DERMOSCOPIC ANALYSIS CHECKLIST
Melanocytic vs Nonmelanocytic

- Pigment network
- Brown dots / globules
- Homogeneous blue global pattern
- Acral patterns
- By default

**Step 1**

**Melanocytic**
Global Patterns
- Reticular
- Globular
- Cobblestone
- Homogeneous
- Starburst
- Multicomponent
- Nonspecific

**Step 2**

**Local Criteria: Regular vs Irregular**
- Pigment Network
- Dots/Globules
- Streaks
- Blotches
- Blue/White Color
- Regression
- Vessels
- Colors

**Step 3**
- Symmetry Color and Structure

**Step 4**
- Asymmetry Color and Structure

**Step 5**

**Step 6**
- Diagnosis

**Step 7**
- Disposition
Criteria for a MELANOCYTIC LESION

- Pigment Network
- Brown Globules
- Homogenous Blue Global Pattern
- Parallel Acral Patterns
- By Default
Criteria for Seborrheic Keratosis

- Milia-like cysts
- Comedo-like openings a.k.a. Pseudofollicular openings
- Fissures and Ridges
- Fat Fingers
- Hairpin vessels
- Sharp Border Demarcation
Criteria for Basal Cell Carcinoma

- Absence Pigment Network
- Arborizing Blood Vessels
- Fine Serpentine Vessels
- Pigmentation
- Ulceration
- Spoke-Wheel Structures
Criteria for Dermatofibroma

- Central White Patch
- Peripheral Pigment Network
Criteria for Vascular Lesion

- Red Lacunae (Lagoons)
- Reddish-Blue, Purple, Jet Black Color
- Fibrous Septae
DEFAULT CATEGORY

Absence of criteria:

- Melanocytic Lesion
- Seborrhheic Keratosis
- Basal Cell Carcinoma
- Vascular Lesion
- Dermatofibroma
Pattern Analysis

- Identify Criteria
- Put Them Into Patterns
- Patterns Correlate With Pathology
  - Melanoma
  - Nevi
  - Hemangiomas
  - Seborrheic Keratosis
  - Dermatofibroma
  - Basal Cell Carcinoma
Pattern Analysis Criteria
Melanocytic lesion

Global patterns (reticular, globular, cobblestone, homogeneous, parallel, starburst, multicomponent, non-specific)

Pigment network
Dots/globules

Blotches (structureless pigmentation)

Streaks (pseudopods/radial streaming)

Blue-white structures (blue-white veil and/or depigmentation)*

Vascular structures
Melanoma- Specific Criteria with Pattern Analysis (trunk and extremities)

Asymmetry of color and structure
Multicomponent global pattern (3 different dermoscopic areas in a lesion)
Non-specific global pattern
Irregular pigment network
Irregular dots/globules
Irregular streaks (pseudopods/radial streaming)
Irregular blotches
Blue and / or white color
Regression
5-6 colors
Polymorphous vascular pattern
Milky-red areas/ pink color
Melanoma- Specific Criteria
Head and neck

- Asymmetrical Follicular Pigmentation
- Annular- Granular Structures
- Rhomboid Structures
- Circle within a Circle
- Absence of Fingerprint Pattern (Lentigo)
Melanoma- Specific Criteria
Palms & Soles

- Parallel Ridge Pattern
- Non-Specific Pattern
- Diffuse Variegate Pattern
- Muticomponent Pattern
The Two Step Algorithm
The analysis of a suspicious skin lesion is a two-step process

- Step one: determine if it is melanocytic or nonmelanocytic
- Step two: if it has the criteria for a melanocytic lesion, the second step is to determine if it is low, intermediate, or high risk using the melanocytic algorithm of your choice
MELANOCYTIC VS NON-MELANOCYTIC
TWO STEP ALGORITHM

Criteria for a MELANOCYTIC LESION
- Pigment network
- Brown Globules
- Homogenous blue global pattern
- Parallel acral patterns
- By Default

Criteria for Seborrheic Keratosis
- Milia-like cysts
- Comedo-like openings / Pseudofollicular openings
- Fissures and Ridges
- Fat Fingers
- Hairpin vessels
- Sharp Border Demarcation

Criteria for Vascular Lesion
- Red lacunae
- Reddish-blue homogeneous areas
- Fibrous Septae

