not all Follicles have active hairs, so don't fear/despair

B. HAIR GROWTH TABLE

Body Area	% Resting Hairs Telogen	% Growing Hairs Anagen	% Catagen	% Dystrophic or Uncertain	Duration of Telogen	Duration of Anagen	# Follicles per sq. cm	Daily Growth Rate	Total # of Follicles	Approx. Depth of Terminal Anagen Follicle
Scalp	13	85	1-2	1-2	3-4 months	2-6 years	350	0.35 mm	1 million total for all of head and scalp	3-5 mm
Eyebrows	90	10			3 months	4-8 weeks		0.16 mm		2-2.5 mm
Ear	85	15			3 months	4-8 weeks				
Cheeks	30-50	50-70					880	0.32 mm		2-4 mm
Beard (chin)	30	70			10 weeks	1 year	500	0.38 mm		2-4 mm
Moustache (upper lip)	35	65			6 weeks	16 weeks	500			1-2.5 mm
Axillae	70	30			3 months	4 months	65	0.3 mm		3.5-4.5 mm
Trunk							70	0.3 mm	425,000	2-4.5 mm
Pubic area	70	30			12 weeks	months	70			3.5-4.75 mm
Arms	80	20			18 weeks	13 weeks	80	0.3 mm	220,000	
Legs & Thighs	80	20			24 weeks	16 weeks	60	0.21 mm	370,000	2.5-4 mm
Breasts	70	30					65	0.35 mm		3-4.5 mm

Note: Many factors affect these figures but they do serve as a useful guide. Our early research indicates that the percentage of telogen hairs on the cheeks, beard (chin) and moustache (upper lip) may be much higher than indicated on the table by some of the other earlier investigators. More research is required.

TIMETABLE FOR HAIR GROWTH

	ANAGEN (in mo.)	TELOGEN (in mo.)	GROWTH CYCLE (in mo.)	HAIR LENGTH (in mm.)
Scalp	2-8 yr.			
Upper lip	1-3	1-2	2-5	1-2.5
Cheek	2	2-3	4-5	
Cheek/chin				3.5-4.5
Axilla	3	3	6	3.5-4.5
Arm	1-3	3-5	4-8	
Back	2-6	3-6	5-13	2.5-4
Leg/thigh	2-7	3-6	5-13	2.5-4
Pubic	3			3.5-5

Information obtained from research presented at the AEA National Convention, 10/25/2000, by Dr. Jerome Garden

INCORPORATE IN CLASSROOM WORK

HAIR GROWTH TABLE

Richards

B. HAIR GROWTH TABLE

better pic elsewhere

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Pro-Tec Probes

APILUS

Three Types of Mandrins

- F ; K ; J

Features

A. 2 pieces - stainless steel

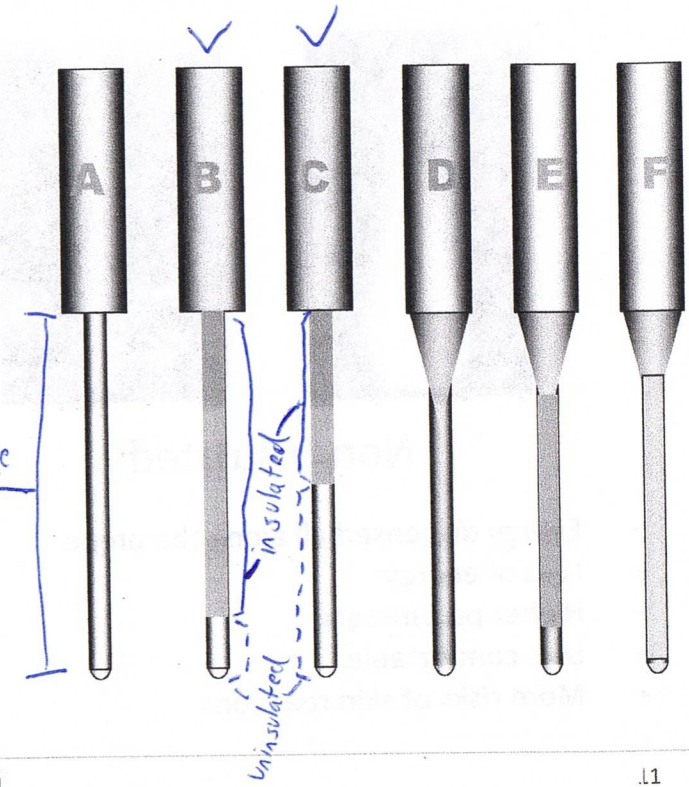
I have > B. 2 pieces – Pro-Tec IsoGard insulated almost to the tip

