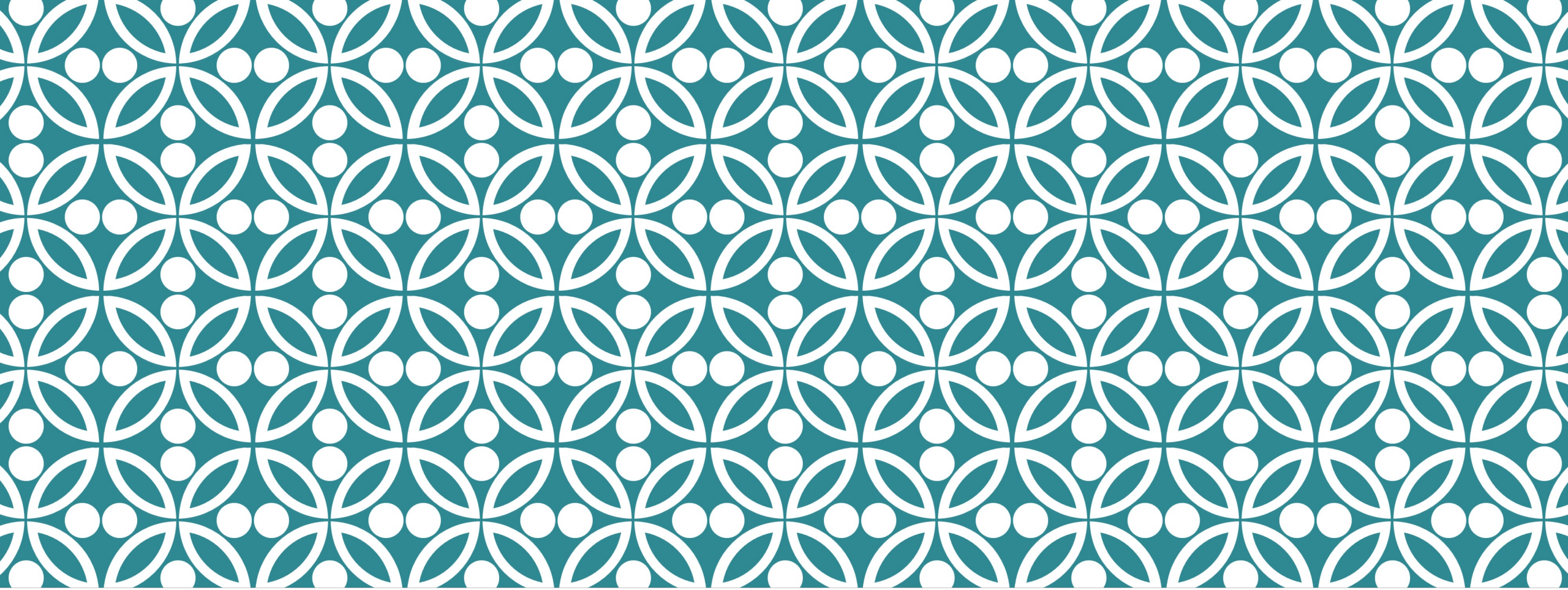


SEE THE LIGHT WITH IPL

Selina R. McGee, OD, FAAO

SPEAKER BIO –

Dr. Selina McGee is Founder and Owner of BeSpoke Vision, a boutique private practice that offers patients a wide range of optometric care via its dry eye center, specialty contact lens clinic and aesthetics suite. She is the first OD in the country to perform neurotoxin injections and laser resurfacing. She performs RF, IPL, and surgical lid procedures. She is a renowned national and international speaker. She is an Adjunct Assistant Professor at the Northeastern State University College of Optometry. She currently serves as President for the Intrepid Eye Society, Trustee on the SECO Board, and the Board of Examiners in Oklahoma. She is a Fellow of the American Academy of Optometry and a Diplomate of the American Board of Optometry, and is Past-President of the Oklahoma Association of Optometric Physicians.

FINANCIAL DISCLOSURES FOR SELINA R. MCGEE, OD, FAAO

Allergan-Speaker/Consultant

Alderya-Consultant

Avellino-Consultant

Bausch & Lomb-Speaker/Consultant

Bruder-Consultant

CynoSure-Speaker/Consultant

Dompe-Speaker/Consultant

Eyevance-Consultant

Horizon-Consultant

Lumenis-Speaker/Consultant

Ocuphire-Consultant

OptovueSpeaker/Consultant

Osmotica-Speaker/Consultant

Oyster Point-Speaker/Consultant

Compulink-Consultant

Novartis-Speaker/Consultant

Versant-Consultant

Visus-Consultant

Science Based Health-Speaker/Consultant

Sight Science-Consultant

Sun-Speaker/Consultant

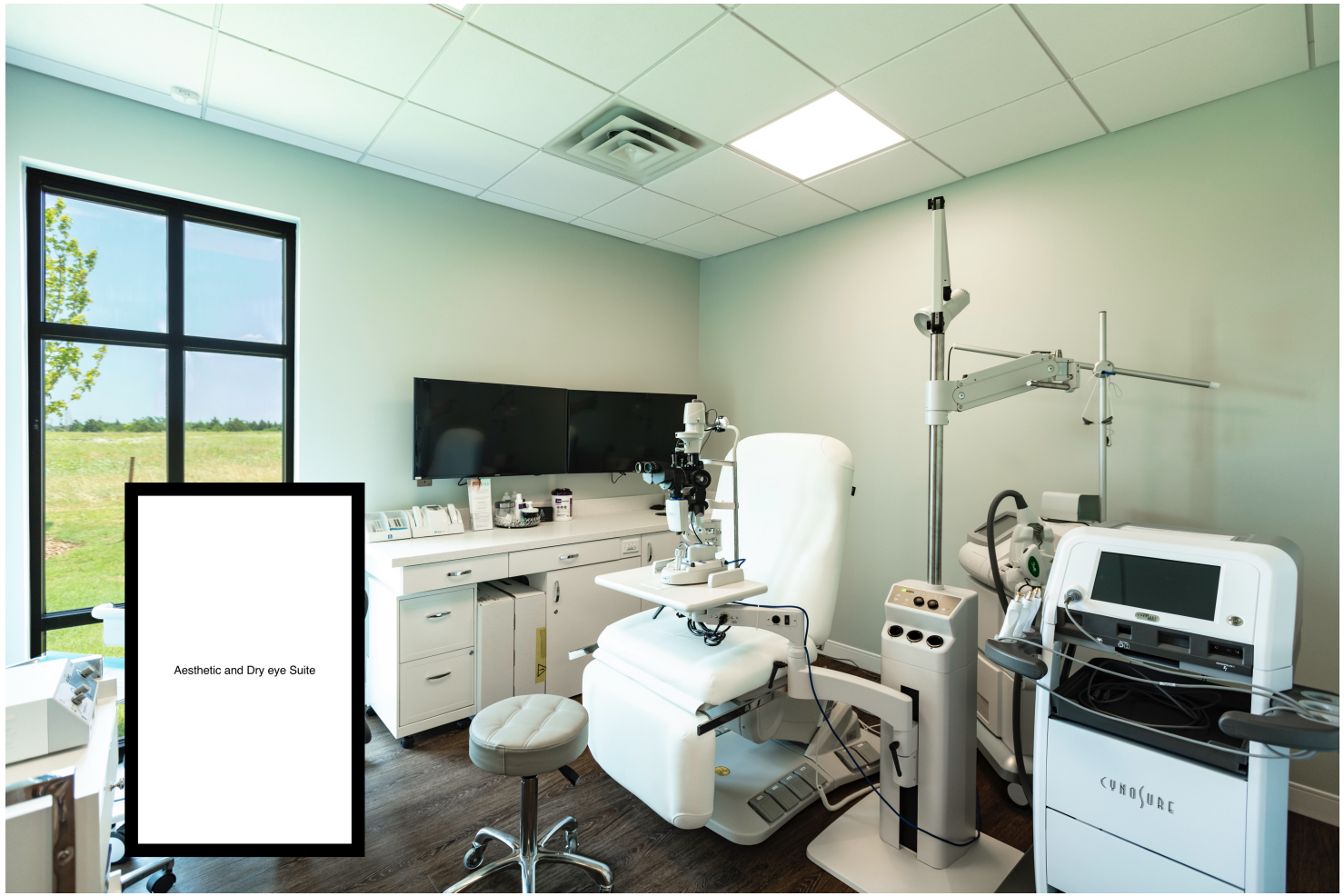
Tarsus-Speaker/Consultant

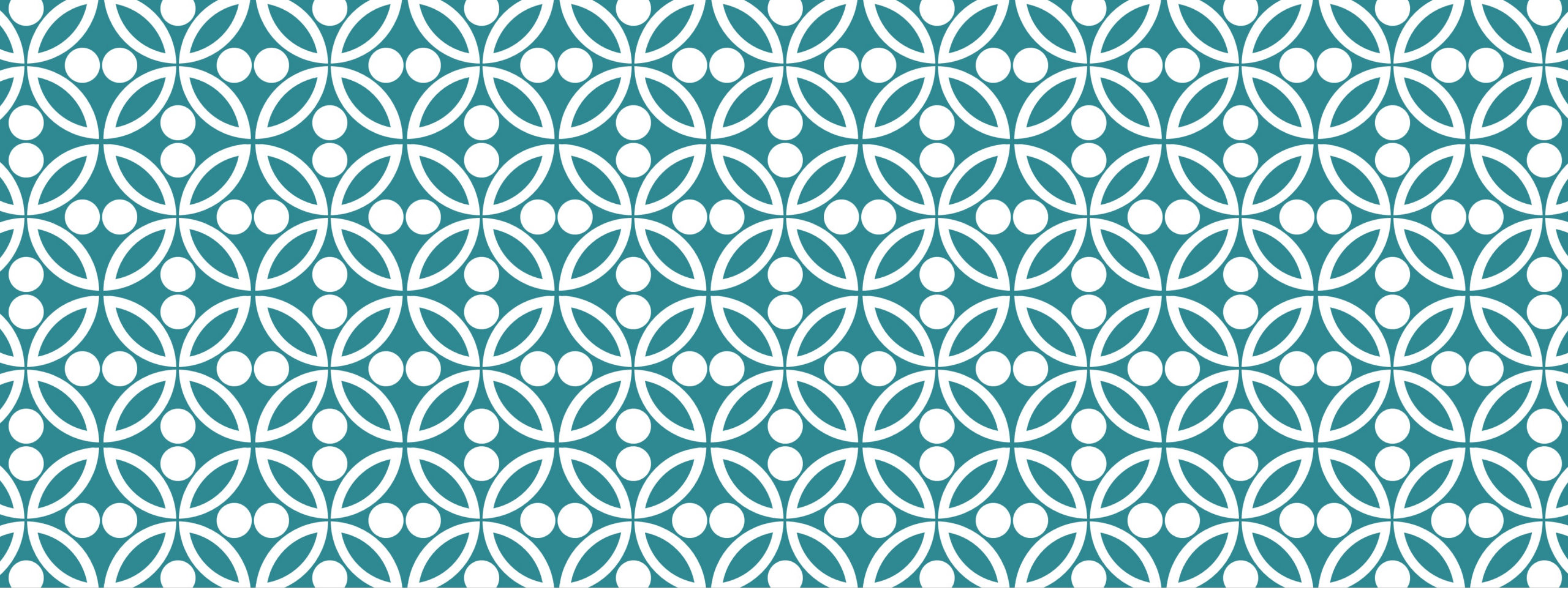
Thea-Consultant

Topcon-Consultant

Zeiss-Consultant

All financial relationships have been mitigated.


Aesthetic and Dry eye Suite
CYNOSURE



HOW TO IDENTIFY PATIENTS

Are my Eyes Comfortable & Is My Vision Optimized?

Please check all symptoms experienced:

☐Dry Eyes
☐Blurry Vision
☐Redness
☐Burning
☐Itching
☐Light Sensitivity
☐Excessive tearing/watery eyes
☐Tired eyes/eye fatigue
☐Stringy mucus in or around the eyes
☐Foreign Body Sensation/Gritty Scratchy, feeling of sand or grit in eye

Have you used eye drops in the last 2 hours?
Yes☐No☐

Does your vision change throughout the day?
Yes☐No☐

Can you wear your contacts comfortably as long as you'd like?
Yes ☐No☐

Am I at risk for a stroke?

Do you wake up in the morning with a headache?

Yes ☐ ☐**No**

Do you find it necessary to take a nap in the afternoon?

Yes☐**No**☐

Do you snore?

Yes☐**No**☐

Ocular Rosacea

Does your face flush or have redness easily, eating spicy foods, alcohol, or hot showers?

Yes☐ **No**☐

Do you have bloating with certain foods?

Yes☐**No** ☐

If so, which ones?

Am I at Risk for AMD?

Please check all that applied since last visit:

☐Light colored eyes/and or skin

☐Cardiovascular disease

☐Difficulties driving at night

☐Difficulty distinguishing an object from a similar color background (dark car on a dimly lit street)

☐Family history of AMD or taken a genetic test (23 & Me) and tested for an AMD risk

☐Outdoor occupation or excessive computer use (2+ hours per day)

☐Bright light sensitivity

☐Current or former smoker

☐Low vegetable intake (< 5 servings/day)

☐Scanner score_____

Am I putting my best face forward?

In a perfect world, what would I want to change about my eye appearance? Check any or all that apply

Would you like your eyes to be more open?

Red eyes?

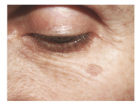
Fewer wrinkles-forehead, frown lines, crow's feet?

Tighter skin around lids?

Less sun damage?

Glowing skin?




“MY EYES ARE RED! I CAN USE LUMIFY RIGHT?”

