



HILOTHERAPY®

Against swelling,
pain and haematoma.

Information folder

Problem / Initial status

Surgeries or fresh injuries mostly result in

- strong bleeding,
- massive swelling
- and pain.

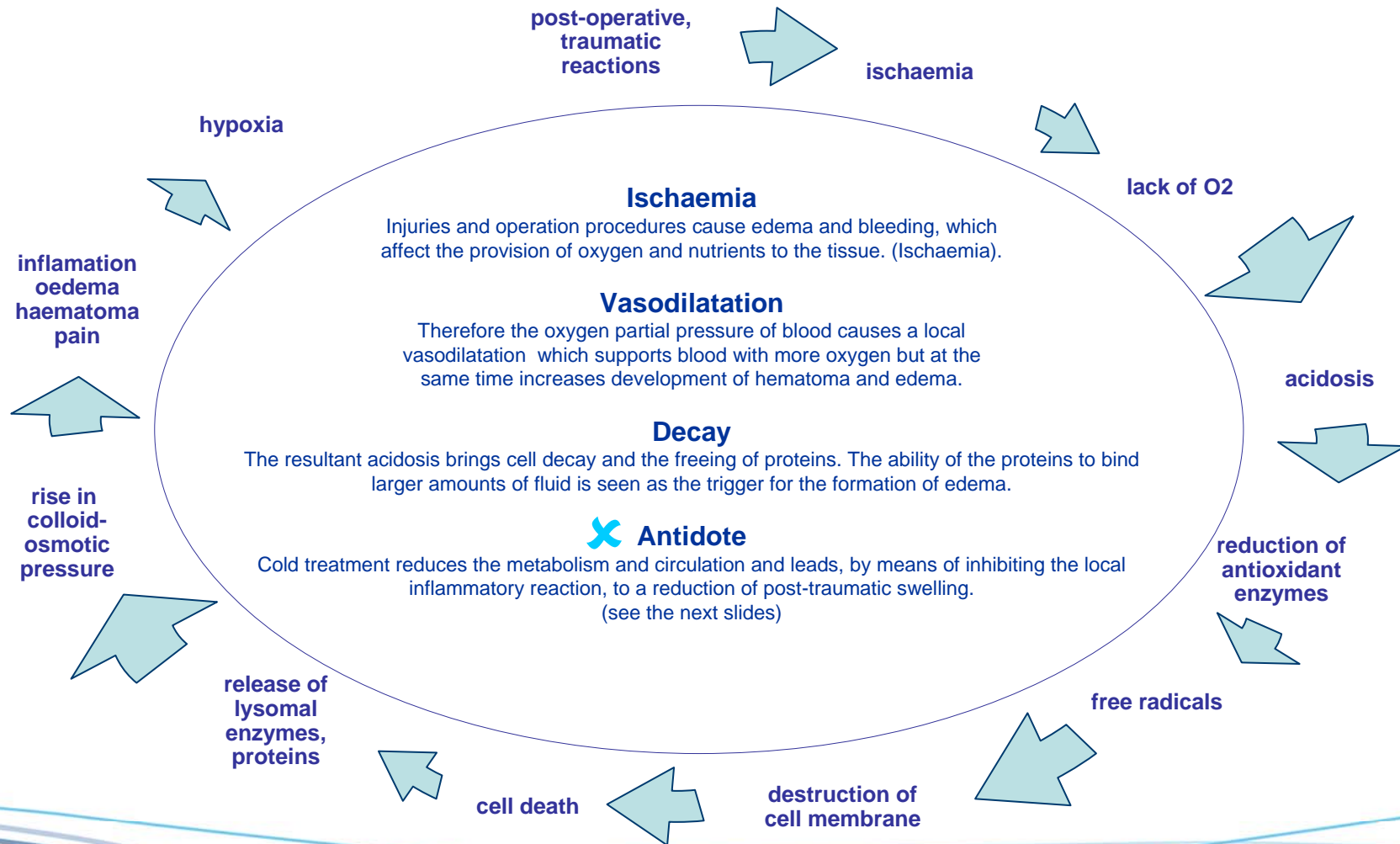
Consequences are

- increased need for painkillers,
- fever and feeling unwell,
- delayed mobilization.