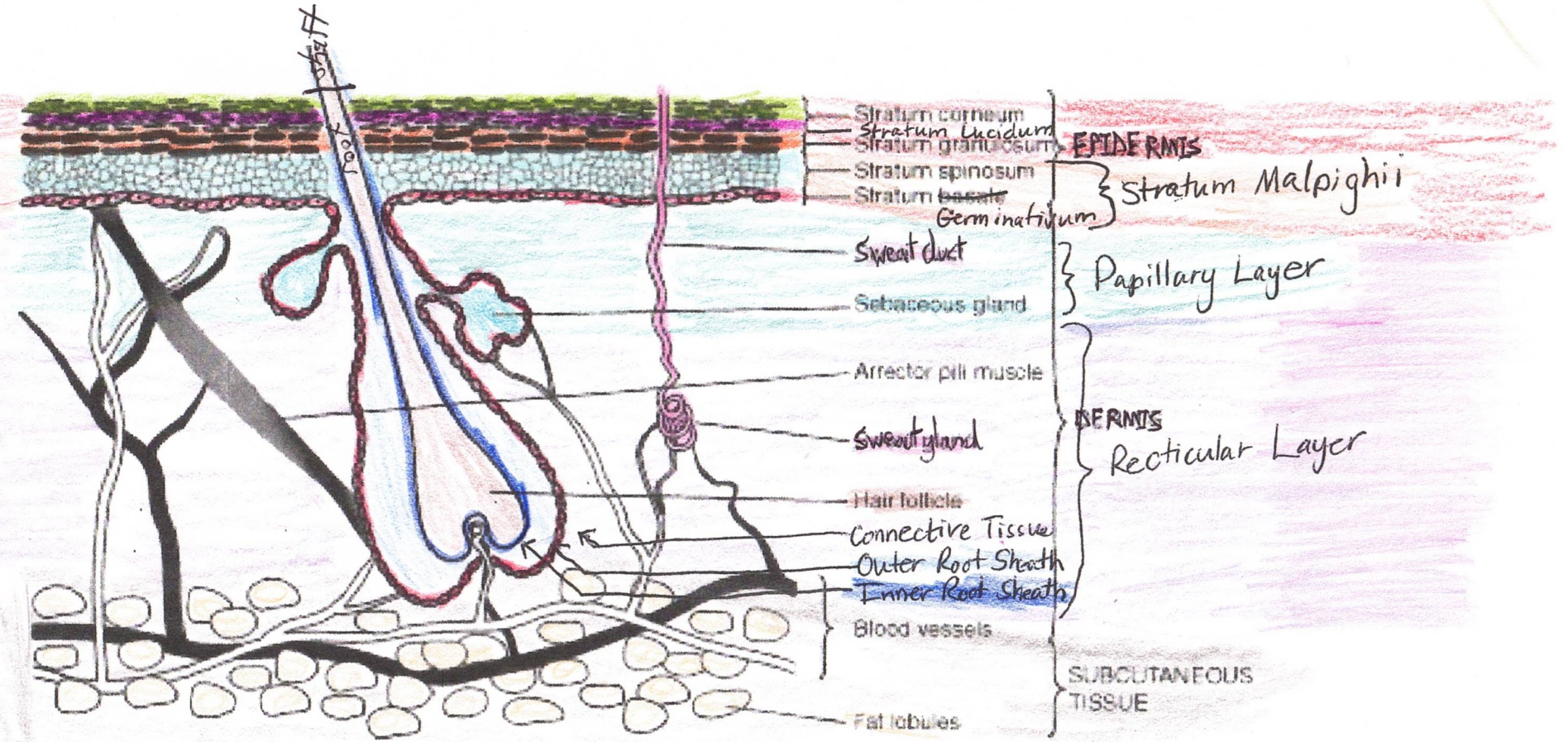
I generally use > C. 2 pieces – Pro-Tec IsoBlend insulated halfway