Criteria for Dermatofibroma
- Central white patch
- Peripheral pigment network

If none of the above criteria are present, evaluate as a melanocytic lesion DEFAULT CATEGORY
Criteria for a MELANOCYTIC LESION

Pigment Network
Brown Globules
Homogenous Blue Global Pattern
Parallel Acral Patterns
By Default
Criteria for Seborrheic Keratosis

Milia-like cysts
Comedo-like openings / Pseudofollicular openings
Fissures and Ridges
Fat Fingers
Hairpin vessels
Sharp Border Demarcation
Criteria for Basal Cell Carcinoma

Absence Pigment Network
Arborizing Blood Vessels
Serpentine Vessels
Pigmentation
Ulceration/ Erosion
Spoke-Wheel Structures
Criteria for Vascular Lesion

Red Lacunae
Reddish-Blue Homogeneous Areas
Fibrous Septae
Criteria for Dermatofibroma

Central White Patch
Peripheral Pigment Network
DEFAULT CATEGORY

Absence of criteria:

Melanocytic Lesion
Seborrhoeic Keratosis
Basal Cell Carcinoma
Vascular Lesion
Dermatofibroma

If none of the above criteria are present, evaluate as a melanocytic lesion DEFAULT CATEGORY
Global Patterns
Global pattern is defined as the overall dermoscopic picture of a lesion.
Reticular
■ Pigment network filling most of the lesion

Globular
■ Dots and globules filling most of the lesion

Cobblestone
■ Larger angulated globules resembling street cobblestones filling most of the lesion

Homogeneous
■ Diffuse pigmentation in the absence of local criteria such as pigment network, dots, and globules

Starburst (Spitzoid)
■ Streaks and/or dots and globules at the periphery of the lesion

Multicomponent
■ Three or more different areas within a lesion
■ Each zone can be composed of a single criterion or multiple criteria

Nonspecific
■ None of the above global patterns can be identified
Symmetry & Asymmetry
Determine symmetry or asymmetry of color and/or structure using the **mirror image technique**

- The lesion is bisected by two lines that are placed 90° to each other
- One does not physically place lines over the lesion
- The lines are visually imagined
- The lines should be placed to create as much symmetry as possible
- Are the color and/or the structure on the left half of the lesion a mirror image of the right half
- Repeat the analysis for the upper and lower half of the lesion
Pigment Network
PIGMENT NETWORK NETWORK

- On the trunk and extremities
- Shades of brown
- Honeycomb-like, reticular, web-like line segments (elongated and hyperpigmented rete ridges) with hypopigmented holes (dermal papilla)
Regular Pigment Network

- Various shades of brown
- Honeycomb-like (web-like, reticular) line segments
- Uniform color, thickness, and holes
Irregular Pigment Network

- Shades brown
- Line segments that are thickened, branched, and broken up (enlarged, fused rete ridges)
- There may be a diffuse distribution or foci of irregular pigment network
Target Network

• The presence of brown globules or dotted vessels within the “holes” of the network
• This corresponds to the presence of melanocytic nests or capillaries in the dermal papilla
• Typically a single brown globule or single vessel is seen in each papilla
• Target network can be seen throughout a lesion or be spotted (foci of target network)
• Target network is thought to be a feature of CMN
Pseudonetwork
Because the skin of the face, nose and ears is thin and does not have well-developed rete ridges, one sees:

- Appendageal openings/adnexal structures (sebaceous glands, hair follicles)
- Uniform, round white or yellowish structures
When they penetrate areas of diffuse pigmentation, reticular-like structures are formed that are referred to as the pseudonetwork.

Not to be confused with the Pigment network found on the trunk and extremities.

Monomorphous appendageal openings can often be seen on the skin of the face without any pigmentation.
Negative Network
White Network-like Structures
A.K.A. Negative Network
White Network
Reticular Depigmentation
Dots & Globules
DOTS AND GLOBULES

- Roundish structures distinguished only by their relative sizes
- Dots (0.1mm) are smaller than globules (greater than 0.1mm)
- Black, brown, gray, or red
- When black, they can represent melanin or atypical melanocytes in the epidermis
- Regular brown dots and globules represent nests of melanocytes at the dermo-epidermal junction
- Irregular brown dots and globules represent nests of atypical melanocytes at the dermo-epidermal junction
- Fine grayish dots ("pepperering") represent free melanin and/or melanophages in the papillary dermis,
- Reddish globules can be seen in melanoma (neovascularization)
Regular Dots and Globules