**Local cooling reduces and prevents these consequences.
But the right temperature is decisive!**

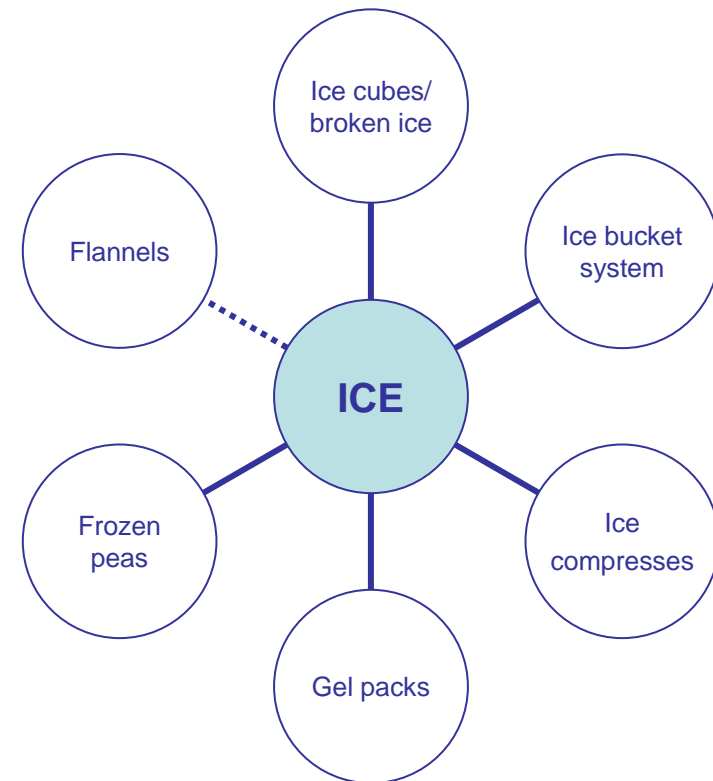
From trauma to hypoxia damage

✦ Approach of HILOTHERAPY[®]



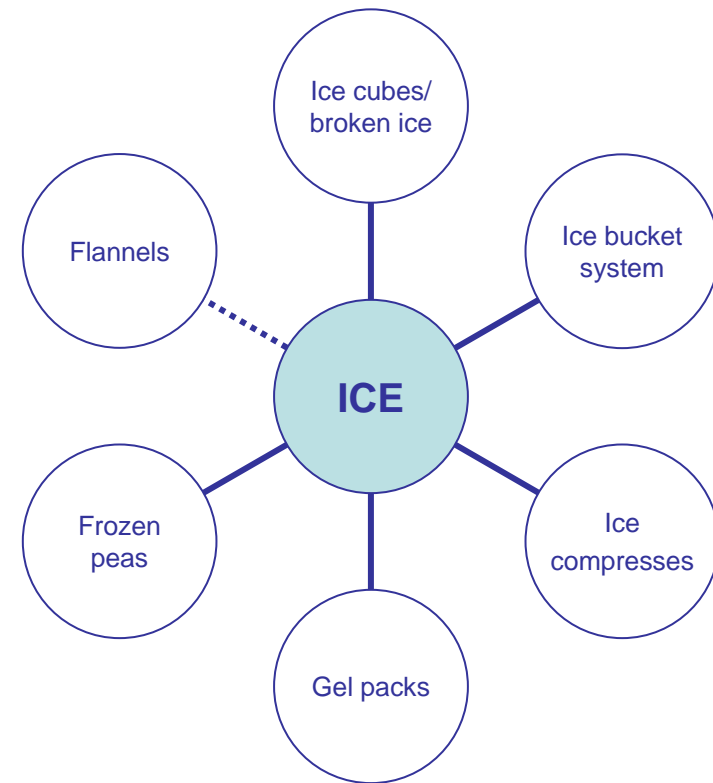
The problems with traditional coolants

- Aggressive cold treatments
 - can seriously damage skin and tissue (frostbite/paralysis)
 - in combination with a short-term application, these ALWAYS lead to a reactive hyperemia
- The temperature cannot be
 - regulated
 - Constant
- The coolant has to be replaced regularly
- Increased burden on the health care workers