D. 1 piece stainless steel

E. 1 piece, insulated almost to the tip

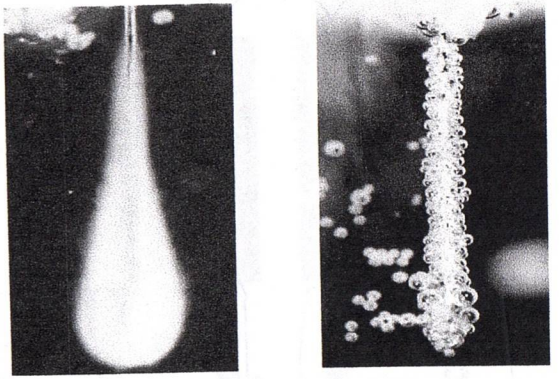
F. 1 piece, gold plated, same settings as a stainless steel




Hair
Root
Stratum corneum
Stratum lucidum
Stratum granulosum
EPIDERMIS
Stratum spinosum
Stratum basale
Germinativum
Stratum Malpighii
Sweat duct
Papillary Layer
Sebaceous gland
Arrector pili muscle
Sweat gland
DERMIS
Reticular Layer
Hair follicle
Connective Tissue
Outer Root Sheath
Inner Root Sheath
Blood vessels
SUBCUTANEOUS TISSUE
Fat lobules

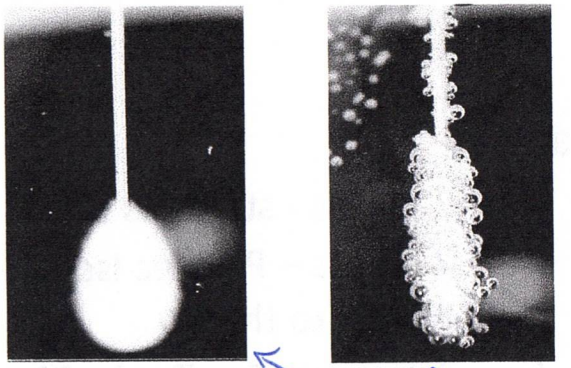
Insulated vs Non-Insulated Probes

APILUS



Non-Insulated

- Energy dispensed all along the probe
- Loss of energy
- Higher parameters
- Less comfortable
- More risks of skin reactions



Insulated ITH & IBL

I have ↖ ↑ I generally use

- Energy concentrated on the non-insulated tip
- Lower parameters
- Increased comfort
- Less skin reactions

CONDITION	TREATMENT	APPEARANCE	CAUSE	PHOTOS	
Actinic keratosis	Treat client, but not within affected area.	Reddish, ill-marginated patches and papules that have a rough, yellowish brown, adherent scale.	Precancerous neoplasm of the epidermis caused by UV portion of sunlight.	DERMATOLOGY, pg.77	
Melanoma	DON'T TREAT anywhere near area where the lesion would be touched.	Irregularily shaped and colored papule or plaque.	Cause unknown, but sunlight and heredity thought to be risk factors.	DERMATOLOGY, pg.94-95, DISEASES, pg.279	
Boils (furuncles)	Treat client, but not near or within area	Pus-filled nodules in dermis, red, tender and fluctuant.	Cause is usually staphylococcus aureaus.	DERMATOLOGY, pg.234	
Contact Dermatitis	Treat client, but not within the affected area.	Variable, patches or plaques, papulovesicles, eczamatous dermatitis.	Cause: irritant or allergic reaction.	DERMATOLOGY, pg.122, 124, 125, 126.	
Acne rosacea	Treat, but not within the affected area. Not contagious.	Chronic, inflammatory disorder affecting the blood vessels and pilosebaceous units of the face.	Cause unclear, but thought to be related to actinic exposure damages, foods, psychologic stress and immune mechanisms.	DERMATOLOGY, pg.195	

