The Art of IPL

Dr Shimon Eckhouse

Aerospace engineer Israel
1992

IPL Developed 1994.

- ESC Inc Israel.

- Photothermal removal of telangiectasia of the lower extremities with the Photoderm VL☆☆☆★ David Green, MD

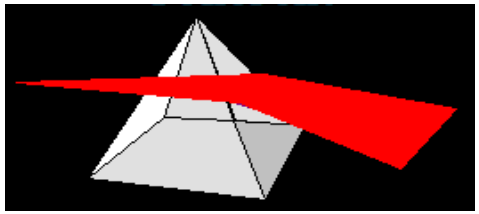
IPL Today

Widely accepted modality for the non-invasive aesthetic treatment of many benign chromophore based skin lesions.

Before IPL was Laser and still laser.

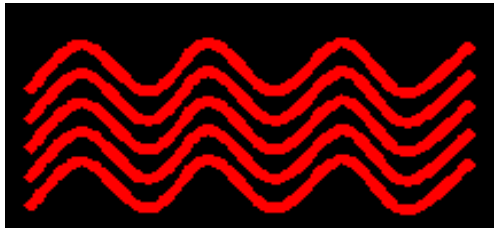
3 Characteristics of LASER.

1.Mono chromatic.

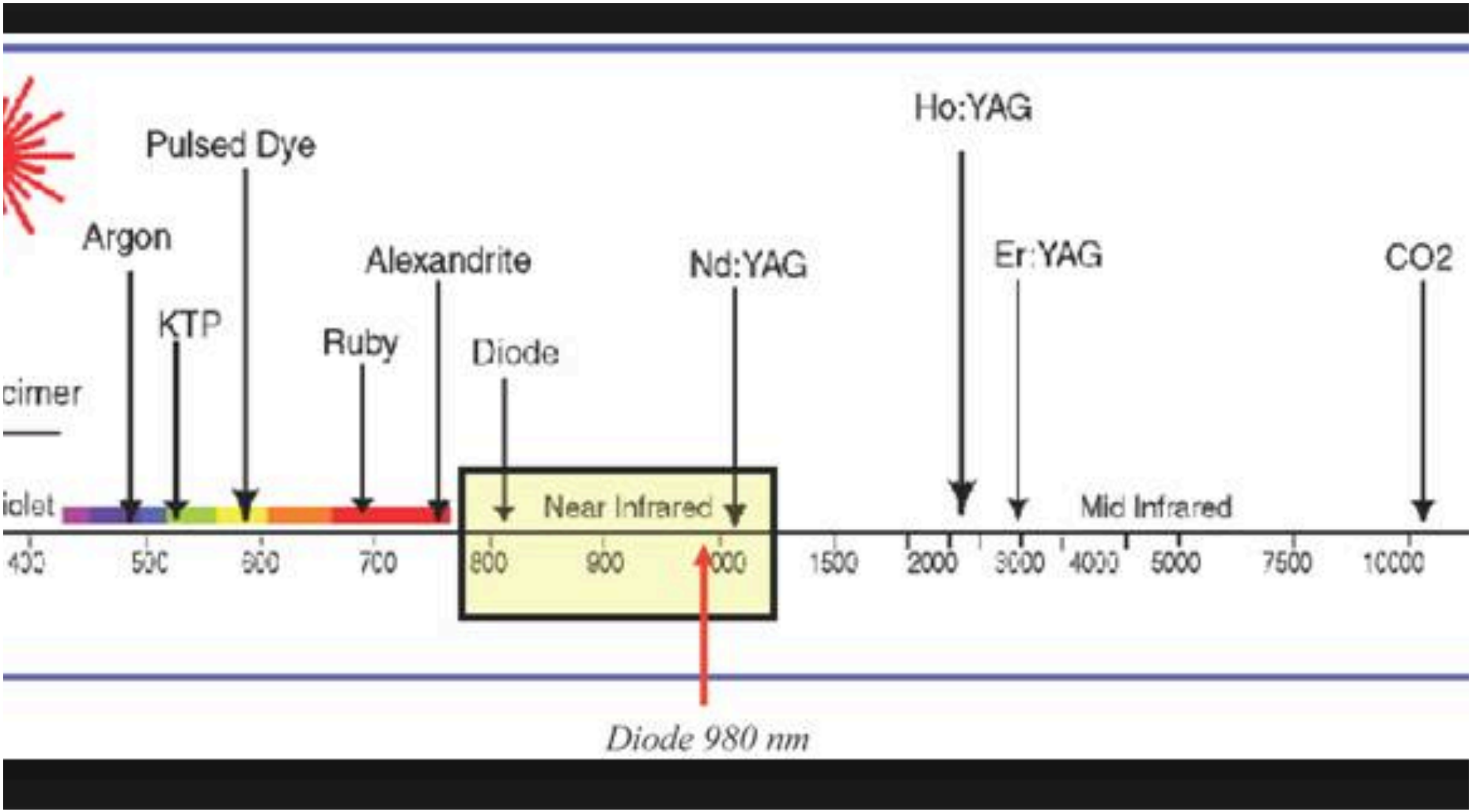


2.Collimated.

3. Coherent.



Different Lasers



The Sound of a Laser

A Single Note Laser Treatment Means: -

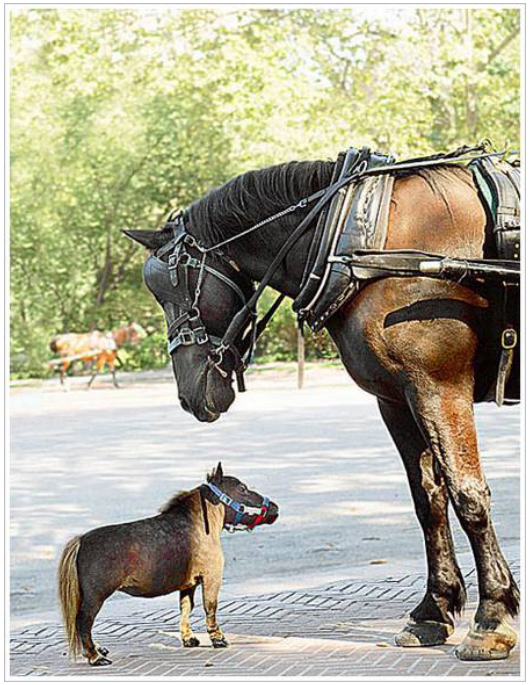
- *All patients are treated with the one wavelength regardless of skin type, lesion size or depth.

- There are very few variables to optimise clinical outcome.
  - Power.
  - Pulse duration.

*some lasers can provide a second wavelength, normally both wavelength are at each extreme.

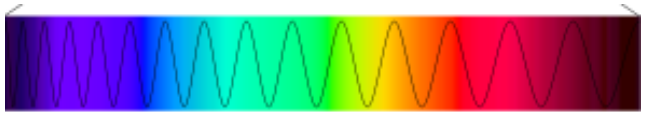
Horses for Courses

- What lasers do, they do well.
  - Tissue ablation.
  - Tattoo Removal.
  - EVLT.
  - On selected skin types vascular and pigmented lesions.
  - Hair Removal.
- Often require more than one system.
- Expensive to buy and to own.



The colour palette of IPL

- Broad Spectrum Light.
  - White light.
  - Cut off filters.
- Multiple Wavelengths
- Pulse Duration.
- Multiple pulsing.
- Delays between pulses.
- Variable energy settings.
- Steep learning curve.
- Cheaper to buy and to maintain.

