

The uRepublic Guide to Profractional and Fractional CO2 Resurfacing

The main advantage of Profractional / Fractional CO2 resurfacing is its reduced healing time, as opposed to traditional full resurfacing. Because it is applied in columns, the untreated areas are able to help the recovery of the new skin, making the healing process faster and safer.

This procedure is most often applied over 3 treatments, with each treatment producing a noticeable improvement in skin quality.

How is Profractional / Fractional CO2 different from MicroLaserPeel & Contour resurfacing?

MicroLaserPeel is a superficial laser peel (20–50 microns) that removes a superficial skin layer. It is best for pigmentary conditions and for a modest effect on wrinkles and scars.

Contour resurfacing is a deeper resurfacing that reaches deeper into the middle or collagen layer of the skin. The result is superior to MicroLaserPeel but is associated with significantly longer recovery times.

Profractional / Fractional CO2 resurfacing is delivered as individual columns in a polka dot fashion. These multiple columns of laser can be varied in width, depth and density. The advantage is the reduced down time as adjacent normal tissue can assist with more rapid healing. Profractional/ Fractional CO2 can be combined with MicroLaserPeel or Contour resurfacing in the same treatment session. This appears to offer superior skin rejuvenation results. A very effective and popular combination is Profractional/ Fractional CO2 with BBL photorejuvenation.

Your doctor will advise on the best resurfacing method for your skin.

Profractional / Fractional CO2 is best for:

- Sun damage, lines and wrinkles
- Complexion and skin tone
- Acne scars
- Other scars – surgical and trauma scars
- Stretch marks (variable response)

How often does a Profractional/ Fractional CO2 need to be done?

Usually, up to 3 treatment sessions are recommended. This is dependent on the down time available, as the procedure can be varied. For example, the depth can be increased to penetrate deeply into the dermis or middle layer of the skin. The density of the laser columns can also be increased to cover up to 20–30% of the surface area. Obviously, the more aggressive the treatment, the longer the period of recovery.

What can the patient expect?

Patients can expect smoother, healthier, more vibrant skin. Patients with acne scarring can expect gradual improvement with each treatment. A realistic expectation is approximately 50% improvement after 3 treatments.

Is the procedure painful?

The procedure can be painful and will therefore require some form of anaesthetic. A topical anaesthetic cream is applied 60 minutes before the procedure and is very effective in numbing the skin. Relaxants such as sedatives and happy gas may also be used to minimize any discomfort. Injectable anaesthetics can be used to totally block the pain sensation if necessary.

After the procedure, there will be a mild burning sensation for several hours. This is usually well tolerated. The treated area may have pin-point bleeding for several hours after, particularly when rubbed.

Do I have to wear any type of dressing or bandage after the procedure?

No. Your physician will prescribe an ointment such as QV Intensive or Vaseline. This is used as a barrier to keep the air away from your skin while you grow new epithelium. You will probably use it for one to two days. After that, a moisturiser can be used. Patients with darker skin types may need to apply skin whitening (bleaching) cream to prevent darkening of the skin after treatment.

How long is the healing process?

The healing process varies from patient to patient, and the depth and density of the peel, but will generally take from two to four days for regular treatment cases, and up to 10 days for intensive treatment cases. For regular cases, the procedure can be performed on Thursday or Friday and you can return to work the following Monday or Tuesday. Acne scar patients require more intensive treatment and healing may take 1–2 weeks. You should discuss with your doctor how much time you plan to take off so that the treatment can be tailored accordingly.

Immediately following the procedure you will feel as if you have a bad sunburn. You will have redness, small (pin-point) dry scabs and itchiness the following day. By day two, redness will begin to fade and by day three any redness can be easily covered by makeup. Most redness will settle by one week. In some individuals prone to redness, the skin may look red for some time after but will eventually settle.

Rejuvenation treatment will heal in 4–5 days. More intensive acne scar repair may take 5–10 days of recovery during which intense itching may occur. Itching is a normal sign of healing skin and can be soothed with cool compresses and frequent moisturising.

