



Professional hair and scalp diagnostic software
TrichoSciencePro®

Patient name: William Lawman

Outpatient card

Patient's first and last name: **William Lawman**

Age: 30

Sex: Male

Racial variations of hair **European/Caucasian**

Height: **1 m. 70 cm.**

Weight: **70 kg.**

BMI: **24.2**

Occupation or professional environment: **Engineer**

Referral from: **Physician**

Complaints: **Major scalp problems and hair loss**

Questionnaire

Hair and scalp condition:

Onset of hair loss: **5 years**

Intensity of hair loss: **Moderate or slightly-expressed**

Duration of hairloss: **Over 6 months**

Hair thinning: **Yes**

Male Pattern Baldness:

Hamilton-Norwood Scale, type: **III**

Heredity factor in first degree relatives: **Yes**

Heredity factor in other relatives: **None**

Hair type: **Oily**

Hair form: **Waivy**

Hair sort: **Thin**

Hair length and natural color: **10cm., brown-black**

Scalp condition: **Greasy**

Level of greasyness and excessive oils: **3**

Condition of skin other than scalp: **Normal**

Acne: **Absent**

Nail plates: **Normal**

Special diet or dietary regulations: **None**

Presence of "bad habits" (regular smoking, alcohol, lack of sleep): **lack of sleep**

Health conditions:

Recent and concomitant diseases and health conditions: **None**

Other: **None**

Surgeries, injuries, high fever, narcosis up to 6 months prior to hair loss onset: **None**

Administration of drugs potentially causing hair loss: **None**

Anabolic steroids usage: **None**

Prescription / non-prescription drugs on regular basis: **Tylenol**

Exposure to stress: **moderate**

Condition of nervous system: **Normal**

Lab data / Blood tests:

Hemoglobin: **Norm**

Ferritin, serum iron: **Norm**

Transferrin, total iron binding capacity: **Norm**

TSH (Thyroid Stimulating Hormone): **Norm**

Routine care and treatment efficacy:

Hair wash frequency: **Every day**

Choice of shampoo: **Pharmacy**

Conditioner / Mask / Cream: **None**

Hair styling: **Gel**

Hair dyeing (if yes for how long and how often): **None**

Hair bleaching (if yes for how long and how often): **None**

Hair cut frequency: **Every other month**

Previous hair treatments: **None**

Food supplements / special vitamins: **Multivitamins, Fish Oil**

Herbal remedies: **None**

Procedures: **None**

Specific therapy: **Laser brush**

Injection therapy: **Mesotherapy**

History of most effective treatment methods/products: **None**

Usage of topical minoxidil or similar treatments: **None**

Finasterides (Proscar, Propecia, etc.): **None**

Dutasterides (Avodarf, Avolve, etc.): **None**

Drug intolerances, if any: **None**

Provisional diagnosis: **AGA, Eczema**

Dandruff: **Some**

Seborrheic dermatitis: **Areas of redness**

Pruritus (itch): **Mild**

Sensitivity: **Mild**

Trichoscopy: 26.04.2013 11:50:58

Parietal area estimation:

Density/cm²:

Total: 126 (100%)

Terminal: 70 (56%)

Vellus: 56 (44%)

Total calculated/27 sq.mm

Total: 34 (100%)

Terminal: 19 (56%)

Vellus: 15 (44%)

Total follicular units: 19

Follicular units per sq.cm: 70.4

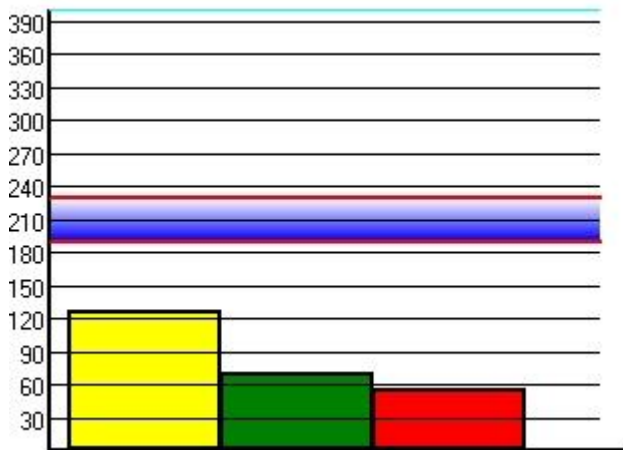
Single follicular units: 84.2% (16 per 27.00 sq.mm)

Double follicular units: 15.8% (3 per 27.00 sq.mm)

Pointed hairs total: 1 in 1 field of view

Yellow dots total: 2 in 1 field of view

Hair density chart:



Follicular units per sq.cm: 70.4
Single follicular units: 84.2% (16 per 27.00 sq.mm)
Double follicular units: 15.8% (3 per 27.00 sq.mm)

Pointed hairs total: 1 in 1 field of view
Yellow dots total: 2 in 1 field of view

Hair diameter:

Measured total: 34 hairs per 27.00 sq.mm

Mean diameter: All hairs 54 +/- 3.6 µm

Mean diameter: All Terminal hairs (>40 µm) 61 +/- 2.3 µm

Measured Terminal hairs (>40 µm): 56% (19 per 27.00 sq.mm)

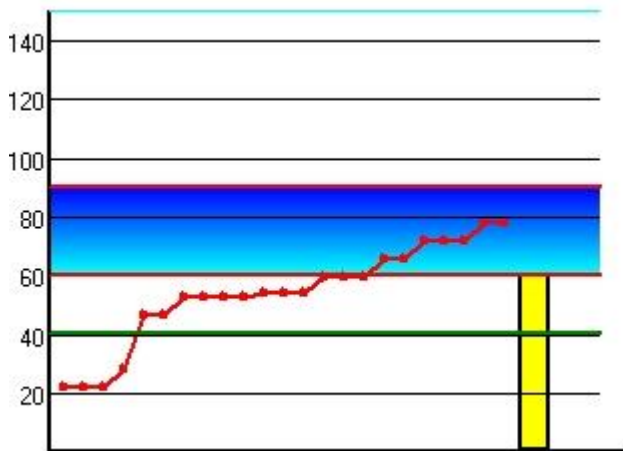
Measured Vellus hairs (<40 µm): 44% (15 per 27.00 sq.mm)