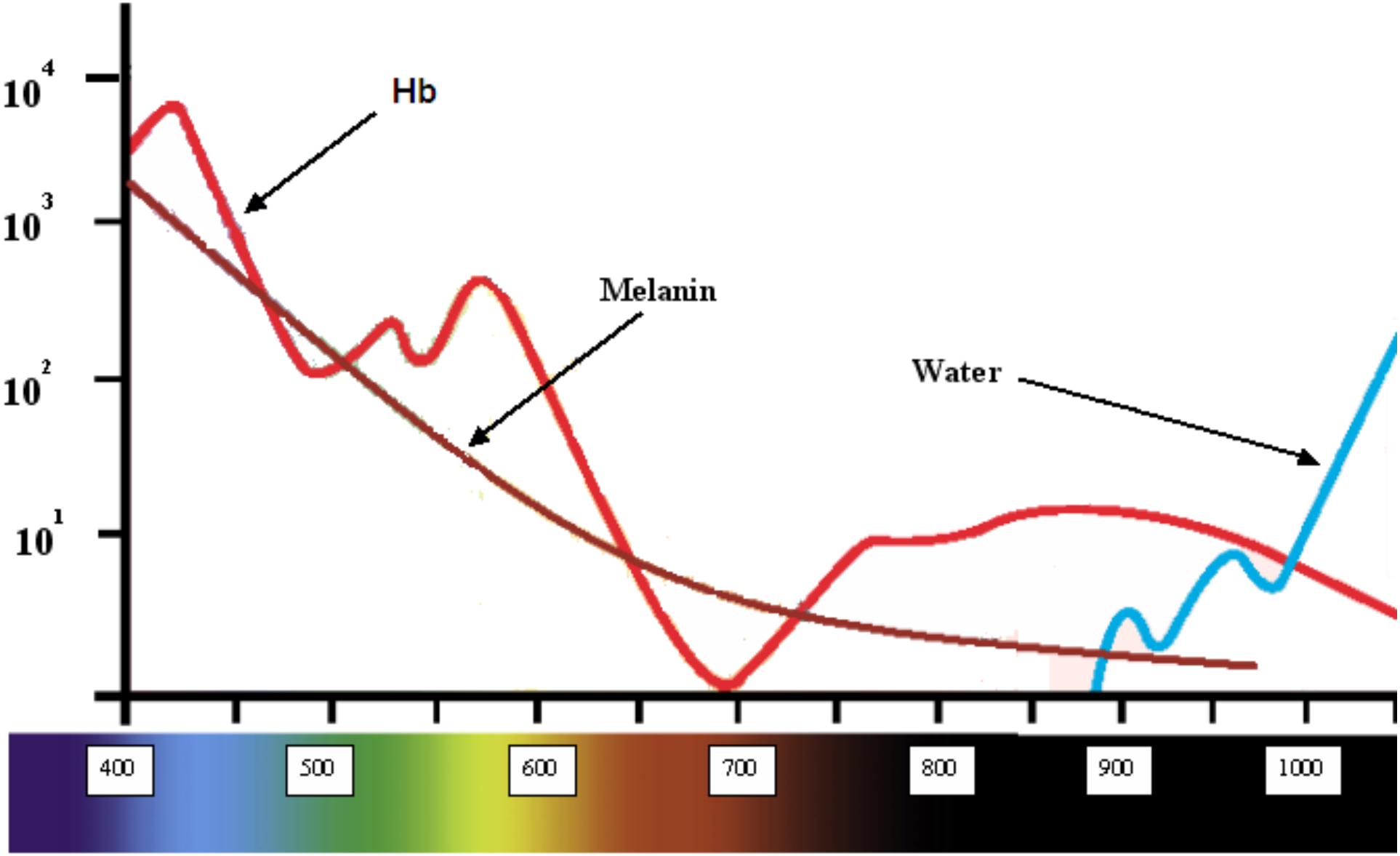


The Sound of an IPL.

