



17560 South Golden Road, Suite 100, Golden, Colorado 80401

Patient Instructions for **Fractional CO₂ Laser Resurfacing**

Fractional laser resurfacing has revolutionized the treatment of fine lines and wrinkles, acne, surgical, and traumatic scars, and facial discoloration. Other benefits of treatment include improvement in the overall texture and tone of the skin. While responses vary from patient to patient, results are frequently achieved in one treatment session. It should be noted that this treatment will likely not improve facial redness or small facial blood vessels, which are best treated with other laser and light-based devices.

All laser procedures carry some degree of risk. The most common and expected side effects of this treatment are temporary redness, swelling, pinpoint bleeding, skin discoloration, and discomfort. Infection, acne flares, prolonged wound healing, redness and discoloration, and scarring are possible but uncommon. **Careful adherence to all postoperative instructions including strict sunscreen use and sun avoidance will minimize complications and maximize your results.** Although fractional CO₂ laser resurfacing is very effective in the majority of cases, no guarantees can be made regarding any individual response to treatment.

The procedure you are about to undergo can provide very rewarding results, but not without your complete understanding and full cooperation. The following information will help achieve our mutual goals of safety and satisfaction.

Things to have at home, prior to treatment:

1. White distilled vinegar (large bottle or jug)
2. Q-Tips
3. Clean washcloths
4. Aquaphor Healing Ointment. (Do not use an already open tube or jar!)
5. Moisturel lotion
6. Bag of frozen peas or ice bag
7. Sunscreen with SPF 30 or greater containing titanium and/or zinc
8. Large brimmed hat
9. Baby shampoo
10. Gentle cleanser (Neutrogena "Ultra Gentle" or Cetaphil)
11. Pain reliever: Ibuprofen (Motrin) and/or Acetaminophen (Tylenol) is sufficient
12. Pick up the following prescriptions, which you will need to bring to clinic:
 - a. **Valacyclovir (Valtrex)**: 500 mg twice daily x 7 days (starting on morning of procedure)
 - b. **Cephalexin (Keflex)**: 500 mg twice daily x 7 days (starting on evening of procedure)
 - c. *Optional*: **Valium**: 2-4 mg taken ONCE at time of procedure

3 WEEKS prior to your procedure:

- Avoid facial waxing.
- Avoid chemical peeling or microdermabrasion procedures.
- Avoid tanning and wear a sunblock daily.

2 DAYS prior to your procedure

- Discontinue any prescribed topical medications such as tretinoin, Retin-A, etc.
- Avoid alcohol.
- If you smoke, smoking should be discontinued and hopefully not resumed, but if so, not until healing is complete.

1 DAY prior to your procedure

- Stay hydrated! Drink plenty of water before, during, and after your treatment to aid in the healing process.
- **You must cancel your appointment if you are not feeling well, have a “cold sore” or “fever blister,” or any active infections or open wounds.**

The DAY of your procedure

*****SHOW UP 60 MINUTES PRIOR TO YOUR APPOINTMENT TIME*****

- Shower and shampoo hair the morning of the procedure. Wash face **and ear canals**. Do not apply makeup, hair care products (sprays, gels, mousses, etc), or perfume.
- Wear loose, comfortable clothing (an old but clean button down shirt is perfect). No pullovers. Do not wear jewelry. Bring your hat.
- Do not wear contact lenses. Wear glasses.
- Eat as usual and take your usual daily medications (blood pressure, etc).
- Take your morning dose of **Valacyclovir**. Continue as prescribed until medication supply exhausted (1 week total)
- Bring your **prescribed medications, Ibuprofen, and these instructions** with you to the clinic.

***DO NOT** take Valium until advised to do so by your physician. An informed consent cannot be signed if you are on this medication and the procedure will be cancelled. After you have signed the consent form you will be instructed to take your prescribed medications.

- If you decide to take Valium during the procedure, you will need to have a driver take you to the clinic and be prepared to wait 1-2 hours to drive you home following the procedure.

What to expect the day of your procedure

- Bring a list of any questions about the procedure you may have.
- You will sign the consent form, and pre-operative photographs will be taken.

