



skin cooling  
feel the difference







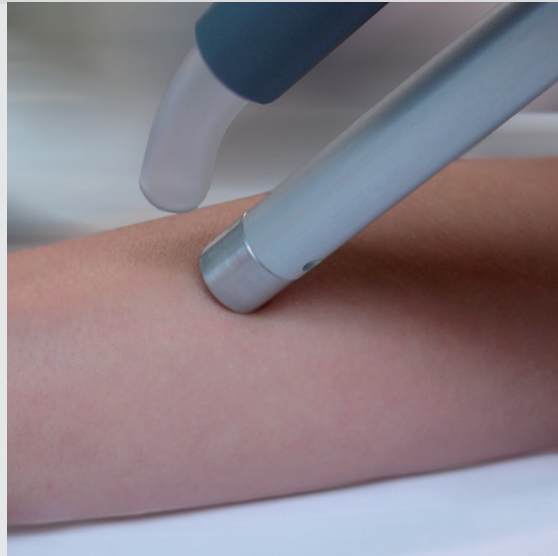


# Cold air for highest patient comfort

## The skin cooling system designed for superficial laser skin procedures.

The Cryo 6 cold air device is intended to minimize pain and thermal injury during laser and dermatological treatments and for temporary topical anesthetic relief for injections.

Unlike other cooling methods, such as contact cooling, cryogen spray or ice packs, the Cryo 6 can cool the epidermis before, during and after the laser energy has been applied, without interfering with the laser beam.



## Zimmer MedizinSysteme Cryogenic Competence, Made in Germany

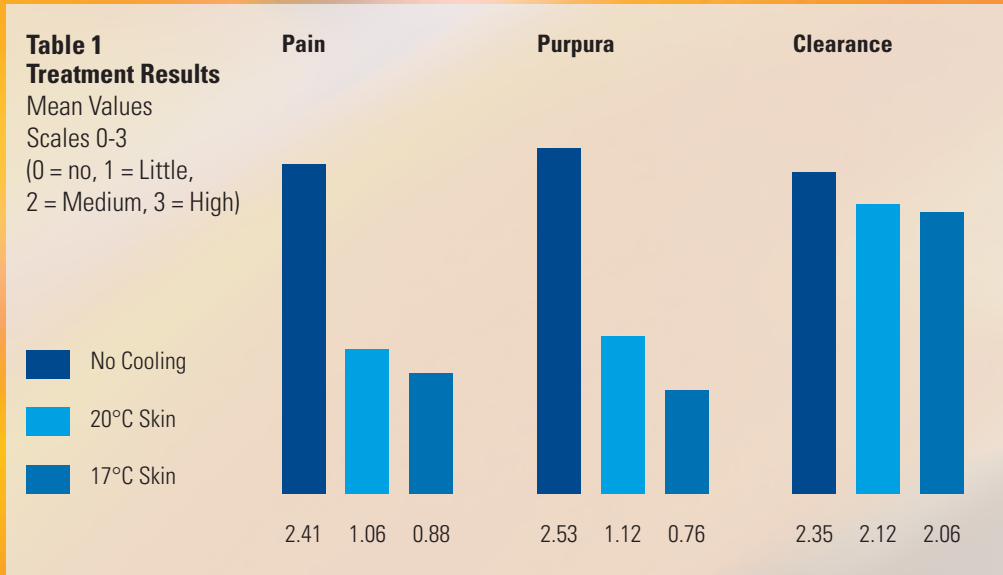
Cold air cooling is widely used in dermatological laser therapy. We investigated the influence of cold air cooling at different skin temperatures on therapeutic outcome and side effects of pulsed dye laser treatment of facial telangiectasia.



# Evaluation of different temperatures in cold air cooling with Pulsed-Dye Laser

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## Study Design / Materials and Methods

From September 2002 to February 2003, 17 patients with previously untreated facial telangiectasia underwent a single treatment session with flash-lamp pulsed dye laser (3.5 J / cm<sup>2</sup>, 585 nm, 0.45 milliseconds pulse length, 10 mm beam diameter, Cynosure 1 V). The treatment area was divided into three sub-areas: no cooling, cold air cooling to 20°C and to 17°C skin temperature.