- Brown roundish structures
- Usually clustered
- Size, shape, and color are similar with an even distribution in the lesion
Irregular Dots and Globules

- Black, brown, gray, or red roundish structures
- Different sizes, shapes, and shades of color
- Asymmetrically located in the lesion
Streaks
Regular Streaks

- Black or brown linear projections of pigment
- Can be free standing or associated with a pigment network or dark blotches
- At all points along the periphery of the lesion
- Pseudopods and radial streaming are similar structures dermoscopically and histopathologically (aggregates of tumor cells running parallel to the epidermis that can be seen in Spitz nevi or represent the radial growth phase of melanoma), which are difficult to differentiate from each another
- To simplify the identification, the term “streaks” is now used by many but not all experienced dermoscopists to encompass all variations of this criterion
- The shape of the linear projections does not determine if they are regular or irregular, rather their distribution at the periphery of the lesion
Irregular Streaks

- Black or brown linear projections
- Irregularly distributed at the periphery of a lesion
- Some but not all points at the periphery, “foci of streaks”
Blotches
Regular Blotches

- Dark shades of black, brown or gray
- Structureless (absence of network, dots, or globules) areas of color
- Bigger than dots and globules
- Uniform shape and color symmetrically located in the lesion

(aggregates of melanin in the epidermis and/or dermis)
Irregular Blotches

- Dark shades of black, brown or gray structureless areas of color
- Irregular in size and shape
- Asymmetrically located in the lesion
Colors
Colors Seen with Dermoscopy

- Eumelanin’s location in the skin will determine the color one sees with dermoscopy
- In a flat or slightly raised lesion, black indicates that melanin is superficially located in the epidermis
- Black color in a nodule can represent invasive melanoma
- Light and dark brown indicates pigment is at the dermoepidermal junction
- Gray in the papillary dermis represents free melanin and/or melanophages (“peppered”)
- As the pigment gets into the deeper dermis one sees shades of blue (Tyndall effect)
- Red and/or pink colors can be created by inflammation or neovascularization
  - White secondary to scarring/regression
- Sebaceous material and hyperkeratosis can look yellow
Color shade and topography

normal epidermis
increase of melanocytes

epidermal alteration

black

dark-light-brown

slate-grey

steelblue

whitish-yellowish

yellow-brown
Blue-White Veil

“Veil”

- Irregular, structureless area of confluent blue color that does not fill the entire lesion
- Overlying whitish ground glass appearance
  (Orthokeratosis Acanthosis Hypergranulosis)
- Can represent heavily pigmented tumor cells in the dermis
Regression & Hypopigmentation
Regression

- Bony or milky-white scar-like depigmentation (fibrosis)
- With or without gray pepper-like granules “peppering “ (free melanin and/or melanophages in the dermis)
- The white color should be lighter than the surrounding skin
- Blue color and blue granules can also be seen in areas of regression
“Peppering”

- Gray Coloration
- Pigment in the papillary dermis (Tyndall effect)
- Gray pepper-like granules “peppering“ (free melanin and/or melanophages in the dermis)
- Can be associated with regression or inflammation
Hypopigmentation

- The bony-white color of regression should be differentiated from tan hypopigmentation / light color
- Hypopigmentation may or may not contain local criteria (pigment network, dots and globules)
Crystalline Structures

Shiny White Streaks

Chrysalis Structures
Crystalline Structures

- Collagen bundles have birefringent properties that cause a rapid randomization of polarized light, explaining why collagen is more conspicuous under polarized dermoscopy.
- Skin lesions with an increased amount of collagen will often reveal shiny, bright white, linear streaks, and/or white blotches which are termed crystalline structures.
- These structures are not visible with nonpolarized dermoscopy.
- Crystalline structures can be seen in dermatofibromas, scars, Spitz nevi, basal cell carcinoma, melanoma, and lichen planus.
The three-point check list is based on simplified pattern analysis

Three-point checklist of dermoscopy: an open internet study.
Intended to be used by nonexpert dermatoscopists as a screening technique
Its aim is to diagnose melanocytic and nonmelanocytic potentially malignant pathology.
THREE-POINT CHECKLIST TO DIAGNOSE HIGH RISK LESIONS (MELANOMA, DYSPLASTIC NEVI, BASAL CELL CARCINOMA)

