What Is Rosacea?

This informational handout is a modification of the information available on the National Rosacea Society website (www.rosacea.org)

Rosacea (pronounced "roh-ZAY-sha") is a chronic disorder of the skin that is most often identified as redness of the skin of the face, but it can be a bit more complicated than just a red face. It is estimated that 16 million Americans have rosacea and 82% remain untreated. It can start at any time in life from childhood to the elderly. Although the exact science is not clear, it appears that some people are genetically predesigned to have rosacea, just like we are designed to have a specific hair color and eye color. It is more common in fair skinned individuals, but can be seen in all skin types and races. There are many things that can “un-earth” this predisposition. Avoiding things that aggravate rosacea can be an important part of treatment.

Rosacea is most often described and recognized as redness of the cheeks, chin and nose, but can involve the entire face, scalp, neck and chest. In addition to redness, rosacea can include pimples, red bumps, rough or dry appearance to the skin, oiliness, prominence of oil glands and pores, enlargement and thickening of the skin, visible blood vessels in the skin and more.

Sadly, there is no permanent cure to rosacea, and there is not one on the horizon. However, with medication, laser and light treatments and lifestyle changes, it can be well controlled to the point that it is not visible at all.

Rosacea can vary substantially from one individual to another, and in most cases, some rather than all of the potential signs and symptoms appear. Rosacea always includes at least one of the following primary signs, and various secondary signs and symptoms may also develop.

Primary Signs of Rosacea

- **Flushing**
  Many people with rosacea have a history of frequent blushing or flushing. This facial redness may come and go, and is often the earliest sign of the disorder. Flushing occurs because the blood vessels in the skin temporarily open up or dilate to let more blood flow through.

- **Persistent Redness**
  Persistent facial redness is the most common individual sign of rosacea, and may resemble a blush or sunburn that does not go away. This is often seen even in young children. In this case the blood vessels are persistently staying open and always allowing extra blood flow.

- **Bumps and Pimples**
  Small red solid bumps or pus-filled pimples often develop. While these may resemble acne, blackheads are usually absent and burning or stinging may occur. Not all of the bumps have a white head. A variant of rosacea called perioral dermatitis manifests as a red bumpy rash usually around the mouth and/or nose.

- **Visible Blood Vessels**
  In many people with rosacea, small blood vessels become visible on the skin. As the skin is ...
Other Potential Signs and Symptoms

- **Eye Irritation**
  In many people with rosacea, the eyes may be irritated and appear watery or bloodshot, a condition known as ocular rosacea. Most patients describe their eyes as feeling “gritty” especially in the morning. The eyelids also may become red and swollen, and styes are common. Without medical help, severe cases can result in corneal damage and vision loss. Eye doctors and skin doctors often work together in treating this condition. Usually oral antibiotics and required to manage this type of rosacea.

- **Burning or Stinging**
  Burning or stinging sensations may often occur on the face. Itching or a feeling of tightness may also develop.

- **Dry Appearance**
  The central facial skin may be rough, and thus appear to be very dry.

- **Plaques**
  Raised red patches, known as plaques, may develop without changes in the surrounding skin.

- **Skin Thickening**
  The skin may thicken and enlarge from excess tissue. This most commonly occurs on the nose. This condition, known as rhinophyma, affects more men than women.

- **Swelling**
  Facial swelling, known as edema, may accompany other signs of rosacea or occur independently.

- **Signs Beyond the Face**
  Rosacea signs and symptoms may also develop beyond the face, most commonly on the neck, chest, scalp or ears.

- **Subtype 4** (ocular rosacea), characterized by ocular manifestations such as dry eye, tearing and burning, swollen eyelids, recurrent styes and potential vision loss from corneal damage.
ROSACEA TREATMENT

Because the signs and symptoms of rosacea vary from one patient to another, treatment must be tailored by a physician for each individual case. Various oral and topical medications may be prescribed to treat the bumps, pimples and redness often associated with the disorder. Dermatologists usually prescribe initial treatment with oral antibiotics and topical therapy to bring the condition under immediate control.