Among Terminal hairs: Thin hairs (40-60 µm): 63%

Regular hairs (60-80 µm): 37%

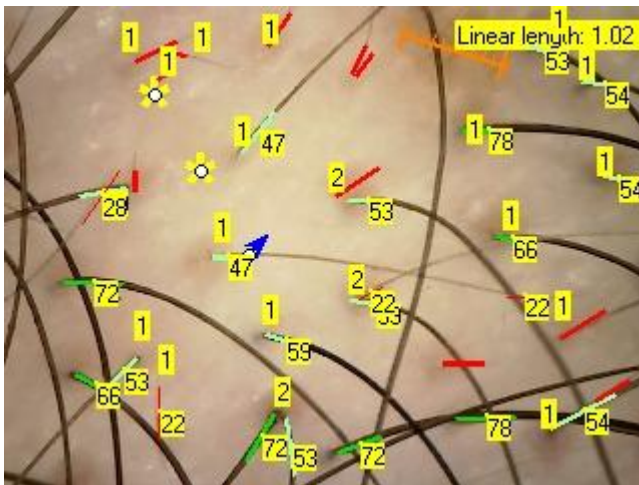
Anisotrichosis: 54 +/- 16.6 µm

Hair diameters chart:



- Mean diameter: All Terminal hairs (>40 µm) 61 +/- 2.3 µm
- Measured hairs diameter
- Normal mean diameter for this hair type

Measured total: 23 hairs per 27.00 sq.mm
Mean diameter: All hairs 54 +/- 3.6 µm
Measured Terminal hairs (>40 µm): 83% (19 per 27.00 sq.mm)
Measured Vellus hairs (<40 µm): 17% (4 per 27.00 sq.mm)
Among Terminal hairs:
Thin hairs (40-60 µm): 63%
Regular hairs (60-80 µm): 37%
Anisotrichosis: 54 +/- 16.6 µm



Occipital area estimation:

Density/cm2:

Total: 255 (100%)

Terminal: 212 (83%)

Vellus: 42 (17%)

Total calculated/16 sq.mm

Total: 42 (100%)

Terminal: 35 (83%)

Vellus: 7 (17%)

Total follicular units: 17

Follicular units per sq.cm: 103.2

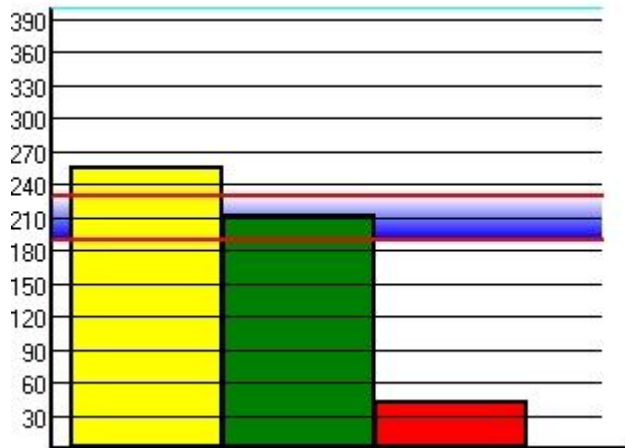
Single follicular units: 11.8% (2 per 16.48 sq.mm)

Double follicular units: 58.8% (10 per 16.48 sq.mm)

Triple follicular units: 23.5% (4 per 16.48 sq.mm)

Follicular units with four hairs: 5.9% (1 per 16.48 sq.mm)

Hair density chart:



- Total hairs: 255 per sq.cm.
- Terminal hairs: 83% (212 per sq.cm.)
- Vellus hairs: 17% (42 per sq.cm.)
- Normal mean density for this hair type

Follicular units per sq.cm: 103.2
 Single follicular units: 11.8% (2 per 16.48 sq.mm)
 Double follicular units: 58.8% (10 per 16.48 sq.mm)
 Triple follicular units: 23.5% (4 per 16.48 sq.mm)
 Follicular units with four hairs: 5.9% (1 per 16.48 sq.mm)

Hair diameter:

Measured total: 40 hairs per 16.48 sq.mm

Mean diameter: All hairs 58 +/- 2.9 μ m

Mean diameter: All Terminal hairs (>40 μ m) 63 +/- 2.5 μ m

Measured Terminal hairs (>40 μ m): 85% (34 per 16.48 sq.mm)

Measured Vellus hairs (<40 μ m): 15% (6 per 16.48 sq.mm)

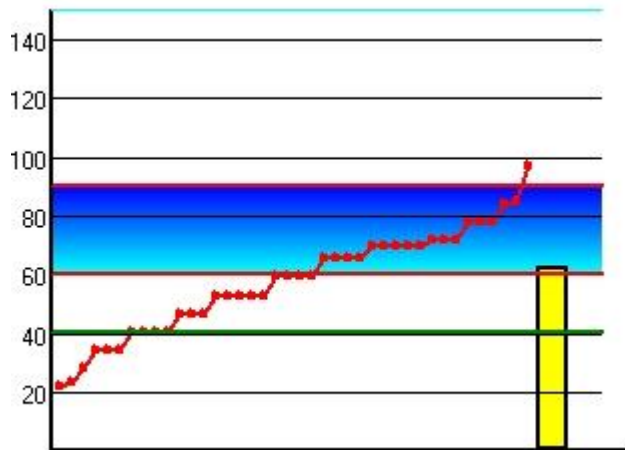
Among Terminal hairs: Thin hairs (40-60 μ m): 47%

Regular hairs (60-80 μ m): 44%

Thick hairs (>80 μ m): 9%

Anisotrichosis: 58 +/- 17.6 μ m

Hair diameters chart:



Yellow bar: Mean diameter: All Terminal hairs (>40 µm) 63 +/- 2.5 µm

Red line: Measured hairs diameter

Blue area: Normal mean diameter for this hair type

Measured total: 40 hairs per 16.48 sq.mm

Mean diameter: All hairs 58 +/- 2.9 µm

Measured Terminal hairs (>40 µm): 85% (34 per 16.48 sq.mm)

Measured Vellus hairs (<40 µm): 15% (6 per 16.48 sq.mm)

