Skin Scrapings:

- Skin scrapings are part of the basic database for all skin diseases. There are two types of skin scrapings, superficial and deep. Superficial scrapings do not cause capillary bleeding and provide information from the surface of the epidermis. Deep skin scrapings collect material from within the hair follicle; capillary bleeding indicates that the sampling was deep enough. Skin scrapings are used primarily to determine the presence or absence of mites. Skin scrapings are best performed using a skin-scraping spatula, which is a thin metal weighing spatula commonly found in pharmacy or chemical supply catalogs. These spatulas are reusable and do not cause injury.

Combing of the Hair Coat:

- This technique, commonly referred to as “flea combing,” is useful to collect large amounts of skin debris and trap cutaneous parasites. Combings are particularly useful to find fleas, ticks, lice, and some mites. A clean scrub brush or curry comb can be used to collect material into a flat container (eg, pie plate) in large animals.

Examination of Hairs:

- Microscopic examination of hair shafts can be used to look for evidence of self-trauma, dermatophyte infections (requires clearing agents and special staining), dysplastic hairs, and sometimes, genetic diseases of the hair coat.

Cytology:

- Cutaneous and auricular cytology is helpful to identify bacterial, fungal, and, possibly, neoplastic skin diseases. At least 4–6 impression smears should be made; several slides should be saved for examination at a reference laboratory if necessary. When performing impression smears of the skin, the glass slide should be placed directly over the site to be sampled. An index finger or thumb should be placed directly over the slide and very firm pressure exerted. Alternatively, clear acetate tape can be used to sample the skin. Adequate sampling will produce a “thumb print” from the surface. At least one slide should be heat fixed with a match or lighter before staining. In most cases, a Romanowsky-type stain is adequate. In pruritic animals, material should be scraped from beneath nail beds and smeared onto glass slides for heat fixing, staining, and cytologic examination. Specimens should be examined under 4×, 10×, and oil immersion magnification.
-

Fungal Cultures:

- Dermatophyte infections are best identified with a fungal culture on either dermatophyte test medium or on plain Sabouraud agar. Plates that are easily inoculated are preferred; glass, screw-topped jars are difficult to inoculate and obtain samples from and are best avoided. Cats are best sampled using a new toothbrush aggressively combed over the affected lesions. Dogs can be sampled with either a toothbrush or via a hair plucking technique. In large animals, hairs should be gently wiped with alcohol before collecting to minimize contaminant growth. Intermediate and deep fungal organisms are best cultured at a reference laboratory using a skin biopsy specimen (6–8 mm in size).

Bacterial Cultures:

- Intact pustules can be cultured by rupturing the pustule with a sterile needle and swabbing the lesion with a sterile culture swab. Lesions should not be scrubbed before sampling. Deep pyodermas are best cultured from a skin biopsy (6–8 mm). The reference laboratory should be informed as to what pathogens are suspected, because this may affect how the exudate is cultured. Systemic and topical agents should be withheld for at least 72 hr before sampling.

Biopsy:

- Skin biopsies are indicated in any case that appears severe, unusual, or does not respond to appropriate therapy. Lesions should not be scrubbed before biopsy, because surface pathology is important in the diagnosis of many skin diseases. Several samples from a variety of lesions should be submitted for examination. Primary lesions should be sampled whenever possible; otherwise, the report is often not very helpful in making a diagnosis or narrowing a list of differential diagnoses. Biopsy specimens require examination by a pathologist familiar with skin diseases of animals. Direct immunofluorescence is not necessary to diagnose autoimmune skin diseases; routine histopathology is the test of choice