- Asymmetry of color and/or structure (1 point)
- Irregular pigment network (1 point)
- Blue and/or white color (1 point)

2 out 3, 3 out 3 Points  EXCISE
Vascular Structures
Vascular Structures

- Lacunae (lagoons, saccules)
- Hairpin (regular & irregular)
- Comma-like
- Arborizing
- Serpentine
- Dotted (pinpoint)
- String of Pearls
- Glomerular
- Linear (regular & irregular)
- Corkscrew
- Polymorphous
- Milky – Red areas (with/or without globules)
LACUNAE/LAGOONS/SACCULES

- Sharply demarcated bright red to bluish round or oval structures (dilated vascular spaces in the dermis)
- Patchy white color or bluish-white color (fibrous septa) are commonly seen in hemangiomas
- Black homogeneous structureless areas represent thrombosis
- Significant scale or dryness (hyperkeratosis) can be seen in angiokeratomas
HAIRPIN

- Elongated telangiectatic vessels (capillary loops) resembling hairpins
- May or may not be surrounded by hypopigmented halos
- Irregular and thick hairpin vessels can be seen in melanoma
Comma-Like

Resembling the shape of a comma
ARBORIZING

- Red tree-like branching telangiectatic blood vessels
- In focus vessels because they are on the surface of the lesion
- Can be thick or thin
- Most often there are different caliber vessels in a single lesion
Serpentine Vessels

- Very Fine/ Thin
- Irregular Linear Red Lines
Dotted/Pinpoint

- Small telangiectatic vessels resembling tiny dots
- Can be diffuse, grouped or isolated
Glomerular

Diffuse or clustered fine coiled telangiectatic vessels
“String of Pearls”

- Pinpoint and/or glomerular vessels
- Following a linear, curvilinear, serpiginous or necklace-like distribution
- Diagnostic of Clear Cell Acathoma (CCA)
Corkscrew

Irregular thick coiled vessels
Polymorphous

Multiple different shapes
More than 3

Arborizing
Dotted/pinpoint
Irregular linear (serpentine)
Irregular tortuous/corkscrew
Irregular hairpin
Glomerular
Indescibable shapes
**Milky-Red Areas**

- Localized or diffuse (amelanotic melanoma) pinkish-white color
- With or without reddish and/or bluish out-of-focus/fuzzy globular structures (neovascularization)
- Not to be confused with the in focus lacunae seen in hemangiomas
Follicular Pigmentation
Because the skin of the head and neck is thin and does not have well-developed rete ridges, one sees appendageal openings/adnexal structures (sebaceous glands, hair follicles). Uniform, round white or yellowish structures. When they penetrate areas of diffuse pigmentation, reticular-like structures are formed that are referred to as the pseudonetwork. Monomorphous appendageal openings can often be seen on the skin of the face without any pigmentation.
Asymmetrical Follicular Pigmentation

- Seen only on the face, nose, and ears ("site-specific")
- Irregular brown color outlining parts of the round follicular openings
- The color does not completely encircle the openings
  (early proliferation of atypical melanocytes)
Annular-Granular Structures
Annular-Granular Structures

- Seen only on the face, nose, and ears ("site-specific")
- Brown or gray fine dots that surround follicular openings (melanophages and/or atypical melanocytes)
Rhomboid Structures
Rhomboid Structures

- Seen only on the face, nose, and ears ("site-specific")
- Rhomboid is a parallelogram with unequal angles and sides
- Black or brown pigmentation surrounding the entire follicular opening
- In reality, true rhomboids are not regularly formed
Circle within a Circle
Circle within a Circle

A poorly studied structure composed of a central hair shaft (inner circle) and gray pigmentation (atypical melanocytes and/or peppered) that surround the hair shaft (outer circle)
Nail Apparatus
Pigmented Bands
Melanonychia Striata

Benign Pigmented Nail Bands

- Single or multiple nail involvement with brown longitudinal parallel lines
- Uniform color, spacing, and thickness
- May or may not have diffuse brown background coloration
Atypical Melanonychia Striata