EXAM ELEMENTS

Skin-Study the Face

Head Tilt

Lid Position

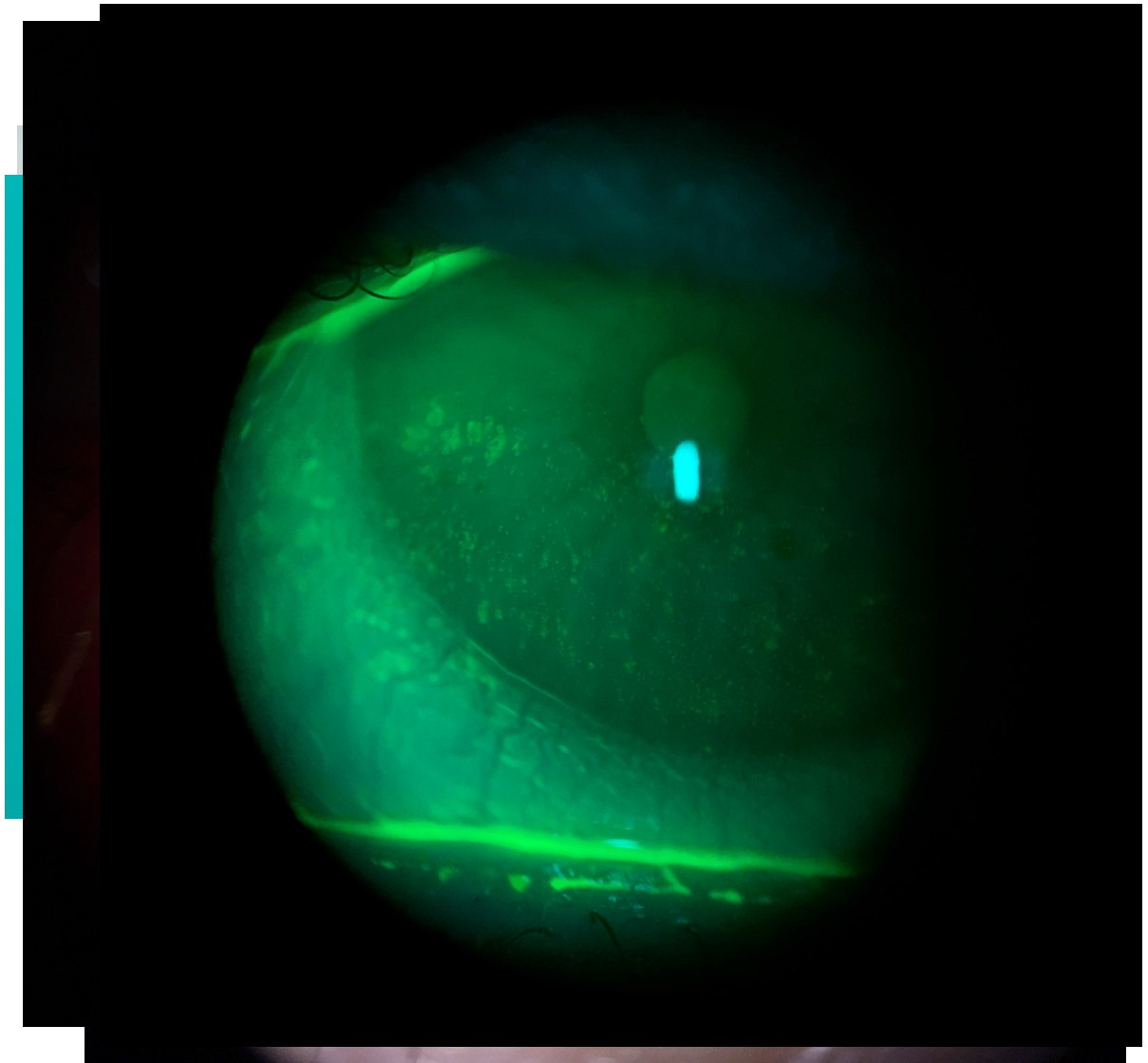
Lid Laxity

Lashes

Meibomian Glands

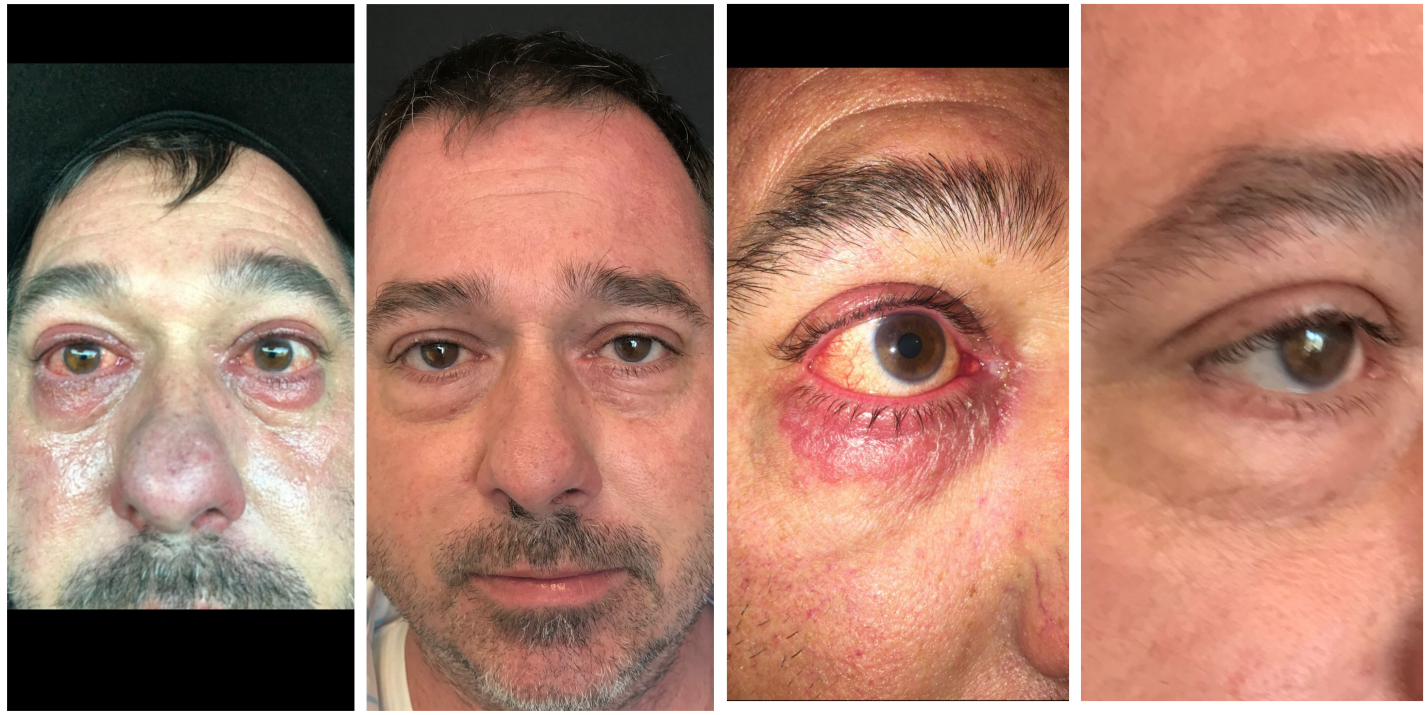
Telangiectasia

Cornea



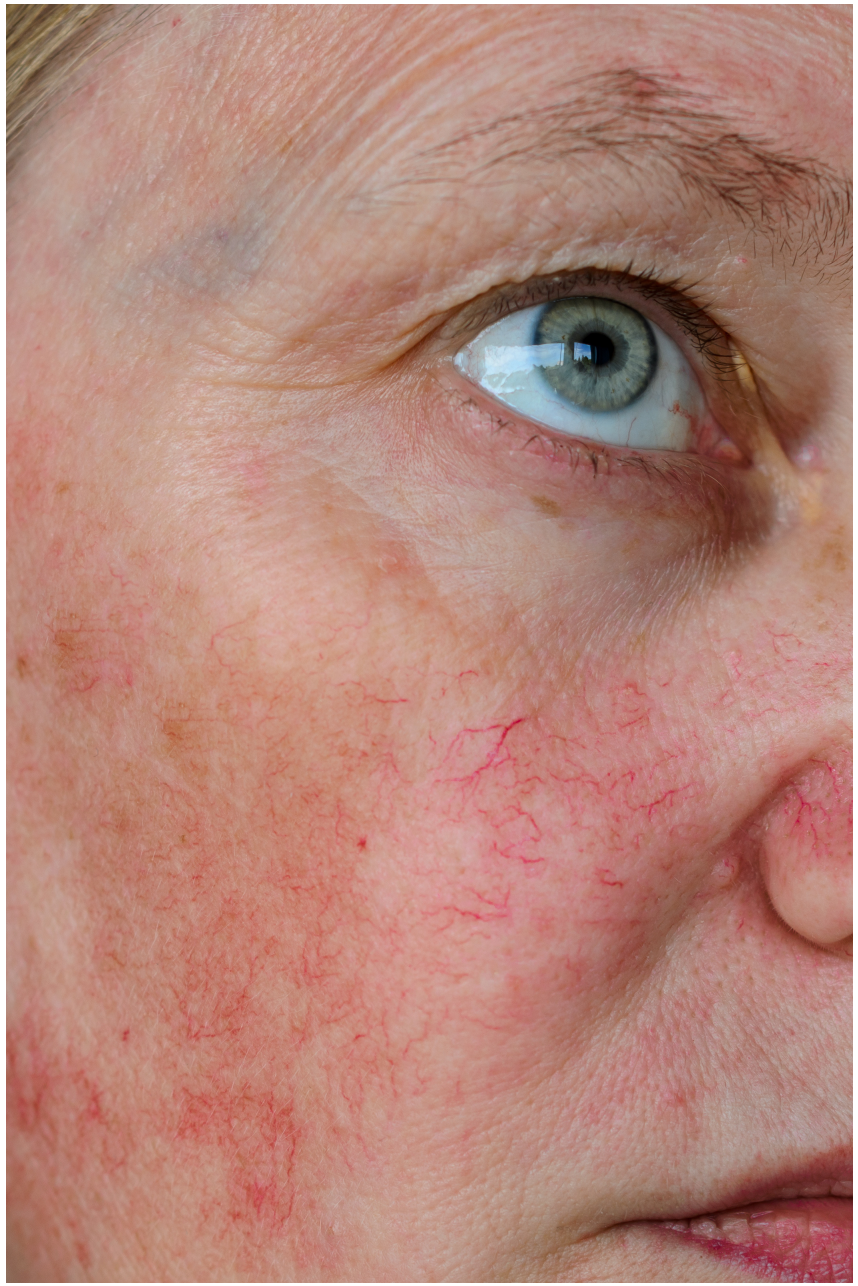
DERMATOLOGICAL CONDITIONS

ECTOPIC DERMATITIS

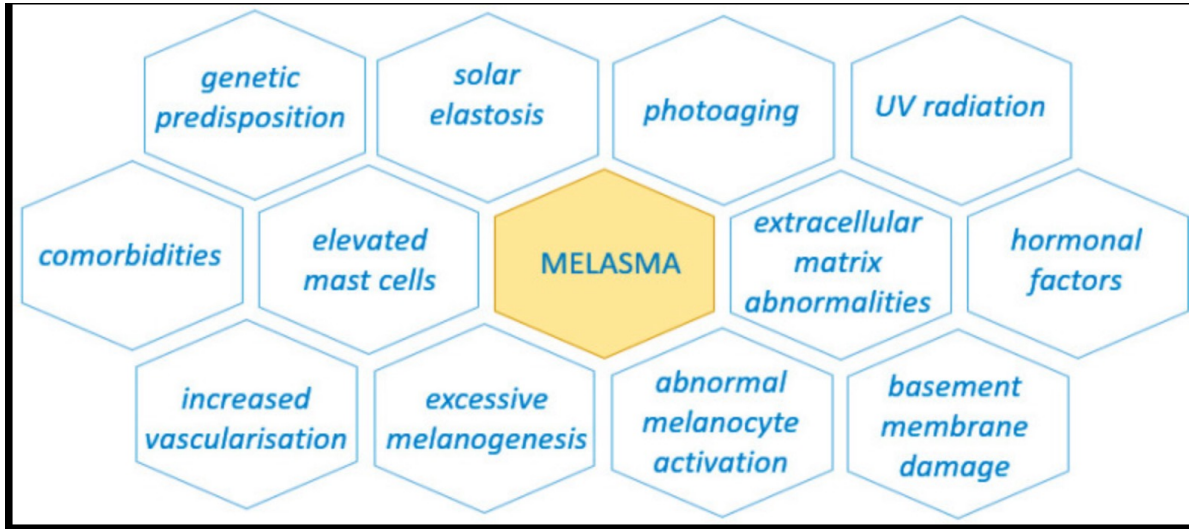


DIOSD: DUPILIMAB-INDUCED OCULAR SURFACE DISEASE

Maiti S, Periman LM, Balani N. Intense pulsed light for the treatment of dupilimab induced ocular surface disease (DIOSD): a novel case report. JDED 2021. V5



MELASMA



Sun protection

Melanocyte modulation:

www.epionce.com

www.skinmedicinals.com

Piętowska Z, Nowicka D, Szepietowski JC. Understanding Melasma-How Can Pharmacology and Cosmetology Procedures and Prevention Help to Achieve Optimal Treatment Results? A Narrative Review. Int J Environ Res Public Health. 2022 Sep 24;19(19):12084. doi: 10.3390/ijerph191912084. PMID: 36231404; PMCID: PMC9564742.

DIFFERENTIATION OF VARIOUS DEVICES FOR SKIN

Laser Light Energies (Lasers-Light Amplification by Stimulated Emission of Radiation)

- Both ablative and non-ablative (all indications depending on wavelengths)

IPL Devices of Light Therapy (Intense Pulse Light-filtered light energies)

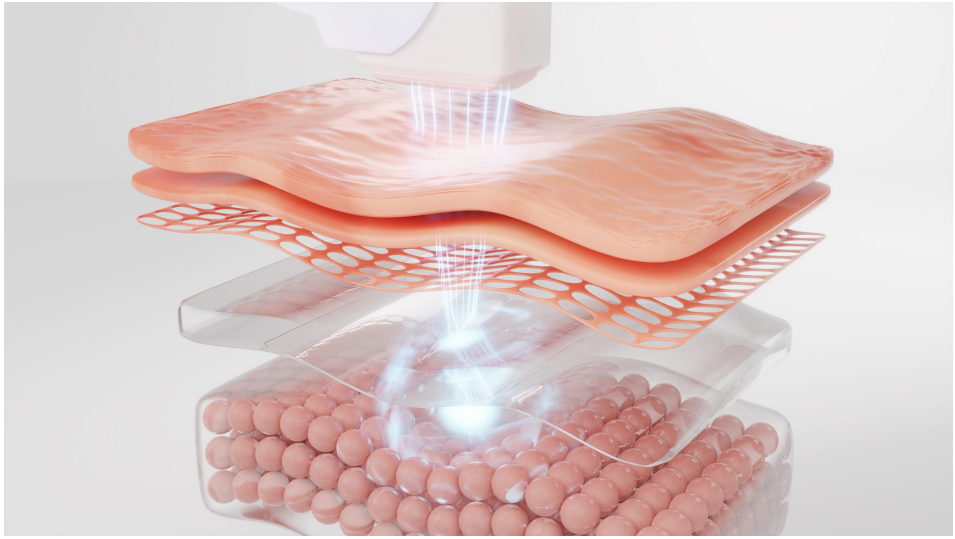
- Typically non-ablative devices (melanin reduction, oxy/de-oxy hemoglobin)

Radio Frequency Devices

- Typically non-ablative devices (skin tightening, collagen remodeling)

Ultrasound Devices

- Typically non-ablative devices (skin tightening, collagen remodeling)



INTENSE PULSE LIGHT (IPL)

Differences between Lasers & IPL sources

Laser Light

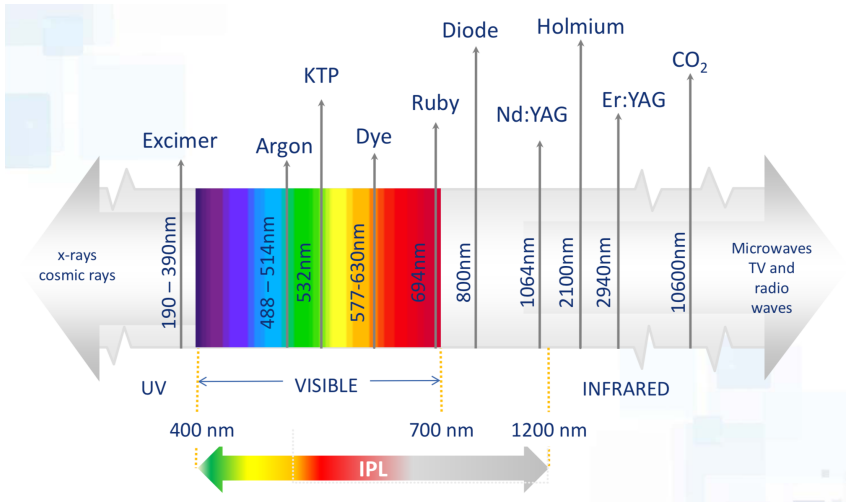
- Monochromatic
- Coherent
- Parallel

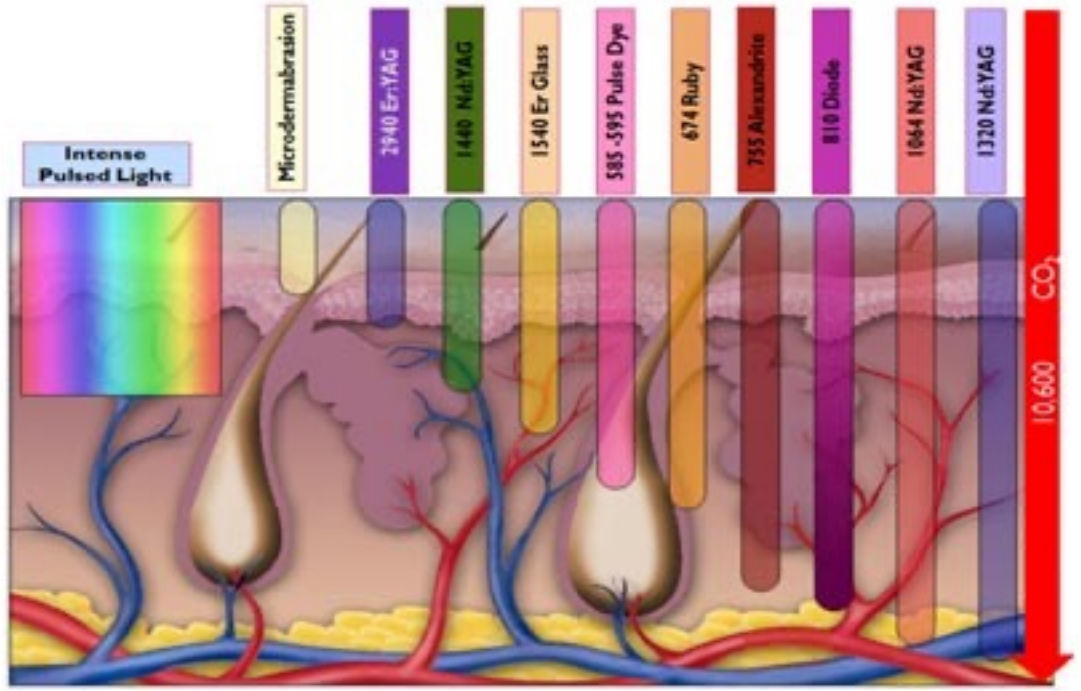
Intense Pulsed Light

- Non monochromatic
- Non coherent
- Defocused

laser		intense pulsed light (ipl)	
	monochromatic: can tune out unwanted colors		polychromatic: broad spectrum visible light
	coherent: related in phase over long distances		non-coherent: phases cross each other
	collimated: beam spreads very little		divergent: beam spreads a lot
The diode laser works on an 810nm wavelength, targeted for hair removal		IPL's work a broad spectrum of wavelengths, ranging from 450-1200nm	

INTENSE PULSE LIGHT (IPL)

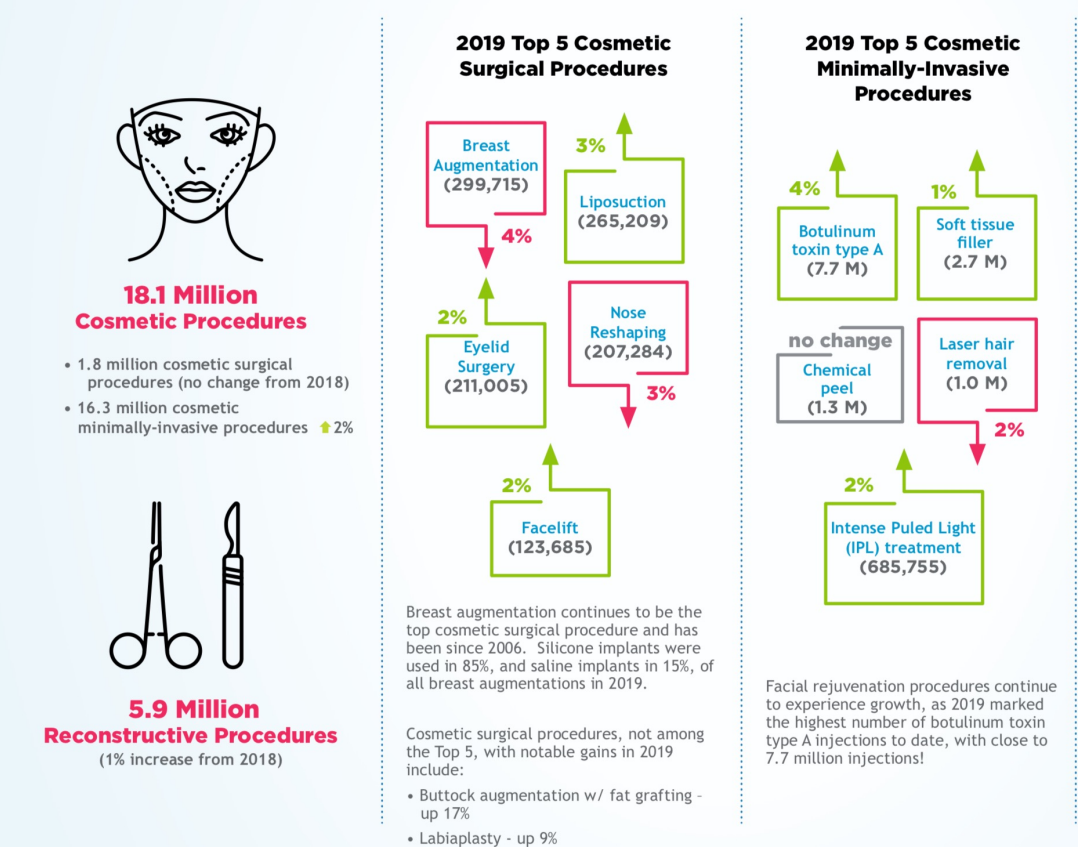




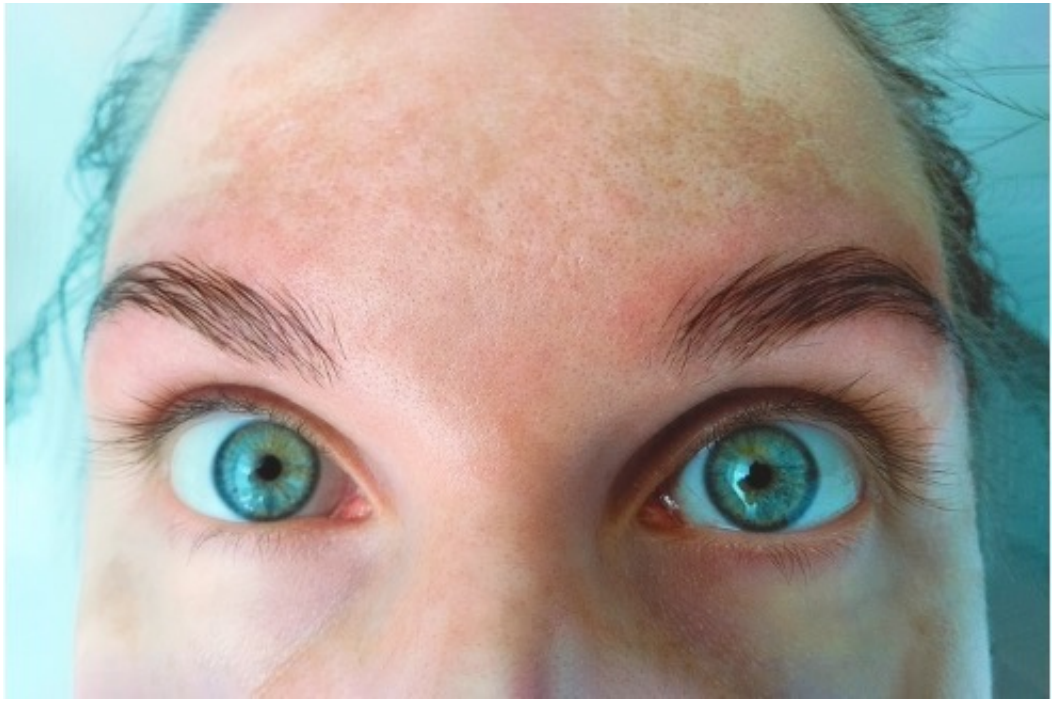
IPL (INTENSE PULSED LIGHT)

How it works

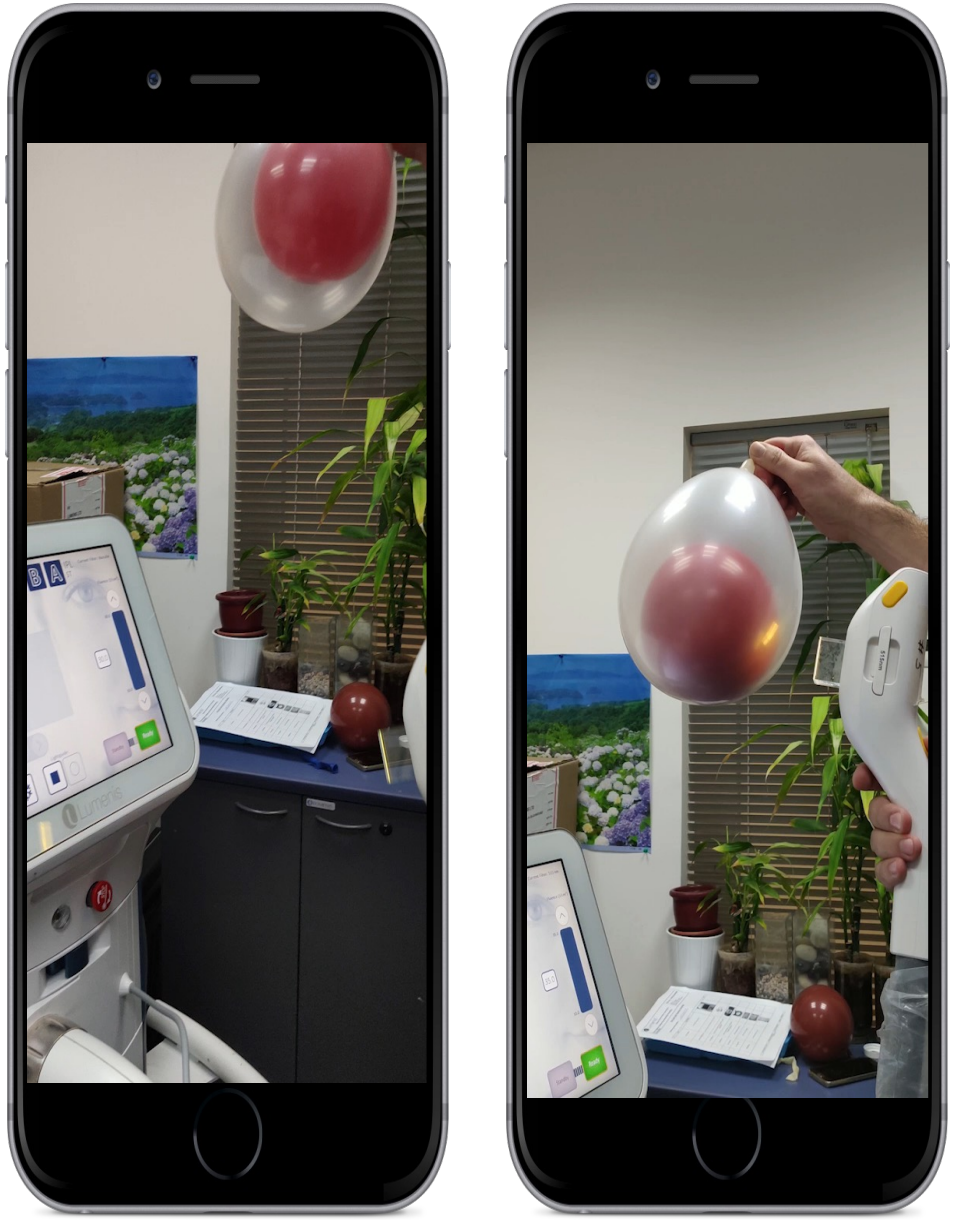
- Emits a broad, continuous spectrum of light in the range of 515–1200 nm, with the ability to apply filters to target specific *chromophores* (i.e. melanin and hemoglobin).
- Melanin absorption is in the 400–700 nm range
- Blood absorption in the 900–1,200 nm range
- Role of oxyhemoglobin
  - The light that's emitted from the flashlamp is absorbed by the oxyhemoglobin in the blood vessels → generates heat that coagulates the cells
- Think Red's & Browns!



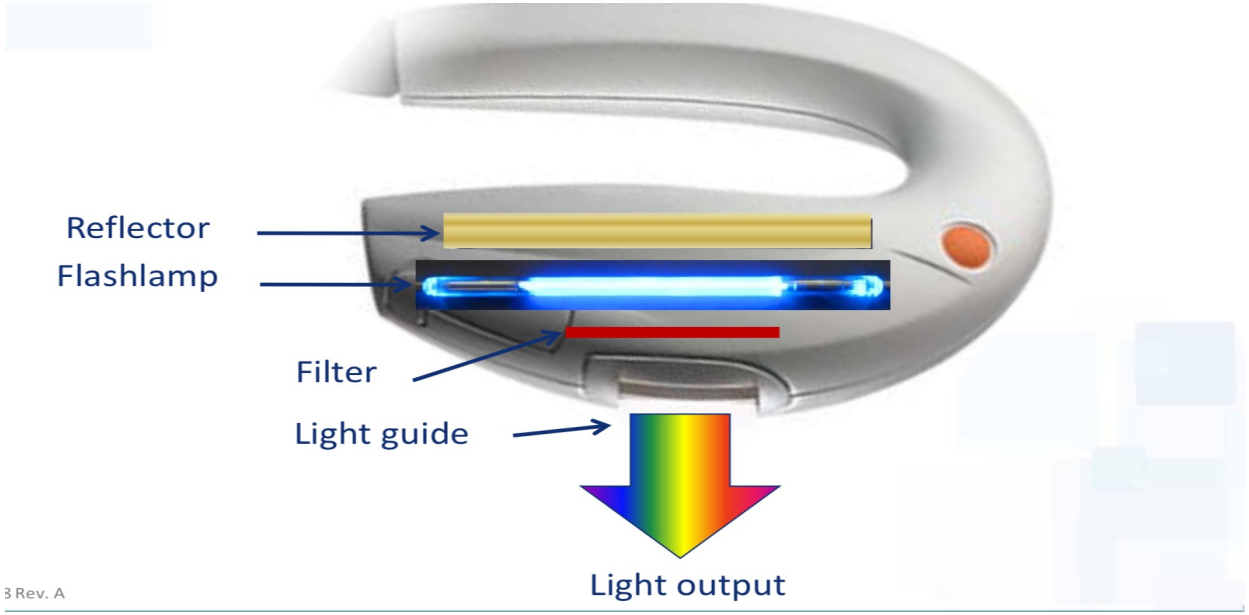
WHAT'S A CHROMOPHORE?



IPL safely and effectively targets the inflammation



LIGHT EMITTED PASSES THROUGH A FILTER WHICH "CUTS OFF" UNDESIRED WAVELENGTHS AND MAXIMIZES THE PASS OF THE CHOSEN ONES



Filters for the M22 and OptiLight are available in 515, 560, 590, 615, 640, 695, vascular, 755, and Acne*

*Know what your license allows through your Board of Examiners!

