



**Failure to respond to rational therapy**



**Severe clinical presentations**

Feline sporotrichosis





## All ulcerative or vesicular skin conditions

e.g. acute drug eruption- erythema multiforme maior



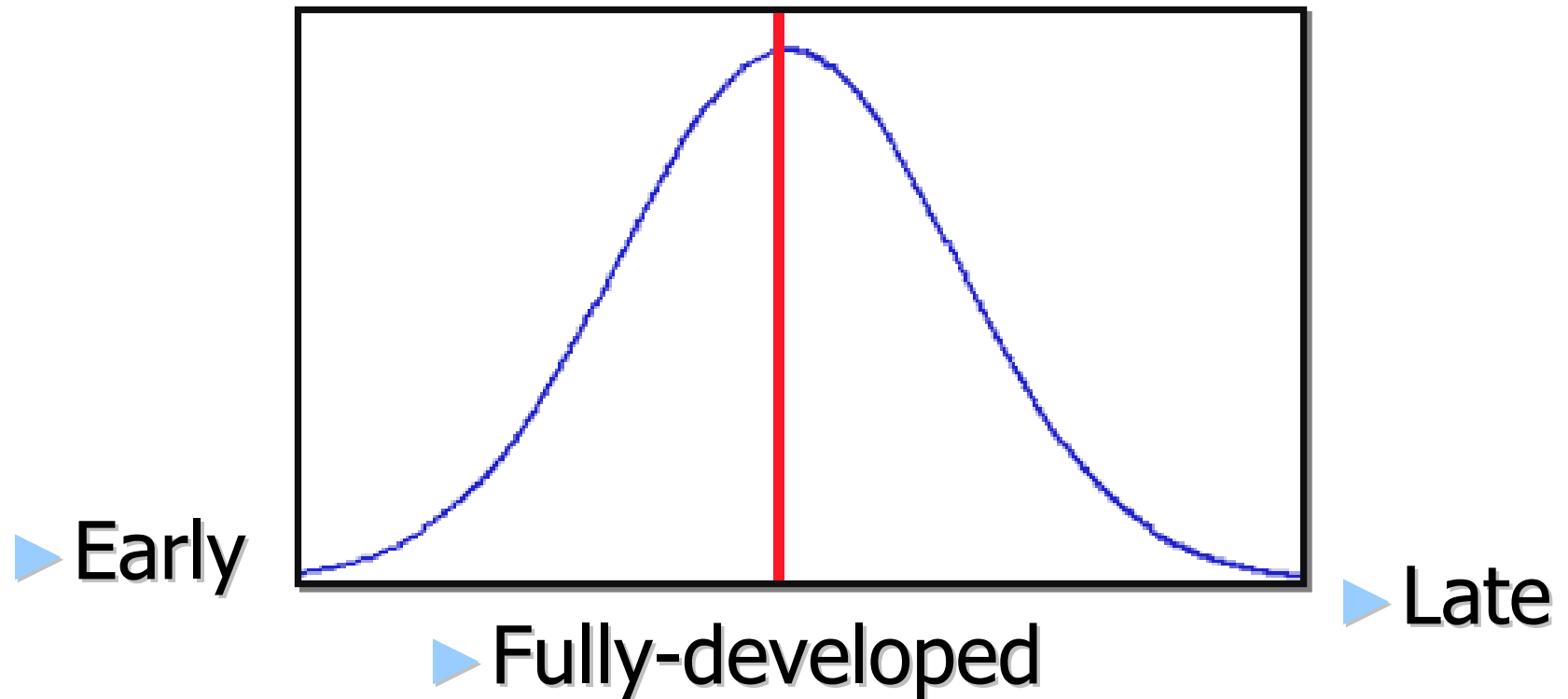
## Suspected neoplasia

e.g. Reactive histiocytosis

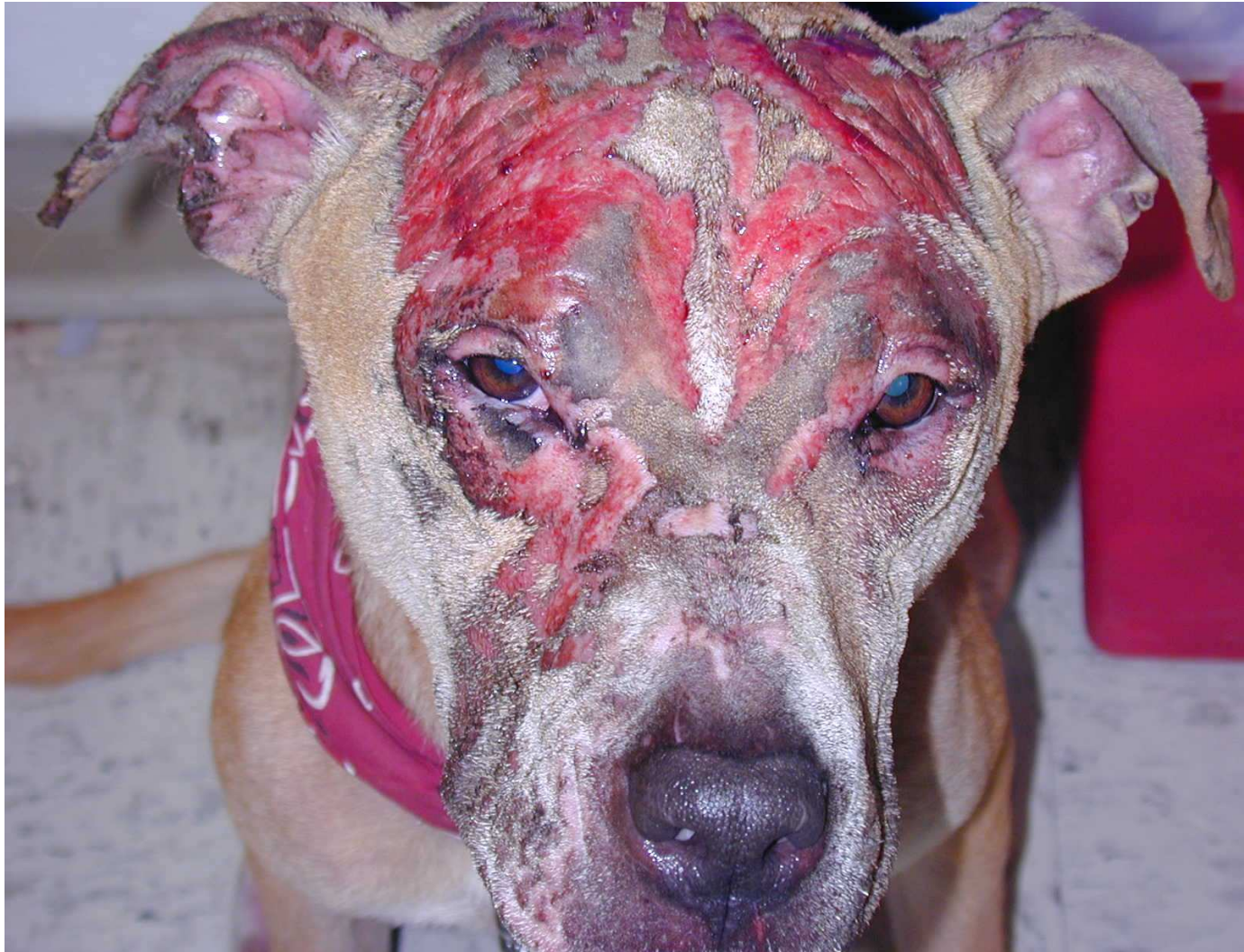
# What to biopsy

- Multiple sites- Full spectrum of lesions
- \*Best\* to biopsy both \*primary lesions\* and secondary lesions
- Primary and secondary is confusing!
- Art of site selection

# Lesion Evolution



Think of lesions in these terms rather than acute, subacute, and chronic



Acute thermal burn



Two weeks following burn

- Do not use a punch biopsy for pannicular lesions
- All suspected panniculitis cases/  
subcutaneous swelling → excisional  
biopsies