Chloasma	Treat, but with caution as client may hyperpigment easily. Not contagious.	Macular brown patches on face; sharply delineated.	Hormonal factors, associated with sunlight exposure and genetic predisposition.	DERMATOLOGY, pg.90	
Keloid	Treat, but with caution if keloids are apparent on face, as client may be keloid former.	Overgrown scar tissue, often pink or brown.	Secondary to trauma. More common in blacks.	DERMATOLOGY, pg.106	
Herpes simplex (HSV-1 typically cold sores; HSV-2 typically genital herpes)	May treat client, but not in any area where cross contamination of virus could occur. Client must be taught not to cross-contaminate, as virus could be spread.	Vesicles on an erythematous base, that become pustules which rupture, weep, and crust; recurrent in area of initial infection.	HSV virus	DERMATOLOGY, pg.162 DISEASES, pg.1284-B	
Herpes zoster (Shingles)	Can treat client, but not in any area where cross contamination of virus could occur. Typically client is uncomfortable and would postpone treatment until after healing.	Same as above in appearance, but typically on the body trunk, though can be found elsewhere. Does not cross center line of body as it follows nerve pathways.	VZV virus activted in persons who have previouslyhad varicella (chicken pox).	DERMATOLOGY, pg. 166 DISEASES, pg.389, 1284-C	
Urticaria (Hives)	Not advisable to treat as client is uncomfortable and hives are typically transient, though hives are not contagious.	Edematous plaques, often with pale centers and red borders; transient.	Allergic response, cause often unknown.	DERMATOLOGY, pg.240 DISEASES, pg.16,1284-B	
Keratoma	Treat, but not within	Callous			

Nevus (Mole)	Do not treat unless an OK is given by a physician.	Benign neoplasm of pigment-forming cells, macular or papular.	Congenital and acquired.	DERMATOLOGY, pg.91, 92	
Leukoderma	May treat, unless there is a fungal componant.	Skin of irregular pigmentation with white patches.	Multiple causes, such a tinea versicolor, albanism, vitiligo	DERMATOLOGY, pg.206, 208, 210, 211	
Seborrheic keratosis	May treat, but not within a lesion. Not contagious.	Scale, "pasted on" papule or plaque, often brownish in color, but may be flesh-colored.	Occurs with aging; thought to be inherited.	DERMATOLOGY, pg.74	
Skin tag	May treat around this lesion	Appears as a pedunculated flesh-colored growth.	Comes on with aging.	DERMATOLOGY, pg.75	
Telangiectasia (Broken capillaries or Spider veins)	May treat hair in this area, but treatment of the condition is "practicing medicine."	Small permanently enlarged capillaries, venules, small arterioles or small veins that lie in the upper dermis and are usually dull to bright red.	Most commonly caused by aging, X-ray, sun and light exposure, normal wear and tear on the skin and injury.	TELANGIECTASIA, by Michael Bono	
Verruca (Warts and Flat warts)	May treat client, but not near area of wart where cross-contamination may occur.	Common warts are scaley, vegetative papule or nodule, studded with black puncta; flat warts are reddish, smooth, flat, well-demarcated papules.	Papillomavirus	DERMATOLOGY, pg.67	