MaxG™ Pulsewidth (ms)	Minimum Fluence (J/cm²)	Maximum Fluence (J/cm²)	Fluence Increments
1	3	11	1
2	5	21	2
3	6	30	2
5	6	36	2
10	20	54	2
15	20	60	2
20	20	68	2
25	20	74	2
30	20	80	2
40	20	80	2
60	20	80	2
80	26	80	2
100	32	80	2

Handpiece	Spot size (mm)	Repetition Rate (Hz)	Spectral Range (nm)	Fluence Range* (J/cm²)	Application
MAXG™	10 x 15	.2 – 2.0	500 – 670 & 870 - 1200	Up to 80	Pigmented and Vascular Lesions (skin types I-IV)

MOST POPULAR COSMETIC SKIN PROCEDURES PERFORMED

Photofacial

- #1 Cosmetic procedure performed in the United States
- 80 million Americans have some kind of venous disorder (80% of those are cosmetic)
  - Rosacea represents 16 million alone
- Hyperpigmentation is the 2nd largest skin disorder in the US (Acne #1)

- Chang AL, Bitter PH Jr, Qu K, Lin M, Rapicavoli NA, Chang HY. Rejuvenation of gene expression pattern of aged human skin by broadband light treatment: a pilot study [published correction appears in J Invest Dermatol. 2013 Jun;133(6):1691]. *J Invest Dermatol.* 2013;133(2):394–402. doi:10.1038/jid.2012.287

American Academy of Dermatology

IPL

IPL-Intense Pulsed Light On Label
Telangiectasias
Photorejuvenation (reds & browns)
Acne
Rosacea
Hair removal
Benign Cutaneous Vascular Lesions
Angiomas, spider angiomas, leg veins,
Venous malformations
Poikiloderma
Cutaneous Lesions:warts, scars, striae
Fine lines and wrinkles-non-ablative
OPT specific IPL Now FDA Approved De Novo Label in the US
Dry Eye associated with Meibomian Gland Dysfunction

PEER REVIEWED LITERATURE

Pubmed search (2023/July 28):

Search keywords in PubMed:

(Optimal pulsed AND Meibomian) OR (Pulsed AND Meibomian) OR (IPL AND MGD) OR (IPL AND dry eye) OR (IPL AND keratoconjunctivitis) OR (intense pulsed light AND dry eye) OR (intense pulsed light AND Meibomian) OR (intense pulsed light AND MGD)

Initial Results : 108 publications

Excluding reviews, guidelines, letters, repetitions, and papers not in English:

43 +publications found in Pubmed + 2 free search publications (not found in PubMed)

Total: **45+ publications**

IPL AND "THE LITERATURE"

➤ Lei Y, Peng J, Liu J, Zhong J. Intense pulsed light (IPL) therapy for meibomian gland dysfunction (MGD)-related dry eye disease (DED): a systematic review and meta-analysis. Lasers Med Sci. 2022 Dec 19;38(1):1. doi: 10.1007/s10103-022-03690-1. PMID: 36534219.

ORIGINAL ARTICLE

Intense pulsed light (IPL) therapy for meibomian gland dysfunction (MGD)–related dry eye disease (DED): a systematic review and meta-analysis

Yahui Lei[1] · Jing Peng[2] · Jiayan Liu[1] · Jingxiang Zhong[1,3]

Received: 29 August 2022 / Accepted: 3 December 2022
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A SYSTEMATIC REVIEW AND META-ANALYSIS.

- Discussion- Primary Outcomes (OSDI & TBUT)
  - According to the quantitative analysis, the application of IPL could ameliorate the BUT of DED patients, even in a relatively short follow-up time.
  - A significant difference in the reduction in the OSDI score between the two groups may require a relatively long follow- up time to emerge.
  - Unsurprisingly, it takes time to improve tear film stability to ameliorate DED symptoms.
  - In brief, the results of our analysis showed that both IPL treatment and traditional treatments could improve the stability of tear film and subjective symptoms of patients.
  - Moreover, the effect of IPL application in improving the stability of tear film was markedly better than that of traditional treatments.

PEER REVIEWED LITERATURE

List of authors	Country	N(pts)	IPL Device Used	Design	Short summary
Lee et al., 2020	KR	23	M22	Retrospective	Improvements in TBUT, SICCA ocular staining score, Oxford staining score, lid margin irregularity, lid thickness, meibomian gland plugging, meibum color, meibum consistency, OSCI and incidence of MMP-9 immunopositivity.
Yan et al., 2020	CH	120	M22	Prospective, Randomized Controlled	TBUT, SPEED,MGYSS, CFS, and lid margin abnormalities improved in both an IPL arm and a control ARM, but in general, the improvement was significantly larger in the IPL arm.
Stefania et al., 2019	IT	11	Synchro FT- DEKA MELA	Prospective; Open label	All pts improved TBUT, Schirmer test, Tear film osmolarity, and symptoms after 2 treatments
Fan et al., 2020	CH	64	Solari (Lutronic)	Prospective; Open label	IPL reduced severity of DE symptoms and improved the overall tear film stability in pts with moderate to DED owing to MGD. In addition, visual complaints experienced by DE patients secondary to MGD significantly decreased.
Wei et al., 2020	CH	53	Unspecified but probably M22	Prospective; Open label	OSDI significantly reduced after IPL. Meibomian gland assessment scores, including meibum quality and expressibility, eyelid margin abnormalities, and corneal staining, significantly decreased after IPL. Corneal nerve fiber length (significantly increased after IPL.
Li et al, 2020	CH	30	Lumenis One	Prospective; Randomized Controlled	15 pts received normal IPL treatment (group A), and 15 received additional IPL on the upper eyelids (group B). Both groups improved, but pts in group B had better recovery of TBUT
Tang et al., 2020	CH	44	Unknown (Full text was not available)	Retrospective	SPEED, OSDI, TBUT, CFSS, MGYSS, MGYLS, and MGYCS were significantly improved after three IPL/MGX treatments, but the meiboscore and MGLS remained unchanged. In patients who had better treatment outcomes, a longer TBUT, better meiboscore, and less gland loss before IPL/MGX were noted.
Wu et al., 2020	CH	62	M22 (Lumenis) versus E>Eye (E-Swin)	Prospective; Randomized Controlled	IPL has significant clinical value in treating patients with MGD. OPT treatment (Lumenis) was more effective in improving MG function in lower eyelids and partial tear film signs than IRPL treatment (E-Swin).

Páez et al., 2020	SP	20	Unspecified in Abstract (Probably E>Eye, but full text is not available)	Retrospective	A significant clinical and visual improvement was observed, together with a decreased frequency in artificial tear use, in LASIK patients with chronic DES after IPL treatment
Ge et al., 2020	CH	60	M22 (Lumenis)	Prospective; Randomized Controlled	Cataract patients before phacoemulsification were randomly divided to IPL pre-a and post-treatment, or conventional surgery (no IPL). In most outcome measures, patients treated with IPL had better outcomes after 1 and 3 months.
Xue et al., 2020	NZ	87	E>Eye (E-Swin)	Prospective; Randomized Controlled	IPL therapy effected significant improvements in dry eye symptomology, tear film lipid layer thickness, and meibomian gland capping in MGD patients. Five-flash IPL treatment showed superior clinical efficacy to four-flash, and an initial course of at least four treatments is suggested to allow for establishment of sustained cumulative therapeutic benefits prior to evaluation of overall treatment efficacy
Fishman, Shah, Periman, 2020	US	N/A	M22 (Lumenis)	In Vitro	IPL with parameters as those of Toyos' protocol causes the death of Demodex in vitro
Yurttaser Ocak et al., 2020	TU	43	Eye Light (Espansione)	Retrospective	Following IPL treatment, OSDI, NIBUT, meibomian glad dropout scores, corneal staining scores improved in patients with mild and moderate MGD. OSDI and NIBUT started improve at 1 month, while corneal staining and meibomian gland dropout scores showed earliest improvements at 3 months. The improvements lasted until the 12-month follow-up visit. No significant improvements were observed in patients with severe MGD.
Piyacomn et al., 2020	TH	114	E>Eye (E-Swin)	Prospective; Randomized Controlled	At 6 months, TBUT, meibum quality grades, expressibility grades, and OSDI were better in the IPL group. OSDI, meibum quality, and expressibility in the IPL group began to improve at day 15, whereas the results in the sham group began to improve at day 45. No adverse event occurred after IPL.
Stefania et al., 2019	IT	11	Synchro FT- DEKA MELA	Prospective; Open label	All pts improved TBUT, Schirmer test, Tear film osmolarity, and symptoms after 2 treatments
Gao et al., 2019	CH	82	M22 (Lumenis)	Prospective; Randomized Controlled	IPL improved signs of DED and decreased the level of key inflammatory markers more than treatment with tobramycin/dexamethasone plus warm compresses.
Huang et al., 2019	CH	43	M22 (Lumenis)	Prospective; Randomized Controlled	IPL combined with intra-ductal Meibomian Gland Probing improved signs and symptoms of DED more than IPL alone or MGP alone
Ruan et al., 2019	CH	33	M22 (Lumenis)	Prospective; non-randomized Controlled	IPL combined with Meibomian Gland Expression (MGX) improved signs and symptoms of Blepharitis-Associated Keratoconjunctivitis more than MGX alone
Vigo et al., 2019	IT	28	E>Eye (E-Swin)	Prospective; Single arm	IPL improved signs and symptoms in MGD patients, while lower baseline NIBUT values were predictive of better response to IRPL
Cheng et al., 2019	CH	25	Icon Aesthetic System	Retrospective	IPL improved Meibomian gland microstructure, Demodex infestation, and other signs/symptoms of DED
Stonecipher et al., 2019	US	230	Eye Light (Espansione)	Retrospective	Combination of Low-Level Light Therapy and IPL improved signs and symptoms of DED

Toyos et al., 2019	US	19	M22 (Lumenis)	Prospective; Single arm	IPL treatment directly on the upper eyelids improved signs and symptoms of DED.
Choi et al., 2019	KR	30	M22 (Lumenis)	Prospective; Single arm	IPL treatment improved meibomian gland function, stabilized the tear film, and decreased ocular surface inflammation.
Meija et al 2019	SP	25	E>Eye (E-Swin)	Retrospective	IPL improved DED and objective tests such as TBUT, Schirmer test and Van Bijerstveld score
Li et al., 2019	CH	40	Lumenis One (Lumenis)	Prospective; paired-eye controlled	Two parameter settings of IPL treatment gradually and effectively raised the tear breakup time (BUT) and ocular surface disease index (OSDI) score
Vigo et al., 2019	IT	19	Unspecified	Prospective; Single arm	IPL improved Noninvasive break-up time and lipid layer thickness grade, but did not change meibomian gland loss and tear osmolarity
Ahmed et al., 2019	EG	12	Lumea SC2007/60 (Philips)	Prospective; Single arm	IPL improved the molecular weight and concentration of tear proteins (lysozyme, lactoferrin, albumin) and tear lipids (triglycerides, cholesterol, phospholipids).
Karaka et al., 2018	TU	26	E>Eye (E-Swin)	Prospective; Single arm	Monotherapy IPL improved tear breakup time, Schirmer's test and symptoms
Arita et al., 2019	JP	45	M22 (Lumenis)	Prospective; Randomized Controlled	both IPL+MGX and MGX improved symptoms and signs of DED, but the improvement was more pronounced in the IPL+MGX arm.
Zhang et al., 2019	CH	40	M22 (Lumenis)	Prospective; Randomized Controlled	Both IPL and topical tea tree oil (TTO) decreased the Demodex count. Rate of total eradication was higher with IPL, compared to TTO
Rong et al., 2018	CH	44	M22 (Lumenis)	Prospective; Paired-eye	Meibomian gland yielding secretion score and tear break-up time improved both in the treated side and the untreated side. Up to 6 months, improvements were larger in the treated side. At 9 months, there was no difference between the two sides.
Arita et al., 2019	JP	31	M22 (Lumenis)	Prospective; Single arm	Symptoms and quality of tear film improved after IPL + MGX
Seo et al., 2018	KR	17	M22 (Lumenis)	Prospective; Single arm	Symptoms and signs of DED improved after IPL +MGX. Some signs maintained improvement after 12 months. Other signs returned to baseline after 6 months.
Rong et al., 2018	CH	28	M22 (Lumenis)	Prospective; Paired-eye	Meibomian gland yielding secretion score and tear break-up time improved both in the treated side and the untreated side. Up to 6 months, improvements were larger in the treated side. At 9 months, there was no difference between the two sides.

PEER REVIEWED LITERATURE ON IPL FOR DED/MGD: PAGE 1 OF 2

Authors	Year	P/R	Publication	N	Key Findings
Seo et al	2018	P	*Cont Lens Anterior Eye 41(5): 430-5*	17	OSDI, TBUT, NIBUT, Staining, LM Vascularity, meibum quality, meibomian expressibility
Arita et al	2018	P	Cornea DOI: 10.1097/ICO.0000000000001687	31	SPEED, TBUT, NIBUT, Interferometric pattern, Meibum grade, Lid margin abnormality score, CFS
Yue et al.	2018	P	*Curr Eye Res 43(3):308-13*	35	OSDI, TBUT, MGE, MG morphology (confocal)
Rong et al.	2017	P	*Zhonghua Yan Ke Za Zhi* 53:675-81	44	MGYSS, SPEED, TBUT, Staining, Meibography
Liu et al.	2017	P	*AJO* 183:81-90	44	IL-17A, IL-6, PGE2, MGYCS (clear secretions)
Dell et al.	2017	P	*Clin Ophthalmol* 11:1167-73	40	TBUT, SPEED, Osmolarity, Staining, MG score
Albietz & Schmid	2017	P	*Clin Exp Optom* DOI:10.111/cxo.12541	26	OSDI, Ocular comfort index, AFT use, TBUT, staining
Gupta et al.	2016	R	*Can J Ophthalmol* 51(4):249-53	100	Lid margins, MG flow, meibum quality, TBUT, OSDI, eyelids
Vegunta et al.	2016	R	*Cornea* 35:318-22	35	SPEED2, MGE (liquid secretions)
Jiang et al.	2016	P	*J Ophthal* DOI:10.1155/2016/1910694	40	TBUT, TMH, Staining, lid margin, MGA, meibography
Toyos & Briscoe	2016	P	*J Clin Exp Ophthalm* 7(6):1-2	16	Tear film osmolarity

Authors	Year	P/R	Publication	N	Key Findings
Craig et al.	2015	P	*IOVS* 56:1965-70	28	Lipid layer grade, NIBUT, Tear evap. rate, TMH, VAS, SPEED
Vora & Gupta	2015	R	*Curr Opin Ophthalm* 26(4):314-8	37	TBUT, lid margins, eyelids, MG oil flow, meib. quality, OSDI
Toyos et al.	2015	R	*Photomed & Laser Surg* 33(1):41-6	78	TBUT, Pt satisfaction, meibum quality, lid margin
Vegunta & Shen	2014	R	ARVO , published in *IOVS* 55:2018	43	SPEED2, MGE
Shen et al.	2015	R	ARVO PN 4441/PBN A0067	9	SPEED2, OSDI, MGE, Schirmer, Staining, TBUT, lipid tear film analysis, TMH, Meibography
Kim et al.	2015	R	ARVO PN 6193/PBN C0264	53	OSDI
Craig et al.	2015	P	ARVO PN 6193/PBN C0265	28	Lipid layer grade, NIBUT
Shen	2014	R	ARVO, published in *IOVS* 55:2017	5	SPEED2, OSDI, MGE, Schirmer, Staining, TBUT, lipid tear film analysis, TMH, Meibography
Gupta	2014	R	ASCRS	37	Lid margin edema & vascularity, facial telangiectasia, meibum quality, OSDI, TBUT, oil flow score
Toyos	2013	R	ARVO, published in IOVS 54:966	91	TBUT, Self-satistfaction, Physician-judged improvement

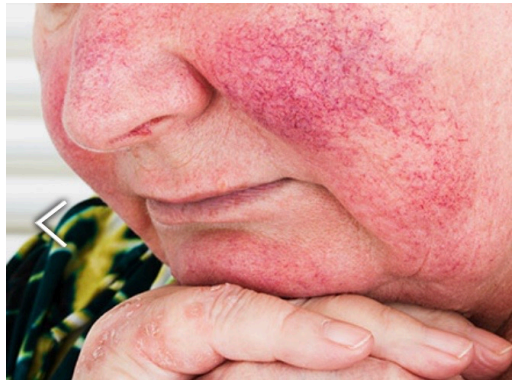
HISTORICALLY ROSACEA (A CHRONIC SKIN CONDITION) WAS CLASSIFIED INTO 4 SUBTYPES: NEW SYSTEM IS 2 DIAGNOSTIC PHENOTYPES

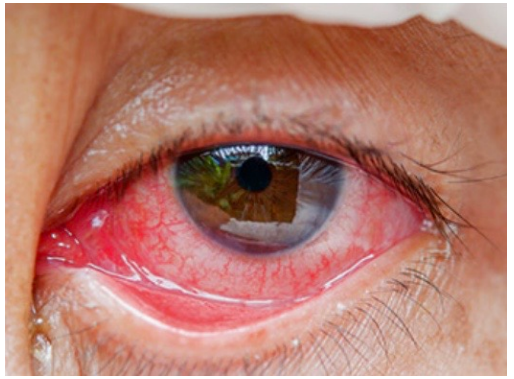
Erythematoustelangiectatic

Papulopustular

Phymatous

Ocular

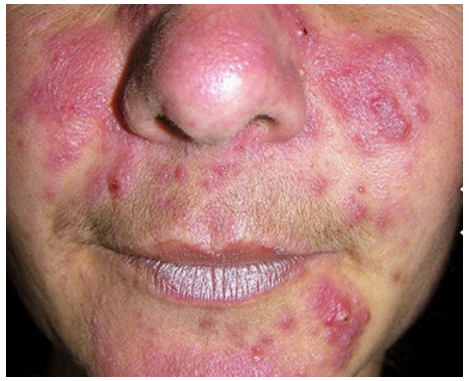


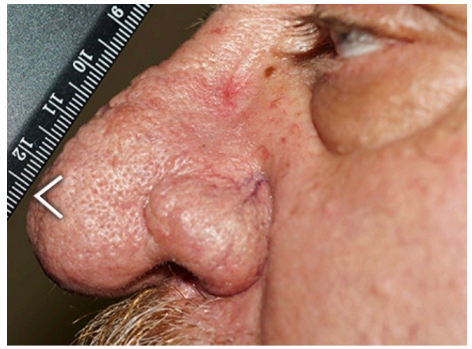


Fixed centrofacial erythema

Phymatous changes

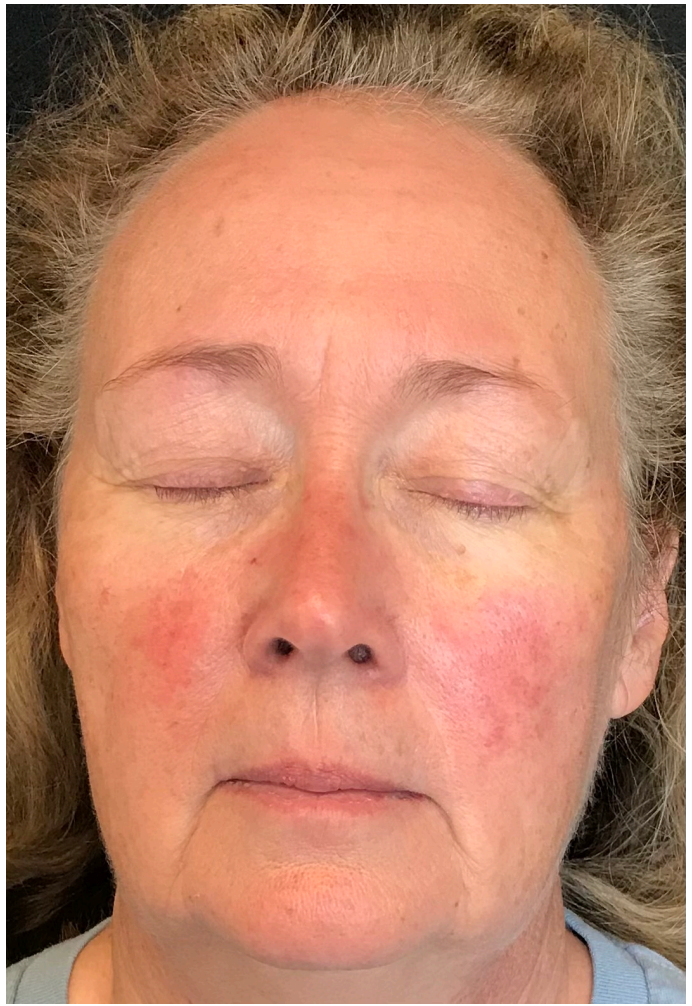
- Papules & Pustules
- Flushing
- Telangiectasia
- Ocular Manifestations



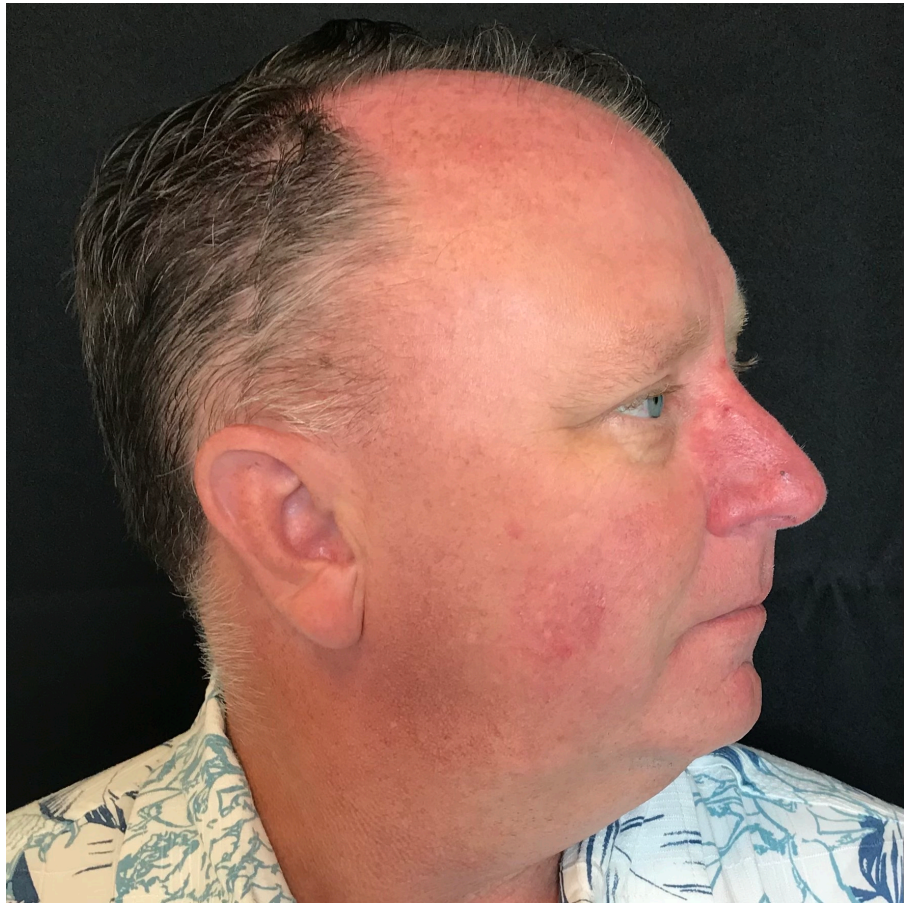


Gallo RL, Granstein RD, Kang S, et al. Standard classification and pathophysiology of rosacea: The 2017 update by the National Rosacea Society Expert Committee. *J Am Acad Dermatol* 2017 Oct 28. pii: S0190-9622(17)32297-1. doi: 10.1016/j.jaad.2017.08.037.