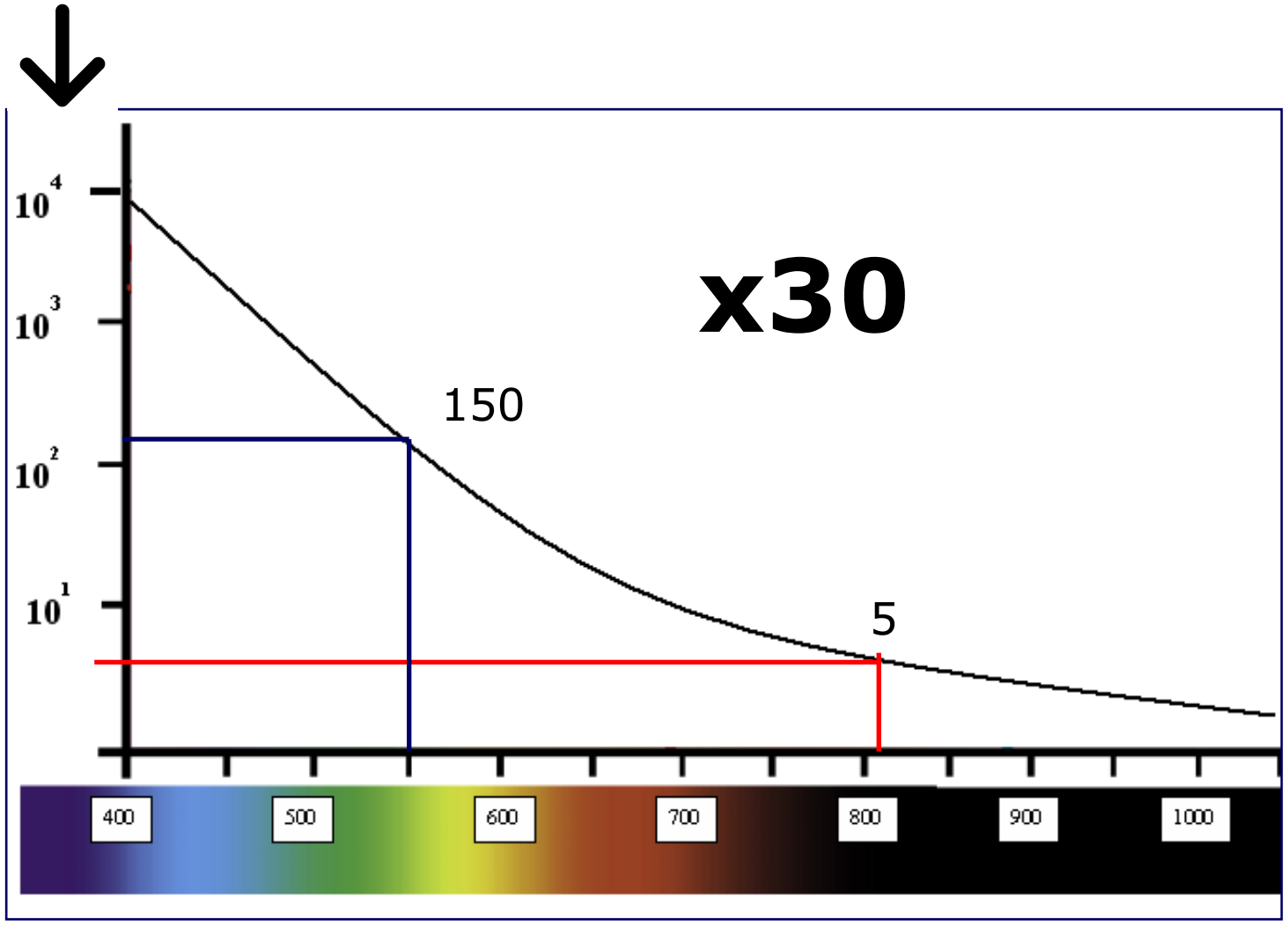
To Achieve Best Results from your IPL you need to understand why:-

- You have chosen:-
  - A particular filter.
  - A particular pulse duration.
  - A particular pulse mode.
  - A particular starting energy level.

