

COLD PLASMA

DR.PLAJIN Cold Plasma Device

An innovation with three areas of action – for both medical and cosmetic foot care and beauty care.



AGENDA

01

Cold Plasma

Generation | Effects | Benefits

02

Application Areas – Medical Foot Care

Usage | Case Examples | Cost Calculation

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Application Areas – Cosmetic Foot Care

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Application Areas – Cosmetics

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Why Cold Plasma?



- 01 **Increase in chronic conditions:** fungal infections, cracks (rhagades), wound healing disorders, sensitive skin
- 02 **Demand for non-invasive technologies:** patients seek gentle, pain-free, and contactless alternatives
- 03 **Cold plasma creates synergy:** between technological innovation and empathetic treatment practice
- 04 **Combines** hygiene, skin protection, and regeneration in one

Quelle: Eduard Gerlach

What is Cold Plasma?

The 4th state of matter



Generated directly from air

- **Physical definition:** Cold plasma is ionized gas – the “4th state of matter” alongside solid, liquid, and gas
- **Generation:** Surrounding air is ionized using high-frequency current
- **Active components:** Reactive oxygen and nitrogen species (RONS), UV light, electric fields
- **Temperature:** Approx. 38 °C – pleasant and safe for the skin
- **No consumption:** of external gas or materials – making it practical and cost-effective for everyday use

Quelle: Eduard Gerlach

How Does Cold Plasma Work?

Its effects are based on multiple synergistic mechanisms



Versatile in application

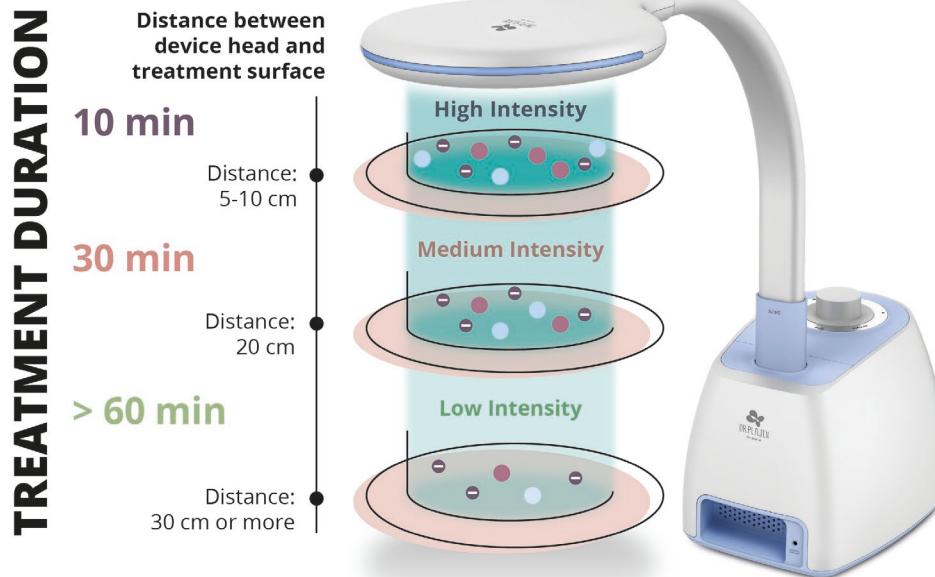
- **Antimicrobial effect:** Destroys fungal and bacterial cell walls; alters the outer structure of viruses
- **Improved blood circulation:** Enhances microcirculation
- **Stimulation of cell regeneration:** Activates the body's natural repair processes
- **Selectivity:** Healthy skin remains unaffected – only pathogenic structures are targeted
- **Context-sensitive effect:** Responds specifically to impaired skin functions

Quelle: Eduard Gerlach

Function of Dr.plajin

A large number of plasma electrons are generated from the device head of Dr.plajin. These negatively charged plasma electrons (–) move toward the nearest grounded part of the body (+).