When appropriate, treatments with laser or intense pulsed light may be used to remove visible blood vessels, reduce extensive redness or correct disfigurement of the nose. Ocular rosacea may be treated with oral antibiotics and other therapy.

In addition to medical treatment, rosacea sufferers can improve their chances of maintaining remission by identifying and avoiding lifestyle and environmental factors that trigger rosacea flare-ups or aggravate their individual conditions. The National Rosacea Society offers lots of helpful information at their website.

National Rosacea Society Website - www.rosacea.org

Lifestyle Management

Find Your Triggers! Everyone who has rosacea has one or more “triggers” which cause a rather immediate flare of their rosacea. In addition to medical therapy, rosacea patients can improve their chances of maintaining remission by identifying and avoiding lifestyle and environmental factors that may trigger flare-ups or aggravate their individual conditions. Identifying these factors is an individual process, however, because what causes a flare-up for one person may have no effect on another. Patients are encouraged to keep a diary of daily activities or events and relate them to any flare-ups they may experience.

Environmental Triggers - Triggers can include environmental changes- heat, cold, exercise and sunlight. Most rosacea patients are flared by sunlight. However, many sunscreens can irritate rosacea patients. Many rosacea patients are irritated by chemical sunscreens, so I prefer zinc based sunscreens for rosacea patients. When looking at over the counter sunscreens, we recommend looking for ones that have NO CHEMICAL SUNSCREENS with active ingredients being ZINC OXIDE and TITANIUM OXIDE. We have a list of recommended sunscreens in the office and update a list yearly on our website.

Food and Drink - Many people are also flared by many types of food and drink. Dr Rosenberger and her family know well that when she eats very spicy foods, barbecue sauce, fermented cheese and certain salad dressings; her rosacea flares, and her face gets very red even before she leaves the table. Most commonly cited foods to flare rosacea are spicy foods, hot beverages and fermented foods – cheeses, vinegar, wine, beer, etc. A more complete list is attached. Don’t be surprised if you don’t find your exact trigger here. Sometimes there is something very specific that irritates someone. As an example, Dr Rosenberger cannot eat Ken’s Northern Italian Salad Dressing, but can eat other Italian dressings and other dressings in the Ken’s salad dressing line.
Cosmetics and Personal Care Items – Many rosacea patients find that personal care products flare and trigger their rosacea. In one study, 41% of patients indicated that skin care products irritated their rosacea. One of the most common examples of this is the Mary Kay Time Wise line. Most rosacea patients can tolerate the old fashioned Mary Kay, but can have a flare and first episode of rosacea when starting the Time Wise line. This illustrates that within each skin care line, there are things that will benefit some rosacea patients and flare others. Within the Cetaphil line… Cetaphil Gentle Cleanser or Cetaphil Gentle Cleansing Bar or Antibacterial Bar work well for rosacea patients, but the Cetaphil wash for Normal to Oily Skin flares some rosacea patients. Now, consider the moisturizers… Cetaphil cream is great for rosacea patients, but the Cetaphil lotion and Cetaphil Face moisturizer with SPF 15 flares almost all rosacea patients. What is the difference? Many rosacea patients are flared by preservatives that are located in many personal care products. For each patient, this is a trial and error process. Basically, anything that stings and burns the face when you first apply it may be flaring your rosacea and should be avoided. One final tip… mint green concealers and tinted zinc based sunscreens can help cover redness well while you are getting better. Cetaphil has recently released an anti-redness line. Dr Rosenberger is still evaluating this one.

The following list was compiled from patient histories by Dr. Jonathan Wilkin and produced by the National Rosacea Society. This list does not mean you need to eliminate all these things, it is just to give you direction as to the types of foods and environmental factors that tend to irritate rosacea patients. In a study of 1066 patients, the highlighted items were most common. For example, sunlight aggravated rosacea in 81% of patients, emotional stress 79%, Heavy exercise (56%).