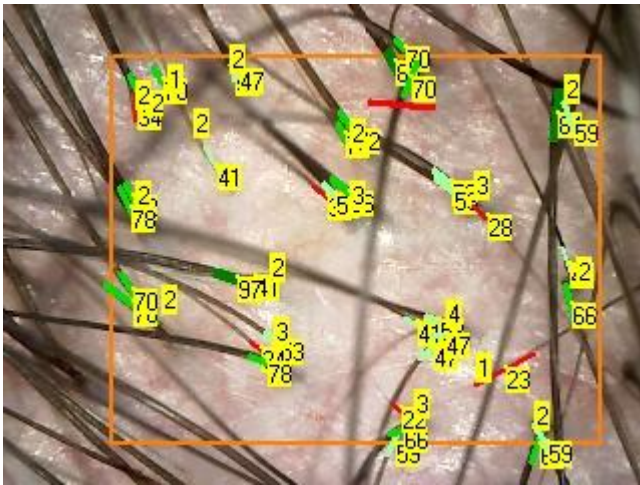
Among Terminal hairs:

Thin hairs (40-60 µm): 47%

Regular hairs (60-80 µm): 44%

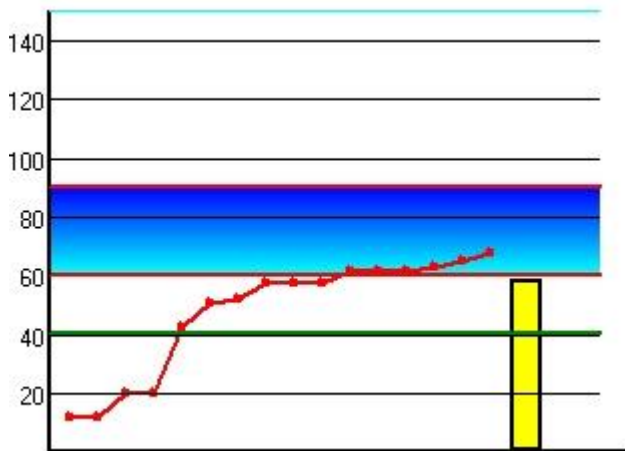
Thick hairs (>80 µm): 9%

Anisotrichosis: 58 +/- 17.6 µm

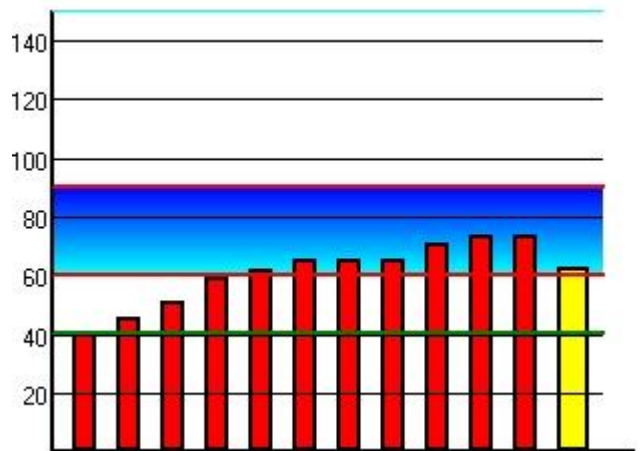


Hair diameter:

Parietal area



Occipital area



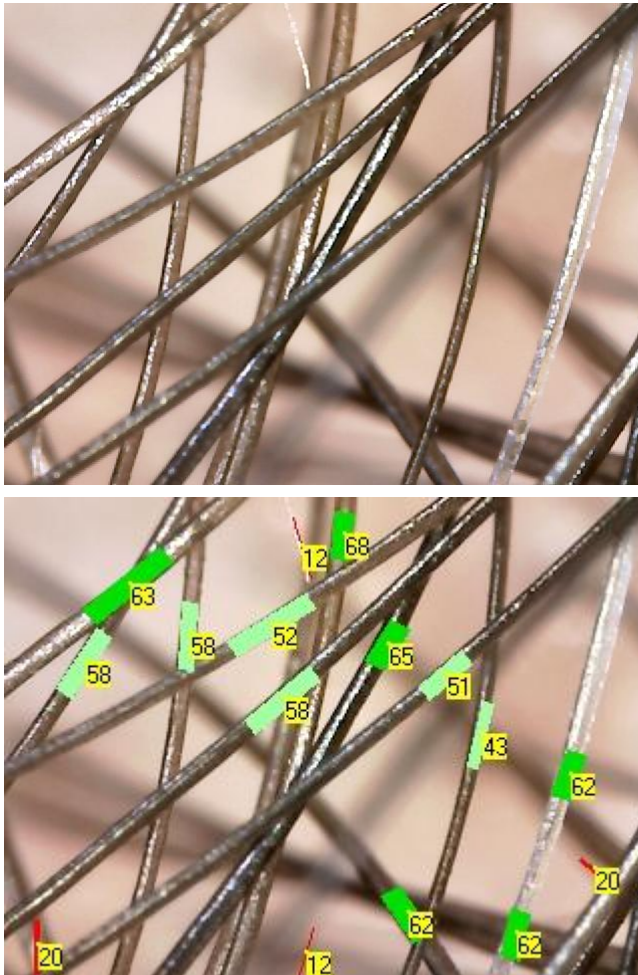
■ Mean diameter: All Terminal hairs (>40 μm) 58 +/- 2.1 μm
■ Measured hairs diameter
■ Normal mean diameter for this hair type

Measured total: 16 hairs per 2.34 sq.mm
 Mean diameter: All hairs 48 +/- 5.1 μm
 Measured Terminal hairs (>40 μm): 75% (12 per 2.34 sq.mm)
 Measured Vellus hairs (<40 μm): 25% (4 per 2.34 sq.mm)
 Among Terminal hairs:
 Thin hairs (40-60 μm): 50%
 Regular hairs (60-80 μm): 50%
 Anisotrichosis: 48 +/- 19.3 μm

■ Mean diameter: All Terminal hairs (>40 μm) 63 +/- 3.0 μm
■ Measured hairs diameter
■ Normal mean diameter for this hair type