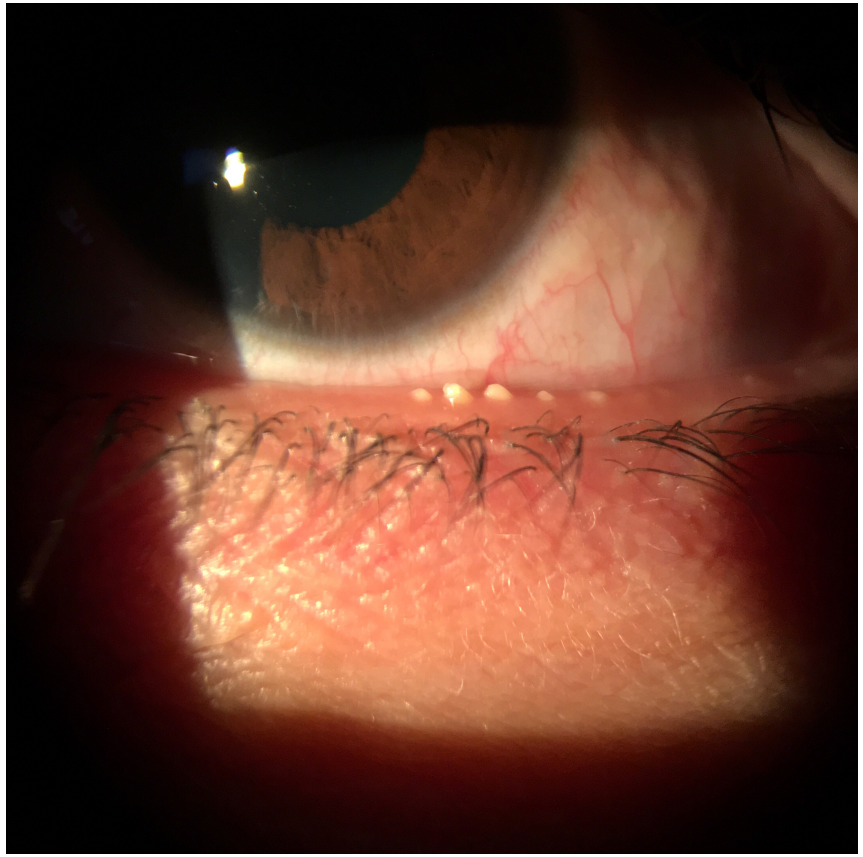
ERYTHEMATOUS-FLUSHING, TELANGIECTASIA

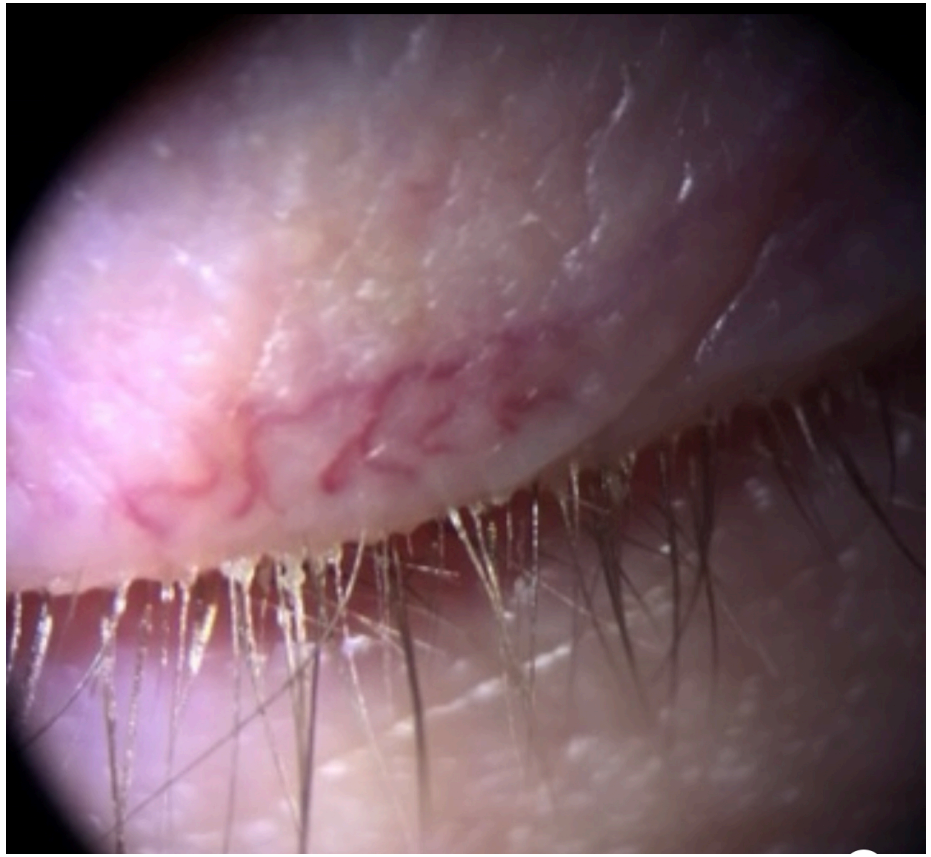


PAPULOPUSTULAR-PAPULES AND PUSTULES



Ocular





ROSACEA AND MGD

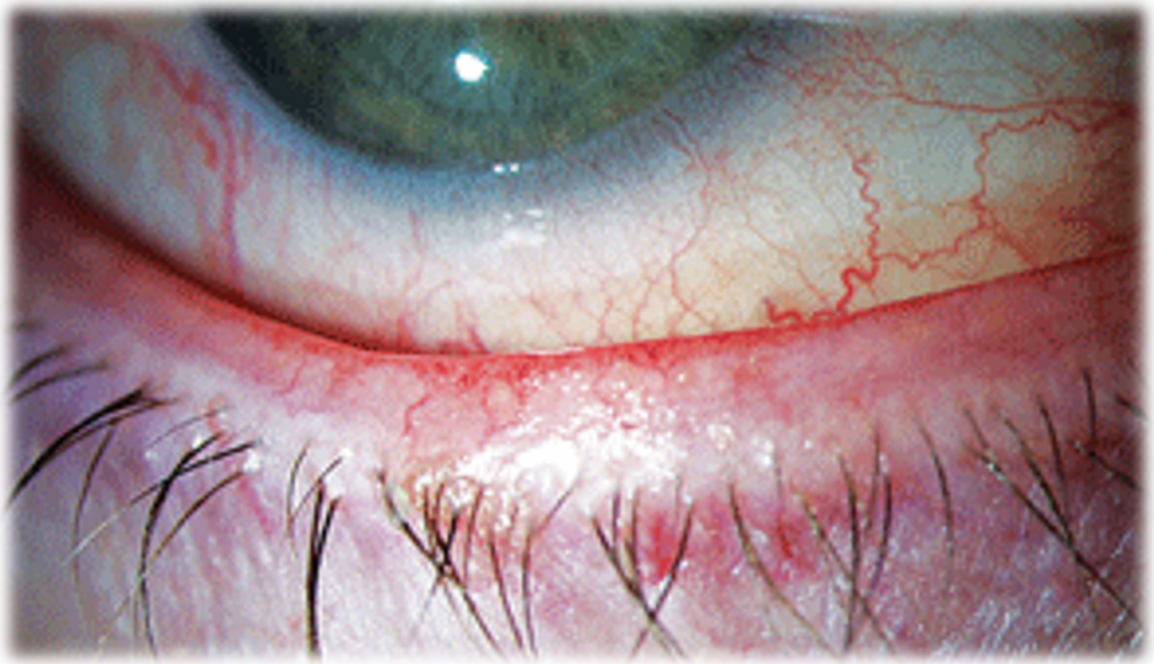
80 % of Rosacea patients suffer from MGD.

- Viso et al. *Eur Ophthalmic Rev* 2014;8(1):13-6

- Presence of One or More of the Following Primary Features
  - Flushing (transient erythema)
  - Nontransient erythema Papules and pustules
  - Telangiectasia
- May Include One or More of the Following Secondary Features
  - Burning or stinging
  - Red plaques
  - Dry appearance
  - Oedema
- Ocular manifestations
  Peripheral location
  Phymatous changes (most commonly rhinophyma)

20% of facial rosacea is preceded by ocular rosacea

ROSACEA ASSOCIATED MGD=WORSE PROGNOSIS



20% OF OCULAR ROSACEA PRECEDES FACIAL ROSACEA

Trigger Avoidance

- Spicy food, Alcohol, Sun, Caffeine
- Whole 30, Gluten Free, Dairy Free

Medications

- Alpha-Adrenergics Agonist (topical) Rhofade^{R}
- Beta Blockers (oral)
- Brimonidine (topical) Mirvaso^{R}
- Minocycline and low dose Doxycycline 50 mg
- Ivermectin
- Azelaic Acid
- Metronidazole
- Isoretinoin

IPL

PDL (Pulse Dye Laser)

Schaller M, et al. Rosacea treatment update: recommendations from the global ROSacea COnsensus (ROSCO) panel. BJD 2016 Nov 12. 465-471. https://doi.org/10.1111/bjd.15173

IPL TREATMENT

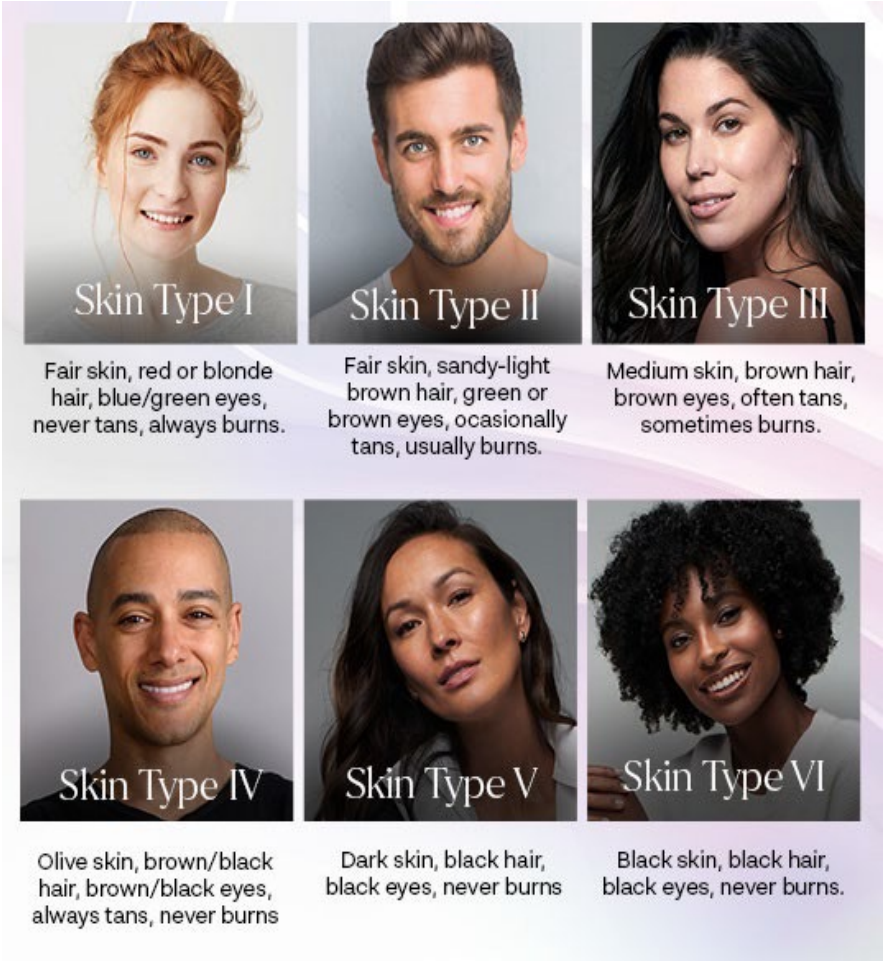
Face

Neck

Décolleté

Hands

Up to Fitzpatrick IV-very carefully!



PATIENT SELECTION

Get a fully-detailed medical history-No active lupus

Use of a medical questionnaire and informed consent form

Exclude any lesion with malignant potential

For any suspicion on cancerous lesion, excision biopsy may be considered

Patients with unrealistic expectations should be identified during the consultation and discouraged

DO NOT TREAT MELASMA PATIENTS!

SKIN ASSESSMENT

- Fitzpatrick Skin Type
- Amounts of Target Chromophore and Competing Chromophore
    - What's a Chromophore?
        - Water, Pigment, Oxyhemaglobin
- Any active sun or lamp exposure
- Ethnicity
- Thickness of skin
- Overall skin health
- Medical history
- Medication Review

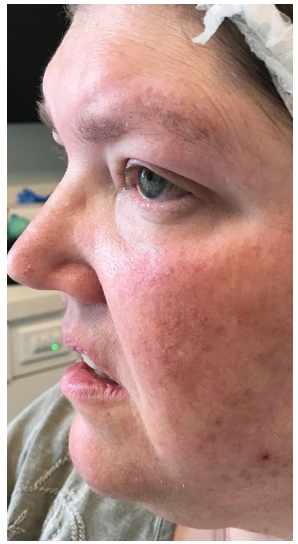
THIS NEEDS TO BE DONE BEFORE EVERY TREATMENT!

Key questions: Any new meds? Any recent sun exposure? What is your heritage? Do you tan? How long do you hang on to a tan?

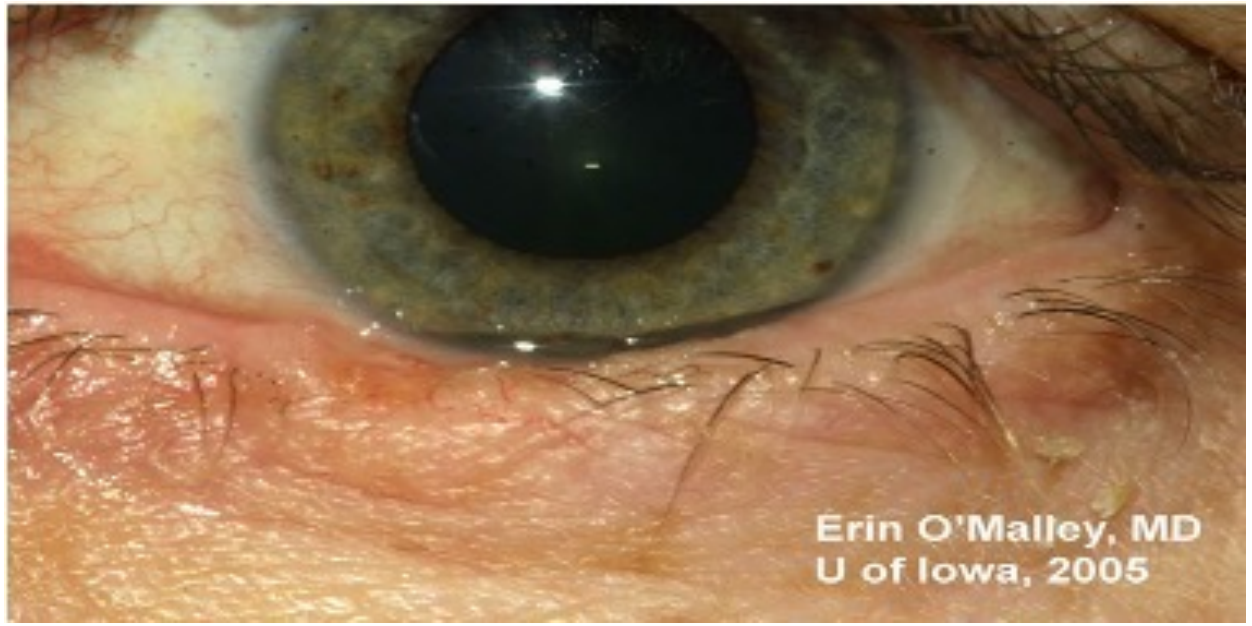
POLYCYSTIC OVARY

Unwanted facial hair

Address with hair removal settings in step 4 of Periman IPL Protocol



MALIGNANCY

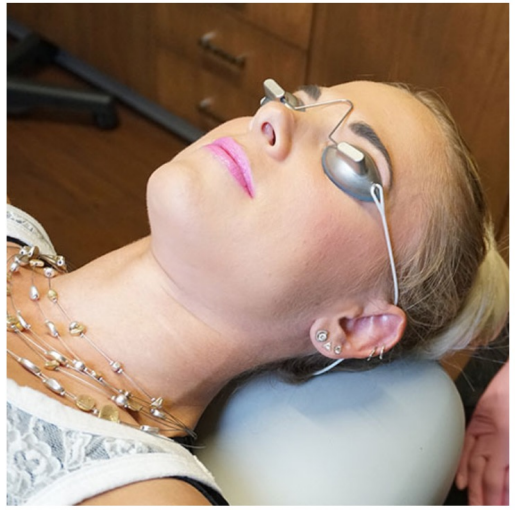


SHIELDS

Anthonyproducts.com

Skip the peg!!

Innovativeoptics.com



SKIN ASSESSMENT

Fitzpatrick Skin Type

Amounts of Target Chromophore and Competing Chromophore

- What's a Chromophore?
  - Water, Pigment, Oxyhemaglobin

Any active sun or lamp exposure

Ethnicity

Thickness of skin

Overall skin health

Medical history

Medication Review

THIS NEEDS TO BE DONE BEFORE EVERY TREATMENT

CONTRAINDICATIONS

Treatment should not be attempted on patients with the following conditions in the treatment area:

- Active infections
- Dysplastic nevi
- Significant concurrent skin conditions or any inflammatory skin conditions
- Active cold sores, open lacerations or abrasions
- Chronic or cutaneous viral, fungal, or bacterial diseases
- Exposure to sun, remaining suntan or artificial tanning in the 3-4 weeks pre-op plan
- Tattoos

Treatment should not be attempted on patients with a history of skin cancer or pre-cancerous lesions on the treatment area

PRE-TREATMENT PATIENT EDUCATION

The following should be discussed with patients prior to performing IPL treatment:

Results are not guaranteed.

Not all red and brown areas will disappear.

Red and brown spots removed by treatment may recur, especially with excessive sun exposure.

Deep wrinkle lines will not be removed by the treatment.

Adverse effects include redness, swelling, burning, pain, crust formation, bruising, hyper- and hypopigmentation (including striping), and scar formation.

Multiple treatment sessions (typically three to five) are required for optimal results.

Maintenance treatments are often recommended four to six months after the initial series.

In addition, patients should be quoted a price for the treatment course.

PRE-TREATMENT INSTRUCTIONS

Do not take isotretinoin (Accutane®) for 6 months before your treatment.

If you are tanned, please reschedule your appointment.

Do not apply make-up or lotions on your day of treatment, or be prepared to remove them at our office.

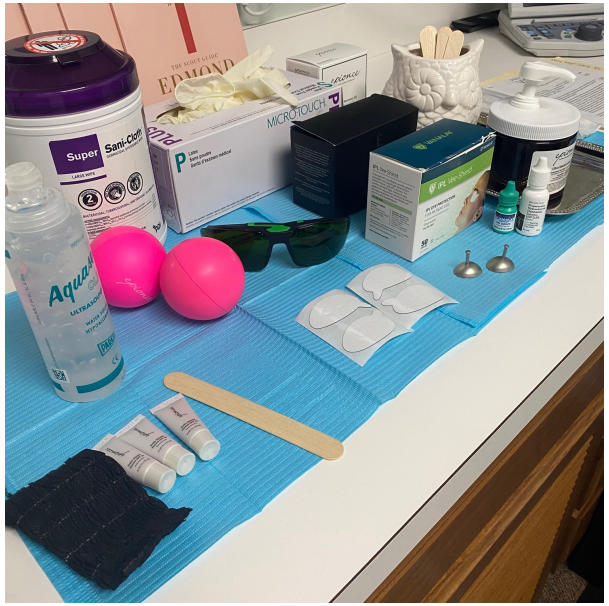
If you have a history of cold sores, take your prescribed medication (e.g., Valtrex, Famvir, Zovirax) on the day before, day of, and day after treatment.

Inform the doctor before each appointment if you (1) are taking new medications or (2) have tattoos or beauty marks you do not want treated.

Inform the doctor immediately if the area being treated feels “too hot.”

Please arrive on time.