Intensity and distance dependency from the device head



The plasma concentration of reactive species (ROS/RNS) depends on the distance between the device head and the treatment surface. The shorter the distance, the higher the intensity, the shorter the treatment time – and vice versa.

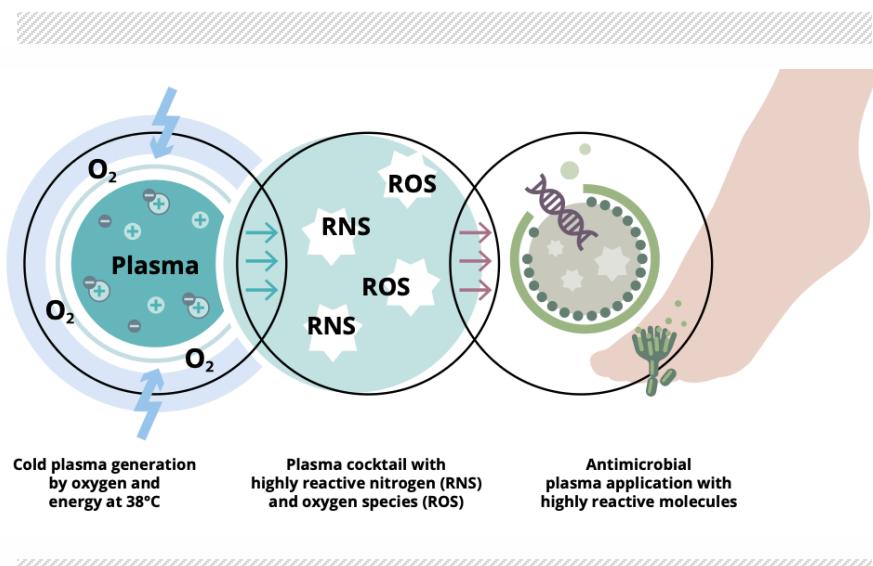
● Free electrons, ● Reactive oxygen species (ROS), ● Reactive nitrogen species (RNS)

Intensity & distances

- **High Density (High-Intense) 5~10 cm:** High-density plasma electrons are concentrated and absorbed by the skin. Suitable for intensive skin care (e.g. disinfection, acne, etc.).
- **Medium Density (Medium-Intense) 20 cm:** Medium-density plasma electrons are concentrated and absorbed by the skin. Suitable for intensive skin care in infants and general skincare applications in adults.
- **Low Density (Low-Intense) 30 cm:** Low-density plasma electrons are concentrated and absorbed by the skin. Suitable for general skincare in infants and the sleep mode for adults.

Context-Selective! Dual Mechanism of Action

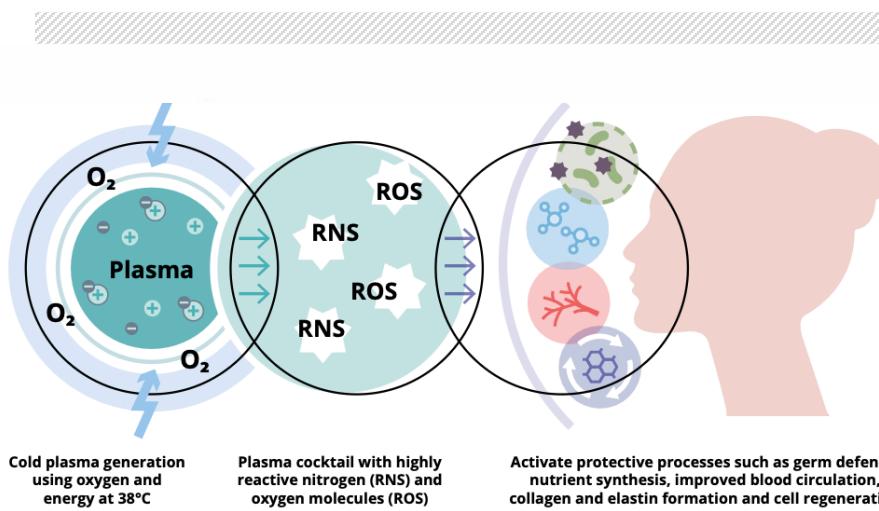
Therapeutic effect against fungi, bacteria, and viruses