Measured total: 11 hairs per 2.34 sq.mm
 Mean diameter: All hairs 61 +/- 3.5 μm
 Measured Terminal hairs (>40 μm): 91% (10 per 2.34 sq.mm)
 Measured Vellus hairs (<40 μm): 9% (1 per 2.34 sq.mm)
 Among Terminal hairs:
 Thin hairs (40-60 μm): 30%
 Regular hairs (60-80 μm): 70%
 Anisotrichosis: 61 +/- 10.5 μm

Parietal area (window: 1):

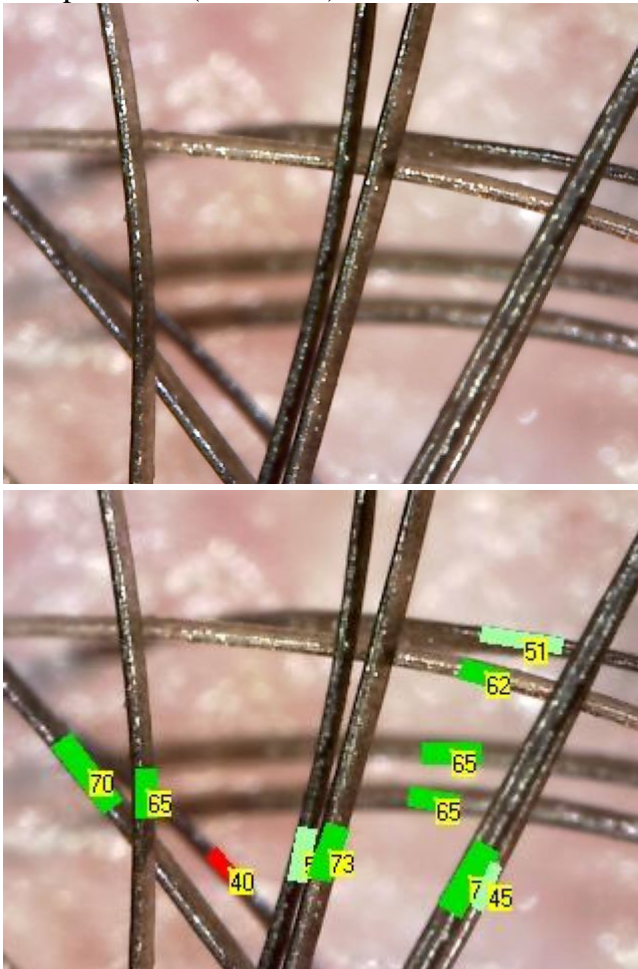


- Hair diameter in parietal area (μm):

Measured total: 16 hairs per 2.34 sq.mm
 Mean diameter: All hairs 48 +/- 5.1 μm
 Mean diameter: All Terminal hairs (>40 μm) 58 +/- 2.1 μm
 Measured Terminal hairs (>40 μm): 75% (12 per 2.34 sq.mm)
 Measured Vellus hairs (<40 μm): 25% (4 per 2.34 sq.mm)
 Among Terminal hairs: Thin hairs (40-60 μm): 50%

Regular hairs (60-80 μm): 50%
Anisotrichosis: 48 +/- 19.3 μm

Occipital area (window 1):



- Hair diameter in occipital area(μm):

Measured total: 11 hairs per 2.34 sq.mm

Mean diameter: All hairs 61 +/- 3.5 μm

Mean diameter: All Terminal hairs (>40 μm) 63 +/- 3.0 μm

Measured Terminal hairs (>40 μm): 91% (10 per 2.34 sq.mm)

Measured Vellus hairs (<40 μm): 9% (1 per 2.34 sq.mm)

Among Terminal hairs: Thin hairs (40-60 μm): 30%

Regular hairs (60-80 μm): 70%

Anisotrichosis: 61 +/- 10.5 μm

- Scalp study (high magnification) has detected:

Oily Scalp



Sebum Cloged Pore



- Hair root study has detected:

Anagen Hair



Catagen Hair



- Hair shaft study has detected:

Trichonodosis



Phototrichogram: 26.04.2013 12:39:51

Parietal area

Phototrichogram:

Total Anagen hairs: 59% (35 per 27.00 sq.mm)

Total Telogen hairs: 41% (24 per 27.00 sq.mm)

Terminal among Anagen: 100%

Terminal among Telogen: 54%

Vellus among Telogen: 46%

Mean diameter of Terminal among Anagen: 67 μ m

Mean diameter of Terminal among Telogen: 54 μ m

Mean diameter of Vellus among Telogen: 31 μ m

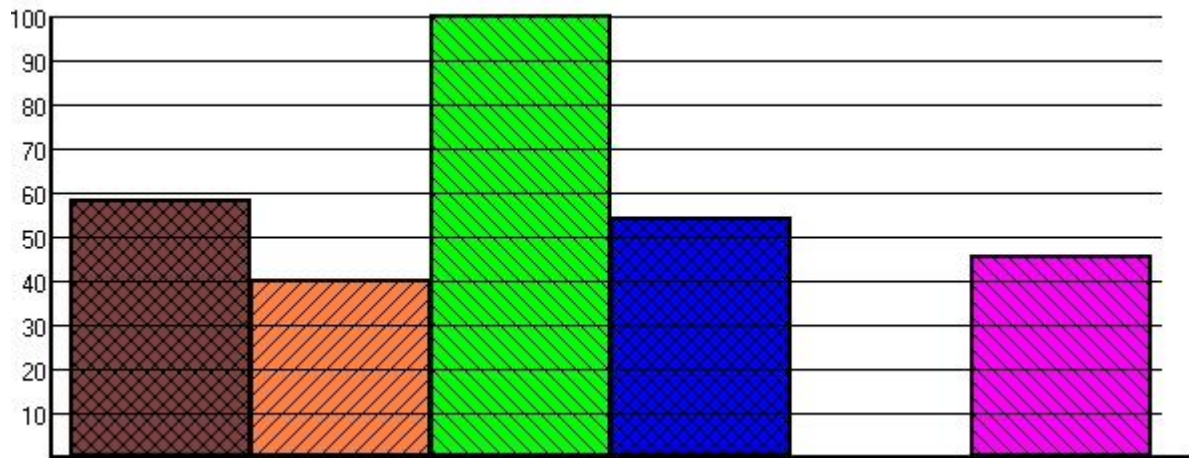
Hair growth rate:






First length value: 209

Second length value: 544

Time period between measurements: 48 hour
 Hair growth rate: 167 μ m (0.17mm) per 24 hours

Phototrichogram chart:



-  Total Anagen hairs: 58% (35 per 27.00 sq.mm)
-  Total Telogen hairs: 40% (24 per 27.00 sq.mm)
-  Terminal among Anagen: 100%
-  Terminal among Telogen: 54%
-  Vellus among Telogen: 46%

Mean diameter of Terminal among Anagen: 67 μ m
 Mean diameter of Terminal among Telogen: 54 μ m
 Mean diameter of Vellus among Telogen: 31 μ m
 Hair growth rate: 167 μ m (0.17mm) per 24 hours

Density/cm²:

Total: 252 (100%)
 Terminal: 207 (82%)
 Vellus: 44 (18%)

Total calculated/27 sq.mm

Total: 68 (100%)
 Terminal: 56 (82%)
 Vellus: 12 (18%)

Hair density chart:



- Total hairs: 252 per sq. cm.
- Terminal hairs: 82% (207 per sq. cm.)
- Vellus hairs: 18% (44 per sq. cm.)
- Normal mean density for this hair type

Hair diameter:

Measured total: 68 hairs per 27.00 sq. mm

Mean diameter: All hairs 57 +/- 2.1 µm

Mean diameter: All Terminal hairs (>40 µm) 63 +/- 1.7 µm

Measured Terminal hairs (>40 µm): 82% (56 per 27.00 sq. mm)

Measured Vellus hairs (<40 µm): 18% (12 per 27.00 sq. mm)

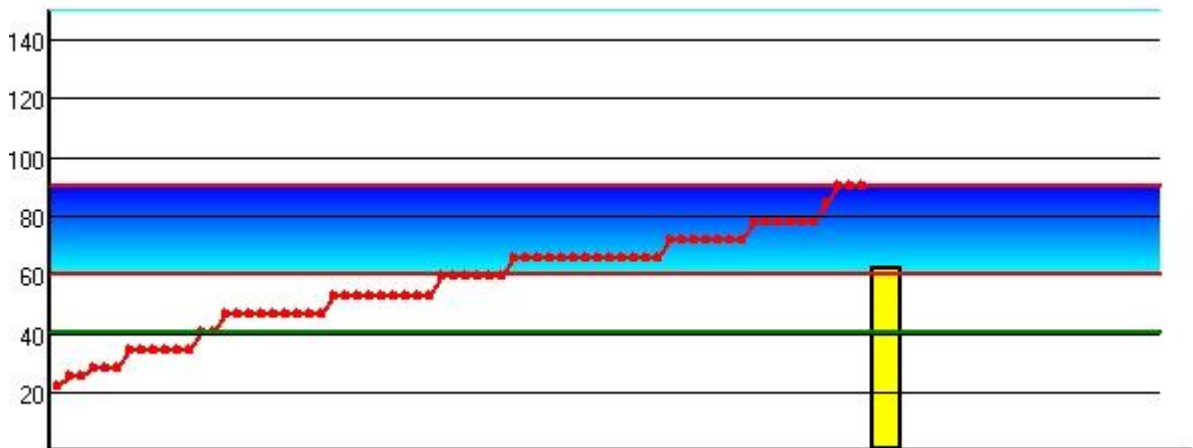
Among Terminal hairs: Thin hairs (40-60 µm): 46%

Regular hairs (60-80 µm): 46%

Thick hairs (>80 µm): 7%

Anisotrichosis: 57 +/- 17.0 µm

Hair diameters chart:

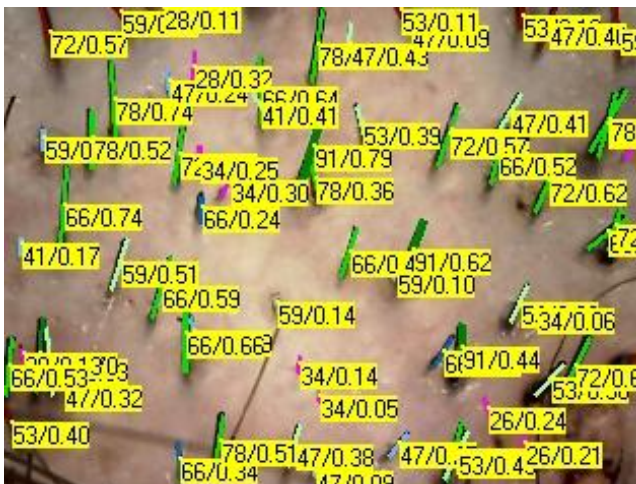


- Mean diameter: All Terminal hairs (>40 μm) 63 +/- 1.7 μm
- Measured hairs diameter
- Normal mean diameter for this hair type

Measured total: 68 hairs per 27.00 sq.mm
 Mean diameter: All hairs 57 +/- 2.1 μm
 Measured Terminal hairs (>40 μm): 82% (56 per 27.00 sq.mm)
 Measured Vellus hairs (<40 μm): 18% (12 per 27.00 sq.mm)

Among Terminal hairs:
 Thin hairs (40-60 μm): 46%
 Regular hairs (60-80 μm): 46%
 Thick hairs (>80 μm): 7%
 Anisotrichosis: 57 +/- 17.0 μm

Field of view - 1



Occipital area

Phototrichogram:

Total Anagen hairs: 94% (34 per 27.00 sq.mm)
 Total Telogen hairs: 6% (2 per 27.00 sq.mm)
 Terminal among Anagen: 88%
 Vellus among Anagen: 12%
 Vellus among Telogen: 100%
 Mean diameter of Terminal among Anagen: 56 μm
 Mean diameter of Vellus among Anagen: 28 μm
 Mean diameter of Vellus among Telogen: 16 μm

Hair growth rate:

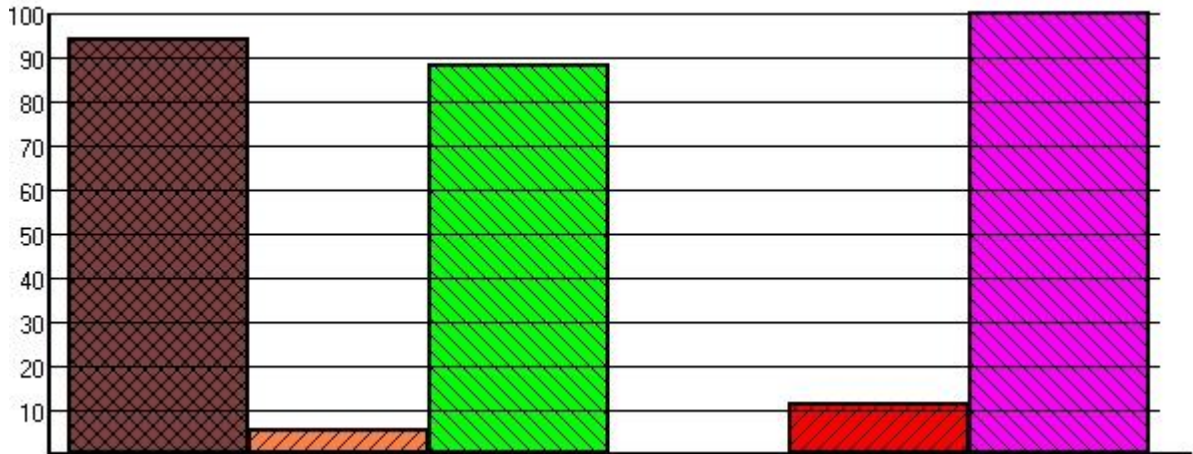
First length value: 181






Second length value: 1006

Time period between measurements: 48 hour

Hair growth rate: 413µm (0.41mm) per 24 hours

Phototrichogram chart:



-  Total Anagen hairs: 94% (34 per 27.00 sq.mm)
-  Total Telogen hairs: 6% (2 per 27.00 sq.mm)
-  Terminal among Anagen: 88%
-  Vellus among Anagen: 12%
-  Vellus among Telogen: 100%

Mean diameter of Terminal among Anagen: 56µm
Mean diameter of Vellus among Anagen: 28µm
Mean diameter of Vellus among Telogen: 16µm
Hair growth rate: 413µm (0.41mm) per 24 hours

Density/cm2:

Total: 189 (100%)

Terminal: 167 (88%)

Vellus: 22 (12%)

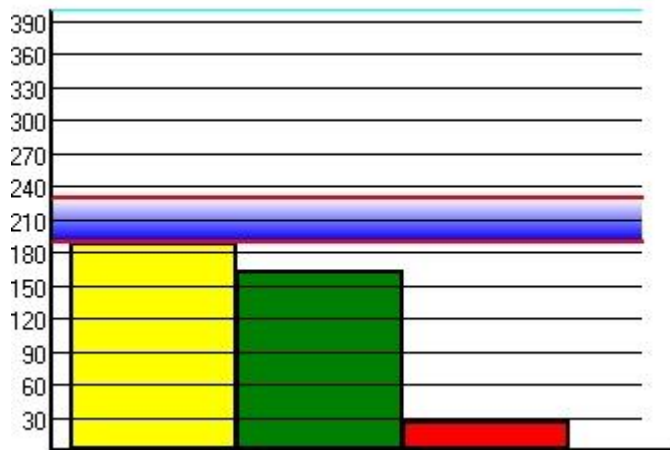
Total calculated/27 sq.mm

Total: 51 (100%)

Terminal: 45 (88%)

Vellus: 6 (12%)

Hair density chart:



- Total hairs: 189 per sq. cm.
- Terminal hairs: 86% (163 per sq. cm.)
- Vellus hairs: 14% (26 per sq. cm.)
- Normal mean density for this hair type

Hair diameter:

Measured total: 50 hairs per 27.00 sq. mm

Mean diameter: All hairs 51 +/- 2.2 μ m

Mean diameter: All Terminal hairs (>40 μ m) 55 +/- 1.4 μ m

Measured Terminal hairs (>40 μ m): 88% (44 per 27.00 sq. mm)

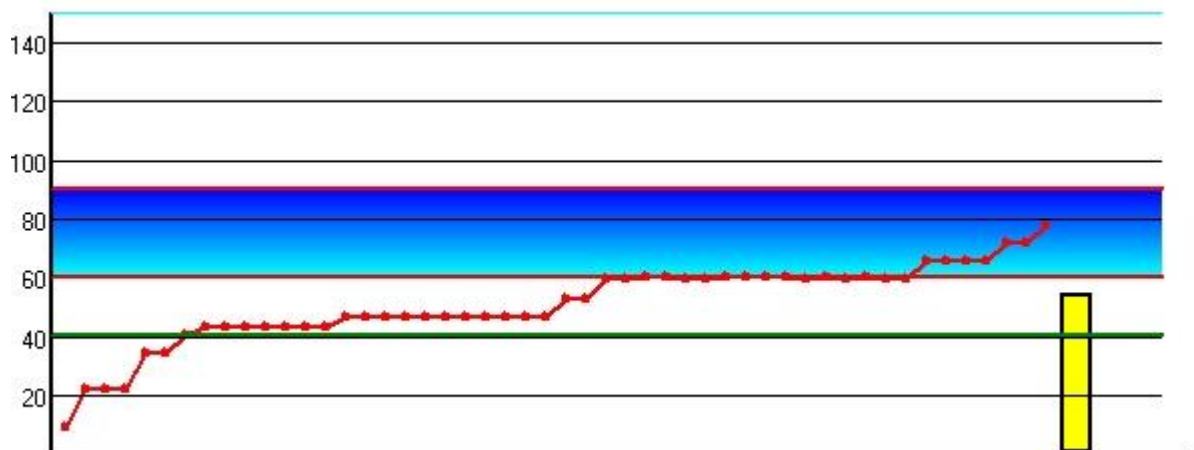
Measured Vellus hairs (<40 μ m): 12% (6 per 27.00 sq. mm)

Among Terminal hairs: Thin hairs (40-60 μ m): 66%

Regular hairs (60-80 μ m): 34%

Anisotrichosis: 50 +/- 15.2 μ m

Hair diameters chart:



- Mean diameter: All Terminal hairs (>40 μm) 55 +/- 1.4 μm
- Measured hairs diameter
- Normal mean diameter for this hair type