# How many samples should be submitted?

- In practice, biopsy all manifestations of the skin lesions are recognized
  - 3-4 samples
- Focal lesion (2 samples)

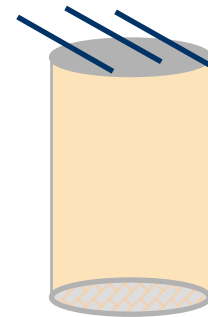
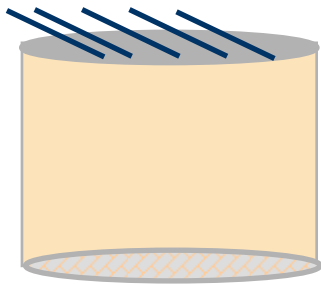
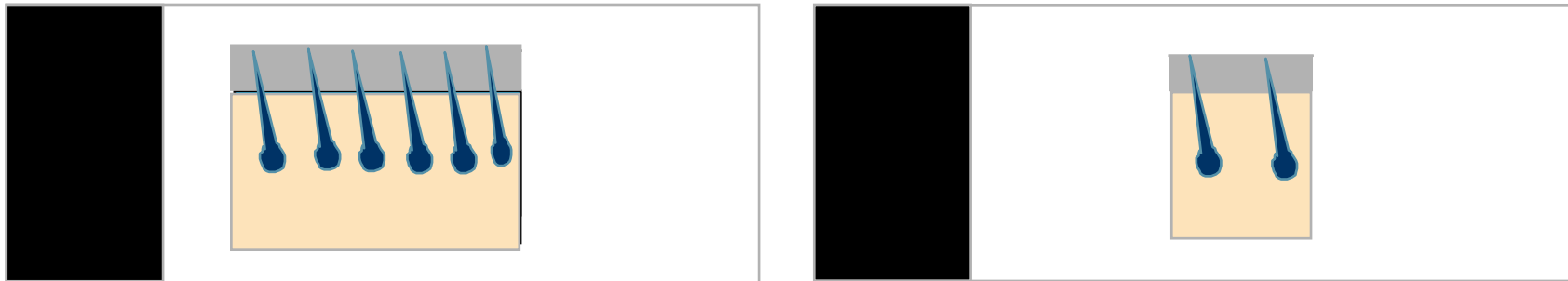


# Biopsy instrument

- Use a **6-mm** or **8-mm** punch in all animals except nasal planum and footpads (4-mm)
- Elliptical biopsies

## General hints

**With limited exceptions, the biopsy procedure in veterinary medicine requires a 6-8mm punch biopsy**



*R. Dunstan*

Demand the following information on  
each case

- 1) Signalment**
- 2) Brief history including medications**
- 3) Location of sample(s)**
- 4) Description of lesion(s)**
- 5) Clinical diagnosis/ DDx**

# Know How to Biopsy

- Ok to ever-so-gently clip hair
- **\*\*Never\*\*** scrub the biopsy site
- Inject lidocaine into the **subcutis** beneath the biopsy site (1/2 -1 cc/site)



# Biopsy technique

- Use the cutting action of the punch not pressure
- Lift and cut (if needed) from the bottom
- Do not squeeze tissue b/w forceps
- Ok to adhere to tongue depressor but \*necessary\* for elliptical specimens
- Blot and put in formalin

# Common Mistakes

- Poor site selection
  - Pyotraumatic lesions
- Sampling marginal tissue with a punch bx
- Not getting enough crust in sample
- Not enough tissue
- Poor sample handling
- Skin punch instruments in cold sterile
- Use of electrocautery or laser
- Too slow to put in formalin
- Freeze-thaw artifact
- Use of Michel's media

# Common Mistakes

- Biopsy one week following repositol steroid injection
  - Recommend corticosteroid withdrawal
  - Length dependent on form (injectable, oral, long-acting, short-acting)
- Biopsy lesions too late--- lesions almost but not quite resolved