Non-regenerative cells:

- Reactive plasma species destroy pathogenic cell structures and cause irreversible damage >>> **Cell death for germs!**

Nurturing, preventive effect on healthy skin



Regenerative (skin) cells:

- Reactive plasma species stimulate and activate regeneration and vital processes >>> **Cell renewal/protection for the skin!**

Benefits for Practices and Studios

Hygienic, cost-effective, and easy to use



Dr.plajin Cold Plasma Device

- **Hygienic:** No skin contact, no risk of cross-contamination
- **Cost-effective:** No consumables or follow-up costs
- **Time-saving:** Easy integration into existing treatment routines
- **Effective:** Broad spectrum of action for various indications
- **User-friendly:** One-touch operation
- **Portable:** Also suitable for home visits or mobile practices

Quelle: Eduard Gerlach

Device Setup & Operation – easy!



Cleaning and Disinfection

- Wipe disinfection after each patient
- Do **not** use spray disinfectants
- Use only according the officially recommended disinfection preparations by the national responsible authority
- Do **not touch** the plasma source (corona diodes on the underside of the head)
- If necessary, shape the diodes with a dry, lint-free cloth

AG EN DA

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Areas of Application in Medical Foot Care

Suitable for many common indications



Treatment of:

- **Nail fungus** – even in persistent or recurring cases
- **Tinea pedis (athlete's foot)** – relieves itching and reduces pathogens
- **Inflamed, ingrown nails** – anti-inflammatory and promotes healing
- **Rhagades and fissures** – pain-relieving and regenerative
- **Diabetic foot syndrome (Wagner 0)** – activates microcirculation and protects the skin
- **Warts, ulcers, brace aftercare** – easily adjustable via distance and treatment time

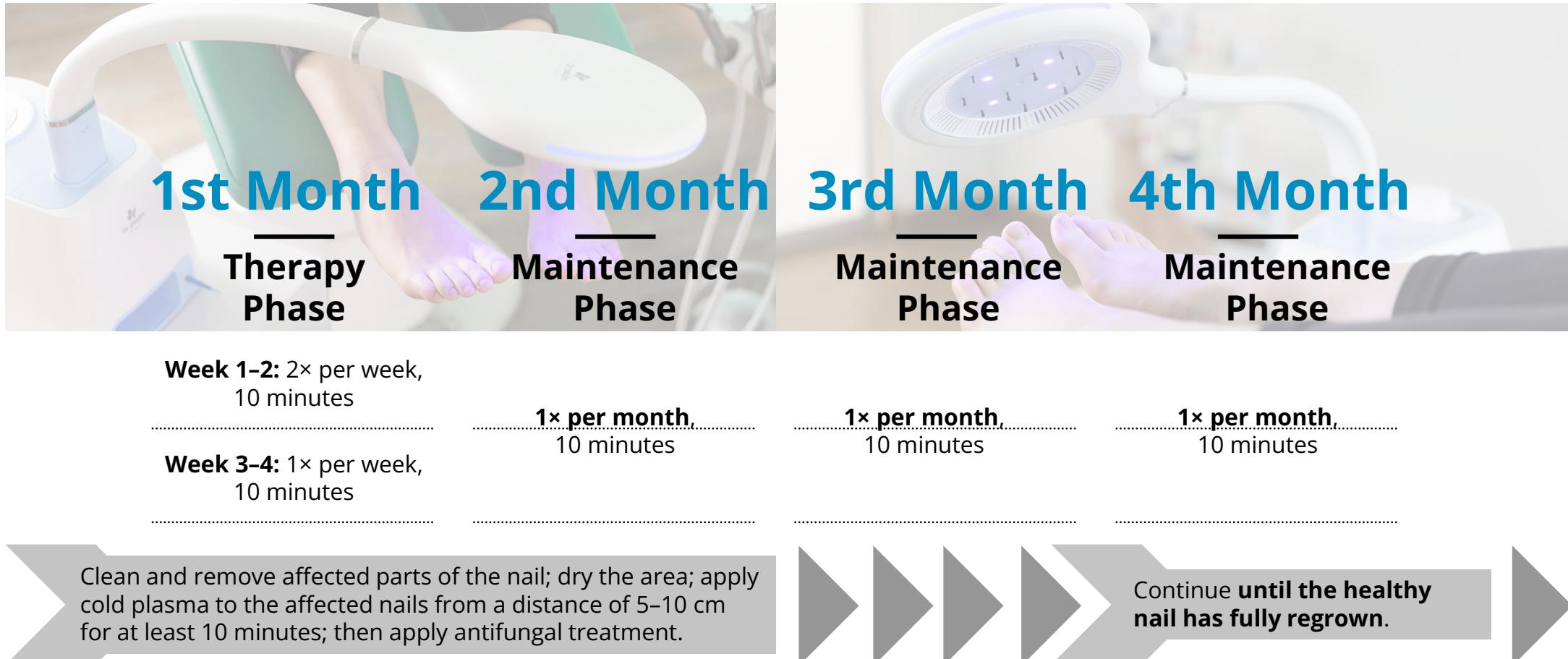
Areas of Application in Medical Foot Care