PROCEDURE CHECKLIST



Patient education form read and understood

Pretreatment instructions reviewed and understood

Informed consent signed

Skin type identified

Pretreatment test site confirmed with no adverse reaction

Confirm that patient has taken prophylactic antiviral medication (if + history of HSV) and has no contraindications for treatment

Pretreatment photograph taken

Set up procedure tray including eye shields and masks

Select treatment parameters

Perform intense pulsed light treatment

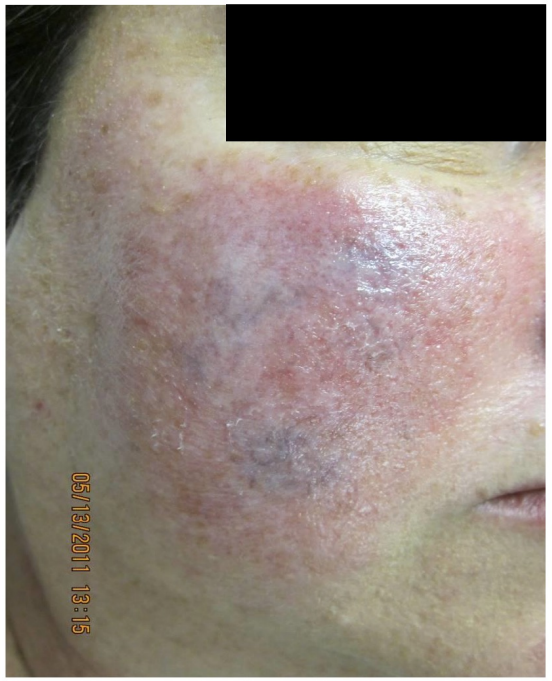
Provide verbal and written post-treatment instructions to patient

Complete procedure note including device settings

Subsequent treatment scheduled

PULSE DURATIONS

Pulse durations are selected to slowly heat vessels to coagulation while avoiding purpura. This allows patients to return to normal activities quickly rather than suffering from purpura for one or two weeks. (PDL-Pulse Dye Laser is notorious for this)



ENERGY LEVELS

Energy levels (fluence in J/cm2) are governed by clinical response. If tissue reactions do not occur, fluence levels may be increased by 1 J/cm2 (Lumenis One) or 2 J/cm2 (VascuLight SR or Quantum IPL [Lumenis, Inc.]). A good rule of thumb is to use mild to moderate erythema as the treatment end point. (If target is piament-1-2 shades darker)

Vessels should blur or disappear-no purple

TREATMENT AGGRESSIVENESS

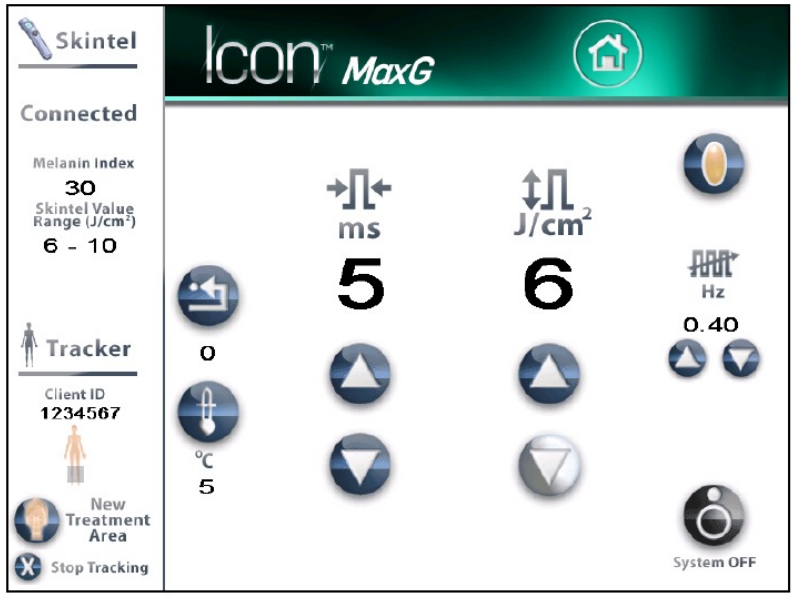
Less Aggressive

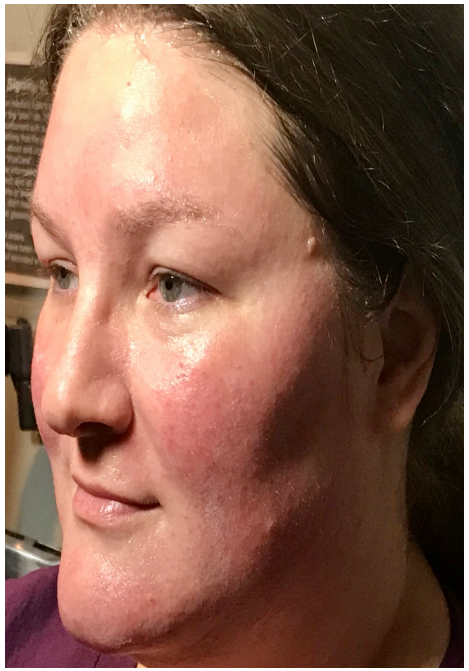
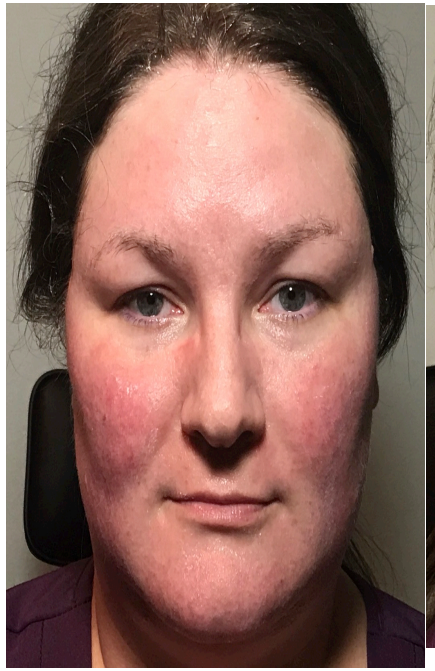
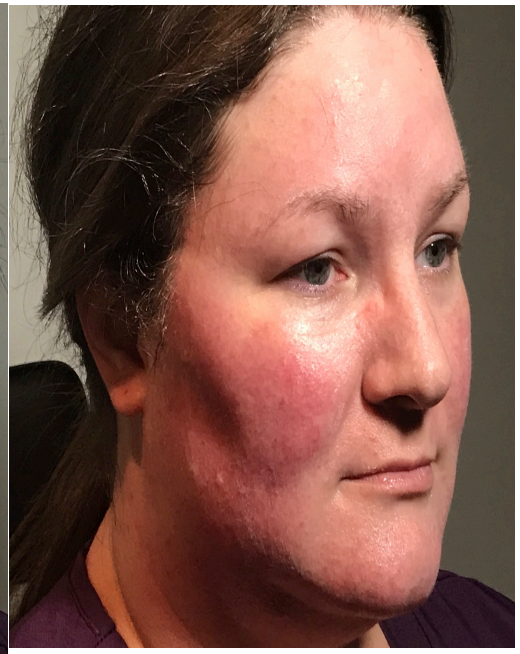
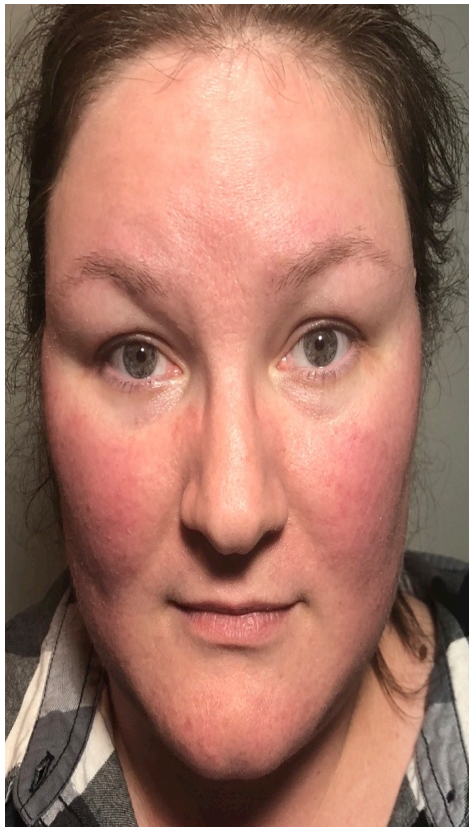
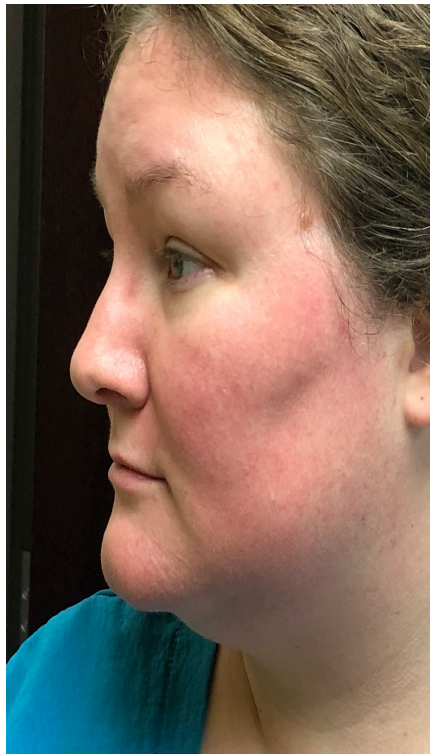
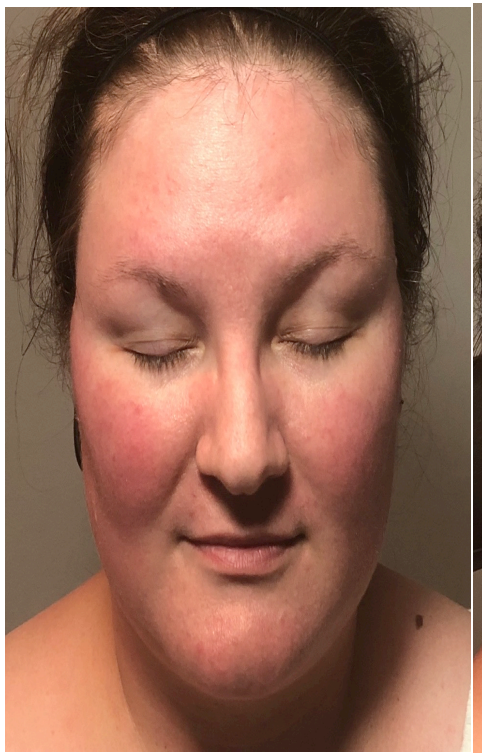
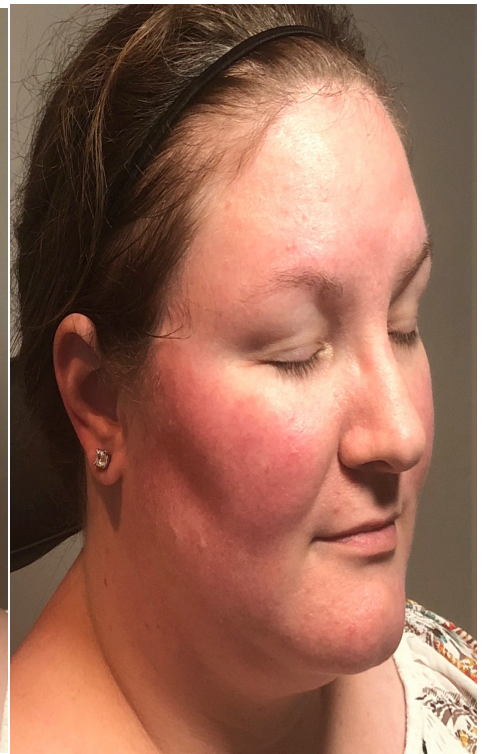
- Higher cut-off filter
- Lower fluence
- Higher pulses
- Longer delay
- Eg. 590 nm, Triple pulse, 6 m/s delay, 4 ms

More Aggressive

- Lower cut-off filter (meaning treat longer wavelengths and more superficial treatment)
- Higher fluence
- Shorter Delay

- Fewer Pulses
- Eg. 515 nm, single pulse, 4 ms

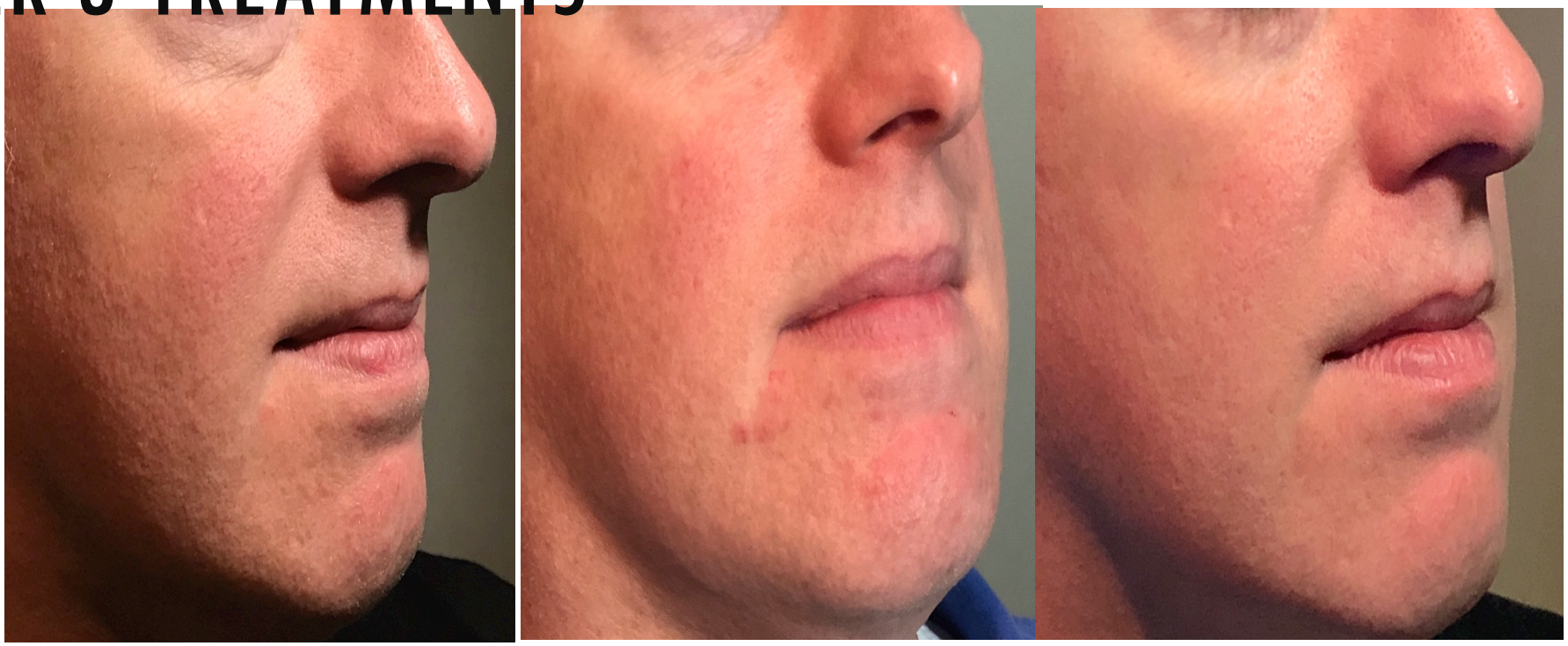


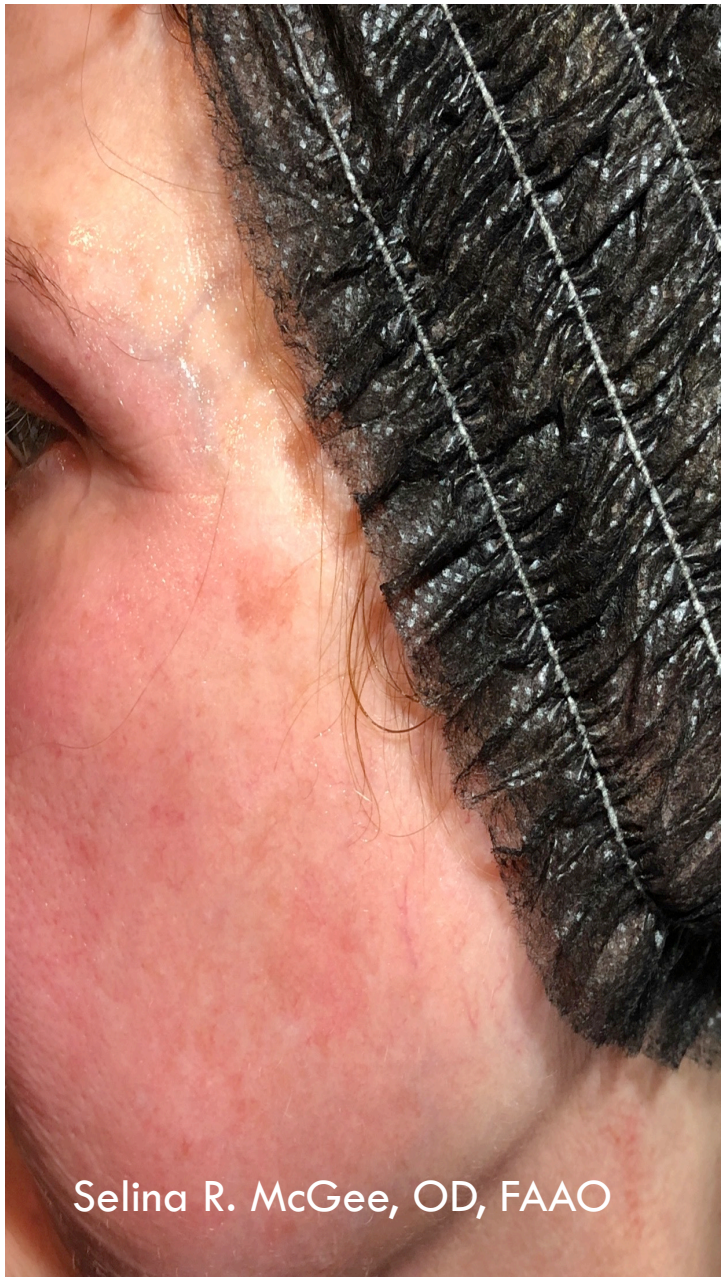
TREATMENT SETTINGS
TREATING DEEP & LARGE TO SMALLER & MORE SUPERFICIAL

- First Pass I did: medium to deep depth 590 nm, triple pulse, 3ms-30 ms 20 J/cm ^{2}
- 2nd pass Shallow depth 560 nm, triple pulse, 3.0ms 25ms 18 J/cm^2
- Toyos settings over V2 with double pass
  590 filter, triple pulse 6.0 msec pulse, 50msce rest, 12 J/cm^2
- Eyelids-Periman Protocol **LASER Grade Corneal Shields!**
  Small rectangle light guide 3 pulses per lid with double pass,
  Stay 2 mm away from the lash line (Total 24 pulses)
  590 filter, triple pulse 5.0 msec pulse, 50msec rest,10-14 J/cm^2

AFTER 3 TREATMENTS



- First Pass is medium to deep depth (590 nm)
- Triple pulse 3.5 ms PD, 25ms D, 21J/cm^2
- Second pass was 560 nm, triple pulse, 3.5ms, 20 ms and 19 J/cm^2
- Toyos settings over V2 with double pass
  - 590 filter, triple pulse 6.0 msec pulse, 50ms rest, 12 J/cm^2

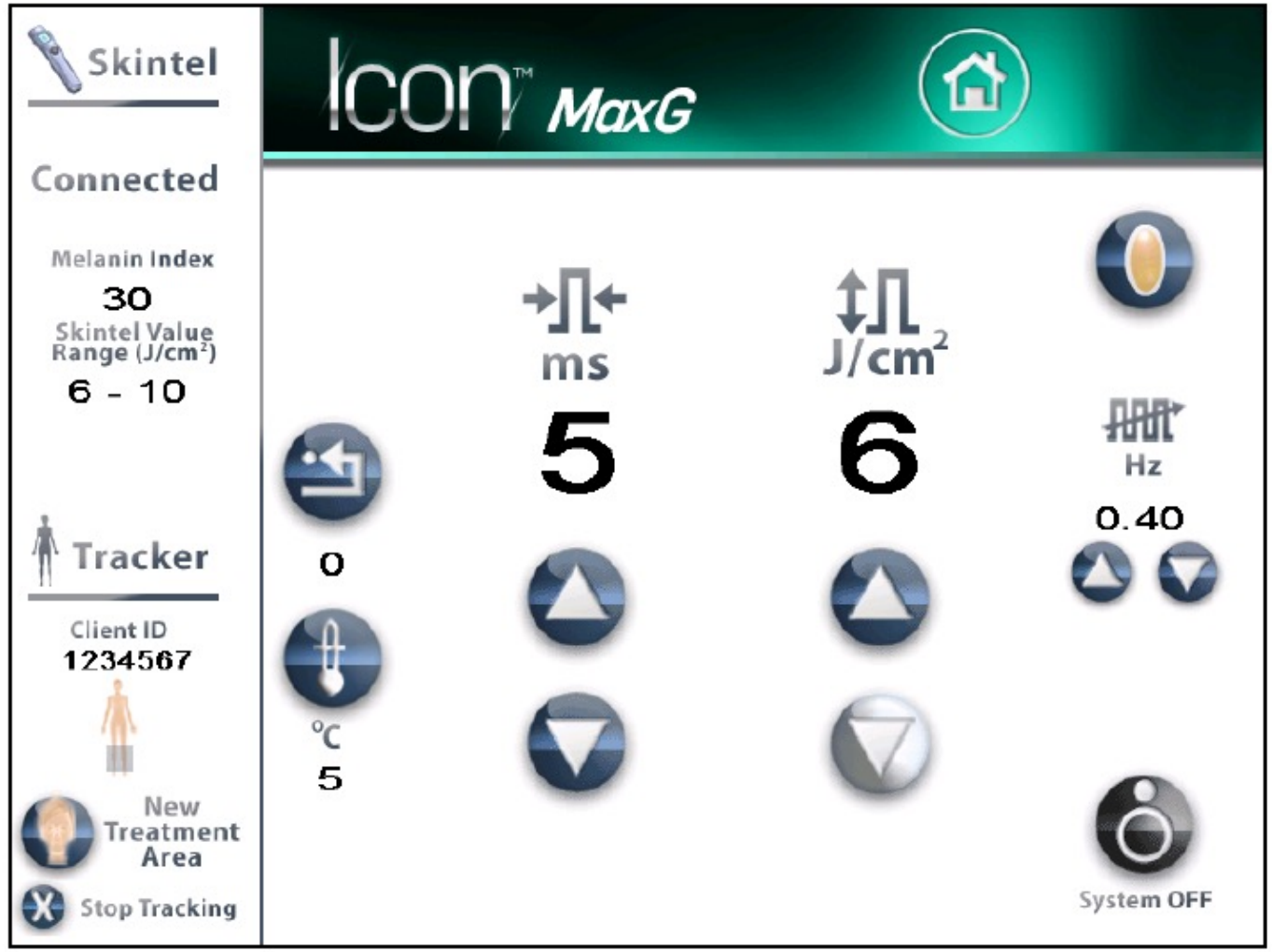


Lentinges-Spot Treat with
6mm circle

- Pigment Lesion Menu
- Type II
- Lentigines
- Light
- Epidermal
- 515 nm filter, Single Pulse, 4.0 msec pulse, 19.0 J/cm^2
- Clinical endpoint the pigment will **Immediately** turn darker-Salmon colored

Telangiectasia's-Spot treat with 6 mm circle

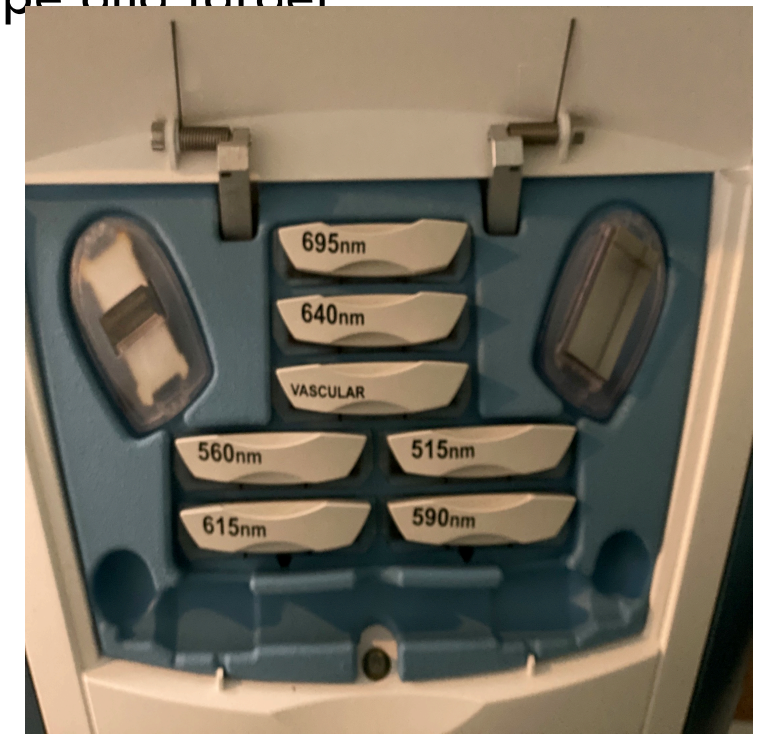
- Vascular Lesion Menu
- Skin Type II
- Circle
- Facial Telang
- Shallow or Medium
- Vacular Filter, Double Pulse, 3.5 ms 15 ms 28 J/cm^2
- Clinical endpoint-Vessel vaporizes-very satifsfying☺


Skintel
Connected
Melanin Index
30
Skintel Value Range (J/cm²)
6 - 10
Tracker
Client ID
1234567
New Treatment Area
Stop Tracking
Icon™ MaxG
ms
5
J/cm²
6
Hz
0.40
0
°C
5
System OFF

CUT-OFF FILTERS

Cut-off filters are selected to optimize targeting of the chromophore while filtering out wavelengths damaging to the epidermis. These vary by skin type and target chromophore.