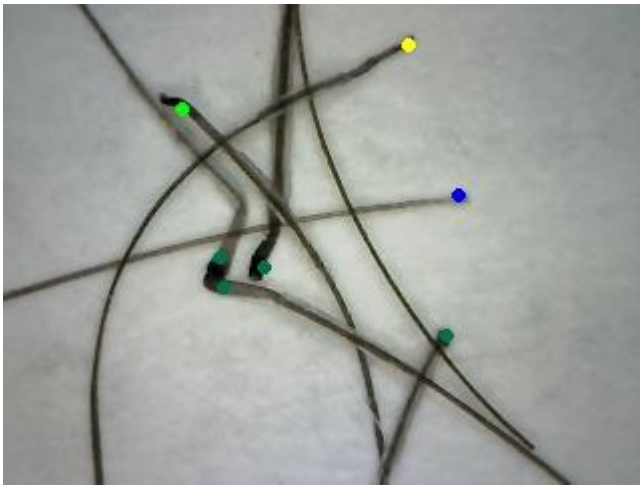
Measured total: 50 hairs per 27.00 sq.mm
 Mean diameter: All hairs 51 +/- 2.2 μm
 Measured Terminal hairs (>40 μm): 88% (44 per 27.00 sq.mm)
 Measured Vellus hairs (<40 μm): 12% (6 per 27.00 sq.mm)
 Among Terminal hairs:
 Thin hairs (40-60 μm): 66%
 Regular hairs (60-80 μm): 34%
 Anisotrichosis: 50 +/- 15.2 μm

Field of view - 1

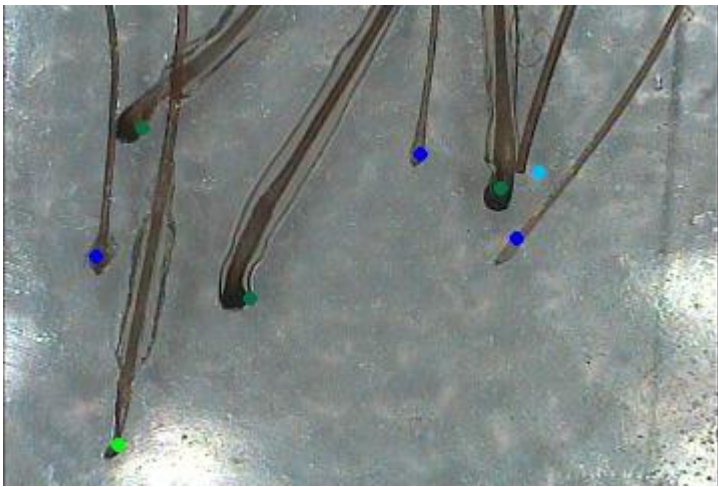


Trichogram: 26.04.2013 12:42:32

Parietal area (window: 1):



Occipital area (window 1):



Epilated hair type	Parietal area			Occipital area		
	Absolute amount	%	Norm	Absolute amount	%	Norm
Anagen	4	57	Total Anagen 71 To 95%	3	38	Total Anagen 63 To 95%
Dysplastic Anagen	1	14		1	13	
Broken Anagen	0	0		1	13	
Anagen with papilla	0	0	0%	0	0	0%
Telogen	1	14	To 18%	3	38	To 18%
Catagen	1	14	To 3%	0	0	To 3%
Dystrophic	0	0	To 4%	0	0	To 4%

Sum	7			8		
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Dermatoscopy: 26.04.2013 12:59:19

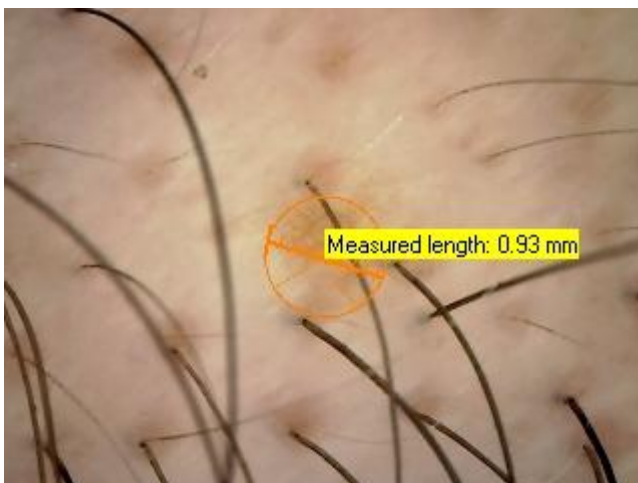
- General Dermatoscopy study identified specialty signs as follows:

Numular eczema



- Pigmented lesions study identified specialty signs as follows:

Honeycomb hyperpigmentation



ABC algorithm of melanoma and other tumors evaluation
(A - asymmetry, B - clarity of boundaries, C - color)

Diagnostic criteria	Criteria features	Evaluation	Mark if
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			applicable
Asymmetry on one axis	Boundaries of lesion	1	
Asymmetry on one axis	Disposition of dermatoscopic elements	1	*
Boundaries	Sharp separation of pigment grid over 1/4 of lesion perimeter	1	
Color	White Red Beige Dark-brown Blue-black Black	1	*
Dermatoscopic elements in lesion	Three and more Pigment grid Homogeneous zones (over 10% of lesion area) Stripes (more than two) Granules (more than two) Black-brown dots (more than two)	1	
Evolution of tumors	Lesion changes within 3 month	+1	
	No data about changes	0	
	No changes within 3 month	-1	*
Results			1

Trichometry (hair wash test) \ Patient: William Lawman:

Patient current hair length (cm): 12

Hair length	Hair quantity	Percentage of hair
Under 3 cm:	45	27

3-5 cm:	34	20
Over 5 cm:	90	53
Total hair shedded:	169	100

Trichometry (growing hair test) \ Patient: William Lawman:

Date of hair sampling : 02.06.2013

Hair length	Total amount	Intensity of monthly hair loss
Over 5 cm.long hair	97	
4-5 cm.	20	December - January - 9622
3-4 cm.	21	January - February - 10103
2-3 cm.	27	February - March - 12990
1-2 cm.	12	March - April - 5773
Total	177	Total: 38488

Hair Calculator \ Patient: William Lawman:

Total mean quantity of scalp hairs(racial norms): 100,000 (70,000-130,000)