Indication	Goal	Duration	Distance	Program	Care
A Nail Fungus	Antimycotic effect by destroying the fungal cell structure. Especially helpful in therapy-resistant cases.	10 minutes	5-10 cm	2-3 times/week during the first 2 weeks, then 1×/week; maintenance phase: 1×/month starting from the 2nd month.	GEHWOL MED Nail and Skin Protection Spray
B Inflamed Nail	Relieves inflammation and pain, promotes healing after pressure relief.	10 minutes	5-10 cm	1-2×/week	GEHWOL MED Nail Softener, GEHWOL Fluid
C Diabetic Foot Syndrome (non-ulcerated)	Improves microcirculation, helps prevent infections.	30 minutes	10-30 cm	1-2 ×/week depending on the severity	GEHWOL MED Lipidro Cream
D Cracks / Fissures	Activates wound healing and reduces bacterial load.	10 minutes	5-10 cm	2-3×/week	GEHWOL MED Salve for Cracked Skin
E Warts	Virucidal effect helps reduce wart viruses after removal of callused skin.	10 minutes	5-10 cm	2×/week	GEHWOL MED Foot Powder, GEHWOL MED Callus Cream

Areas of Application in Medical Foot Care

Indication	Goal	Duration	Distance	Program	Care
F Athlete's Foot	Relieves itching and redness, reduces pathogenic germs.	30 minutes	10-30 cm	3×/week	GEHWOL FUSSKRAFT Care Cream, GEHWOL MED Protective Nail and Skin Cream
G Pressure Points, Blisters	Anti-inflammatory effect, pain relief, and promotion of healing.	10-30 minutes	5-30 cm	1-2×/week	GEHWOL MED Express Foam, GEHWOL pressure relief made from polymer gel
H Nail Correction (e.g., NASPAN brace)	Prevents irritation and infection after brace placement.	10 minutes	5-30 cm	Apply after placement and at follow-up appointments.	GEHWOL MED Protective Nail and Skin Oil
I Small Ulcers	Stimulates wound healing, helps prevent infections <i>(only with medical approval or sufficient qualification).</i>	10-30 minutes	5-30 cm	2-3 times/week, with close monitoring	GEHWOL FUSSKRAFT Repair Cream <u>(care after wound healing)</u>

Example Treatment: Nail Fungus



Quelle: Eduard Gerlach

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Case Studies from Medical Foot Care