Malignant Pigmented Nail Bands

- Loss of parallelism (broken-up line segments due to irregular pigmentation produced by malignant melanocytes)
- Brown, black, or gray parallel lines that demonstrate
- Different shades of color, irregular spacing, and thickness
Acral Parallel Patterns
PARALLEL FURROW PATTERN

- Most common benign acral pattern
  - Single thin or thick brown parallel lines in the furrows of the skin (crista superficialis limitans)
- Variations include two brown lines on both sides of the hypopigmented furrows with or without brown dots and globules
- Single line of dots and globules along the furrows (single-dotted variant)
- Double line of dots and globules parallel to the hypopigmented furrows (double-dotted variant)
LATTICE-LIKE PATTERN

■ Benign pattern
  ▪ Brown parallel lines in the furrows
  ▪ Brown lines running perpendicular to the furrows forming a ladder-like picture
FIBRILLAR PATTERN

- Benign pattern
- Uniform brown lines that run in an oblique (////////) direction
Acrosyringia

“String of Pearls”

- Sometimes there are monomorphous round white structures in the ridges that represent the acrosyringia of the sweat ducts that are said to look like a “string of pearls”
- They are always in the Ridges never in the Furrows
- They may or may not be present in an acral melanocytic lesion
- Acrosyringia can be seen on normal acral skin
PARALLEL RIDGE PATTERN

- Malignant pattern
- Not Diagnostic of a Melanoma
- Pigmentation is in the thicker ridges of the skin (crista profunda intermedia)
- Acrosyringia always are in the ridges and can be a clue where pigmentation is
- Can be seen with blood or in darker skinned races
Milia-Like Cysts
MILIA-LIKE CYSTS

- Variously sized white or yellow structures
- Small or large, single or multiple
- They can appear opaque or bright like “stars in the sky” (epidermal horn cysts)
- Typically associated with Seborrheic Keratosis but can be seen in benign and malignant melanocytic lesions
Pseudofollicular Openings
PSEUDOFOLLICULAR OPENINGS/COMEDO-LIKE OPENINGS

- Sharply demarcated roundish structures
- Pigmented or nonpigmented
- Shape and size can vary, not only within a single lesion, but from lesion to lesion in an individual patient
- Large keratin-filled irregularly-shaped openings are called crypts
- When pigmented, they can be brownish-yellow or even dark brown and black (keratin-filled invaginations of the Epidermis)
Fissures & Ridges
FISSURES AND RIDGES

■ Fissures (sulci) and ridges (gyri) seen in papillomatous seborrheic keratosis can create several patterns
■ Cerebriform or brain-like in which they resemble a sagittal section through the cerebral cortex
■ Mountain-like with variously sized or uniformly roundish structures representing mountains (ridges) and fine pigmented lines representing valleys (fissures)
■ Hypo- and hyperpigmented ridges can be digit-like (straight, kinked, circular, or branched) and are referred to as “fat fingers”
■ Fissures and Ridges can also be seen in melanocytic nevi
Fingerprint Pattern
FINGERPRINT PATTERN

- Seen in Solar Lentigines
- Brown fine/thin parallel line segments that resemble fingerprints
- Can be swirled, whirled or arched
- Differ from the pigment network where the line segments are honeycomb-like or reticular
Moth-Eaten Borders
MOTH-EATEN BORDERS

Well-demarcated, concave borders that are felt to resemble a “moth-eaten” garment
Pigmentation In Basal Cell Carcinoma
PIGMENTATED BASAL CELL CARCINOMA

- Basal cell carcinoma may or may not contain pigment (pigmented nests or island of basal cell carcinoma in the dermis) that can range from
  - Fine dots to large leaf-like structures (bulbous extensions forming a leaf-like pattern)
- Not necessary to try to determine if “leaf-like” structures (maple leaf-like areas) are present since in reality this is a difficult task
- Blue-gray ovoid nests
- Multiple blue-gray globules
- Colors that can be seen
  - Black    Blue
  - Brown    Red
  - Gray     White

IT IS NOT NECESSARY TO TRY TO DESCRIBE SHAPES
Ulceration
ULCERATION

Single or multiple areas, where there is loss of epidermis with oozing blood or congealed blood and crusts
Spoke-Wheel Structures
SPOKE-WHEEL STRUCTURES