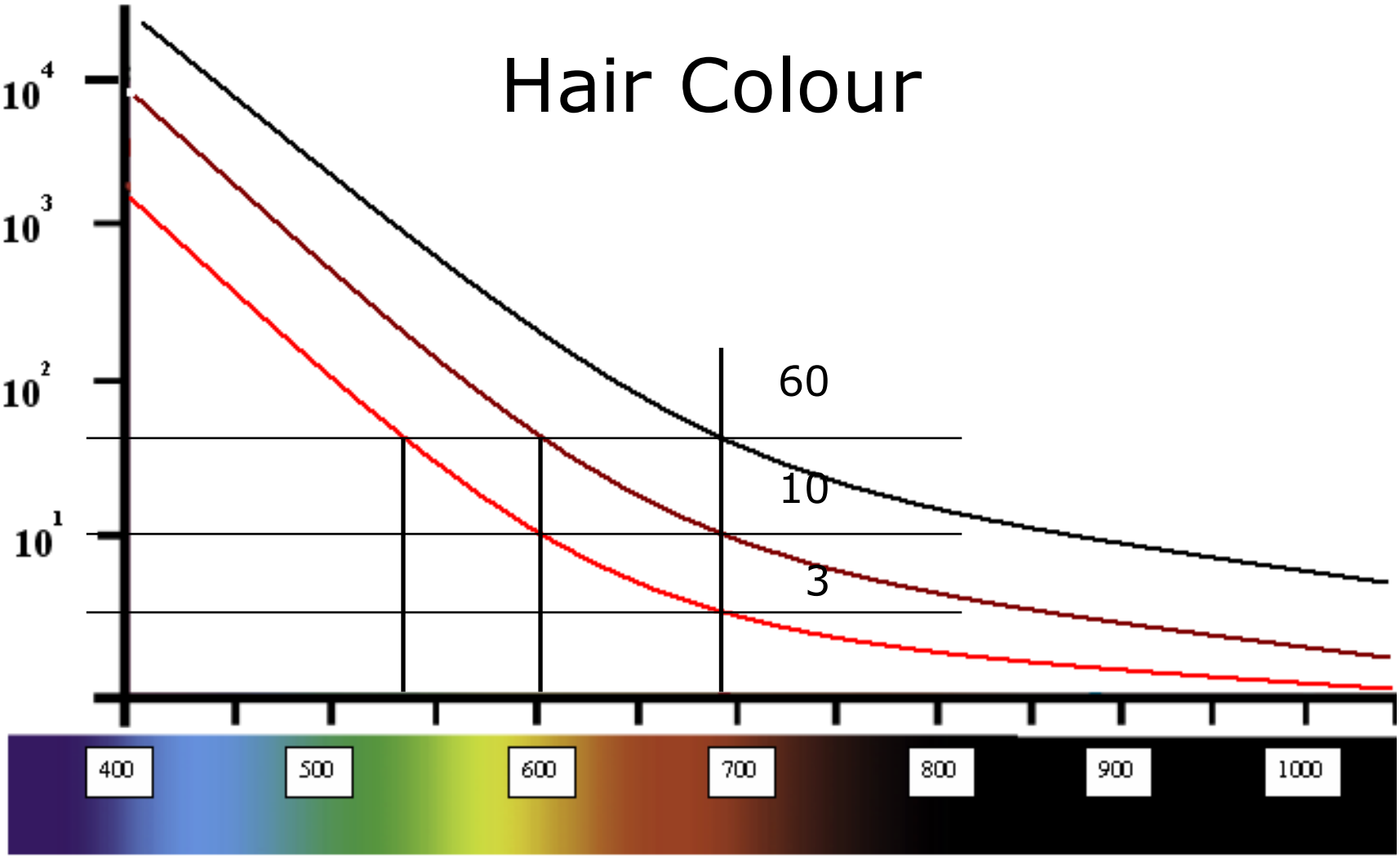
Oh no not this Graph again!!