Case 1: Chronic Ulcer



Fig. 1-7: Chronic ulcer on the dorsal side of the second toe, which developed after the perforation of a gout tophus. The patient had been under treatment since October 24, 2022. Treatment with a cold plasma device was applied daily from October 23, 2023, to January 15, 2024.
(Images: Diabetology Specialist Practice Dr. med. Sandra Pietschmann)

Case 2: Chronic Ulcer



Fig. 8-12: Chronic ulcer on the right lower leg (Patient A) and left ankle (Patient B), both of which did not heal under conventional treatment. After 10 cold plasma treatments over approximately 3 weeks (A) and 12 sessions (B), the ulcers healed.
(Images: Practice of Dr. med. Karl-Enno Döhnel, Specialist in Dermatology)

Case Studies from Medical Foot Care

Case 3: Atopic Dermatitis with Plantar Warts Case 4: Blister



Fig. 1-8:
Atopic dermatitis with plantar warts, treated daily with cold plasma (Dr. plajin) for 4 weeks.



Fig. 9-12:
Blister on the big toe. 6 treatments.



Case Studies from Medical Foot Care

Case 5: Diabetic Foot Syndrome



Fig. 1-4:

Diabetic foot syndrome. Improvement in skin condition after 8 weeks of cold plasma treatment with Dr.plajin, applied 3 times per week.

Quelle: Eduard Gerlach

Areas of Application in Medical Foot Care

High Cost-Effectiveness for both the practice and self-paying patients

Fair Pricing Structure	Pricing Example	Potential Revenue
<ul style="list-style-type: none"><input checked="" type="checkbox"/> Device Depreciation<input checked="" type="checkbox"/> Practice Overhead (e.g., room costs, utilities)<input checked="" type="checkbox"/> Personnel Time (setup, hygiene, consultation)<input type="checkbox"/> Not applicable: Additional treatment effort<input type="checkbox"/> Not applicable: Material consumption (e.g., spacers)	<ul style="list-style-type: none">■ €2-3 per minute of cold plasma treatment■ Example – Nail Fungus Therapy:■ 6 sessions of 10 minutes each = 180€ revenue■ 30€ per session during maintenance phase (calculated at 3€/min)	<ul style="list-style-type: none">■ 50 patients × 6 sessions × 10 minutes: ≥ 9.000 € additional revenue■ 100 patients × 6 sessions × 10 minutes: ≥ 18.000 € additional revenue■ 250 patients × 6 sessions × 10 minutes: ≥ 45.000 € additional revenue

Even with just **28 nail fungus patients**, the device acquisition cost is covered through the initial therapy phase alone.
And after that? Only **high-margin additional revenue**, since there are **no operating costs**.

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Smoother and Healthier Skin Through Cold Plasma



- 01 Activation of Antioxidative Signaling Pathways:**
Strengthens immune defense, supports nutrient synthesis, improves blood circulation, and promotes cell regeneration.
- 02 Stimulation of Cell Migration and Proliferation:**
Enhances skin renewal and regeneration.
- 03 Boosting Collagen and Elastin Synthesis:**
Anti-aging effects through increased collagen content and improved skin elasticity.
- 04 Improved Absorption of Active Ingredients:**
Optimizes (post-device) care treatments for face, body, feet, and hands.

Quelle: Eduard Gerlach

Benefits for Cosmetic Foot Care

Foot care, detox, anti-aging, and more



Perfect integration

- **Cleansing & Skin Analysis:**
Gentle cleansing with a foot bath, assessment of skin type and condition
- **Scrub:**
Removal of dead skin cells
- **Foot Care:**
Nail and skin treatment
- **Cold Plasma Application (10-30 minutes):**
Targeted treatment where needed (e.g., redness, dry areas, pigmentation spots)
- **Finishing Care:**
Soothing cream or moisturizing treatment