- Well-defined pigmented radial projections meeting at a darker central globule/central axle/hub
- Complete or incomplete variations of this structure can be seen
- One often has to use their imagination to make the identification
- Diagnostic for Basal Cell Carcinoma
Central White Patch
CENTRAL WHITE PATCH

- Most typical presentation of this criterion is centrally located homogeneous bony-white scar-like area
- Several variations such as white network-like structures (negative network)
**Trichoscopy**

The use of dermoscopy to evaluate scalp skin and hair follicles

Any form of dermoscopy can be used (polarized, non-polarized, contact, noncontact with or without fluid)

Structures that can be visualized include:
- Hair shafts
- Hair follicle openings
- Perifollicular epidermis
- Cutaneous microvasculature
Criteria seen with trichoscopy:

Anisotrichosis: Hair diameter variability greater than 20%

Black dots (cadaverized hairs): black dots inside follicular openings and represent fragmented and destroyed hair shafts

Brown halo (peripilar sign): Brown macules surrounds emergence of the hair shafts from the scalp (follicular ostia) secondary to inflammation

Circle hairs: thin short vellus hairs that form a circles

Coiled hairs: telogen/catagen broken hairs that coil back

Comma hairs: Short c shaped broken hair shafts with ectrothrix parasitation

Corkscrew hair: short spiral shape broken hair shafts

Coudability hairs: hairs of normal length with a narrow proximal shaft
Empty follicles: skin colored small depressions without hairs

Exclamation mark hairs: tapered telogen hairs with dark thick tip at the level of the skin

Follicular keratotic plugging: keratotic masses plugging follicular ostia

Follicular red dots: erythematous concentric structures in and around follicular ostia representing dialated vessels and extravasated blood

Hair tufting: multiple hairs (6) emerging from the same ostium

Honeycomb network-like structures: created by homogeneous brown rings, not a true pigment network created by elongated and hyperpigmented rete ridges
Peripilar casts: concentrically arranged scales encircling emerging hair shafts

Peripilar sign: brown halo surrounding follicular opening caused by inflammation

Peripilar white halo: gray-white halo surrounding follicular ostia created by fibrosis

Twisted red loops: multiple red dots at low magnification (x10, x20) and polymorphous beaded lines at higher magnification (x40) representing capillaries in the papillary dermis

White dots: interfollicular acrosyringia and follicular openings

White patches: well-demarcated irregular white patches seen in scarring alopecia devoid of follicular openings

Yellow dots: round or polycyclic yellow to yellow-pink dots representing infundibula plugged with sebum and keratin. May be devoid of hairs or contain miniaturized, cadaverized, or dystrophic hairs
Infestations

*Pediculosis Capitis*
Direct visualization of the parasite and nits
It is possible to see if the nits are full (vital nits) or empty which helps determine the success or failure of treatment

*Pediculosis Pubis*
It is possible to easily see the parasite attached to adjacent pubic hairs or hairs at other sites

Acquired Hair/Scalp Diseases

*Seborrheic Dermatitis v.s. Psoriasis*
Vascular patterns help make the diagnosis
Psoriasis has pinpoint or glomerular vessels similar to skin plaques
Seborrheic dermatitis lacks pinpoint or glomerular vessels but has arborizing and polymorphous vessels

*Tinea Capitis*
Patchy alopecia, erythema, scale, adenopathy
Comma hairs
Corkscrew hairs: More commonly seen in African-American children
Black dots
Broken and dystrophic hairs
Trichosporonosis (Piedra)
Superficial mycosis of the hair shafts
White piedra (T beigeli, T inkin)
Hair shafts coated with yellow to beige sheaths
Distal fusiform nodules
Black piedra (Piedraia bortae)
Dark nodules along the hair shafts

Trichomycosis capitis
Corynebacterium species
Scalp, axilla, pubic hairs
Yellow sheaths attached to the hair shafts
**Androgenic Alopecia**

- Anisotrichosis
- Brown halo (peripilar sign)
- Yellow dots
- Honeycomb network
- White dots
- Circle vellus hairs
- Empty follicles

**Alopecia Areata**

- Yellow dots
- Black dots (cadaverized hairs)
- Circle hairs
- Exclamation mark hairs (mostly along the edges of the patches of alopecia)
- Coudability hairs
- Clustered vellus hairs
- Pseudo-monilethrix hairs characterized by constrictions in the hair shaft
- Multiple depressed follicular osteo
- Fibrosis with white dots in long standing cases
Alopecia Areata Incognito