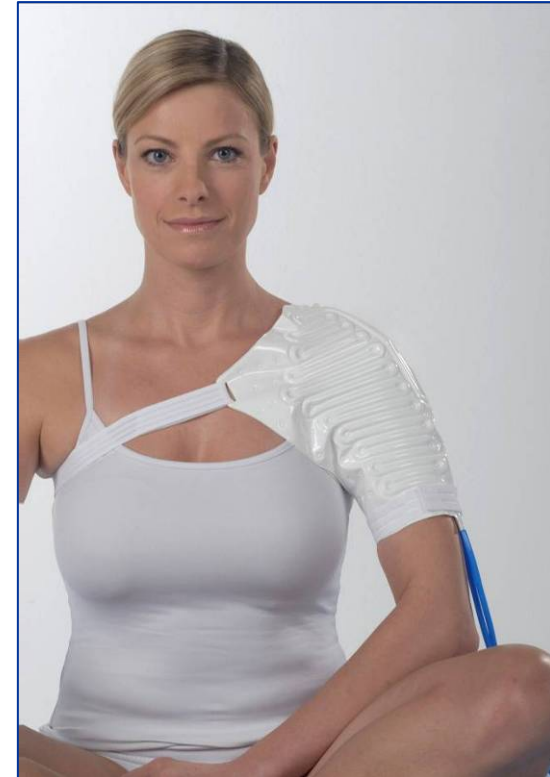
The problems with traditional coolants

- At below **15°C** lymphatic drainage is disturbed
- At below **10°C** the following is disturbed:
 - the proprioception
 - the creation of fibroblasts
 - the microcirculation
- At below **5°C**
 - the nerves no longer conduct any impulses