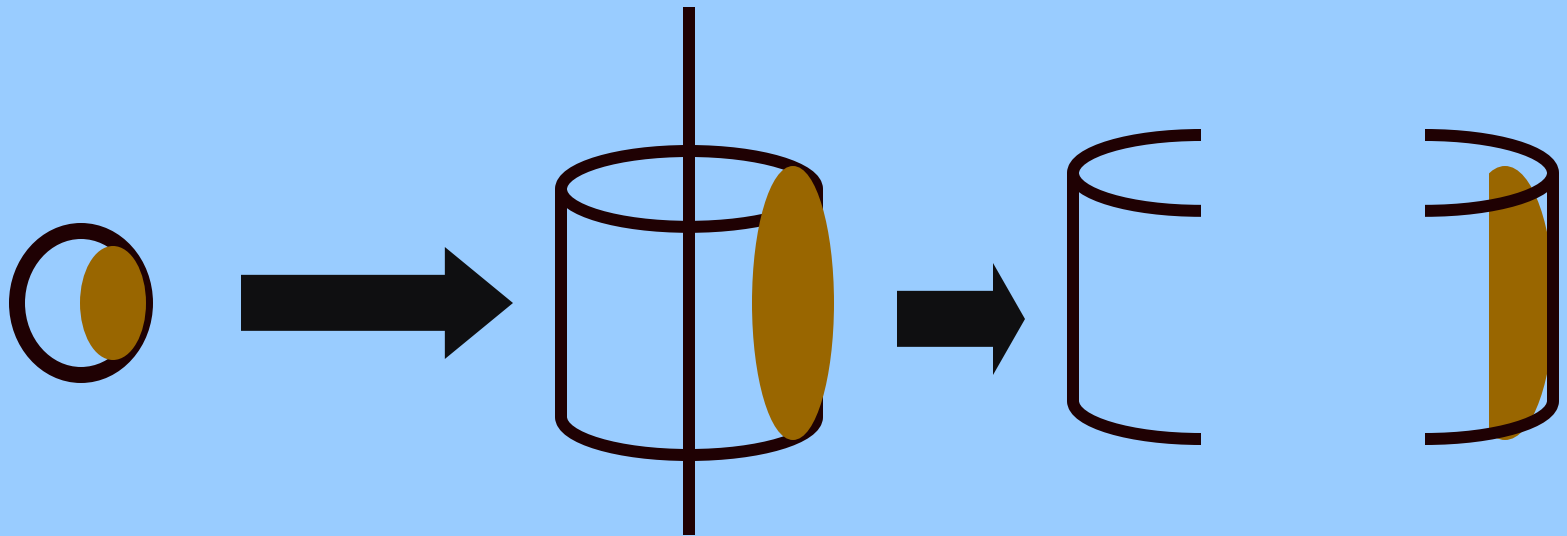


# Sampling marginal tissue