- 695 nm
- 640 nm
- 615 nm
- 590 nm
- 560 nm
- 515 nm



TREATMENT AGGRESSIVENESS

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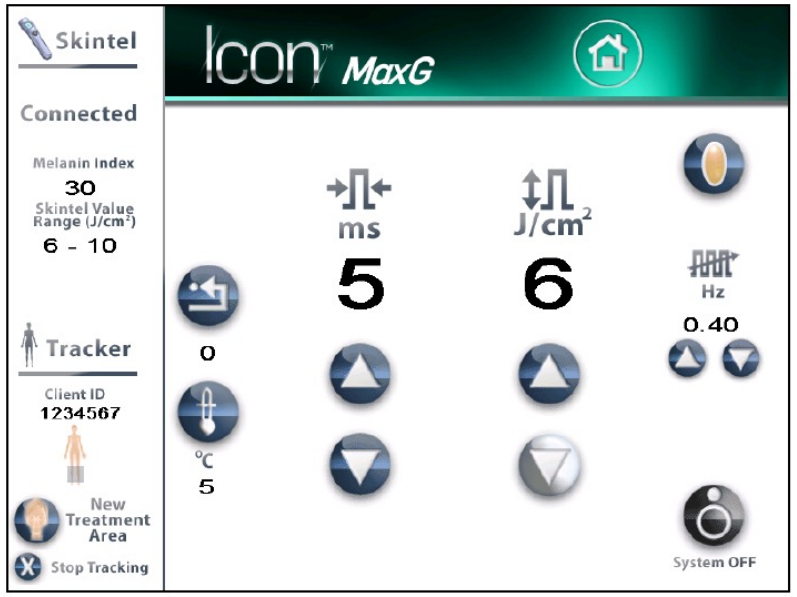
- Eg. 590 nm, Triple pulse, 6 m/s delay, 4 ms

More Aggressive

- Lower cut-off filter (meaning treat longer wavelengths and more superficial treatment)
- Higher fluence
- Shorter Delay

- Fewer Pulses
- Eg. 515 nm, single pulse, 4 ms



PEARLS

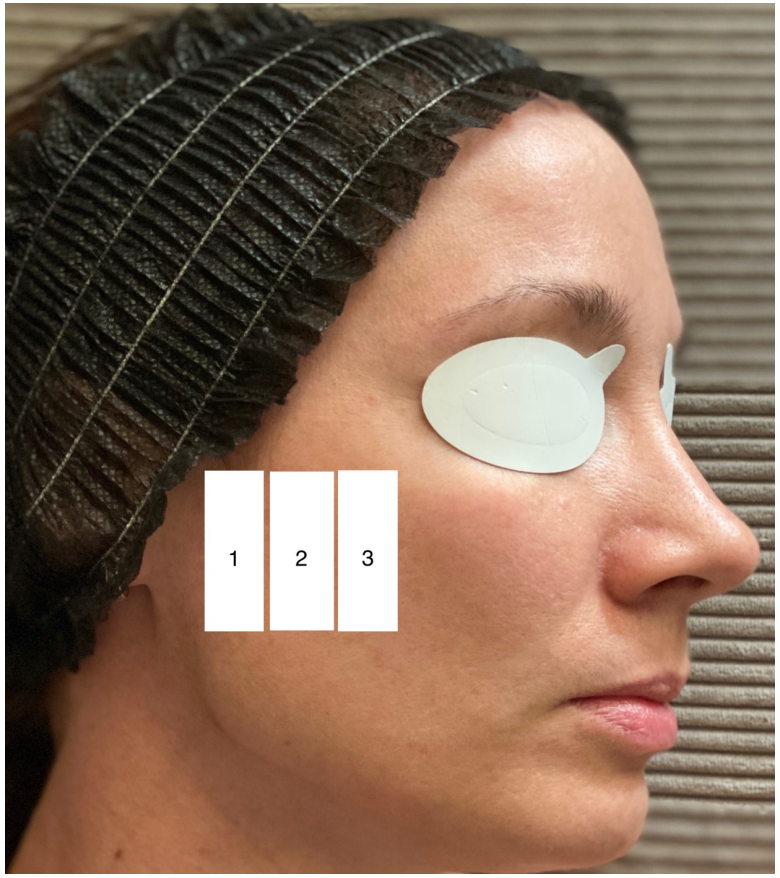
A good rule of thumb is to use mild to moderate erythema as a treatment endpoint. Darkening of target pigment also represents a treatment endpoint.

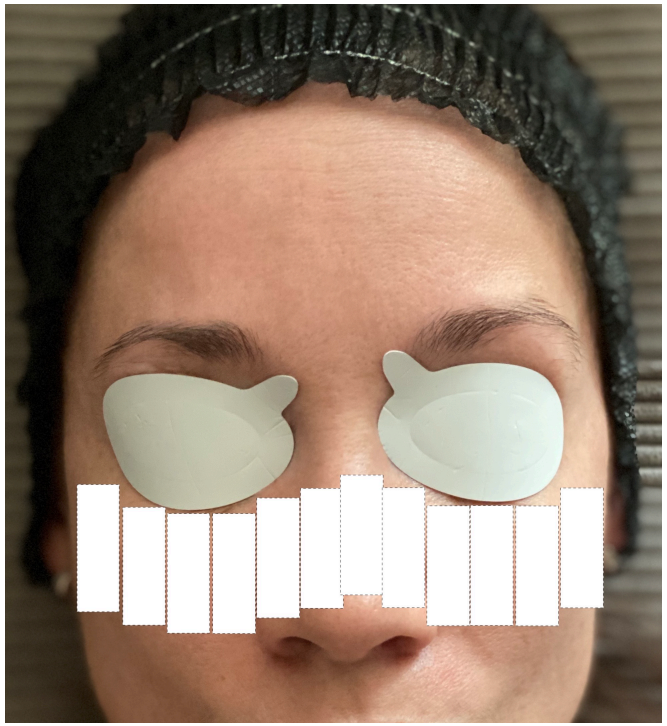
Always double-check that the settings you want to use are the settings you are using.

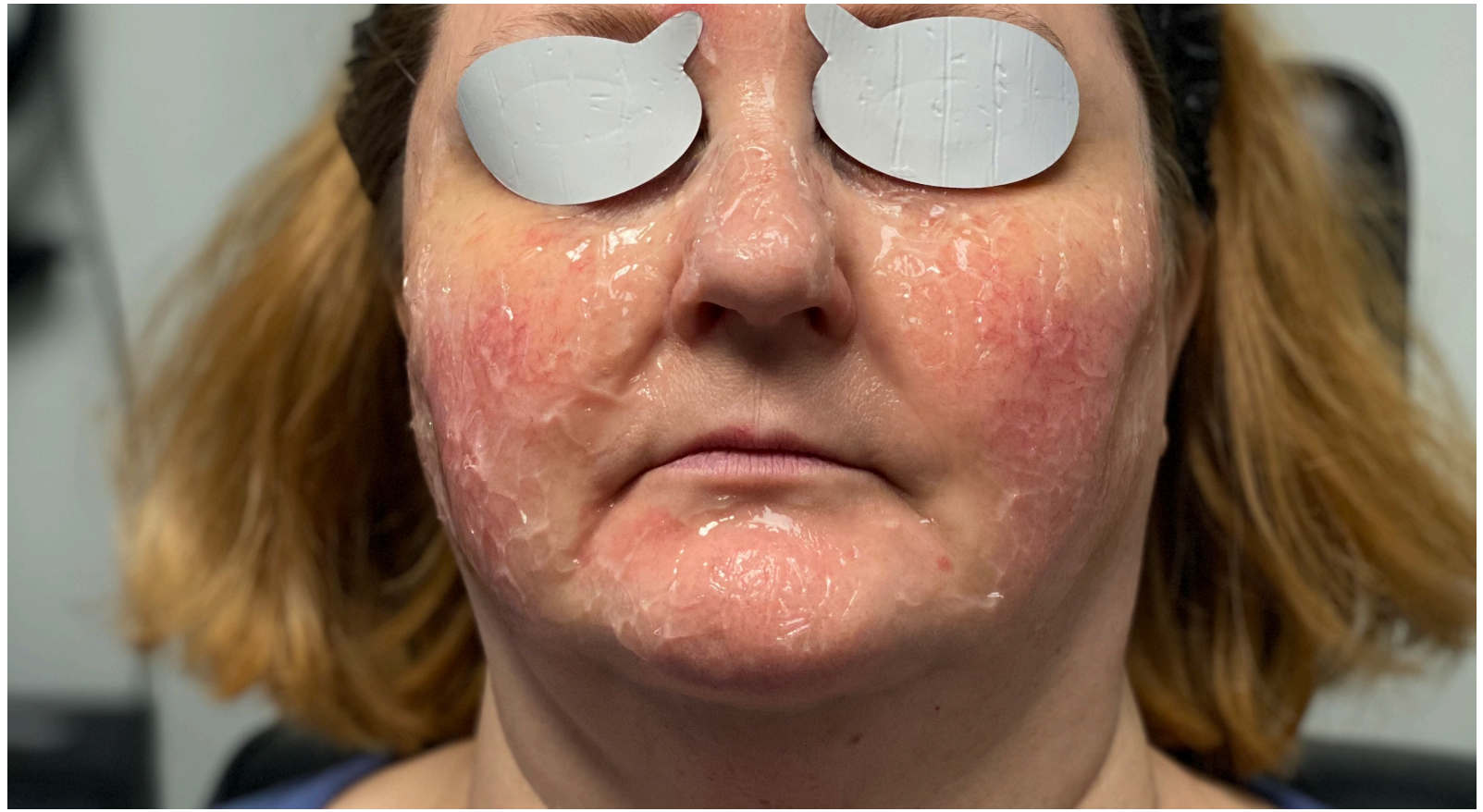
As a rule, darker skin types require cautious treatment with lower energies, longer pulse durations, longer delay times, and higher-wavelength filters (e.g. 590, 615, and 640 nm). Deeper in the skin.

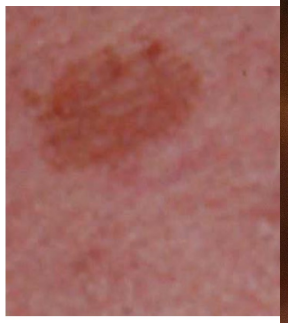
Utilize a white make-up pencil to cover pigment that people want to keep☺

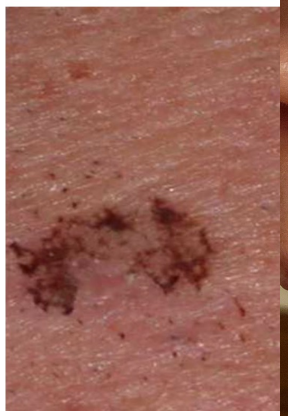
TEST 3 AND THEN MOVE ON

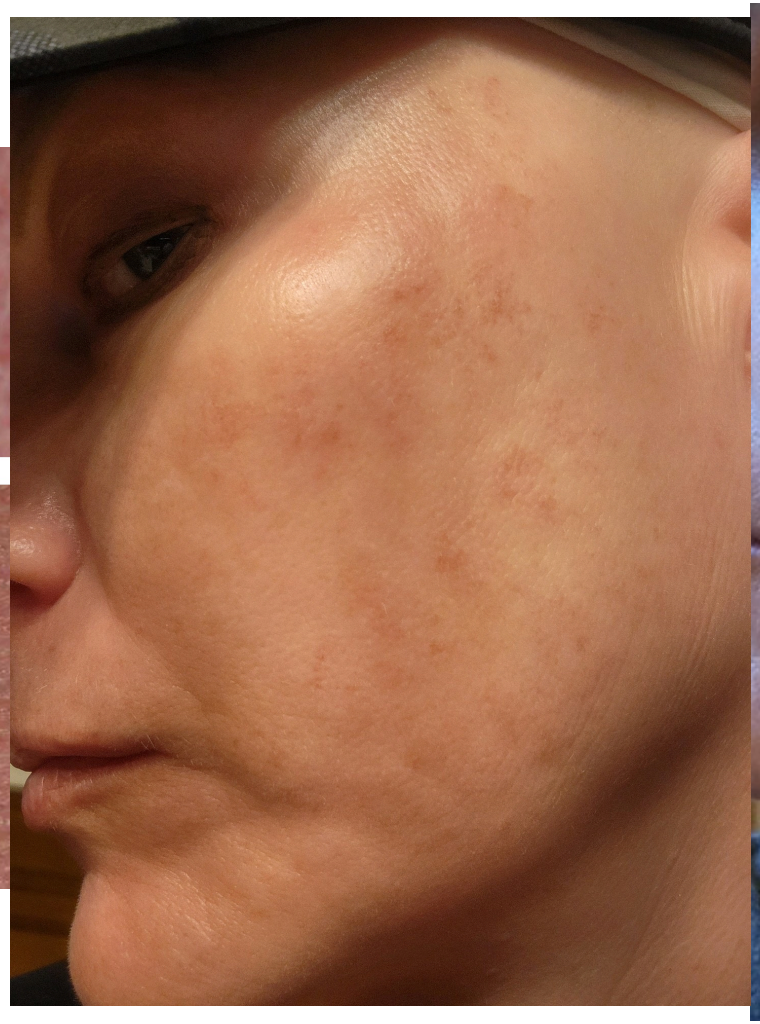


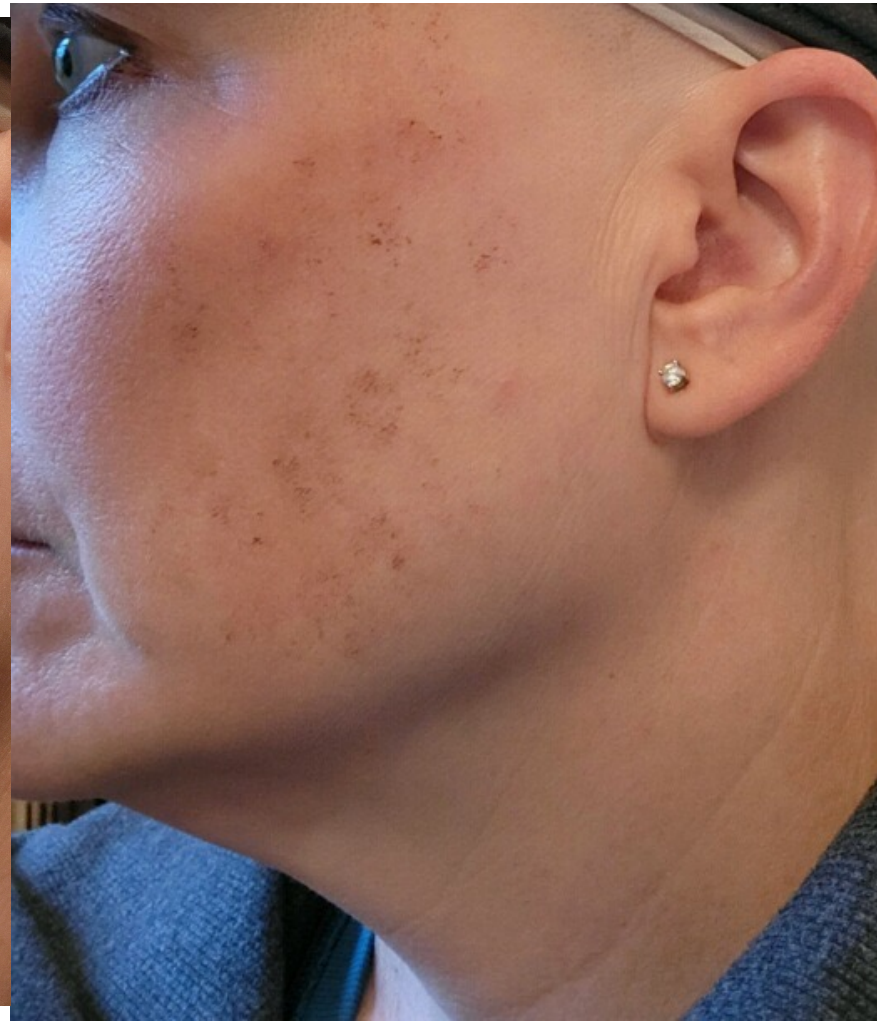












POST PROCEDURE

Remove gel with tongue depressor

Keeps treatment area clean by gently cleansing

Keeps on moisturizing with an emollient

Avoids direct sunlight

Renews application of sun block SPF 30-50 until next session

Avoids use of deodorants or fragrance as long as skin is sensitive or fragile

Avoids scrubbing the skin

PITFALLS

Do not press hard on the skin when treating blood vessels. If you press hard, you will squeeze the target from the vessels.

Always cover the eyebrows and other hair-bearing areas to avoid unintended hair loss. Stay 1 finger width away from hair and tattoos

Remove all makeup and lipstick before starting treatment. Dark makeup and lipstick absorb significant amounts of light, which can lead to a burn.

Do not hurry when treating vessels or pigment. Aggressive treatments can lead to burns. Remember, “You can always add more but cannot take away.”

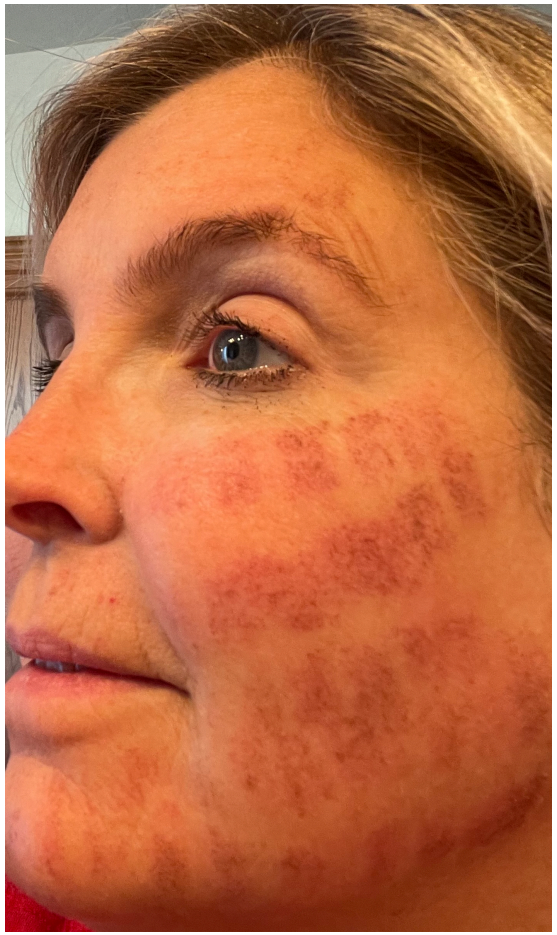
COMPLICATIONS

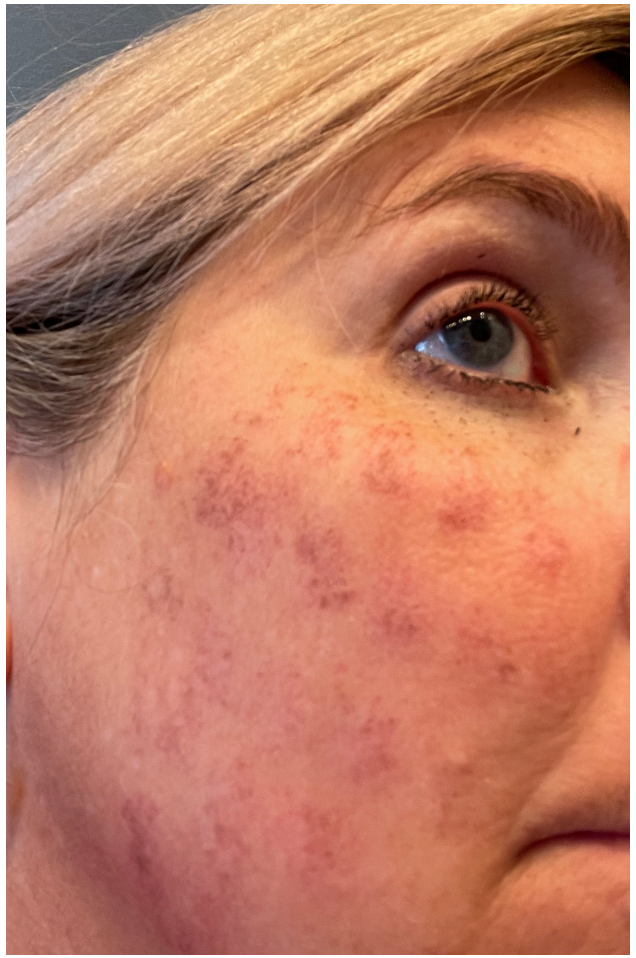
Erythema (redness) and edema (swelling) of the treated area can occur

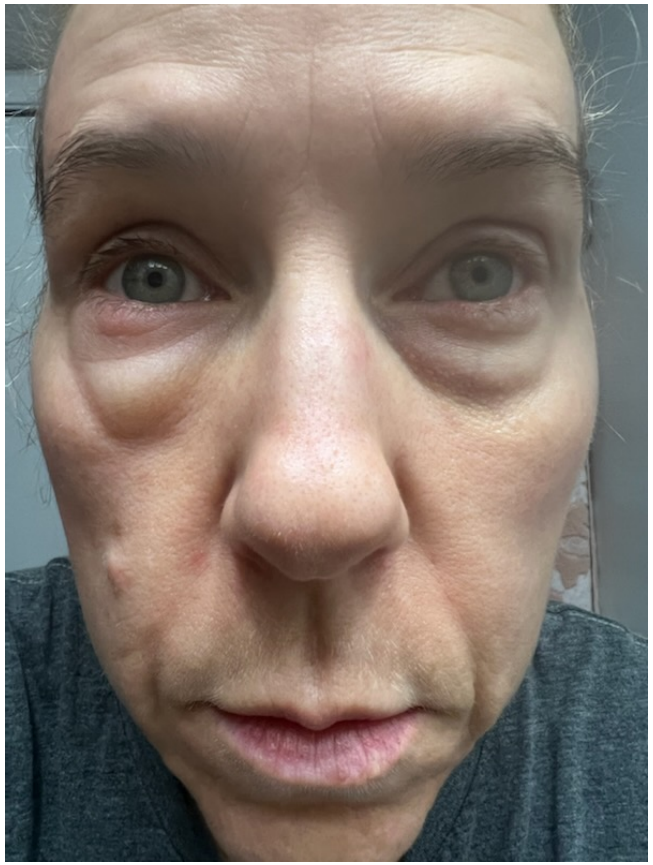
Irritation, itching,and/or a mild burning sensation or pain similar to sunburn may occur within 48 hours of treatment.