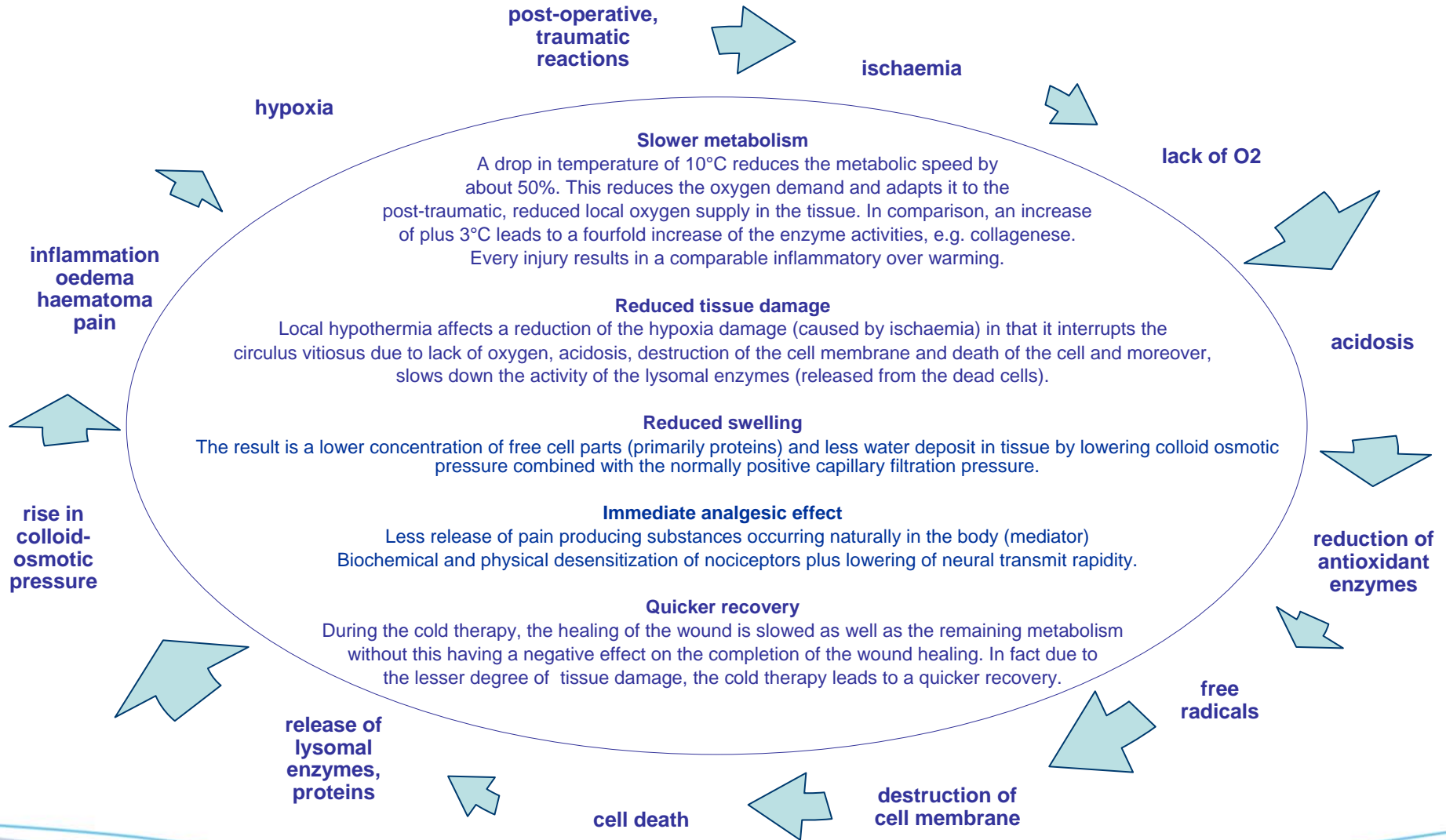


The Solution: HILOTHERAPY®

- Worldwide the most modern Thermotherapy.
- Controlled temperature regulation to the degree from +10°C to +30°C.
- Anatomically-adapted cuffs for every part of the body.
- Broad indication spectrum.
- Easy to use.
- Long-term therapy requiring little effort from health care workers.



Hilotherapeutic effects



Hilotherapy Effects

- Primary
 - Falling of skin and tissue temperature
 - Reduction of the metabolic processes
 - Adaptation to the oxygen and substrate needs
 - Vasoconstriction
- Secondary
 - Reduction of the tendency to swelling
 - Reduction in the formation of hematoma
 - Inhibits the inflammatory reaction
 - Soothing and pain-killing
- Other
 - Reduced lymphatic production
 - Increase of the venal compression/pressure
 - Relaxation of muscles
 - Decreased nerve impulse speed
 - Higher viscosity of tissue and synovia



Indications for HILOTHERAPY®



Range of Applications

- **Surgery**
 - Micro-surgery
 - Plastic Surgery
 - Vascular Surgery
 - Orthopaedic & Bone Surgery
 - Oral and Maxillofacial surgery
 - Implantology
 - general post-operative wound healing
- **Sport and other injuries**
 - Sprains, muscle strain, myorrhexis, luxation, tendon strain
 - Effusions of blood (treatment of haemophiliacs)
 - Edema
- **Functional Rehabilitation**
 - Improvement of mobility
 - Pain relief
 - Relaxation of the muscles
- **Rheumatic Illnesses**
 - Inflammatory rheumatism
 - Algodystrophy-Syndrome
 - Ischias
- **General**
 - Fever
 - Migraines and stress-related headaches

Medical Sectors

- Traumatology / Orthopaedics
- Oral and Maxillofacial Surgery
- Ear, Nose and Throat Medicine
- Plastic / Aesthetic Surgery
- Physiotherapy / Rehabilitative Medicine
- Sports Medicine
- Dermatology
- Rheumatology
- Emergency Medicine

Which Temperatures?