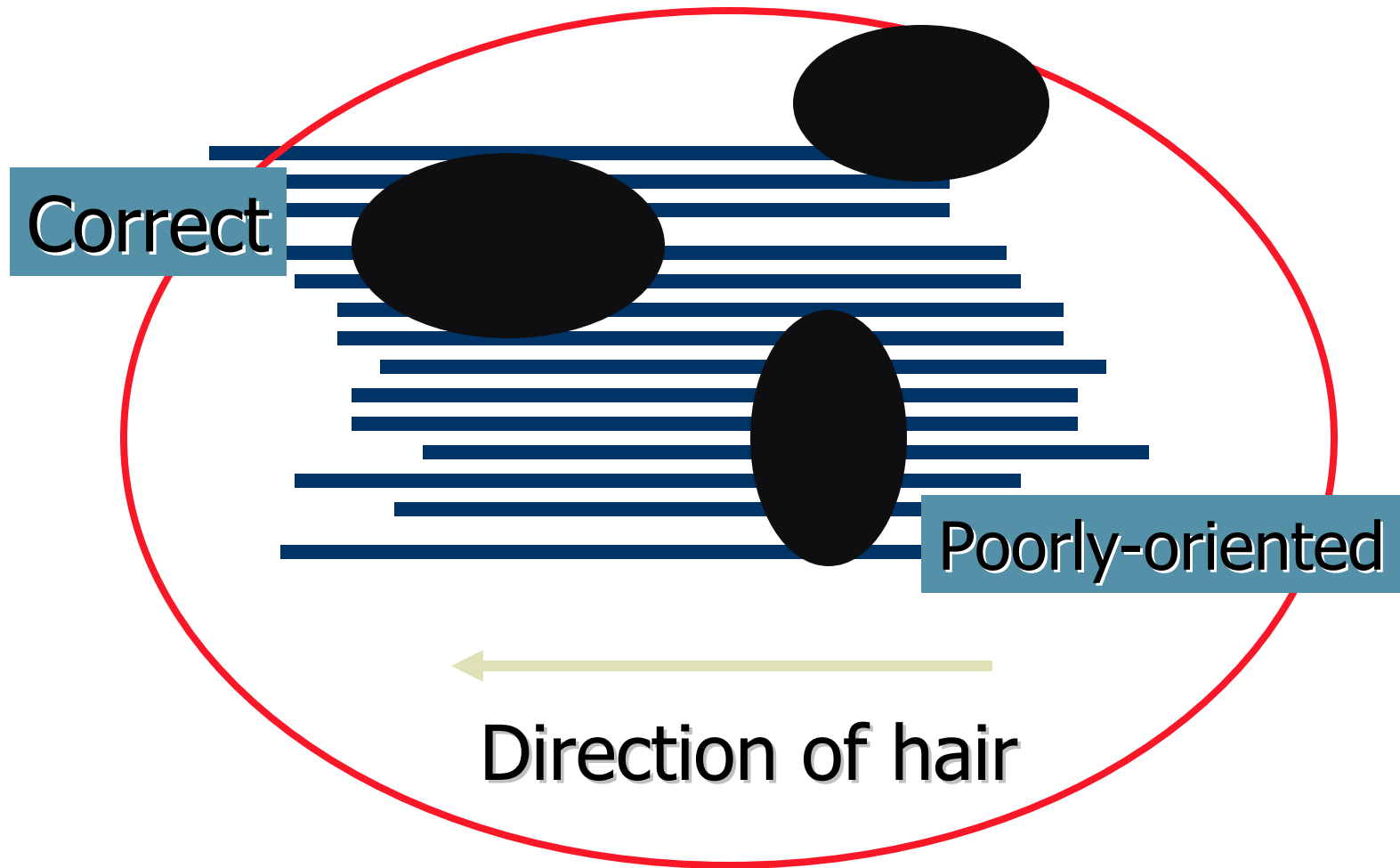


# Marginal Biopsies

Trimming:



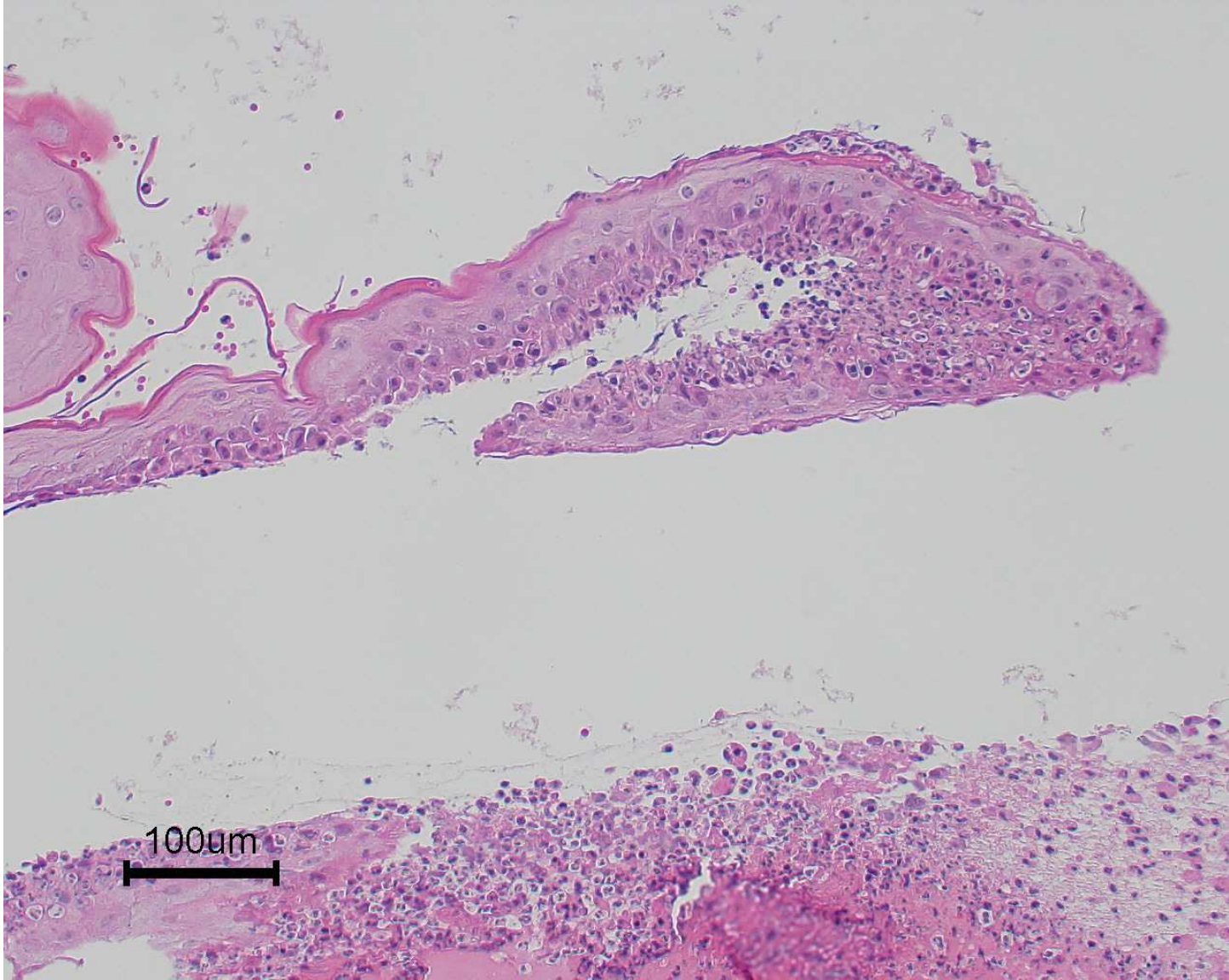
# Elliptical specimens



# What were they thinking?

- Skin biopsy via electrocautery
- Biopsies skewered with different sized needles
- Biopsy samples sandwiched between tongue depressors then wrapped with tape → formalin
- Biopsies submitted in sterile water

- Do **\*\*not\*\*** use punch biopsy instrument for ulcerative or vesicular lesions