<table>
<thead>
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<th>Foods</th>
<th>Temperature-related</th>
<th>Weather</th>
<th>Drugs</th>
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<tr>
<td>Liver</td>
<td>Saunas</td>
<td>Sun (81%)</td>
<td>Vasodilators</td>
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<td>Yogurt</td>
<td>Hot baths (51%)</td>
<td>Wind (57%)</td>
<td>Topical steroids</td>
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<td>Sour cream</td>
<td>Simple overheating</td>
<td>Cold (56%)</td>
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<td>Cheese (except cottage cheese)</td>
<td>Excessively warm environments</td>
<td>Humidity (44%)</td>
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<td>Chocolate</td>
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<td>Hot Weather (75%)</td>
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<td>Vanilla</td>
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<td>Soy sauce</td>
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<td>Yeast extract (bread is ok)</td>
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<td>Vinegar</td>
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<td>Eggplant</td>
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<td>Avocados</td>
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<td>Spinach</td>
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<td>Broad-leaf beans and pods, including lima,</td>
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<td>navy or pea</td>
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<td>Citrus fruits, including tomatoes, bananas,</td>
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<td>red plums, raisins or figs</td>
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<td>Spicy and thermally hot foods (45%)</td>
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<td>Foods high in histamine</td>
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Beverages

- Alcohol, especially red wine, beer, bourbon, gin, vodka or champagne (52%)
- Hot drinks, including hot cider, hot chocolate, coffee or tea (36%)
Prescription Medications

**Topical Ivermectin** - *Soolantra* is the new topical rosacea medication introduced in 2015. Applied once daily to the face, it decreases bumps, pimples and redness. It usually is more effective than metronidazole, the most commonly prescribed topical medication.

**Topical Metronidazole** – this topical is applied once or twice a day. Exactly how it works in rosacea is not known, but it has been a standard effective treatment for improving redness, inflammation and the acne like lesions of rosacea for many years. This comes as a cream, lotion and gel. Name brands include Metrogel and Noritate.

**Topical Azeleic Acid** - Available under the name brand *Finacea gel*. Finacea is used to treat the bumps and pimples of rosacea. In its original formulation, most patients experienced significant burning, stinging and redness when they first applied Finacea. Dr. Rosenberger less often prescribes this medication for this reason. However, there is a new foam version that appears to be much less irritating.

**Topical Retinoids** – Topical retinoids include *RetinA, tretinoin, Atralin, Refissa, Differin and Tazorac*. Retinoids work in a variety of ways. These medications may initially irritate the skin of rosacea patients, because they initially cause all users to have some redness and peeling of the skin. However, in the long term, they improve most rosacea patients by improving skin texture and tone, reducing pore size, and building up collagen.

**Topical Sulfur and Sodium Sulfacetamide** – These ingredients are old fashioned treatments for acne and rosacea that have been around forever because they are extremely effective. There are topical creams, masks, washes and pre-mediated cleansing cloths. Name brands include *Plexion, Rosanil, Sulfacleanse and Avar*. If insurance does not cover these, there are less potent sulfur washes and masks available over the counter. In the ZO skin care line, there is also a nice sulfur mask that is a nice alternative if insurance does not cover the prescription sulfur wash.

**Anti Redness Topical Agents** – *Mirvaso and Rhofade* are a newer type of topical gel that can also be used to treat redness and flushing seen with rosacea. These medications specifically target the persistent redness and flushing. It works directly at the level of the blood vessel, telling the blood vessels in the skin to not dilate. It is the dilation of the blood vessels in the skin that causes redness and flushing to occur. This medication is applied once a day in the morning and the effect lasts about 8-12 hours. These medications do not improve skin texture, tone or bumps, so they are used in conjunction with other medications. Some patients have experienced increased irritation of the skin with persistent use of these medications, so Dr. Rosenberger often recommends reserving them for special occasions versus everyday use.