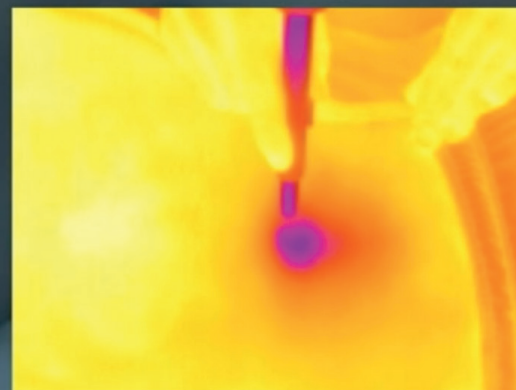
The skin temperature was monitored by a prototype infrared sensor system which controlled the temperature of the cold air stream (Cryo 5).

In a prospective study, we collected data on purpura, pain, clearance, and patient satisfaction on numerical analog scales (NAS) from 0 (meaning »no«) to 3 (meaning »high«).

## Results

Without cooling, purpura (2.53), pain (2.41), and clearance (2.35) were rated medium to high. Cooling to 20°C reduced purpura (1.12) and pain (1.06), whereas the clearance (2.12) was only slightly affected. Cooling to 17°C reduced purpura (0.76) and pain (0.88) even more, the clearance (2.06) was lowered marginally. Most patients preferred cooling to 20°C skin temperature.

## Thermal Image



recommended temperature range between 10°C and 15°C

## Conclusion

In dermatological laser therapy of facial telangiectasia, the use of cold air cooling can significantly reduce side effects and increase patient satisfaction while only slightly affecting clearance. Cooling to 20°C skin temperature proved to be a well-balanced middle course. For the practical use of cold air cooling, we thus recommend cooling to a level which the patient can tolerate without problems and to try to increase the energy densities.

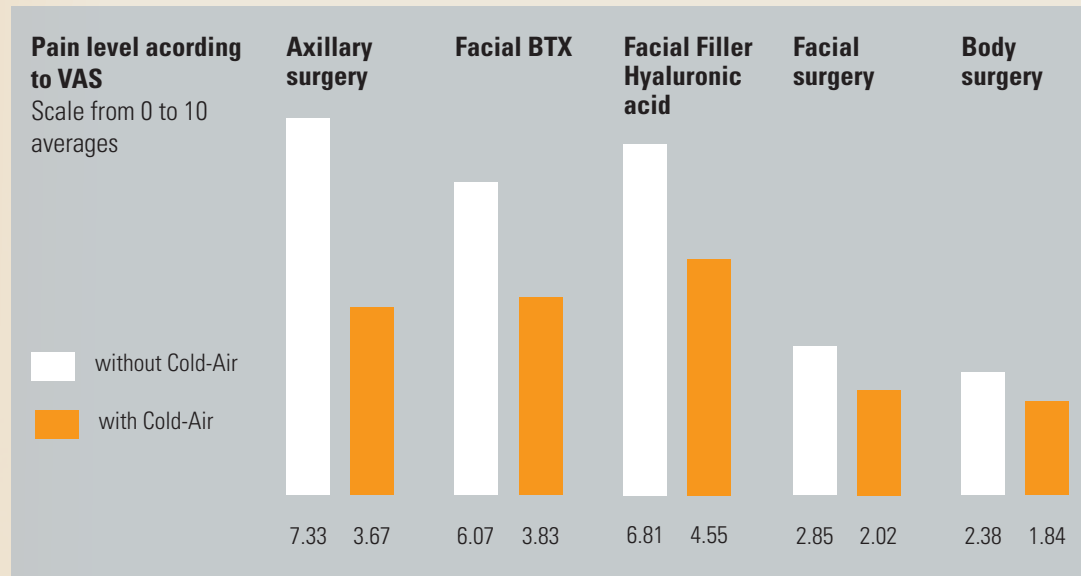


# Painreduction during skin injections by cold air application

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## Material and method

The treatment with and without cold air application was conducted in halfside comparison. The force of the air current corresponded with level 5 of the instrument Cryo 6 by the company Zimmer MedizinSysteme (scale of levels 0-9). Each patient served as his/her own monitoring, as the intervention took place symmetrically on both body halves, the cold air treatment however only on one half. Measured was the subjectively declared pain by means of a visual analog scale of 1-10, whereby 1 indicated no pain and 10 the most severe imaginable. As pain occurrence was applied the prick with the injection needle, either to inject BTX, Hyaluronic acid or a local anesthetic.