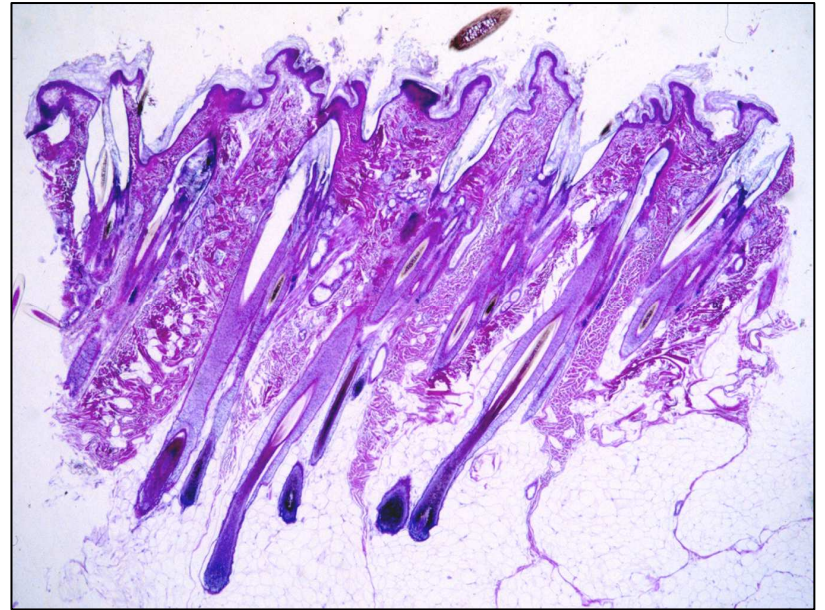
# Line Technique

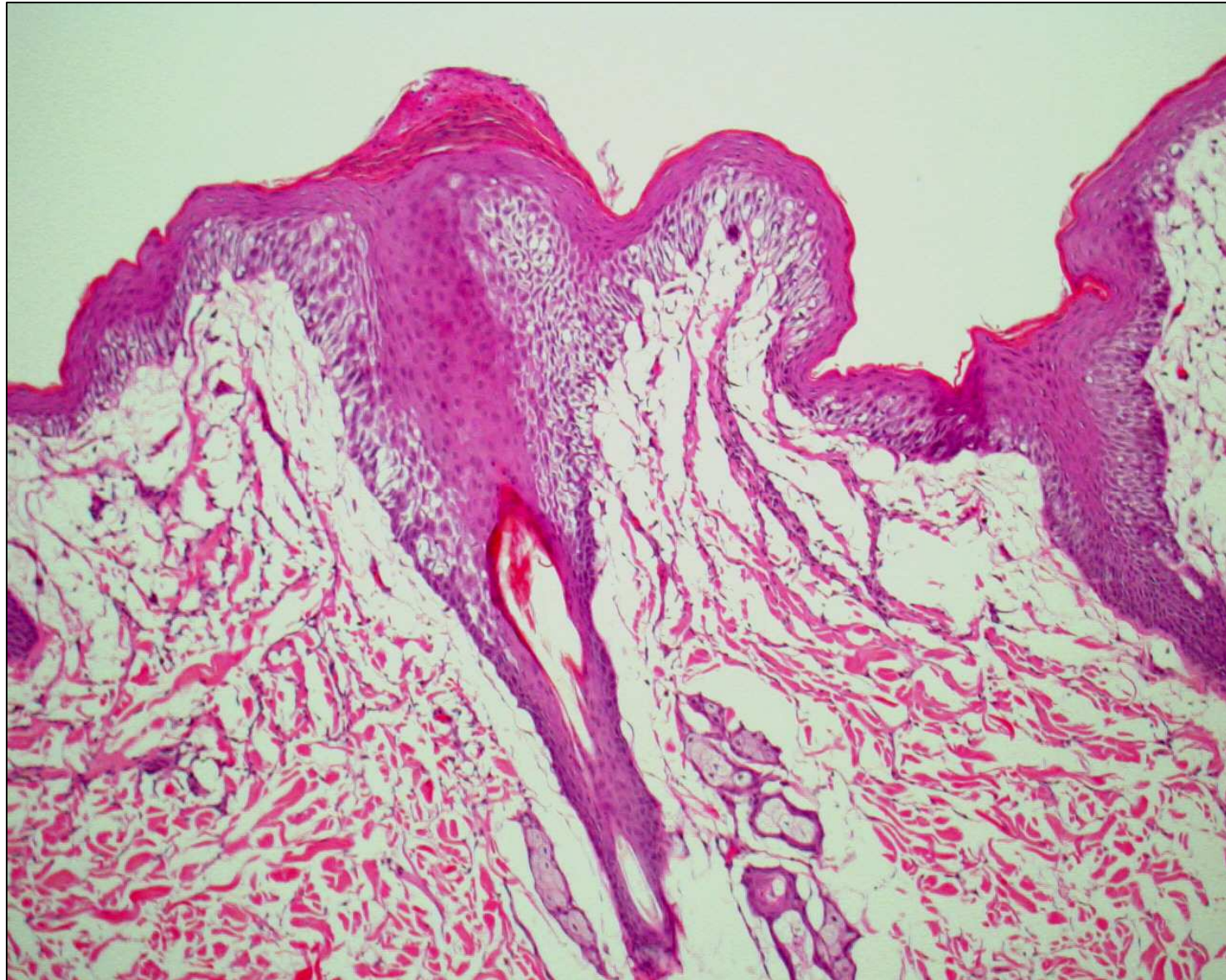


# Line Technique