**Oral Antibiotics** – Oral antibiotics in the tetracycline class have been used for rosacea for many years. Patients with acne like lesions and those with eye symptoms have a quicker and more thorough improvement when oral antibiotics are added to their regimen. Most common side effects with these medications are GI or stomach upset. These medications are often taken long term, many years, to help control rosacea. However, recent studies have shown that we can often gradually reduce the dose to a very low dose. These newer “low dose” regimens help rosacea by their anti-inflammatory effect without affecting bacteria levels. The two most common used antibiotics are doxycycline and minocycline.
**Doxycycline** – Side effects include GI upset and sun sensitivity. Maximum and starting doses are 100mg twice a day. The original low dose studies were done with doxycycline. Often one can take as little as 40 mg a day to effectively treat rosacea. Name brands of these low dose medications include *Oreeca* (40mg once a day) and *Periostat* (20mg twice a day). Often Dr. Rosenberger prescribes generic doxycycline. However, for those who cannot take a pill, name brand *Doryx* delayed release tablets can be crushed and mixed into foods.

**Minocycline** – Maximum and starting doses are 100mg twice a day. GI upset and sun sensitivity are rare. Most common side effects are headache, dizziness and esophageal irritation. However, there are two rare side effects which include a lupus like reaction, which resembles a flu-like illness, and a blue gray discoloration. These side effects are extremely rare, but Dr. Rosenberger has seen them both. The blue gray discoloration can appear in those who have swelling in their lower legs, scars, ears, eyes, teeth and other cartilage areas; this is seen most often only in those who have been on minocycline for an extended period of time. Often Dr. Rosenberger prescribes generic minocycline. However, there is a low dose extended release form of minocycline, *Solodyn*, that has a superior side effect profile. *Solodyn* is dosed based on the patient’s weight and is available in a number of strengths. This can dramatically reduce the amount of medication a patient receives over time and thus reduce long term risk of the blue gray discoloration.

**Over the Counter Treatments and Recommendations**

**Rozatrol** – One of the newest and most exciting products in the ZO Skin Care line by Dr. Zein Obagi, is available in the Spring Boutique. This multifaceted serum includes a combination of ingredients to minimize the appearance of redness, improve cellular renewal, decrease excess sebum production, and prevent blood vessel dilation and appearance. In a clinical study, after 6 weeks of use 70-80% saw an improvement in all of these symptoms. Dr Rosenberger uses and likes this serum. It is to be applied daily in the morning, after Daily Power Defense and before sunscreen.

**Sunscreens** – The sheer number of sunscreens available over the counter can be overwhelming and can vary from year to year. Look for a product with only Zinc oxide or Titanium Oxide in the active ingredients. We always have a number of these available in the Spring Boutique, but others such as Cetaphil Anti-Redness Daily Moisturizer and Sunscreen, Cerave Face and Body SPF 50, Neutrogena Pure & free Baby, Neutrogena Sensitive skin PureScreen work well for most patients. For an up to date list, you can check out our annual sunscreen review and tips at [www.wvderm.com/products](http://www.wvderm.com/products).

**Anti-Redness Skin Care Products** –There are a ton of these available. Dr Rosenberger generally does not recommend these or use any of them herself. In most cases, patients are better to use scientifically proven treatments than waste their money on a variety of products that probably won’t help much.