- After signing the consent form, you may be instructed to take the following medications— Ibuprofen (anti-inflammatory, pain reliever) and as long as you are not driving, Valium 2 mg (anti-anxiety).
- A numbing cream will be applied to the areas of your face to be treated 30-60 minutes prior to procedure. The numbing medicine will greatly reduce, but not eliminate, the discomfort associated with the procedure.
- Just prior to the procedure, your eyes will be covered with metal eye shields to protect your eyes. If you are having your eyelids treated, the numbing drops which you were instructed to pick up as a prescription (tetracaine 0.05% eye drops) will be applied to your eye, and eye shields will be inserted under your eyelids for protection.
- The procedure takes about 60 minutes, during which time you will hear laser “noises” consisting of crackles and pops, and during which time you will feel as though you are being snapped with a rubber band accompanied by a sensation of warmth.
- There may be pinpoint bleeding, bruising, and crusting depending upon the area and extent of treatment.
- During and immediately after treatment, cold air may be applied to your skin for comfort.
- Upon completion of the procedure, Aquaphor ointment will be applied to the treated areas. Leave this ointment on for 4-8 hours, then gently remove and begin vinegar soaks.

Post-operative Care Instructions

- The top layer of your skin has been removed, so you are more susceptible to skin reactions. Follow these general principles:
 1. Wash your hands thoroughly prior to contact with your face.
 2. Avoid application of any topical antibiotics, lotions, shampoos, etc directly to the affected areas unless indicated in these instructions or by your physician. Your skin will be very sensitive to cleaning agents, fabric softeners, dryer sheets, or anything else with a fragrance or detergent for the next few days.
 3. Do not pick, scrub, or irritate the skin, as this can lead to scarring.
 4. Avoid strenuous exercise, swimming, or hot tubs until your skin is healed.
 5. Avoid direct contact with animals and animal waste products.
 6. **Showering:** use tepid water, gentle soap (Cetaphil or Neutrogena “Ultra Gentle”), and baby shampoo. Avoid direct spray on treated areas. Re-apply Aquaphor ointment after showering.
 7. **Pain:** This can be relieved with cool compresses. You may also take Ibuprofen (Motrin) up to 800 mg every 8 hours with meals, or Acetaminophen (Tylenol) up to 1000 mg every 6 hours. These medications can be alternated. For irritated eyes, rinse with moisturizing drops (e.g. Refresh) as needed; you can also try resting in a dark place with eyes closed until the irritation goes away.
 8. **Itching:** You may take cetirizine (Zyrtec) 10 mg daily and/or Benadryl 25-50 mg as needed. Cool compresses can also provide relief.
 9. **Vinegar Soak Technique** (antiseptic, helps prevent infection):
 - Mix **1 teaspoon** white vinegar in **1 cup** of cool tap water.

- Gently remove as much Aquaphor layer as possible without disturbing the skin.
 - Lie down with a towel under your head. Gently apply a clean washcloth soaked in the vinegar solution to the treated areas for 10-15 minutes.
 - Pat dry & apply an ample coat of **Aquaphor** ointment with Q-tips or gauze to maintain a moist layer on the treated area until the skin has sloughed off (usually Days 3 to 4). If the skin is dry or starts to scab, apply more Aquaphor. If you apply Aquaphor with your fingers, be sure to thoroughly wash your hands beforehand.
 - Repeat this rinse/Aquaphor reapplication cycle **4 times daily** or more often for comfort. If the vinegar soaks stings or burns, dilute with more water. **Prepare a new vinegar solution with each soak to prevent contamination.**
- **Days 1 - 3/4 Following Procedure (i.e. before skin has sloughed off):**
 1. Morning:
 - Take Valacyclovir
 - Perform vinegar soak
 - Gently apply Aquaphor ointment with Q-tips or gauze
 2. Mid-day:
 - Perform vinegar soak
 - Gently apply Aquaphor ointment with Q-tips or gauze
 3. Late-afternoon:
 - Perform vinegar soak
 - Gently apply Aquaphor ointment with Q-tips or gauze
 4. Before bedtime:
 - Take Valacyclovir and Cephalexin
 - Perform vinegar soak
 - Gently apply Aquaphor ointment with Q-tips or gauze
- **Days 3/4 - 14 Following Procedure (i.e. once skin has sloughed off):**
 1. Transition from vinegar soaks to Cetaphil cleanser 1-2 times daily, and from Aquaphor to a gentle moisturizer (Moisturel). Some areas will heal faster than others, so you may need to continue soaks and ointment in areas that continue to appear raw or crusty.
 2. **Limit direct sunlight exposure by using daily titanium/zinc-based sunscreen and wearing sun protective clothing** (long-sleeved shirts, wide-brimmed hats, and sunglasses). The American Academy of Dermatology recommends a broad-spectrum (protects against UVA and UVB rays) sunscreen with SPF 30+, applied generously to exposed skin. This is very important to prevent hyperpigmentation.
 3. Complete your courses of Valacyclovir and Cephalexin.
- **Days 14 and Beyond:**
 1. **Continue to limit direct sunlight exposure by using daily sunscreen and wearing sun protective clothing.**
 2. **Seek shade when appropriate**, remembering that the sun's rays are strongest between 10am and 2pm.

