

Quick Start Guide

eCO2™ 3D



CYNOSURE® LUTRONIC®



IMPORTANT:

Always refer to the eCO2 3D Operator's Manual P/N 4100197400 for full information.

INDICATIONS FOR USE

The eCO2 3D Laser System with fractional handpieces is indicated for use in dermatological procedures requiring ablation (removal), resurfacing and coagulation of soft tissue. Additionally, the 120 micron and 300 micron spot sizes are used in the treatment of wrinkles; rhytides, furrows, fine lines, textural irregularities, pigmented lesions and vascular dyschromia.

The eCO2 3D Laser System using the non-fractional handpieces (F100, F50, zoom and 500 micron tip) is also indicated for use in skin resurfacing and surgical applications requiring the ablation, vaporization, excision, incision, and coagulation of soft tissue in medical specialties including: dermatology, plastic surgery, and podiatry.

Dermatology & Plastic Surgery:

The ablation, vaporization, excision, incision, and coagulation of soft tissue in dermatology and plastic surgery in the performance of:

- Laser skin resurfacing.
- Treatment of wrinkles, rhytids and furrows.
- Ablation and/or vaporization of soft tissue in dermatology and plastic surgery for the reduction, removal, and/or treatment of actinic keratosis, skin tags, solar/actinic elastosis, actinic cheilitis, lentigines, uneven pigmentation/dyschromia, acne scars, surgical scars, keloids, hemangiomas (including buccal hemangiomas), tattoos, telangiectasia, squamous and basal cell carcinoma, spider and epidermal naevi, xanthelasma palpebrarum, syringoma, and verrucae and seborrhoecae vulgares (warts); laser derm-ablation; and laser burn debridement.

Dermatology. Plastic Surgery & General Surgery:

Laser incision and/or excision of soft tissue in dermatology, plastic and general surgery, including the performance of blepharoplasty and for the creation of recipient sites for hair transplantation, treatment of hemorrhoids, atheroma, cysts, abscesses, and all other soft tissue applications.

Podiatry

Laser ablation, vaporization, and/or excision of soft tissue in podiatry for the reduction, removal, and/or treatment of verrucae vulgares.

PATIENT PROFILE

CO2 laser treatments, utilizing a wavelength of 10,600 nm, target water as the primary chromophore, rendering the treatment highly effective for a variety of skin procedures across a broad patient demographic. To minimize the risk of complications, particularly in individuals with darker skin types (FST IV-VI), it is essential to select appropriate settings and implement necessary precautions. Gender is irrelevant.

CONTRAINDICATIONS

Operators of this device must review the contraindications listed in this document prior to treatment. Contraindications should be checked prior to treatment through a thorough examination of the patient's medical history to ensure that the treatment is appropriate for the patient.

TEST SPOTS

Prior to treatment, perform a test spot in a non-conspicuous area of the treatment site. Test spots are performed to establish the following requirements:

- Confirm the patient's suitability for treatment. It is recommended to perform a test spot and assess the patient's response to treatment.
- Establish and confirm treatment parameters: It is recommended to perform test spots at several energy levels, using a small spot size to ensure that the expected response is observed and that the healing process following treatment is expected. Treatment parameters can be adjusted accordingly.
- Test spot results will indicate if the patient can tolerate the treatment without developing adverse effects. According to patient tolerance to the test spot, you may determine treatment parameters and which anesthesia is needed. In addition, it is advisable to perform a test spot whenever changing parameters.

Pre-treatment and treatment

The treatment provider should provide patients with detailed information regarding the nature of their problem area, the treatment options, risks, benefits, potential complications and anticipated outcomes. All patients should be advised that a range of results is possible and until treatment has commenced it is difficult to predict the clinical outcome of the procedure. Written consent of the patient should also be obtained prior to commencing a laser treatment program. During consultation, a clinical history should be established with specific and detailed attention paid to any contraindications. In determining suitability, additional guidance should be taken from the eCO2 3D Operator's Manual.