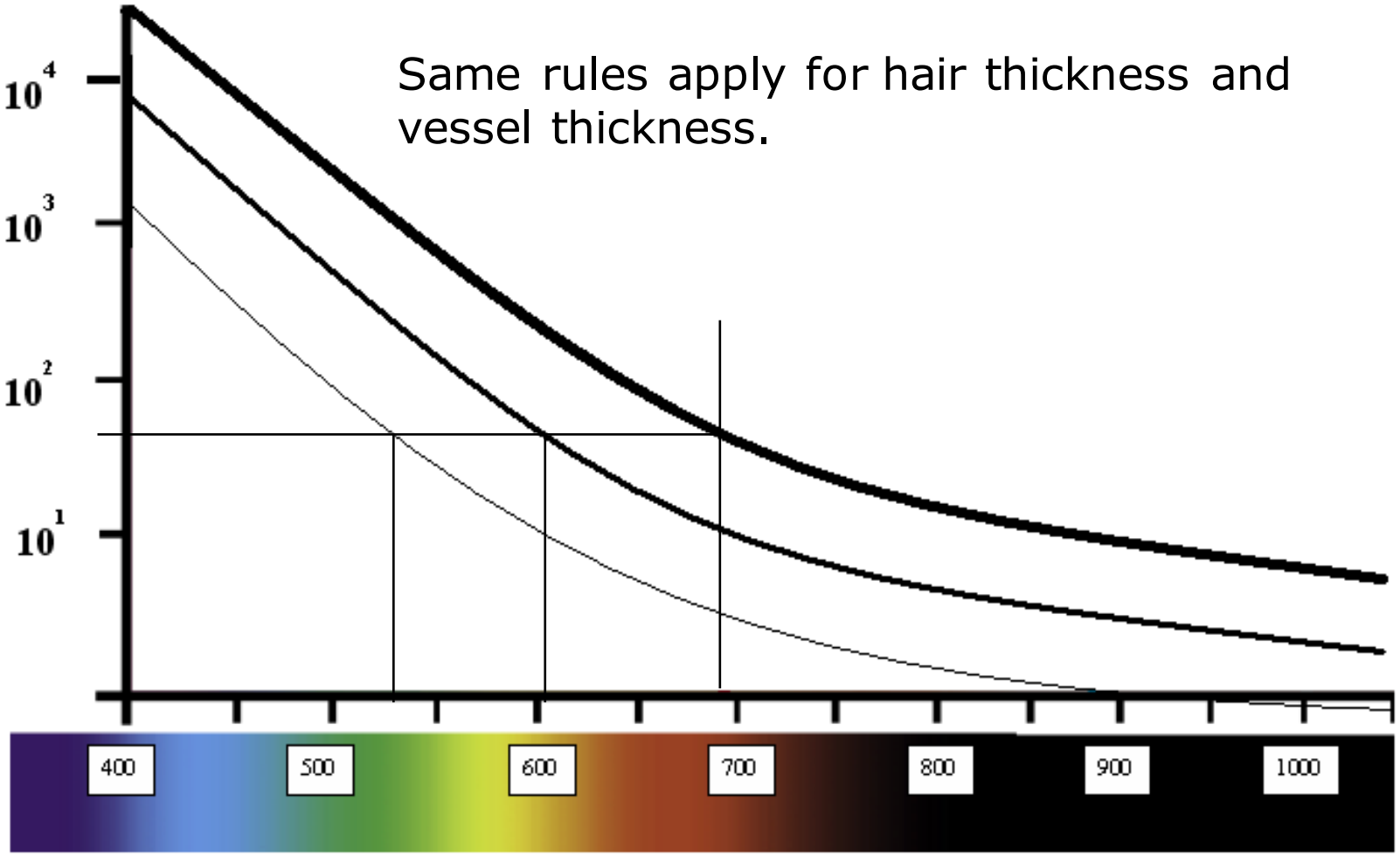
Logarithmic co-efficient Scale.



Tuning Your IPL



Target Volume.



Same rules apply for hair thickness and vessel thickness.

Treat to Clinical end points

- Look for a clinical end point.
  - It's the professional approach.
  - Adjust settings as necessary.