Generally recommended temperatures

All of the temperatures specified are standard values that have been arrived at via practical experience. As such, they are to be understood as recommendations. Ultimately, the respective patient's sensitivity is decisive. The patient must feel comfortable.

CAUTION!
Do not allow tissue temperature to fall below 15°C!

Recommendations for specific applications

• Blepharoplasty		12–16°C	4–5 hours	without applied pressure!
• Injection treatment of wrinkles	Pre treatment	17–19°C	30–45 minutes	
	Post treatment	17–19°C	45–60 minutes	
• Laser treatments	Pre treatment	15–17°C	30 minutes	
	Post treatment	15–19°C	45–60 minutes	
• Photodynamic therapy	Pre treatment	14–17°C	30 minutes	
	Post treatment	14–19°C	30–60 minutes	
• Chemical peelings		16–19°C	30–60 minutes	
• Liposuction		14–27°C	3 hours	depending on which part of the body is affected and the patient's sensitivity to the cool or warm temperatures
• Migraine headaches			Temperature and duration to be determined by patient	Upper face cuff Eye cuff Round cuff applied to back of neck
• Fever		12–15°C	As long as needed	Trapezoidal cuffs applied to the calves
• General application for the reduction of pain		16–21°C		for head/neck
		14–17°C		for the limbs

CAUTION! Only allow *the abdominal area* to be cooled below 27°C if explicitly specified by a doctor. Otherwise, the intestinal peristalsis may be affected!

Exemplary cuff use



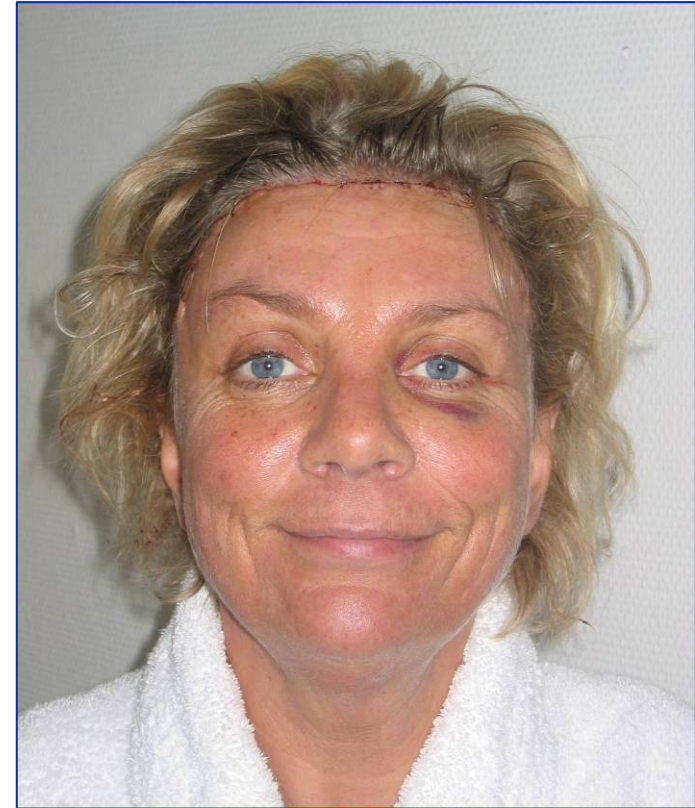
Cooling with HILOTHERAPY®

HILOTHERM®

- Both patients have received a face-lift (at a medical congress in Sylt/Germany).



Post-operative treatment with a traditional cold pack.



Post-operative HILOTHERAPY® treatment.