Tinea (Ringworm)	Don't treat, unless in area that cross contamination or spreading is not a possibility.	Elevated, serpentine pattern, scaling border with central clearing. Tinea capitus – scalp Tinea corporis – body Tinea pedis – "Athlete's foot" Tinea versicolor Tinea cruris – "Jock itch" Tinea manuum – hand Tinea faciale – face	Fungus	DERMATOLOGY, pg. 142, 144, 145, 146, 147, 206, 282, 283 DISEASES, pg. 1285-C	
Pediculosis	DO NOT TREAT! SEND HOME!!	Itching; nits affixed to hair shaft. Pediculosis pubis – "Crabs" Pediculosis capitus – Head lice	Lice.		
Comedones (Open – "blackhead"; Closed – "Whitehead")	Treat, but not within reddened or infected area.	Open comedone – Dilated pore filled with black, keratinous material; Closed comedone – small, flesh-colored, dome-shaped papule.	Androgenic stimulation of sebum production, pilosebaceous canal obstruction, proliferation of bacteria.	DERMATOLOGY, pg.191	
Milia	Treat, but not within reddened or infected area.	Small, noninflamed, very superficial epidermal keratin cysts, often found on face in young infants and adults.	Retention cyst.		

Seborrheic dermatitis	Treat, but not within irritated areas. Not contagious.	Chronic, superficial, inflammatory process affecting scalp, eyebrows and face primarily, chacterized by dandruff, patches and plaques with indistinct margins, symmetrical pattern, mild to moderate erythema, and yellowish, greasy scaling.	Unknown, but thought to be an inflammatory reaction to the resident skin yeast Pityrosporum ovale.	DERMATOLOGY, pg. 131 DISEASES, pg.1278	
Asteatosis	Treat		Deficiency of sebum		
Eczema	Treat client, except with irritated areas. Not contagious.	Intracellular edema; marked itching; indistinct borders; often vesicles and papules.	Cause unknown; possible hereditary factor; history of "sensitivities."	DERMATOLOGY, pg.122 DISEASES, pg.1278, 1284-C	
Scabies	DO NOT TREAT! SEND HOME!!	Small inflammatory papules with generalized distribution but particularily finger webs, wrists, elbows, axilla, girdle area and feet; burrow may be visualized.	"Itch mite" or Sarcoptes scabiei.	DERMATOLOGY, pg.180 DISEASES, pg. 1265, 1266	
Impetigo	DO NOT TREAT! SEND HOME!!	Honey-colored crust, most frequently on face.	Gram-positive bacteria, usually Staph. Aureus	DERMATOLOGY, pg.197, 198, 169	

Mollescum contagiosum	Don't treat in or anywhere near area where cross contamination could occur. Contagious.	Papules that are hard, smooth, dome shaped and flesh colored or translucent. Central umbilication from which a "cheesy" core can be expressed. Most often on trunk, face and extremities of children, or on the genitals of sexually active adults.	Contagious virus with spontaneous remission within 6 to 9 months. Can be treated with curettage or cryotherapy.	DERMATOLOGY, pg. 76	
Acne	Treat client, except with pimples or pustules.	Inflamed lesions, papules, pustules, nodules or cysts.	Androgenic stimulation of sebum production, pilosebaceous canal obstruction, proliferation of bacteria.	DERMATOLOGY, pg.191	
Psoriasis	Treat client, but not within the plaque or papule. Not contagious.	Silvery scales, sharply demarcated, erythematous papules and plaques; itchey; wide distributions; waxes and wanes.	Cause unclear. Thought to have a hereditary factor.	DERMATOLOGY, pg.138,139 DISEASES, pg.1286	
Folliculitis/pseudo-folliculitis	Treat (controversial between different texts), but not within a pustule.	Inflammatory reaction in hair follicle; pustule, often with a central hair.	Caused by bacteria, usually Staph. Aureus. In pseudo-folliculitis, irritation is secondary to an entrapped hair where the hair has been shaved below the skin surface.	DERMATOLOGY, pg.196	