Quelle: Eduard Gerlach

Areas of Application in Cosmetic Foot Care

Also suitable for problematic skin



Applications for

- **Acute skin issues**
(e.g., acne, inflammations):
2-3 treatments per week over a period of 4-6 weeks
- **Chronic skin conditions**
(rosacea, pigmentation spots):
1-2 treatments per week over several weeks
- **Regular skin care, cosmetic foot care, and anti-aging treatments:**
Initially every 2 weeks,
then 1 treatment every 4-6 weeks to support skin regeneration and targeted skin care

Quelle: Eduard Gerlach

Areas of Application in Cosmetic Foot Care

Indication	Goal	Duration	Distance	Program	Care
A Classic Foot Care	Gentle cleansing, care, callus removal	30 minutes	10-30 cm	Foot bath, callus removal, nail trimming, full-area plasma application, care cream	GEHWOL FUSSKRAFT Intensive Cream
B Dry, Cracked Skin	Increase moisture, strengthen skin barrier	10 minutes	5-10 cm	Cleansing, removal of dry callus, spot plasma application, care mask	GEHWOL MED Lipidro Cream
C Fissures, Small Cracks	Support wound healing, relieve itching, regenerate skin	10 minutes	5-10 cm	Cleansing, targeted plasma application, regenerating care	GEHWOL MED Salve for Cracked Skin
D Foot Bath	Detox and relaxation	30 minutes	10-30 cm	foot bath, full-area plasma application, oil massage	GEHWOL FUSSKRAFT Herbal Bath, GEHWOL Foot Bath, GEHWOL Bath Salt
E Scrub	Skin renewal, glow effect	30 minutes	10-30 cm	Peeling, full-area plasma application, hydrating lotion	GEHWOL FUSSKRAFT Soft Feet Scrub, GEHWOL FUSSKRAFT Soft Feet Cream

Quelle: Eduard Gerlach



Areas of Application in Cosmetic Foot Care

Indication	Goal	Duration	Distance	Program	Care
F Anti-Aging Foot Care	Improve skin density and elasticity	30 minutes	10-30 cm	Cleansing, callus removal, plasma application	GEHWOL FUSSKRAFT SOFT FEET Cream
G Wellness Foot Care	Spa and luxury care with regenerative plasma finish	30 minutes	10-30 cm	Foot bath with aroma additive, peeling, plasma application, massage	GEHWOL FUSSKRAFT SOFT FEET Butter
H Aroma Foot Care	Anti-inflammatory protection, improved absorption	30 minutes	10-30 cm	Cleansing, aroma foot bath with essential oils, plasma application, massage with aromatic cream	GEHWOL FUSSKRAFT Care Cream with oils of lavender, rosemary, and mountain pine
I Sensitive Skin / Redness	Soothing and protecting the skin barrier	30 minutes	10-30 cm	Gentle cleansing, mild plasma application, calming lotion	GEHWOL FUSSKRAFT Repair Cream, GEHWOL MED Sensitive Cream
J Rebuilding Treatment	Regeneration, strengthening the protective barrier	30 minutes	10-30 cm	Foot bath with additives, callus removal, plasma application, intensive care, massage	GEHWOL FUSSKRAFT Hydrolipid Lotion

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Additional Treatment Options at the Institute

Detox, facials, anti-aging, and more



Possible Treatments:

- Cleansing & cold plasma for impure skin
- Anti-acne treatment
- Sensitive skin / couperose treatment
- Anti-aging therapy
- Fruit acid peel + cold plasma application
- Device-based cosmetics + cold plasma application
- Moisture booster
- Scar treatment / acne scar treatment
- Glow / regeneration treatment
- Prevention and care for stressed skin

Cold plasma add-on to regular treatments (10-30 minutes)