For best results, patients should avoid the sun thereafter and use regular sun protection to maintain the results.

What are the unwanted side effects of the Profractional / Fractional CO2?

Deeper peels will naturally produce more inflammation, oozing, swelling and crusting. This usually does not occur with the Profractional / Fractional CO2.

Skin infections such as bacterial or viral sores may develop. Individuals with herpes cold sores should take preventative medications to prevent an outbreak.

After the skin regenerates, it may remain red for prolonged periods, especially for those with a tendency to blush/ flush in the first place.

In certain individuals fractional spots may be visible on close-up as pale spots or subtle indents for 2 to 3 months or longer after treatment.

In patients with olive or darker complexion, there may be an increased risk of uneven darkening of the skin after the procedure. This can be treated with a bleaching cream. Rarely, the skin may lose pigment and appear whiter.

Other forms of scarring such as keloids and thick scars are rare but can be managed should they occur.

Is everyone suitable for Profractional / Fractional CO2?

We do not treat:

- Pregnant or breast-feeding women
- Children under age 18 without parental consent
- Any area where current significant skin disease or infections such as cold sores are present
- Patients with (darker) skin types 5–6 are at greater risk of post-treatment pigmentation
- Anyone with a history of keloid scarring (check with doctor)
- Anyone with an emotional, mental or medical condition that may impair judgment

Acne scar repair

Acne scar repair is a challenging problem. The nature of the scars themselves are varied – ranging from shallow, deep, sharp-edged (boxcar), slope-edged (rolling), ice-pick, atrophic, hypertrophic etc. Consequently, there are also many treatment options addressing the various subtypes of scarring (as listed). Your doctor will need to combine various procedures depending on the types of scars you have to achieve the best possible outcome.

Physical therapy options

- Fillers
- External needling (roller)
- Internal needling (subcision)
- Spot or full Contour resurfacing
- Non-ablative fractional resurfacing (SELLAS EVO)
- Ablative fractional resurfacing lasers (Profractional / Fractional CO2)
- TCA ablation of ice-pick scars
- Other procedures: excision of scars, derma grafting etc.

Adjuvant (booster) lasers

After Laser resurfacing (including scar repair) the skin will continue to remodel over the next 2–3 months, even after it looks fully healed. It is desirable to help boost collagen remodeling during this period with adjuvant lasers to achieve an even better final outcome. These adjuvant lasers (Pulsed Dye Laser, Nd:YAG Laser) are gentle non-ablative lasers that can improve scar remodeling and the final results. These treatments are well tolerated and do not require any recovery time (ie no downtime). Patients undergoing Levels 6–7 resurfacing (including laser scar repair) can usually benefit from 3 (or more) adjuvant laser sessions at 3-week intervals. The adjuvant laser procedures are usually started 2–3 weeks after the resurfacing procedure, as soon as the skin looks healed. Please check with your doctor what would work best in conjunction with your resurfacing procedure.

TCA ablation of ice-pick scars

Trichloroacetic acid (TCA) is applied to the tract of the narrow ice-pick scars to chemically ablate them. Ice-pick scars are small in diameter but deep and may occasionally look like deep enlarged pores. Ice-pick scars respond best to TCA in conjunction with lasers. TCA treatments are often combined with laser resurfacing in the same session, as well as in between laser sessions.

The TCA is applied to the ice-pick tracts with a fine wooden applicator (like a tooth-pick). The treated scars will look white (frosting) from the TCA interaction with the skin and will fade within half an hour. There will be some redness around the treated scars that settles in a couple of days. Occasionally, pin-point scabbing may occur and should be left alone until it naturally comes off in 4–5 days.

The TCA procedure takes about 15 minutes to perform and is very well tolerated, without need for any anaesthetic. Anywhere from 5–50 of these may be treated at a given time. 5–6 treatment sessions are needed to achieve best results. You do not need to take any time off work for this procedure.