The cold air was applied to the patients during the interventions. The fan level 5 of the instrument Cryo 6 (company Zimmer MedizinSysteme, Neu Ulm) was used. The cooling was applied during the complete duration of the injection (approx. 1 – 2 minutes). An exact cool air nozzle opening of 5 mm was used. The distance between the cool air nozzle opening and the skin surface was 3 cm on average. Used were the hyaluronic acid products of the company Zimmer MedizinSysteme *Z Fill* refresh for subdermal injection and *Z Fill* deep for intradermal injection.



## Results

All patient groups had significantly less pain after the treatment with cold air than without cold air. This also corresponds with the well studied pain reduction effect of cold air. Cold air relieves pain reliably in cosmetic interventions. Especially significant was the pain relief during the non-surgical treatments with injections of Botulinumtoxin and Hyaluronic acid-fillers. Cold air reliably reduces the pain of the pre-treatment of cosmetic interventions by allowing a painless injection of BTX, hyaluronic acid or a local anesthetic.





-30°C

#### **Easy to operate**

A large display clearly indicates all treatment parameters. Cryo 6 features a tactile glass keyboard, which permits the selection of 6 preset programs.

Select a program.  
Press Start. That's it!

An optional articulating arm facilitates hand free operation.

The light weight application hose can be connected to selected laser hand-pieces. The user can easily regulate the air flow as needed.

#### **Economic**

Room air is filtered and cooled down to -30°C by a closed cooling circuit.

- Cost efficient: no consumable or additional costs
- Powerful: full day operation with no downtime
- Practical: a custom-designed glass shelf just where you need it – for a laser, smoke evacuator or accessories.

#### **Easy Maintenance**

A monitoring system measures the defrosted water level and a defrosting feature provides smooth-running daily operation. The air filter is easy to access, just vacuum when dirty.





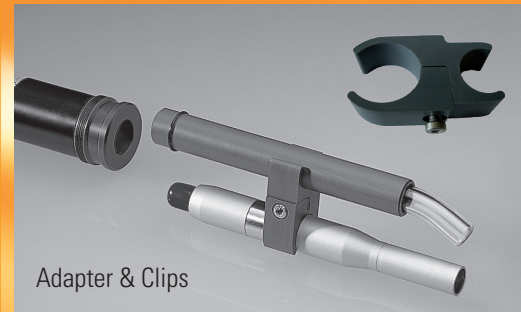
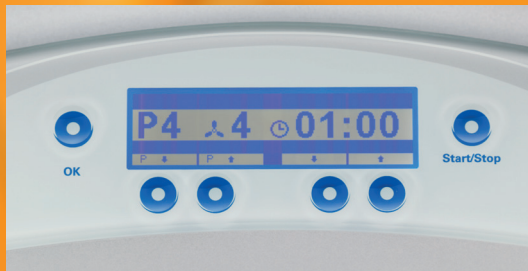
# Z Cryo - The perfect system for skin cooling



## User Defined Programs

3 supplementary storage possibilities are available for user defined programs.

Storage possibility is available for the user's favorite program which appears when the Cryo 6 is turned on.



Adapter & Clips



Treatment hose 3 meters



Articulating arm

# options



# Technical Data



Power supply	220-240 V / 50 Hz, 240 V / 60 Hz, 100-120 V / 50-60 Hz
Power input max.	1 kW
Stand-by function	260 W / h
Protection according to IEC 601-1	Class I, Type B
MDD / MPG	Class IIa
Programs	6 programs combining air flow and treatment time 3 user defined programs 1 favorite user defined program
Treatment tube length	200 cm
Therapy air flow	9 levels, max. 1000 l / min
Housing dimensions	H 645 mm / W 390 mm / L 680 mm
Weight	60 kg