Total actual quantity of scalp hairs: 85161 +/-8500

Total actual quantity of Terminal hairs: 71612 +/-7200

Total actual quantity of Vellus hairs: 13548 +/-1400

Mean hair growth rate, mm/24hrs.(racial norms): 0.3-0.4

Actual hair growth rate in Parietal area, mm/24hrs.: 0.17

Actual hair growth rate in Occipital area, mm/24hrs.: 0.41

Total mean daily rate of hair loss: 128

Total actual quantity of hair shed per 24hrs: 220

Total actual quantity of Terminal hair shed per 24hrs: 110

Total actual quantity of Vellus hairs shed per 24hrs: 110

Hospital Anxiety and Depression Scale:

- | | |
|---|---------------------------------------|
| 1. I feel tense or 'wound up': | Most of the time |
| 2. I still enjoy the things I used to enjoy: | Not quite so much |
| 3. I get a sort of frightened feeling as if something awful is about to happen: | Yes, but not too badly |
| 4. I can laugh and see the funny side of things: | Not at all |
| 5. Worrying thoughts go through my mind: | A great deal of the time |
| 6. I feel cheerful: | Not often |
| 7. I can sit at ease and feel relaxed: | Nearly all the time |
| 8. I feel as if I am slowed down: | Nearly all the time |
| 9. I get a sort of frightened feeling like 'butterflies' in the stomach: | Occasionally |
| 10. I have lost interest in my appearance: | I don't take as much care as I should |
| 11. I feel restless as I have to be on the move: | Not very much |
| 12. I look forward with enjoyment to things: | Rather less than I used to |
| 13. I get sudden feelings of panic: | Quite often |
| 14. I can enjoy a good book or radio or TV program: | Often |

Conclusion:

Clinical depression. Clinical anxiety.

Additional Studies: 02.06.2013 21:51:51

Image Nr. 1 taken 26.02.2013 12:02:50



Image Nr. 2 taken 30.05.2013 17:09:30



Conclusions and Recommendations: 02.05.2013 21:48:09

-List of diagnoses:

Alopecia Androgenetica (Male Pattern Hair Loss)

Type III (Norwood-Hamilton classification)

-Conclusions and Recommendations:

Hair growth assessment

Trichoscopy

Dermatoscopy

Phototrichogram

Iron status blood tests

Complete Blood Count (CBC)

Serum Ferritin

Serum Iron

Iron Saturation

Prostate-specific antigen

Prostate-specific antigen (PSA)

Electrolytes and blood chemistry

25-Hydroxyvitamin D [25(OH)D]

Hormone tests

Thyroid stimulating hormone (TSH)

Nutritional Testing

Amino Acid analysis

-Topical treatment:

Minoxidil

2% minoxidil solution twice daily

Topical antiandrogenic therapy

Ell Cranell Alpha (Pantosin)

Topical antiseborrheic therapy

Ketoconazole shampoo

-Oral therapy:

Systemic agents

Finasteride 1 mg /day

Supplements

Zinc Gluconate

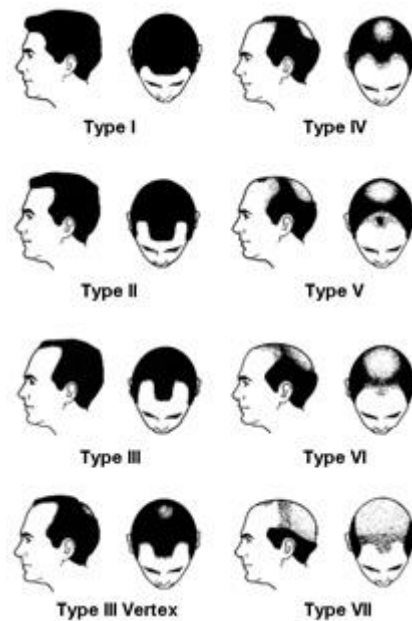
L-cysteine

-Physiotherapy:

Low-level laser light therapy (Hair Max Laser Comb)

-Reference materials:

Hamilton-Norwood Scale, type



Criteria for differential diagnosis of androgenetic alopecia and diffuse telogen hair loss in men

Criteria	Androgenetic alopecia	Telogen Diffuse Alopecia
Clinical history		
Hair and scalp condition:		
Intensity of hair loss:	Moderate or slightly-expressed	
Duration of hairloss:	Over 6 months	
Hair thinning:	Yes	
Male Pattern Baldness:		
Hamilton-Norwood Scale, type:	III	
Heredity factor in first degree relatives:	Yes	
Scalp condition:	Greasy	
Data of Trichologic objective study		
Trichoscopy Terminal hair count in parietal area	Less than 250 for sq.cm.	Over 250 for sq.cm.
Trichoscopy Average Terminal hair diameter without Vellus hair accounted	In parietal area is less than in occipital	In parietal area is more than in occipital
Trichoscopy Percent of Vellus hair in parietal area	More than 20%	Less than 20%
Trichoscopy Anisotrichosis in parietal area	Over 12 for parietal area	Less than 12 for parietal area
Trichoscopy Presence of thin, medium and thick hair in parietal area	Presence of all types	Presence of 2 types out of 3
Trichoscopy Yellow dots Pointed hairs (in parietal area)	Yellow dots applicable Presence of all types	No yellow dots. Pointed hairs possible
Phototrichogram: Percent of Telogen hair in parietal and occipital areas	Over 15% of Telogen hair. More in parietal area vs occipital	Over 15% of Telogen hair. More (or equal) in

		occipital area
Phototrichogram: Proportion of Vellus among Telogen hair in parietal area	>30%	<30%
Presence of anxiety or depression		Yes
Health conditions:		
Condition of nervous system:		Anxiety
Routine care and treatment efficacy:		
Dandruff:	Some	
Seborrheic dermatitis:	Areas of redness	
Body Mass Index (BMI)	Within 18.5 – 24.9	Less than 18.5
Conclusion	Androgenetic alopecia (22 Points)	Telogen Diffuse Alopecia (10 Points)
	<ul style="list-style-type: none"> - Oily Scalp - Sebum Cloged Pore - Trichonodosis - Dysplasia of hair roots - Honeycomb hyperpigmentation - Numular eczema - Clinical depression. Clinical anxiety. 	