**In Office Treatments for Rosacea – Checking on Insurance Coverage**

To ask your insurance if they will pay for these treatments, you will need the following diagnosis and treatment codes. For the first three procedures …ICD10 – Rosacea L71.8, Telangectasia I78.1. and CPT Destruction 17111 using a laser or intense pulsed light. For photodynamic therapy: 99213 modifier 25, CPT 17111 and J7308 for Diagnosis of Rosacea L71.8. In most cases, insurance will not give a solid answer ahead of time. Therefore, we often require prepayment in full, and we will refund if insurance pays.
Rosacea Treatment with Laser and Intense Pulsed Light

**What is a LASER and Intense Pulsed Light?** A laser is a medical device that uses a focused beam of light to target specific structures in the skin. By definition a laser has a single wavelength of light. The wavelength we use is a 1064nm NdYag laser – called the Cutera Xeo Cool Glide. Why is this important? The higher the number (up to about 1300nm), the longer the wavelength and the deeper the laser light penetrates in the skin. Only a 1064nm laser effectively penetrates to the deeper layers of the skin where a number of the blood vessels lie. In contrast, an Intense Pulsed Light device (which we also have in the office but we do not use for larger vein removal) contains many wavelengths of light between 560nm and 1200nm. This type of device is generally less effective for larger veins, but can be effective for background redness. Many things are marketed as a “laser”. It is important to understand the above information to evaluate laser treatment options in an educated manner.

**Laser Facial Vein Removal (Cutera Xeo 1064 NdYag laser)**– For larger and more visible red and purple veins on the face. In laser vein removal, the laser light targets the pigment in the red blood cells that are in the blood that courses through the veins. The interaction between the laser and the pigment in the blood generates energy, best described as heat. This energy is transferred from the blood to the blood vessel wall. By damaging the blood vessel wall, the blood vessel is no longer a good conduit for blood flow. Using this technology, laser vein treatments enable removal of unwanted facial veins, without needles or cautery, in a few treatments. (2-4 treatments spaced at least 6 weeks apart) $250 per treatment.

**Laser Genesis (Cutera Xeo 1064 NdYag laser)**– For background redness, acne and rosacea scarring and for those desiring improvement in fine lines, pore size and skin tone. Laser Genesis is a no down time, painless procedure that can reduce visible facial vessels as well as diffuse redness, port-wine stains, acne scars, large pores, and fine lines and wrinkles around the mouth and eyes. It works by gently warming the upper dermis, stimulating the growth of new collagen and improving the appearance of your skin. The result is a healthy looking, vibrant appearance and decreased diffuse redness. (4-6 treatments spaced 2-6 weeks apart). $250 per treatment.

**Intense Pulsed Light Fotofacial (Cutera Xeo Intense Pulsed Light)**-. For background redness and age spots or freckling. Compared to the Laser Genesis procedure that we also offer, this procedure has more effect on brown discoloration of the skin – freckles and sunspots. There are multiple wavelengths of light contained in the pulsed light. Some are more effectively absorbed by pigment-containing cells and others by small blood vessels. By slowly eradicating cells that contain excess pigment, sealing shut small and unnecessary dilated blood vessels, and stimulation collagen growth, the skin achieves a smooth, even-toned, and healthier appearance. (4-6 treatments spaced 4-6 weeks apart). $250 per treatment.

**Photodynamic Therapy using Intense Pulsed Light or Blu-U** - For those with active acneiform rosacea or phymatous change. This intensive therapy involves more downtime than any of the above procedures, but is much more effective than IPL alone. Photodynamic therapy (PDT) is a light treatment that includes Levulan (Aminolevulinic acid), a photosensitizing compound. When applied, Levulan is preferentially absorbed by certain cells such as precancerous skin cells, oil glands, pores and other structures, making them more sensitive to light. When followed by intense pulsed light or BLU-U, we can treat conditions such as actinic keratoses, acne, rosacea, sebaceous gland hyperplasia and sun damaged skin. (2-4 treatments spaced 6-8 weeks apart). $500 per treatment.
Rosacea Comorbidities

Many studies have shown that people who have rosacea are statistically at a higher risk of having a number of other disorders and risks. We label these statistical findings as comorbidities. The official definition of a comorbidity is “the simultaneous presence of two chronic diseases or conditions in a patient.” Why does this matter?