Quelle: Eduard Gerlach

Areas of Application in Cosmetics

Indication	Goal	Duration	Distance	Program
A Impure Skin	Gentle cleansing, care, and deep pore cleansing	30 Minuten	10-30 cm	Gentle cleansing, care, and deep pore cleansing
B Anti-Acne Treatment	Reduce inflammation, stabilize skin microbiome	10 Minuten	5-10 cm	Cleansing, anti-inflammatory mask, cold plasma, light serum
C Sensitive Skin Treatment	Soothing and reducing redness	10 Minuten	5-10 cm	Cleansing with calming product, no extractions , cold plasma, soothing mask
D Anti-Aging Therapy	Stimulate regeneration and skin firming	30 Minuten	10-30 cm	Cleansing, enzyme/fruit acid peel, cold plasma, anti-aging serum, finishing care
E Fruit Acid Treatment	Faster regeneration and soothing	30 Minuten	10-30 cm	Skin analysis, fruit acid application, neutralization and calming, cold plasma, hydrating care

Quelle: Eduard Gerlach

Areas of Application in Cosmetics

Indication	Goal	Duration	Distance	Program
F Device-Based Cosmetics	Accelerate healing (!), prevent infections	30 minutes	10-30 cm	Cleansing, cold plasma, device-based treatment, regenerative serum, calming finishing care
G Moisture Booster	Deep penetration of active ingredients	30 minutes	10-30 cm	Cleansing, enzyme peeling, cold plasma, hyaluronic serum + sheet mask, moisturizing care
H Scar Treatment	Promote healing, smooth tissue	30 minutes	10-30 cm	Cleansing, light abrasive peeling, cold plasma, scar serum
I Glow / Regeneration	Activate cell metabolism	30 minutes	10-30 cm	Gentle cleansing + scrub, cold plasma, serum, finishing mask
J Prophylaxis	Strengthen the skin barrier, prevent inflammation	30 minutes	10-30 cm	Cleansing, enzyme peeling, cold plasma, care with panthenol / soothing care

Quelle: Eduard Gerlach

Case Studies from Cosmetics

Case 1: Hand Eczema



Fig. 1-6:
Psoriasis with severe scaling and stressed skin on the palm.
Treatment was performed with a cold plasma device over a six-week period from 06.09.2019 to 20.09.2019. Visible improvement in skin texture.

Case 2: Skin Texture Changes



Fig. 7-14:
Redness / rosacea, spider veins, acne / impure skin before and after cold plasma treatments.

Case Studies from Cosmetics

Case 1: Dermatitis



Fig. 1-4:
Dermatitis on the elbow, 17 cold plasma treatments over 4 weeks.

Quelle: Eduard Gerlach

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Areas of Application in Cosmetics

Effective Additional Revenue Without Extra Effort (calculated at €3/min)

Number of Clients	Working Days per Year	Additional Revenue (€/year)
2 clients per day	1 ca. 200 after vacation	12.000 € to 36.000 €
4 clients per day	1 ca. 200 after vacation	24.000 € to 72.000 €
6 clients per day	1 ca. 200 after vacation	36.000 € to 108.000 €
8 clients per day	1 ca. 200 after vacation	48.000 € to 144.000 €
10 clients per day	1 ca. 200 after vacation	60.000 € to 180.000 €

⇒ Each treatment includes one cold plasma session **10-30 minutes**.

The **fairly calculated price** for a cold plasma application is around **€3 per minute**.

This results in an **additional €30 to €90 in revenue per session**, depending on treatment duration and service offered –

without significant additional effort, making it **highly profitable!**

DR.PLAJIN – Advantages at a Glance



- 01** **Low strain and painless:**
Contact-free application with approx. 5-30 cm distance
- 02** **No additional effort – fairly calculable for patients and clients:**
Thanks to intuitive operation and seamless integration into existing treatment routines
- 03** **No consumables required:**
Environmentally friendly, low-maintenance, hygienic, and cost-effective
- 04** **Largest available treatment area (400 cm²):**
Also covers surrounding skin areas – ideal for the preventive treatment of healthy skin zones

Quelle: Eduard Gerlach