- The consultation and guidelines should be reviewed prior to treatment. Test spots should be performed prior to each treatment to evaluate epidermal response.
- The first session should use relatively conservative treatment parameters, followed by increased setting parameters at subsequent treatment sessions based on skin reaction.
- If using multiple tips in the same treatment area, use the tip with the deepest depth first.
- It is recommended to perform static mode first. Dynamic mode may be performed to smooth the edges of the treated area.
- Recommended treatment interval is 4-6 weeks between each treatment, and number of treatment sessions may vary depending upon tissue response and indication.
- Treatment should only be performed on clean, healthy, intact skin. No lotion, make-up, perfume, powder, bath/shower oil should be present in the area to be treated.
- If applying topical anesthetic, follow the manufacturer's instructions and remove completely before treatment.
- Prophylactic antiviral therapy may be considered for patients with a history of herpes simplex virus.

The eCO2 3D Laser System produces infrared rays that are invisible to the naked eye. Everyone in the treatment room during a procedure must wear safety goggles at all times, and patients are also required to wear appropriate eye protection as part of standard laser safety protocol. Safety goggles should protect against laser beams (optical density 5+ at 10600nm). Even if proper protective eyewear is worn, looking directly into the laser aperture of the handpiece could pose an eye hazard.

Static tip specifications

	Static 120 Tip	Static 300 Tip	Static 500 Tip
Tip Shape			
Laser Pattern & Irradiation Area	Square: 1x1, 2x2, 4x4, 6x6, 8x8, 10x10, 12x12, 16x16, 18x18 mm Rectangle: 3x10, 5x10, 6x12, 8x12, 8x16 mm Circle: 2, 4, 6, 8, 10, 12 mm		
Modes	Static: This is a mode in which the laser is emitted once, according to the set density value, each time the handpiece touches the treatment area or the foot switch is activated.		
	Dynamic: This is a mode in which the laser is continuously irradiated while the handpiece is in contact with the treatment area or the foot switch is activated.		

- Static tips are reusable items and are recommended for up to 20 uses.
- Tips are supplied non-sterile and must be thoroughly cleaned and disinfected before initial use. As the tips are reusable, they must also be properly cleaned and disinfected after each use, prior to treating the next patient. For detailed cleaning procedures, please refer to the Operator's Manual.

Treatment parameters for Eco Tone™ revitalization

Eco Tone is a quick, low downtime laser treatment for fine lines and unwanted pigment with less downtime than traditional CO2 treatments. These parameters are used to perform the Precision Peel. The 40W peak power shortens pulse duration, allowing more precise energy delivery with minimized thermal diffusion.

120 µm Dynamic (brushing) Mode						
Intensity	Fitzpatrick skin type	Peak power	Spot size (mm)	Pulse energy (mJ)	Hz	Passes
Conservative	I-IV	40W	12, 16, or 18	4-5	200	2
Moderate	I-IV	40W	12, 16, or 18	6-7	200	2
Aggressive	I-III	40W	12, 16, or 18	10	200	2

300 µm Dynamic (brushing) Mode						
Intensity	Fitzpatrick skin type	Peak power	Spot size (mm)	Pulse energy (mJ)	Hz	Passes
Conservative	I-IV	40W	12, 16, or 18	4-5	200	2
Moderate	I-IV	40W	12, 16, or 18	6-7	200	2
Aggressive	I-III	40W	12, 16, or 18	10	200	2

500 µm Dynamic (brushing) Mode						
Intensity	Fitzpatrick skin type	Peak power	Spot size (mm)	Pulse energy (mJ)	Hz	Passes
Conservative	I-IV	40W	12, 16, or 18	4-5	100-150	1
Moderate	I-IV	40W	12, 16, or 18	6-7	100-150	1
Aggressive	I-III	40W	12, 16, or 18	8-10	100-150	1

- The 500 µm tip provides higher coverage per shot.