Considering that it is estimated that 16 million Americans have rosacea and 82% remain untreated, it may be of increasing significance that we, as dermatologists, identify signs of rosacea even if that is not the patient's presenting concern. Rosacea has been reported to be associated with an increased incidence of a growing number of other disorders, including potentially life-threatening systemic illnesses such as coronary artery disease, high blood pressure, high cholesterol, diabetes, stroke and even cancer. Wow!

Cancer risk – In one study in Denmark, among the rosacea patients, there was no increased risk for malignant melanoma or ovarian, endometrial, cervical, esophageal, kidney, pancreatic or thyroid cancer. However, rosacea patients had a 42 percent increased risk of hepatic cancer, a 36 percent increased risk of non-melanoma skin cancer, and a 25 percent increased risk of breast cancer. Additionally, the study found rosacea patients were 22 percent less likely to be diagnosed with lung cancer than the general population. It is of importance to note that the risk of hepatic(liver) cancer is not related to alcohol use. Other studies also showed an increase risk of thyroid cancer and glioma.

Depression & Anxiety Disorder -2x increased risk (independent of alcohol use)

Migraine – 31% more likely

Inflammatory Bowel Disease (including Irritable bowel disorder, Crohns, Ulcerative Colitis, malabsorption & celiac) – 2x increased risk. A sensitivity analysis that examined the association between antibiotic treatment and subsequent IBD in patients with rosacea demonstrated that long-term frequent antibiotic users had lower incidence of IBD, but without statistical significance.

Hypertension – 2-4x Increased risk of High Blood Pressure

Cardiovascular disease – 4x Increased risk, including Coronary Artery Disease and Heart Failure

Dyslipidemia –6x Increased risk

Diabetes – 2x Increased risk

Rheumatoid arthritis – 2x increased risk

Dementia & Parkinsons – two small studies showed increased risk.
Below is a link to one of the best online summaries of these disorders that I found. The topic was also the subject of an intensive review in a recent Journal of the American Academy of Dermatology.  

https://www.rosacea.org/weblog/research-uncovering-comorbidity-extends-scientific-knowledge

https://www.the-dermatologist.com/content/examining-rosacea-comorbidities

**ROSACEA COMORBIDTIES - NOW WHAT?**

The following recommendations were made in a recent article in the Journal of the American Academy of Dermatology. https://www.ncbi.nlm.nih.gov/pubmed/29107339

**Cardiovascular Disease** – Monitor Blood Pressure, Consider family history of cardiovascular disease, Check fasting cholesterol and triglycerides and HbA1c at least once per year. Healthy diet and exercise.

**Gastrointestinal Disease** – Recommend evaluation by gastroenterologist if there are symptoms of bowel disease.

**Psychological** – Recommend evaluation by a counselor or psychiatrist if there are persistent symptoms of depression and anxiety.

**Neurological** – Recommend evaluation by neurologist for signs and symptoms of dementia, Parkinsons disease, migraine.

**Malignancy** – Yearly full skin examination, thyroid examination if symptomatic or enlargement or nodules are present. Keep up to date on age and sex appropriate malignancy scans (colonoscopy, prostate, breast, etc.)

**Yearly blood work recommended** – cholesterol, triglycerides, HbA1c, AST, ALT, GGT

Finally, the real question is… other than early detection, how can we reduce theses comorbidities.

One recent study addressed this question….


In this study they looked at veterans with and without rosacea. Those with rosacea had increased vascular disease as compared to those with acne. For those with rosacea, there was a decreased incidence in vascular disease in those treated with tetracycline class antibiotics (tetracycline, doxycycline, minocycline.) This is speculated to be related to the strong anti-inflammatory effect of this class of medications. Of the medications in this class, doxycycline has the strongest anti-inflammatory properties. Personally, this makes me very happy that I have taken low dose doxycycline for the past 15 years for my rosacea. Given the extremely low risk associated with taking low dose doxycycline daily, I think it is reasonable to continue taking it in attempts to reduce cardiovascular disease. I certainly will continue taking it myself.