Cooling with HILOTHERAPY®

- Histologically-controlled excision of a basaloma on the left upper lid
- Much swelling in post-operative state, impossible to open the lid
- After 24 hours of HILOTHERAPY® only moderate swelling remains with a free upper lid movement

Intra-operative

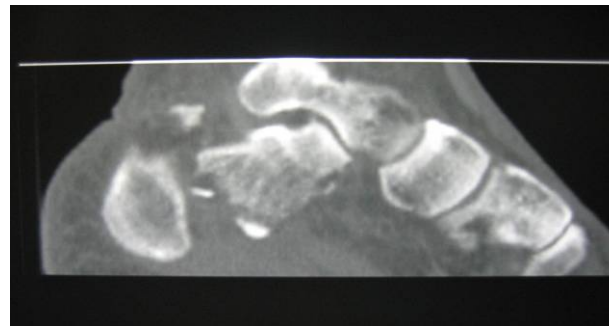


Post-operative (24hrs)



Cooling with HILOTHERAPY®

- Calcaneus comminuted fracture with long- lasting swelling, inhibiting surgery
- After two days of HILOTHERAPY® at 18°C surgery was possible, trouble free wound closure
- Little postoperative swelling and less need for analgesics due to HILOTHERAPY® lasting several days



Pre-operative



Cooling with HILOTHERAPY®

- Parkklinik Weißensee,
Prof. Dr. Behrbohm
- HILOTHERAPY® after rhinoplasty
- Long-term application at 18°C



This picture shows a patient 24 hours after the operation.

Cooling with HILOTHERAPY®

HILOTHERM®

- Polytrauma provision with HT 01
- The intensive care health workers noticed
 - an extraordinarily quick receding of the swelling (genital 50% within 24 hrs!),
 - good reaction of the body temperature
 - improved ability to patients' positioning as a result of less swelling
 - less need for analgesics



Cooling with HILOTHERAPY®



Face lift, pre-operative



Face lift, post-operative (24hrs)

References

Medical field	Clinic/Practice
Oral and Maxillofacial surgery	<ul style="list-style-type: none"> • Bad Homburg, Kreisklinikum Hochtaunus • Berlin, Universitätsklinik Charité CBF • Berlin, Schlossparkklinik • Dessau, Städtisches Klinikum • Düsseldorf, Universitätsklinik • Gießen, Universitätsklinik • Halle-Wittenberg, Universitätsklinik • Heidelberg, Universitätsklinik • Kiel, Universitätsklinik • Krefeld, St. Josefhospital • Münster, Universitätsklinik • Chemnitz, Klinikum • Münster, Fachklinik Hornheide • Osnabrück, Klinikum • Regensburg, Universitätsklinik • Schwäbisch-Gmünd, Staufer-Klinik • Würzburg, Universitätsklinik • Tübingen, Universitätsklinik • Ulm, Bundeswehrkrankenhaus • Bietigheim, Krankenhaus • Essen, Universitätsklinik • Salzburger Landeskliniken, Paracelsusklinik • Privatklinik Bethanien Zürich

Medical field	Clinic/Practice
Oral and Maxillofacial surgery	<ul style="list-style-type: none"> • Baden-Baden, Dres. Kotrikova und Semiotis • Bad Homburg, Dr. Dr. Kater • Böblingen, Dres. Beck, Birkenhagen, Peters • Coburg, Dres. Feller und Otte • Düsseldorf, Dr. Dr. Gutsche • Heidenheim, Dres. Fröschl & Steckeler • Ludwigsburg, Dr. Dr. Schmetzer • München, Dr. Dr. Haase • Mutlangen, Dr. Dr. Keweloh • Nürtingen, Dr. Dr. Henßler • Osnabrück, Dr. Dr. Bartnik • Ratingen, Dr. Dr. Loxtermann • Stuttgart, Dres. Lübbe, Meschenmoser, Deniz • Troisdorf, Dr. Dr. Kinder • Waldshut-Tiengen, Dr. Dr. Dorow • Würzburg, PD Dr. Dr. Bill • Dortmund, Praxisklinik Nilius • Eckental, MKG Zentrum, Dr. Wolski • Bad Nauheim, Zahnarztpraxis Dr. Merk • München, Dr. Dr. Seeliger • München, Paracelsusklinik • Köln, Clinic Rheinauhafen, Zahnmedizin • Düsseldorf, Kö 68