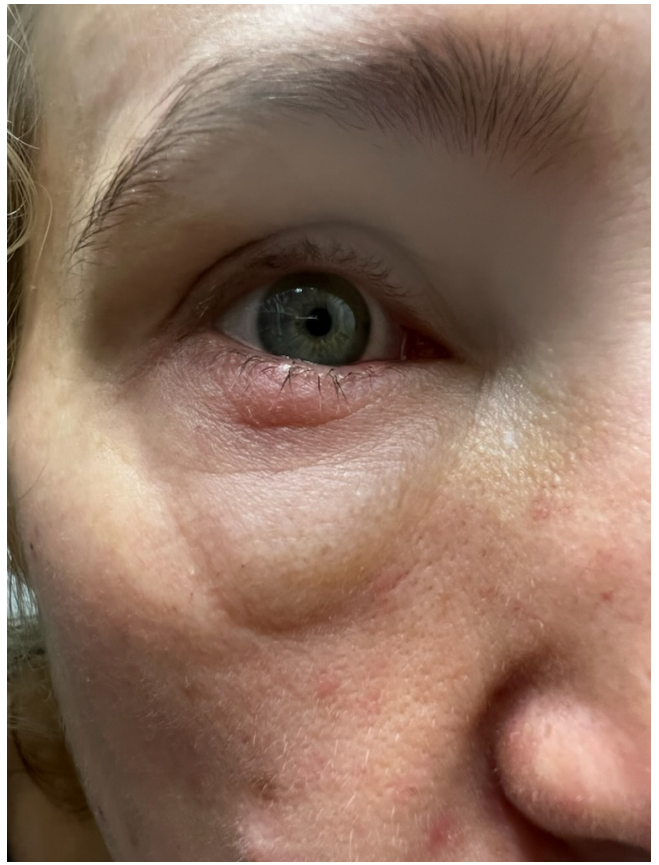
Pigmentary changes such as hyper pigmentation and hypo pigmentation of the skin in the treated areas can occasionally occur.

Other known complications of this procedure include blisters, redness, pinpoint pitted scars, bruising, superficial crusting, burns, pain, and infections. These side effects are usually temporary, lasting from five to ten days but can be permanent as well.

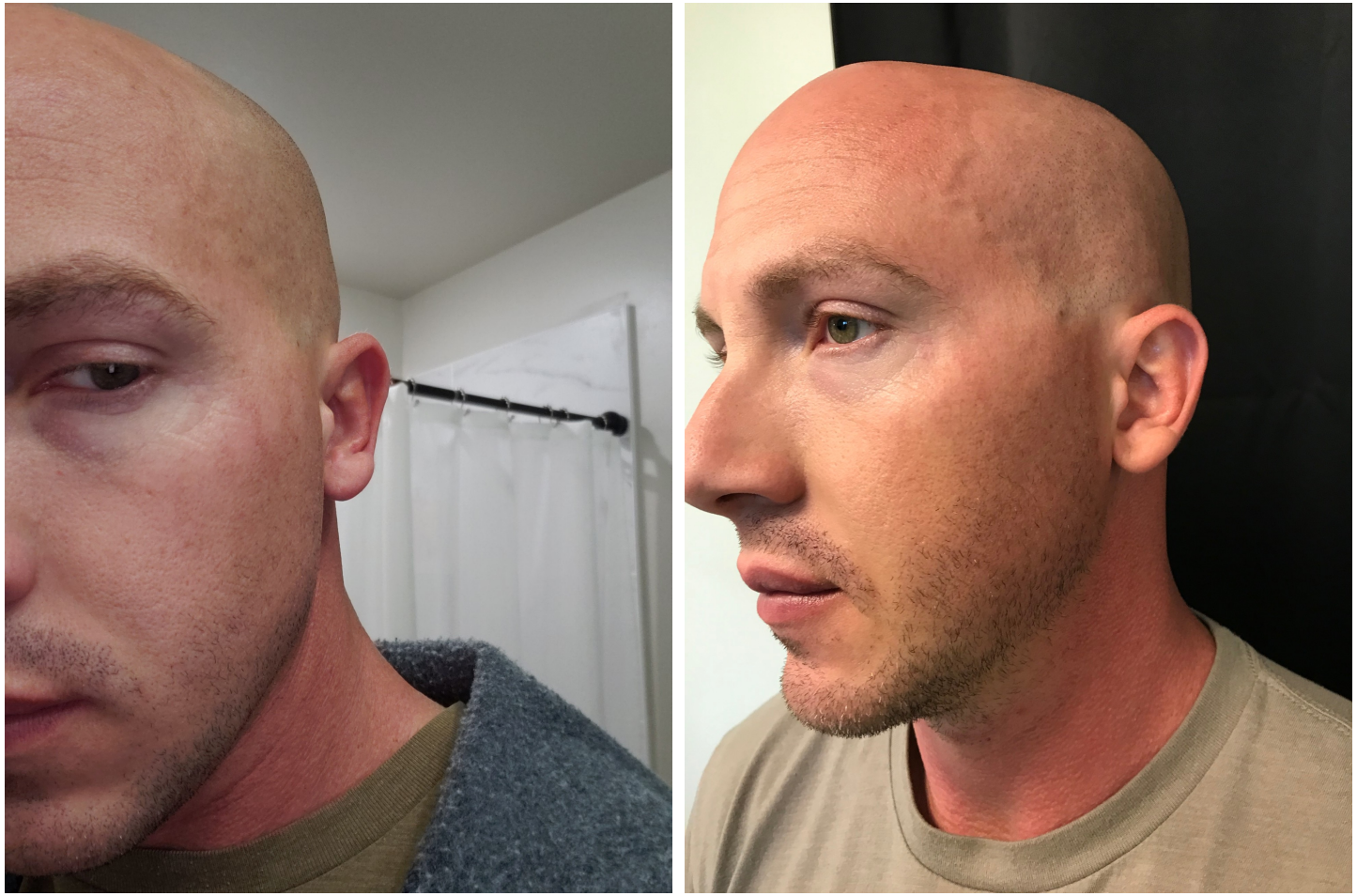




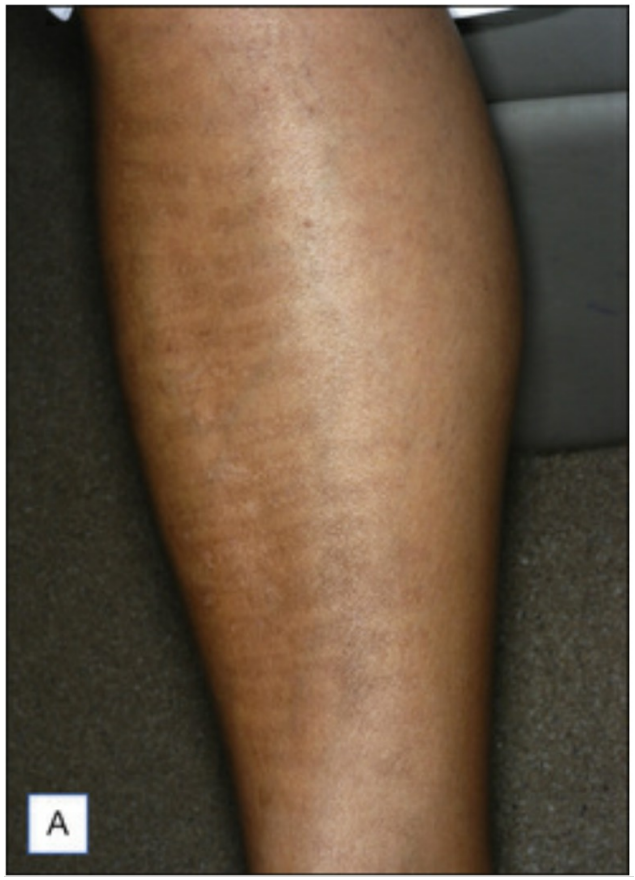


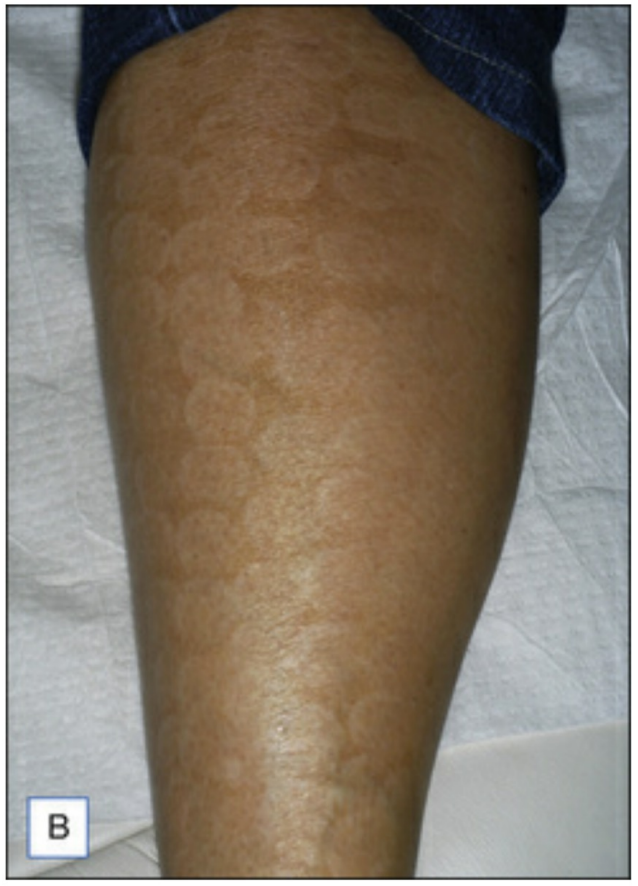


PSEUDO-HYPOPIGMENTATION



HYPERPIGMENTATION/HYPOPIGMENTATION





FAQ'S

Can I treat if patient is on doxy?

- If low dose doxy yes, photosensitivity occurs with UV light, IPL has no UV light

Can I use topical numbing agents?

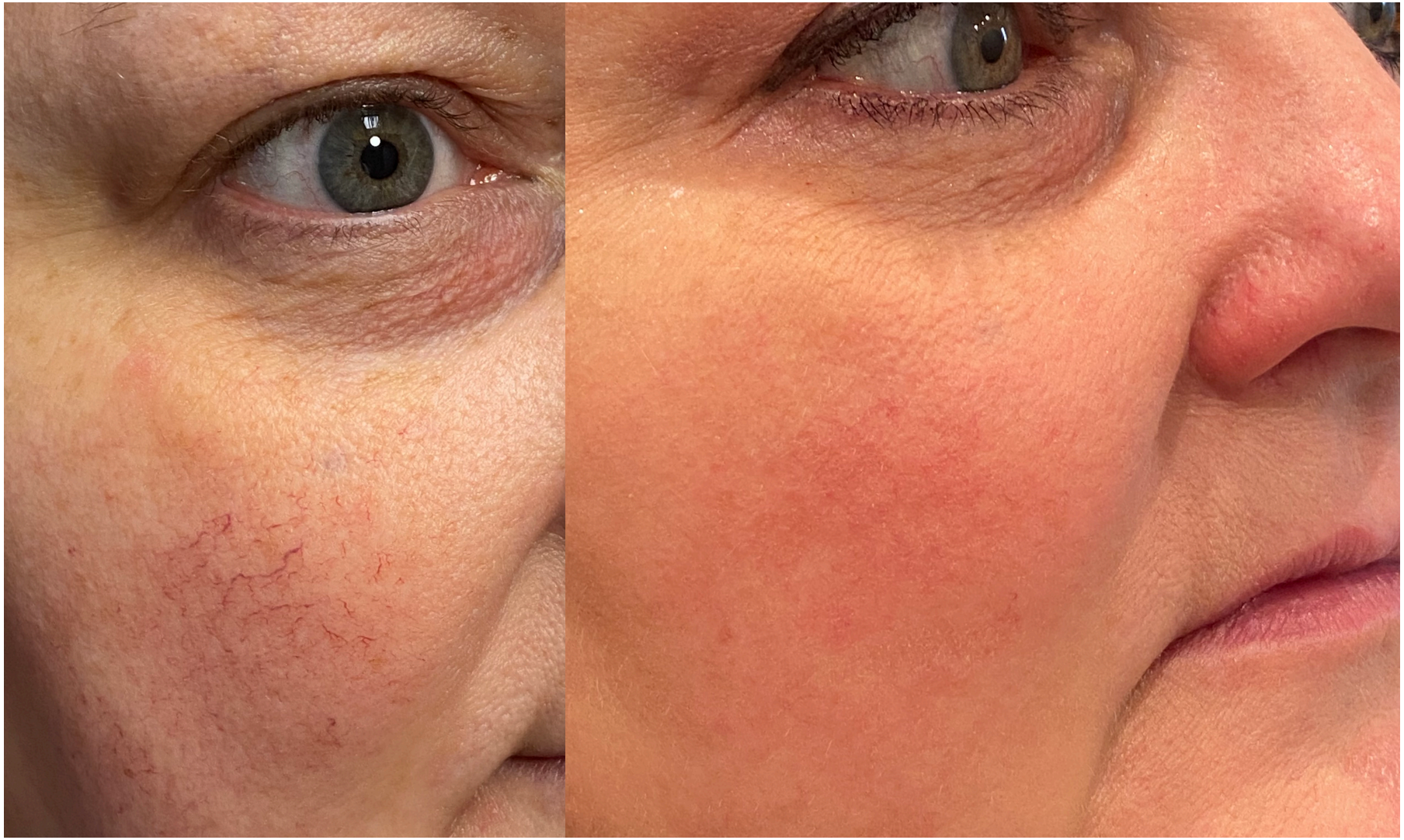
- **No!** Due to the vasoconstrictive properties this will diminish your target rendering your treatment less effective. You also need the patient to give you proper feedback

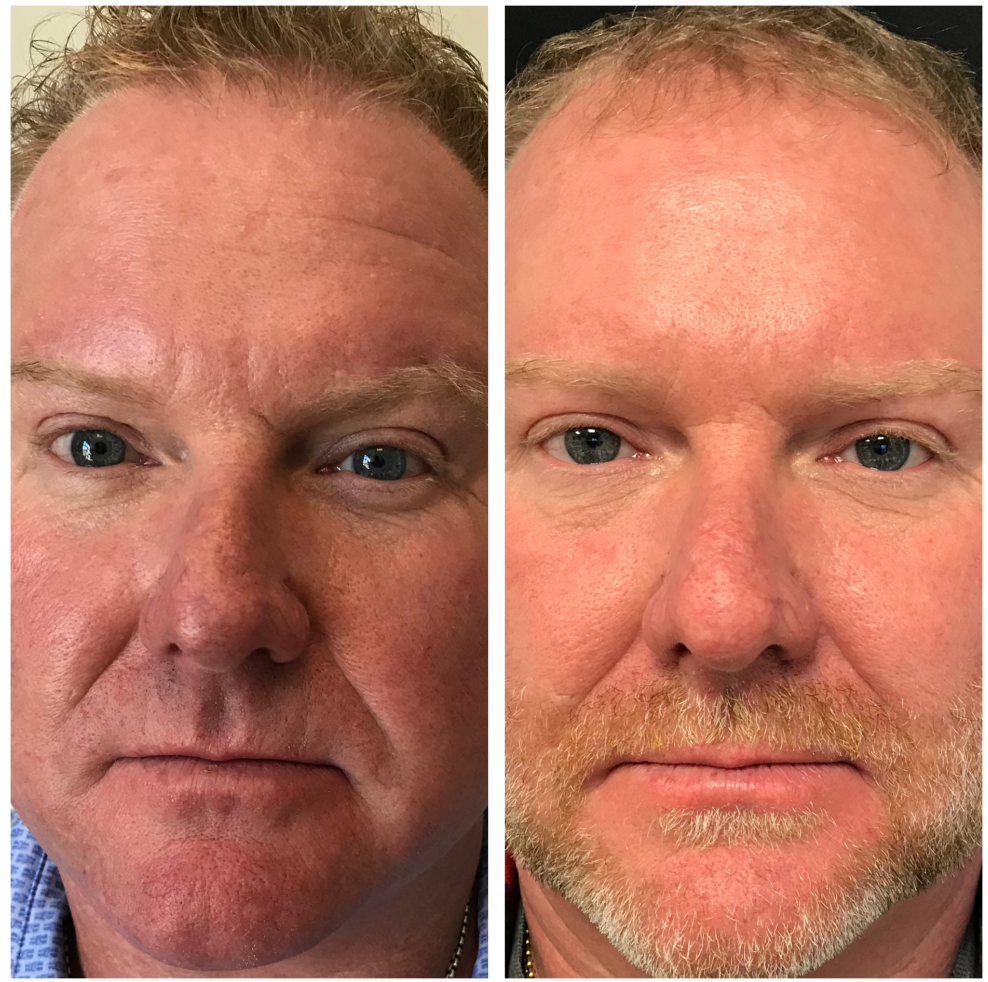
Do I need to treat lids and do expression?

- Periman Protocol=Yes/No. Richard Adler Protocol=Yes/No. Toyos=No/Yes
- McGee=Depends on the patient/No-All patients improve!!

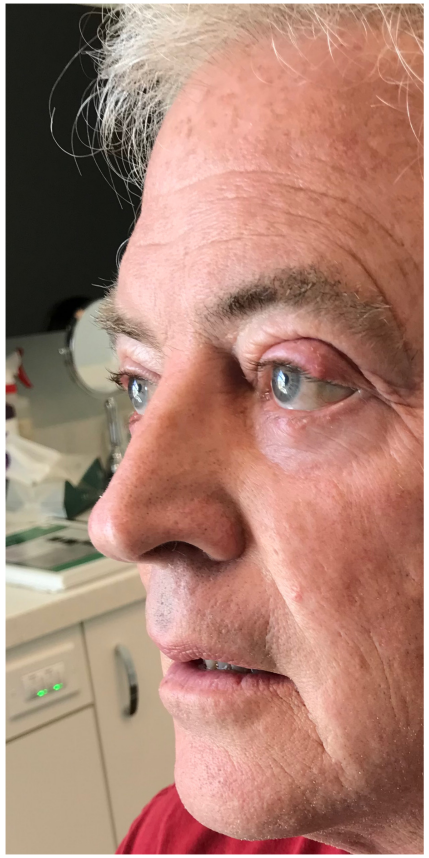
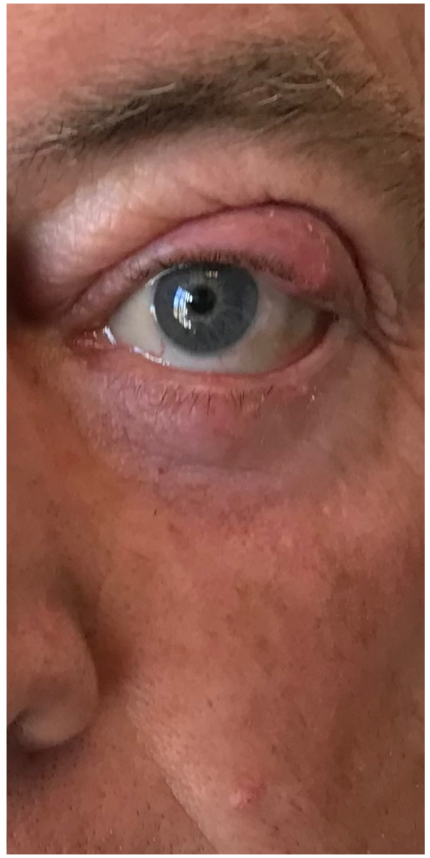
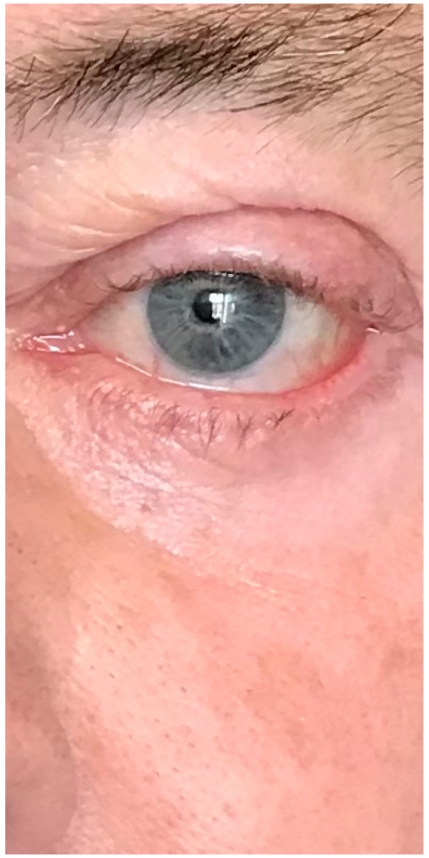
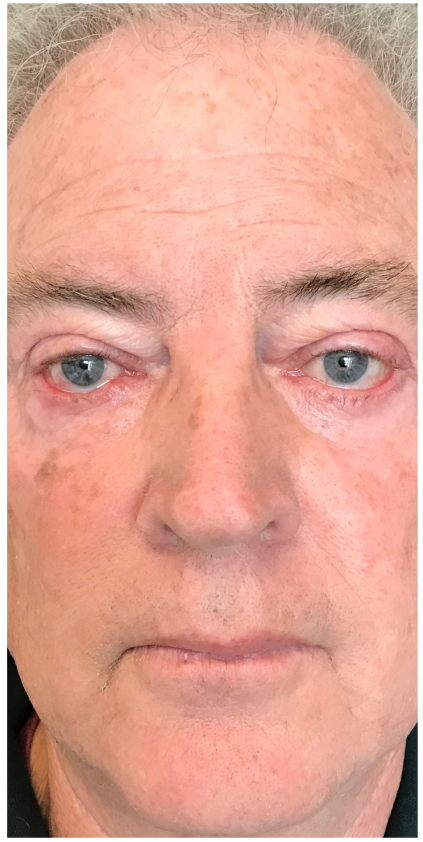
Do I do with this before or after Thermal Pulsation (LipiFlow, Tear Care, iLux, etc)

- Prior to, most patients won't need thermal pulsation in my experience, some still will but wait until 3-4 treatment of IPL before performing, Dr. Ed Jaccoma is doing some very interesting work with RF in conjunction with IPL-stay tuned!
- No harm in doing more treatments