Sub-type of alopecia areata with rapidly developing diffuse alopecia

Mimicks telogen effluvium

Diffusely distributed yellow dots

Large number of short growing hairs (2-4mm)
Trichotillomania
Coiled hairs (not seen in alopecia areata)
Broken hairs with different lengths
Black dots
Yellow dots
Absence of exclamation mark hairs characteristic of alopecia areata

Traction Alopecia
Marginal alopecia
Traction due to hair styles
Common African-Americans
Hair casts around hair shafts at the periphery

Trichorrhexis Nodosa
Mechanical, chemical, thermal damage
White nodules along the hair shafts
Fractured and frayed ends have a brush-like appearance
**Bubble Hair**

High temperature from hair styling gas formation creates bubbles that appear as white oval spaces with a Swiss-cheese appearance.

**Trichoptilosis (Spit Ends)**

Longitudinal splitting at the distal ends of the hair shafts.

Two or multiple frayed ends at different lengths.
SCARRING ALOPECIA

PRIMARY AND SECONDARY TYPES (I.E. LICHEN PLANOPILARIS, FRONTAL FIRBOSING ALOPECIA, DISCOID LUPUS, FOLLICULITIS DECALVANS)

DECREASED HAIR DENSITY

PINPOINT WHITE DOTS (FOLLICULAR AND ACROSYRINGEAL OPENINGS)

LOSS OF FOLLICULAR OPENINGS

CICATRICIAL WHITE PATCHES
Congenital Hair Shaft Abnormalities

Monilethrix

Hair Shaft Beading

Elliptical Nodes (Normal Shaft Diameter)

Narrow Internodes (Dystrophic Hairs)

Elliptical Noded Regularly Separated by Narrow Internodes

“Regular Bended Ribbon Sign”

Hair Shafts Bend Regularly at Multiple Locations in Different Directions
**Pili bifurcati and multigemini**

Hair shafts grow from the same papilla
split from a single tip
double tip ( bifurcati )
several tips ( multigemini )

**Pili torti**

Flattened hair shafts
twisting at irregular intervals

**Pili trianguli and canaliculi**

"uncombable hair" "dry unruly hair"
triangular or reniform hair shafts
Flatened hairs with longitudinal groves

**Pili Annulati**

Alternating light and dark bands are seen clinically
Light bands represent air-filled cavities

**Trichorrhexis invaginata**

Seen in Netherton’s syndrome
Invagination of the distal portion of the hair shaft into its proximal portion forming a ball in cup appearance
bamboo/ golf tee /matchstick hairs
DIAGNOSTIC PEARLS

- Don’t jump to conclusions.
- You can’t see what you do not know. The more you study or practice, the better you will be. OSMOSIS FACTOR
- Dermoscopy is not a 100% diagnostic technique. Don’t expect it to be.
- Never tell a patient they have melanoma 100%.

- Evaluate all criteria before making a dermoscopic diagnosis.
- Gut feelings about a lesion are important and should not be ignored.
- Don’t be discouraged if you make a mistake. We all do and it will be a learning experience that will improve your dermoscopic skills.
DIAGNOSTIC PEARLS

• Don’t forget the importance of the patient’s personal and family history, as well as the clinical appearance and history of the lesion you are examining.
• Look for subtle high-risk criteria before diagnosing a lesion as being a low-risk.
• Always have a dermoscopic differential diagnosis.
• Dermoscopic pathologic correlation.
• Don’t hesitate to ask a more experienced colleague for his or her dermoscopic opinion.
• Use the most atypical dermoscopic area if you plan an incisional biopsy.
• Erythema blanch test
DIAGNOSTIC PEARLS

• Do not hesitate to seek a second opinion if you do not have a good dermoscopic clinicopathologic correlation with high-risk lesions.
• Give a hirsute patient a haircut to get a better look at a suspicious lesion.
• If the patient has dry skin and the dryness is on the lesion you are examining, get rid of the dryness and then check the lesion.
• A soft, compressible lesion favors low-risk pathology. Don’t hesitate to palpate a lesion that you are concerned about.
• Recent sun exposure can make things look bad. Recheck the patient in a few weeks’ time.
IF IN DOUBT ???
CUT IT OUT !!