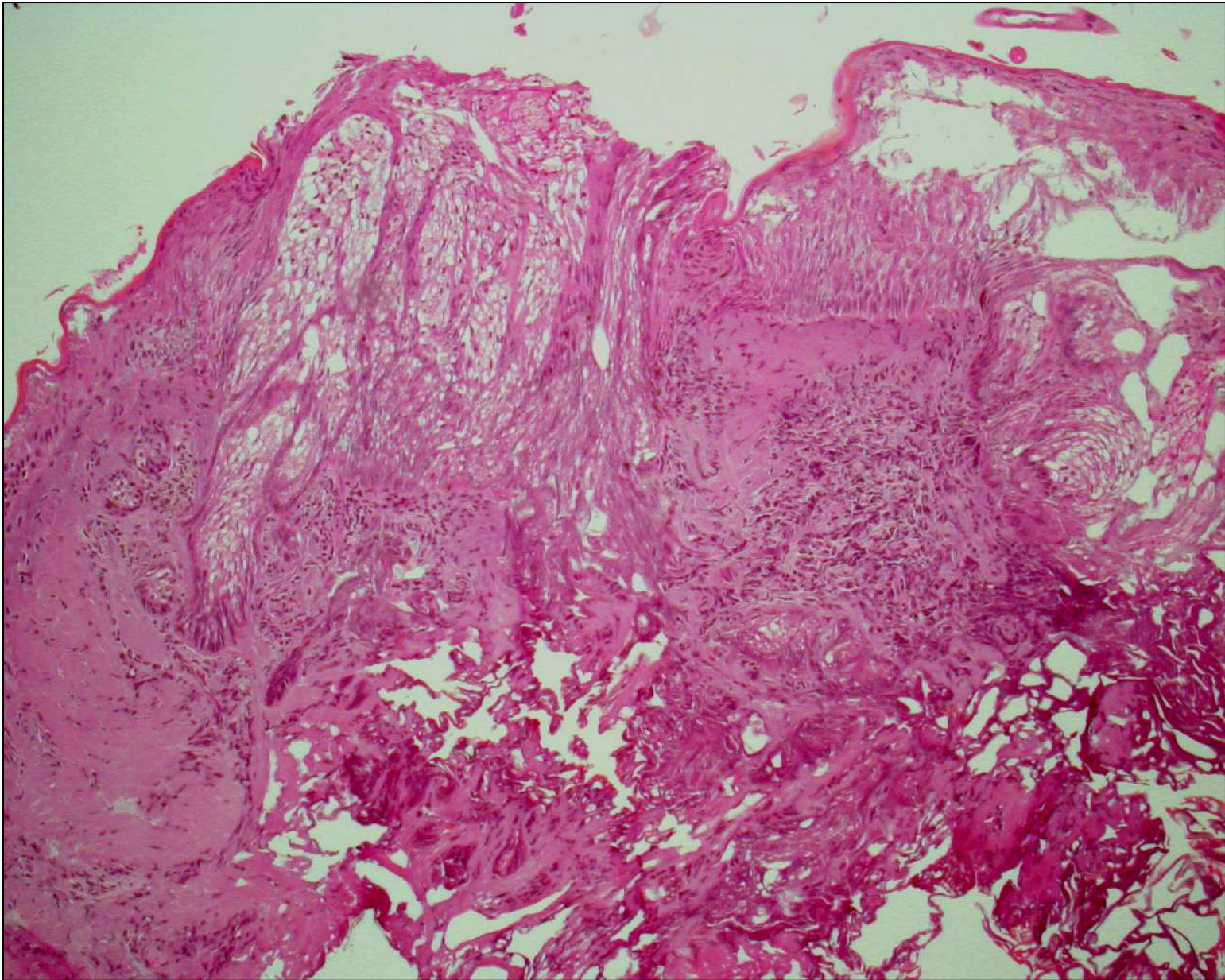








Desiccation- sample left under lamp 5-10 min. while tending to patient



Electrocautery or laser