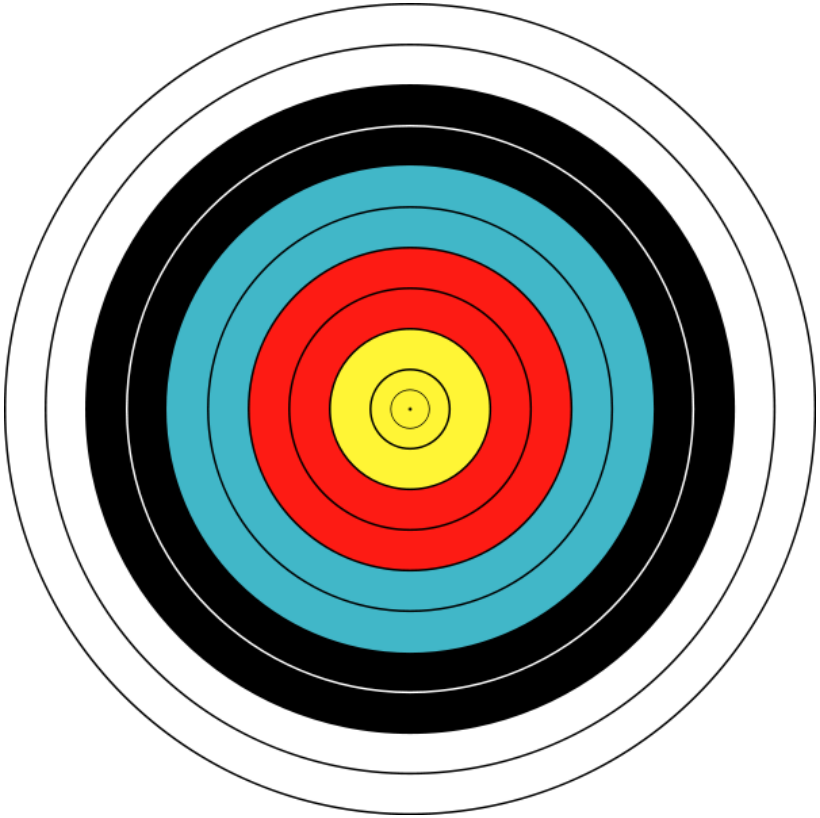
- Do not treat by presets.
  - Not all patients are the same and therefore not all treatment settings will be the same.

What Wavelengths?

- Short, Green. 510nm - 560nm.
- Medium, Yellow. 585nm - 615nm.
- Long, Red. 640nm - 755nm.

Targeted Chromophore Density

Correlates to: -



* Pulse Duration.
* Pulse Delays.
* Number of Pulses.
* Wavelength.
* Energy.

Large Targets

Excluding IV & V

- Thick Dark Hair.
- Hemangioma.
- Purple or Blue Blood Vessels.
- Melanin rich benign pigmented lesions.
  (Junctional, Dermal)
- Target Normally Depth.

Large Targets are Best Treated with: -

- Long Wavelengths (Large)
- Long Pulse duration (Large)
- Long Delays (Large)
- Higher Energy (large)

Chiller ON!

Medium Targets

- Medium Thick Dark Hair.
- Red telangiectasia,0.3 to 0.7mm.
- Moderately epidermal pigmented benign lesions.

Medium Targets are Best Treated with: -

- Medium Wavelengths.
- Medium Pulse duration.
- Medium Delays.
- Medium Energy.

Chiller ON!

Small Target

- Non nodular Rosacea.
- Bright red small telangiectasia.
- Fine Dark Hair.
- Superficial Benign epidermal pigmented lesions.

Chiller??

Small Targets

- Small Wavelengths
- Small Pulse duration
- Small Delays
- Small Energy

Chiller ??

Categorizes Treatment heads/filters.

Treatment Head	Skin Types
480-540	1,2
540- 590	1,2,3
590- 700	1,2,3,4
700- 950	1,2,3,4,5

Conclusion

Having a understanding how light energy interacts with tissue we can use our IPL colour palette to mix and blend treatment parameters to maximise clinical outcome with a high degree of safety and client satisfaction.

Thank you!