3. **Use extra caution near water, snow, and sand** as they reflect the damaging rays of the sun.
4. **Get vitamin D safely** through a healthy diet.
5. **Avoid tanning beds.** Ultraviolet light from the sun and tanning beds can cause skin cancer and wrinkling.
6. If you use Retin-A (tretinoin), glycolic acid, or salicylic acid products, you may resume treatment at this time.
7. If darkening of treated areas occurs after treatment, contact your physician as you may be advised to start hydroquinone (a bleaching cream). Decreased pigment should be anticipated 1-3 months after using this cream.

Specific Concerns Post-Operatively

1. **Pain**: Your skin will feel very hot for about 30 minutes to 3 hours after the treatment, but should improve over the next several hours. You may elect to take 1-2 ibuprofen tablets 4 hours after the procedure, and then every 8 hours as needed. Pain should gradually subside within 3 days.
2. **Swelling**: You may notice mild to moderate swelling (particularly eyelids) on the first and second mornings after treatment. The swelling usually lasts 2-7 days. To minimize swelling, apply cold-water compresses and sleep with your head elevated.
3. **Eye irritation**: You may feel eye irritation and burning due to the use of eye shields, lubricant ointments, or topical anesthesia preparations. This irritation may last several hours.
4. **Redness**: You can expect a sunburn-like reaction with redness for the first couple days after treatment. Most redness resolves during the first several weeks, but can persist longer in some patients.
5. **Crusting & peeling**: On Day 3-4, you may notice some fine peeling, flaking, or brown "coffee ground" crusting with a honeycomb-like pattern on the skin. Occasionally a "sandpaper" texture develops. Do not pick or scratch at any of the treated areas as this can lead to scarring. As your skin peels over the next 3-10 days, a new healthy layer of skin will be revealed. It is normal to have mild to moderate itching associated with the peeling.
6. **Raw skin**: If you develop raw skin after treatment, keep those areas moist with Aquaphor Ointment until the area heals. Do not pick. Discontinue Aquaphor after 5 days (applying Aquaphor for more than 5 days can plug up your pores and lead to an acne-like breakout), switching to a gentle moisturizer like Moisturel.
7. **Facial discoloration** may occur after treatment and is expected in darker skinned patients. Sunscreens and bleaching creams are mandatory once healing occurs to help fade this discoloration.

Not all areas are treated with the same intensity, and therefore may appear to have been missed or skipped. This is intentional. Do not be concerned. Depending upon the intensity of treatment and what was being targeted (brown spots, fine lines/wrinkles, deep lines/wrinkles), some areas may exhibit a patterned or checkerboard-like appearance which will fade over the next several weeks. Despite differences in treatment pattern seen on the skin, be assured that your overall treatment is uniform throughout.

- 8. Notify your physician if:**
- a. Pain increases rather than decreases in the days after procedure.**
 - b. You experience severe itching that is not relieved with oral anti-histamines (e.g. Zyrtec, Benadryl).**
 - c. Fever, cold sores, or pustules form (signs of infection).**

Post-Operative Visits

1. Your physician will specify if it is recommended that you follow-up for a post-operative visit.
2. If at any time you suspect an infection or have any other concern, you should call our office (**303-526-1117**) immediately.

Expectations

1. It is expected that the worst appearing day will be 48 hours post-operatively, following which you will see gradual improvement.
2. Improvement in color and texture is generally seen at 10-14 days.
3. Improvement in wrinkles, scars, and skin tightening may take 3 months or longer.
4. Although no assurances or guarantees can be made regarding any individual response to any one treatment, continued improvement after laser resurfacing can be seen for up to a year after the procedure.