Treatment parameters for skin resurfacing

120 µm tip							
				Static Mode		Dynamic Mode	
Intensity	FST	Peak power	Passes	Pulse Energy mJ	Density spots/cm ²	Pulse Energy mJ	Hz
Conservative	I-IV	40W	1 - 2	20 – 50	50	30	100-200
Moderate	I-III	40W	1 - 2	50 – 80	100	50	100-200
Aggressive	I-III	40W	1 - 2	80 – 120	100 – 150	70	100-200

300 µm tip and 500 µm tip							
				Static Mode		Dynamic Mode	
Intensity	FST	Peak power	Passes	Pulse Energy mJ	Density spots/cm ²	Pulse Energy mJ	Hz
Conservative	I-IV	40W	1 - 2	20 – 50	50	30	100-200
Moderate	I-III	40W	1 - 2	50 – 70	100	50	100-200
Aggressive	I-III	40W	1 - 2	70 - 80	100 – 150	70	100-200

- The use of 40W peak power shortens pulse duration, allowing more precise energy delivery with minimized thermal diffusion.
- If using multiple tips in the same treatment area, use the tip with the deepest depth first.
- First, treat localized skin lesions in static mode. Next, smooth the untreated edges near the treated area in dynamic mode for a more natural-looking, "feathering effect."
- When treating large areas, select the largest scan size. Avoid unnecessary overlapping of neighboring scan areas.
- Measure and enter the size of the treatment area before treating in dynamic mode. The screen displays the total density automatically.

Post-treatment care instructions

- Patients may experience a burning sensation for 1 - 2 hours immediately after the treatment. Cooling with an ice pack can provide relief to the treated area. Make sure to enclose the ice pack in a sterile and dry gauze to prevent water from permeating on to the treated area. Do not apply ice pack directly to the skin.
- Do not let the treatment area be in contact with water for up to 24 hours after procedure. After 24 hours, the patient may gently wash the skin and dry the treated area using a patting motion. Do not rub the area. Do not scrub or pick the skin.
- Some patients might experience pinpoint bleeding. If this occurs, gently pat the area using a clean gauze to stop the bleeding.
- It is important to keep the skin moisturized and hydrated after the treatment. Apply an ointment or a barrier cream product to the treated area several times a day for the next 3 - 5 days or until re-epithelialization is complete. This will promote healing as well as help reduce adverse reactions.
- After 36 hours, patients may wash, apply mineral makeup, shave, or take a shower regularly.
- A thin crust may appear within 3 - 7 days post treatment as new skin begins to form. The newly generated skin is sensitive and must be protected from sunlight; sunscreen should be applied generously on the treated area during daytime.
- Avoid using alcohol-containing or harsh cosmetics for at least 2 weeks after the treatment.
- Avoid vigorous activity for the first week post treatment or until initial healing has occurred. Increased redness and irritation may result from any activity that increases blood flow or body temperature (i.e., alcohol consumption, exercise, sauna).
- Over the next month, keep applying moisturizer and sunblock with and SPF of 30+ and use an umbrella, cap or any available protections against outdoor sunlight.
- Patient should follow all post-treatment care outlined by the treatment provider.

Contraindications

The provider must assess patients, obtain patient medical history and obtain a signed consent. Treatments with the eCO2 3D should not be administered to patients with, but not limited to, any of the following conditions.

- Patients who have an implanted pacemaker, internal ventricular fibrillation controller (AICD), or any other electrical device.
- Pregnancy
- Open wound or inflammation or infection in the area to be treated
- Cancer or other malignant diseases
- Systematic disease or condition
- A bleeding disorder
- Photosensitive skin or taking medications that cause photosensitivity
- Skin lesions caused by diabetes mellitus, connective tissue disorders, radiation therapy, or chemotherapy
- Skin allergy to local anesthetics, antibiotic medication, or any other types of pertinent medications
- History of keloid scarring or connective tissue disease
- Active outbreak of herpes simplex
- Use of immunosuppressive drugs, and any other medications and/or diseases which can affect the wound-healing process
- Recent Vitamin A derivatives use
- Psycho-neurotic patients including alcoholics or drug abusers
- Patients who are unable or unwilling to follow the post-treatment instructions
- Patients with unrealistic expectations regarding the clinical outcome of the treatment

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CYNOSURE[®] LUTRONIC[®]

Always refer to P/N 4100197400 eCO2 3D Operator's Manual for complete information on use of the device.

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