References

Medical field	Clinic/Practice
Plastic / Aesthetic surgery	<ul style="list-style-type: none"> • Darmstadt, Rosenparkklinik • Görlitz, Städtisches Klinikum • Münster, Evangelisches Krankenhaus • Wesseling, Dreifaltigkeitskrankenhaus • Zürich, Privatklinik Bethanien • Berlin, Dr. Kauder • Hamburg, Dr. Meyer Praxisklinik Brahmsallee • Leipzig, Dres. Kaisers und Horak • Ludwigsburg, Dr. Grübmeier • Ludwigsburg, Dr. Schmetzer • Nürnberg, Dr. Kunze • Mannheim, Dr. Solz • Nürnberg, Norisklinik Dr. Sebastian • Düsseldorf, Dr. Neidel • Seligenstadt, EMMA Klinik • Bergisch Gladbach, Parkklinik Schloss Bensberg • Lindau, Zentrum für Chirurgie Bodensee • Kassel, Rotes Kreuz Krankenhaus • Düsseldorf, KÖ-Klinik • Dr. Öhler, Sun Welly Klinik, Obermieming, Österreich • Dr. Almasbegy, Innsbruck, Österreich

Medical field	Clinic/Practice
Plastic / Aesthetic surgery	<ul style="list-style-type: none"> • Aachen, Universitätsklinikum
Dermatology	<ul style="list-style-type: none"> • Gera, SRH Waldklinikum • München, Universitätsklinikum Rechts der Isar • Essen, Laser Medizin Zentrum (LMZ) • München, Dr. Storck • Recklinghausen, Knappschafts Krankenhaus • Heilbronn, Hautklinik der SLK-Kliniken • Hildesheim, Hautzentrum • Hamburg, Dermatologikum

References

Medical field	Clinic/Practice
Ear, Nose and Throat medicine	<ul style="list-style-type: none"> • Berlin, Parkklinik Weißensee • Borna, Helios Klinikum • Darmstadt, Rosenparkklinik • Gera, SRH Wald-Klinikum • Heidelberg, Universitätsklinik • Leipzig, Universitätsklinik • Leipzig, Diakonissenkrankenhaus • München-Großhadern, Universitätsklinik • Recklinghausen, Prosperhospital • Ulm, Bundeswehrkrankenhaus • Ulm, Universitätsklinikum • Stuttgart, Katharinenhospital • Salzburger Landeskliniken, St. Johannis-Spital

References

Medical field	Clinic/Practice
Physical Therapy, Physiotherapy, Sports medicine	<ul style="list-style-type: none"> • Frankfurt am Main, Berufsgenossenschaftliche Unfallklinik • Ulm, Rehabilitationsklinikum • Barcelona, Spanien, Dr. Jordi Ardevol, Medical Director F.C. Barcelona • Gelsenkirchen, Gregor Zielesnik • Stuttgart, Dr. Degwert • Donaustauf, Eden-Reha, Klaus Eder • Bonn, Alexander Frese • Offenbach, Rehazentrum SPOREG • Herrenberg, Medizinische Fitness, Manfred Schumann • Fellbach, VPT-Akademie • Balingen, Physiotherapie Roller • München, Physio & Docs • Bad Griesbach, Medical Center Golfhotel Maximilian • Krefeld, St. Josefshospital • Königsbrunn, Revital Therapiezentrum • Fellbach, Rehazentrum Dr. Käsemann

Medical field	Clinic/Practice
Orthopaedics, Traumatology	<ul style="list-style-type: none"> • Freiburg, Universitätsklinik • Traunstein, Klinikum • Krefeld, St. Josefshospital • Hamburg, Park-Klinik Blankenese • Starnberg, Zentrum für Handchirurgie, Dr. Strassmair • Fellbach, Dr. B. Käsemann • Kitzbühel, Dr. Tschallener • München, Dr. Harzmann