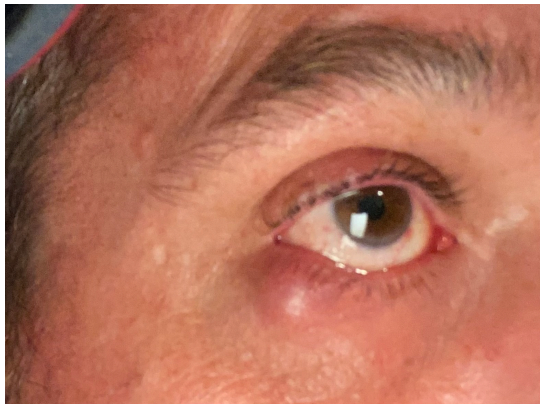


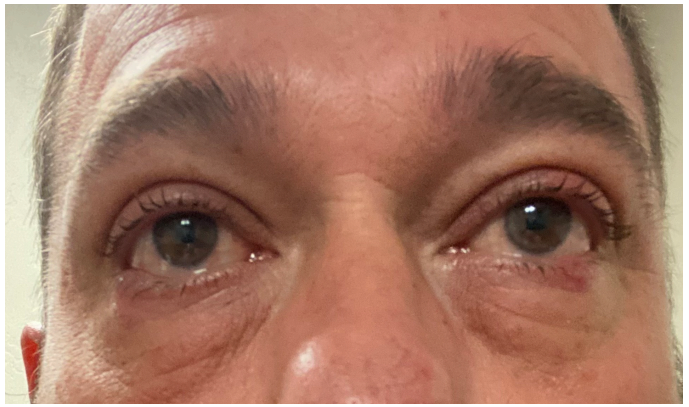


CHALAZIA TREATMENT-INCISION FREE, INJECTION FREE, SCAR FREE MANAGEMENT-

1 TX WITH IPL-NEXT DAY





HOW DOES IPL ACTUALLY WORK? WHAT IS IT DOING TO THE TISSUES? THINK BEISTO

Photocoagulation

Photoimmunomodulation

Photomodulation

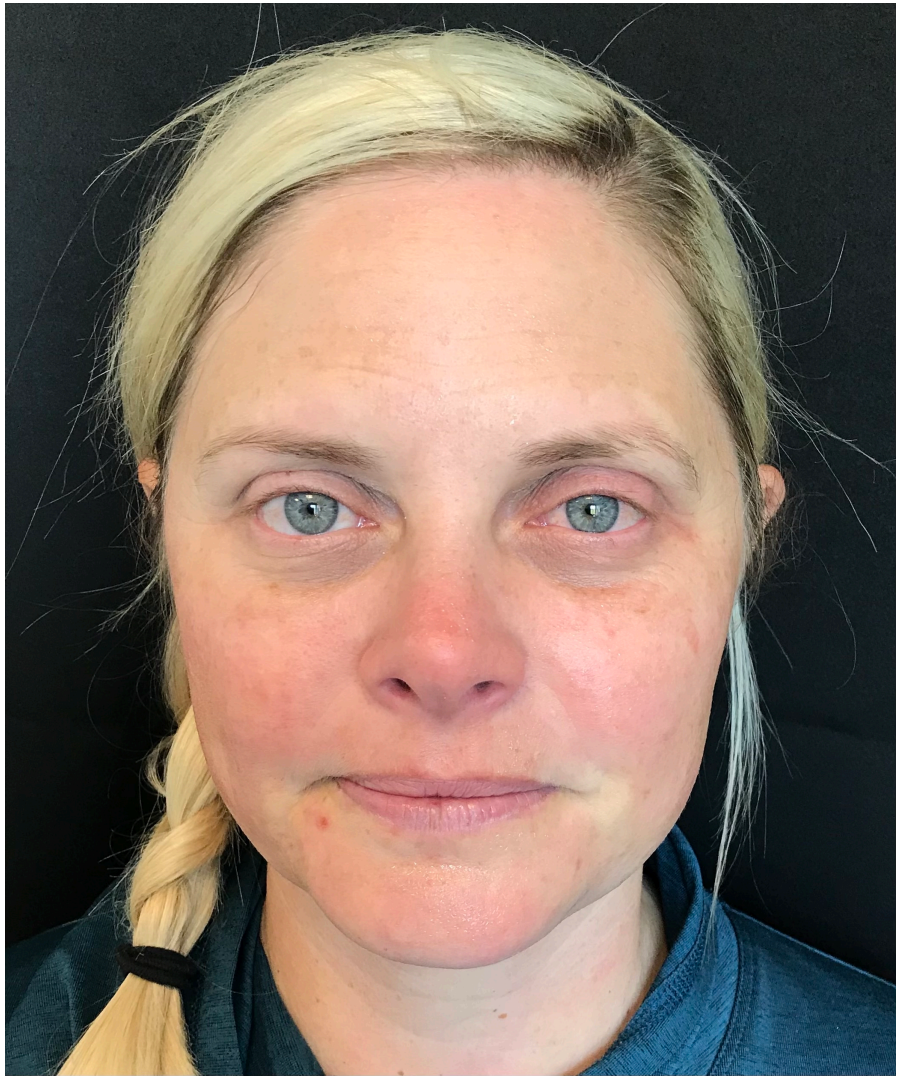
Photothermolysis

Photosanitization

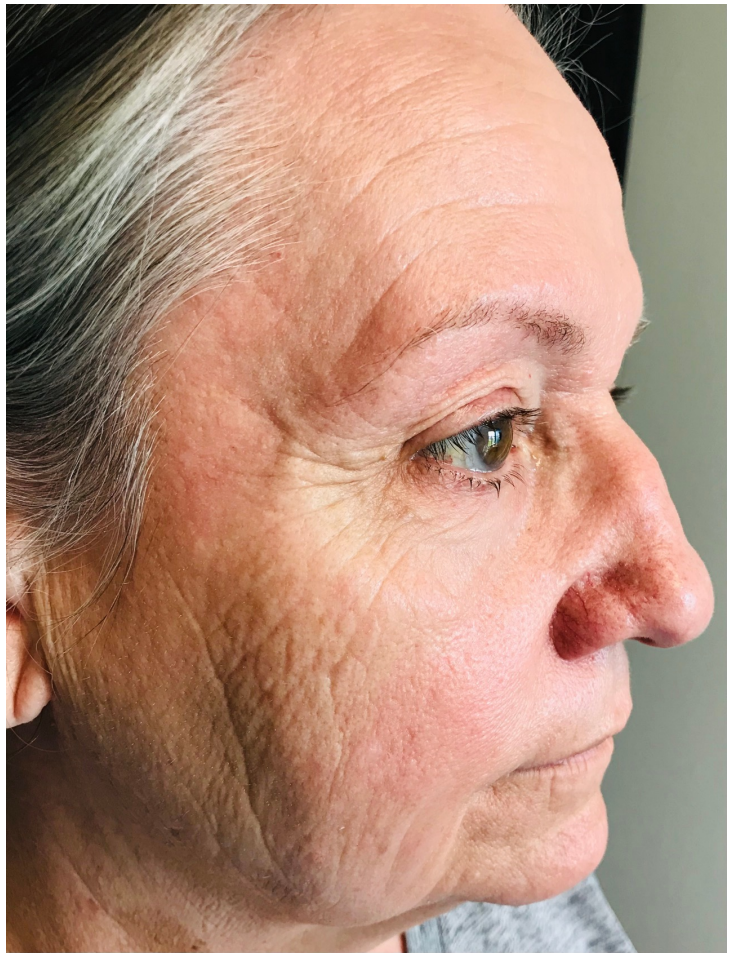
Emerging strategies for the diagnosis and treatment of MGD: Proceedings of the OCEAN group meeting. *Ocular Surface* 2017 15, 179-192

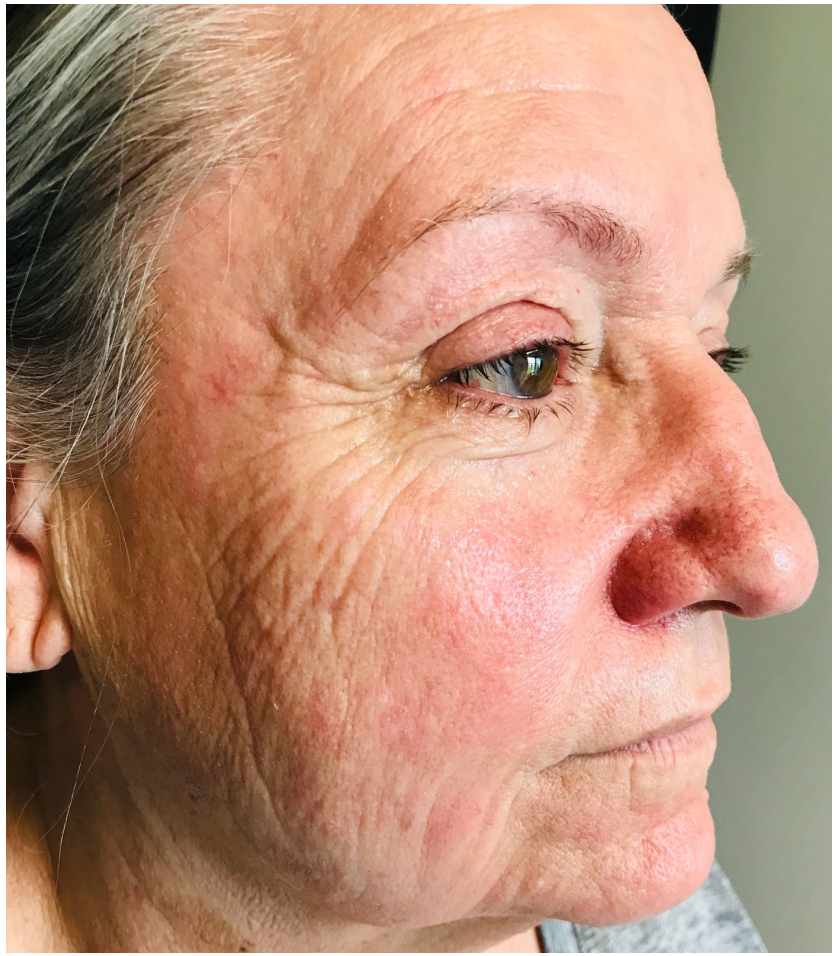
EPIONCE KITS

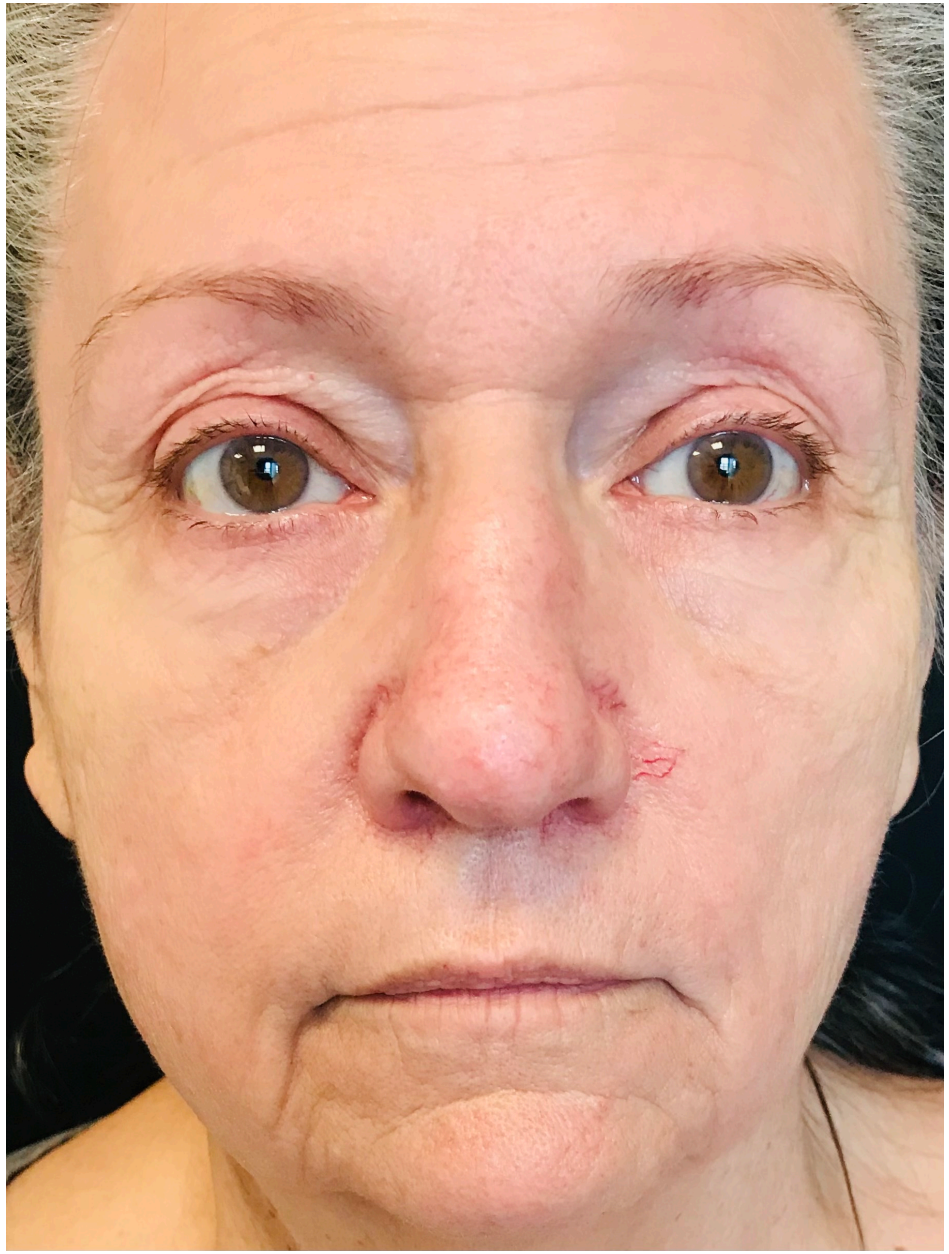
PATIENT ASSESSMENT

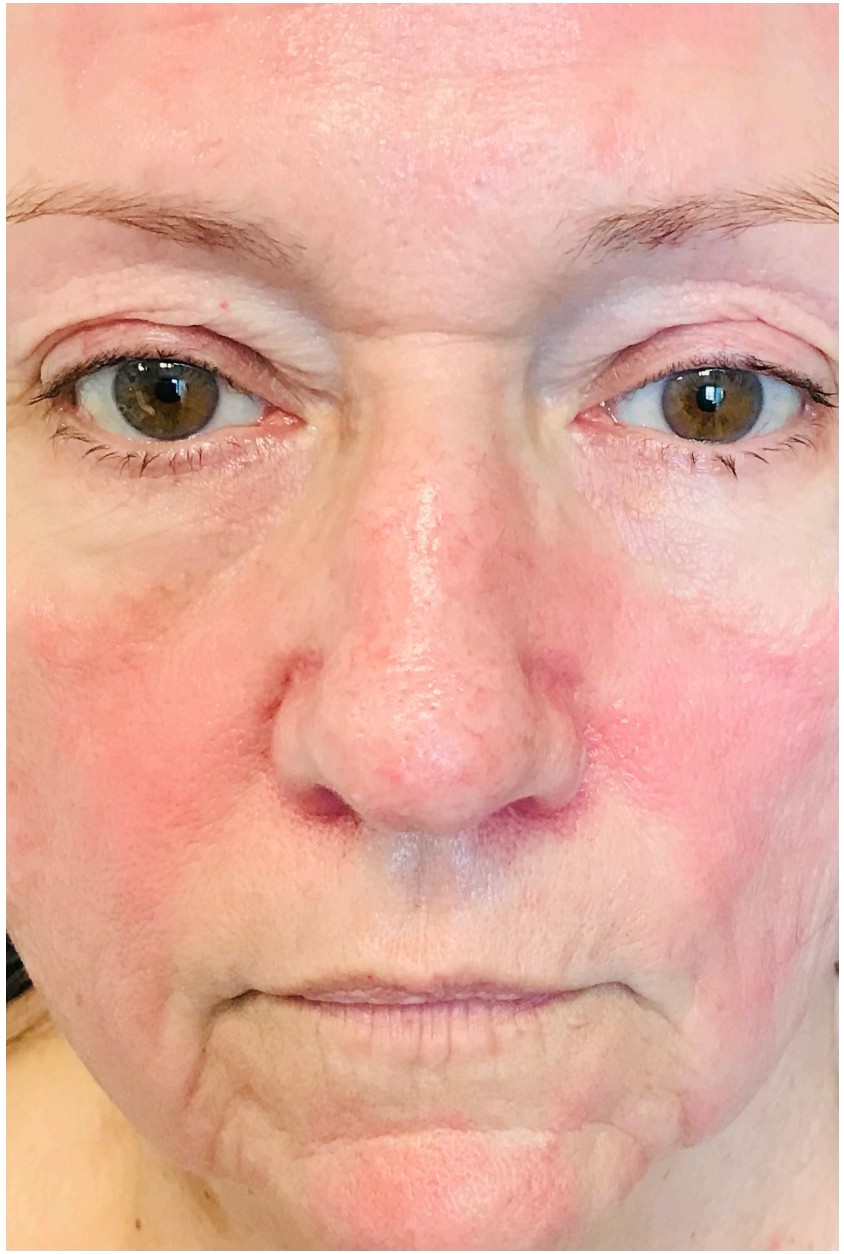


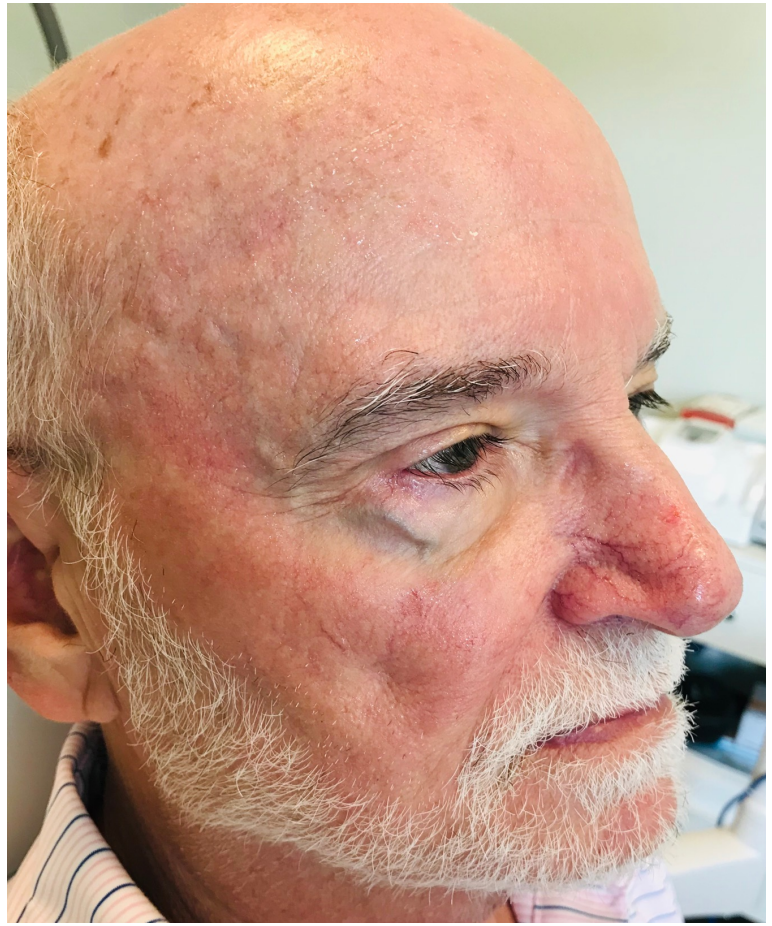
SKIN ASSESSMENT

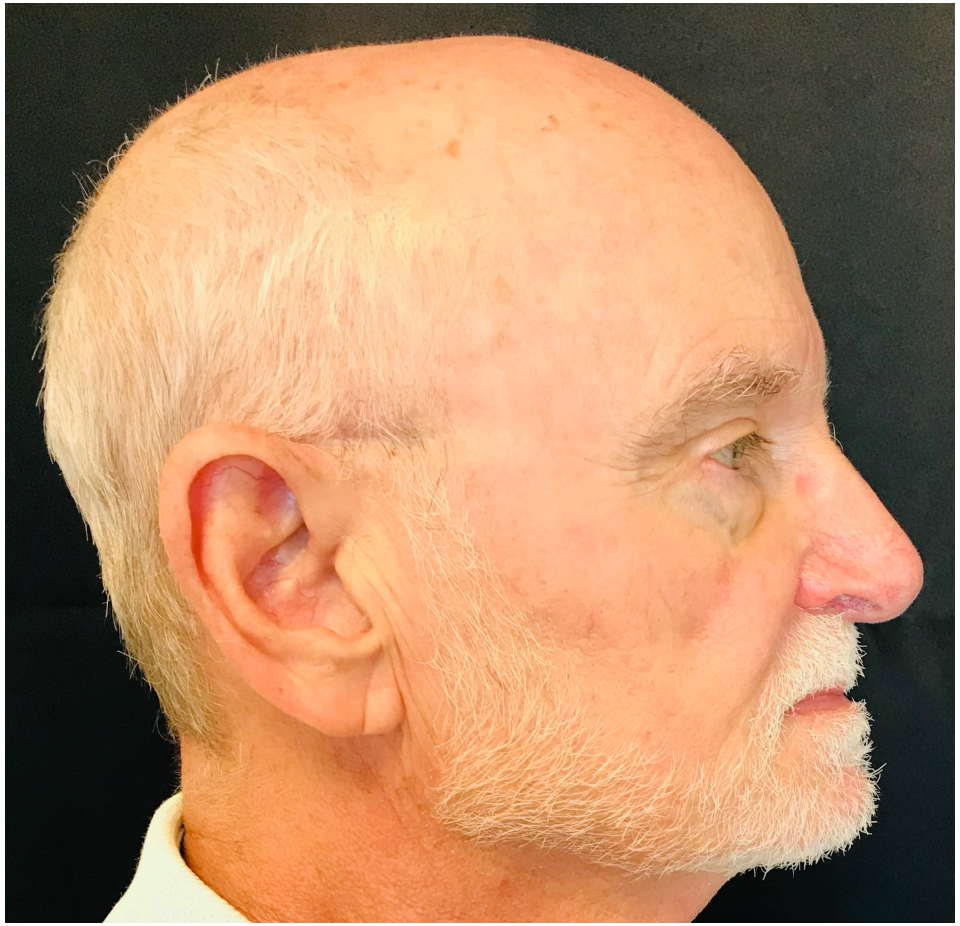












PHOTOGRAPHY

Take at least 3 pictures before at rest and in motion

- Straight on
- Right side
- Left side

Utilize the same background

Blue or Black backdrop

Photography Consent

THANK YOU!

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@bespokevisionok
Intrepid President

SELINA R. MCGEE, OD, FAAO