



„Our daily concern  
is your health“



„Our main disciplines are:

- Regional Chemotherapy
- Surgical Oncology
- Hyperthermia
- Immunotherapy
- Pain therapy“



## A warm welcome to the Medias Klinikum!

For us it is completely natural to carefully attend to the needs of our patients and their families. This commitment goes far beyond medical care.

Our clinic is located in the city of Burghausen/Upper Bavaria, an idyllic region at the German-Austrian border.

We are a specialised clinic with more than 35 years of expertise in regional chemotherapy under the direction of Prof. Dr. med. Karl R. Aigner. We are a centre of medical excellence and service in this specialized area of oncology.

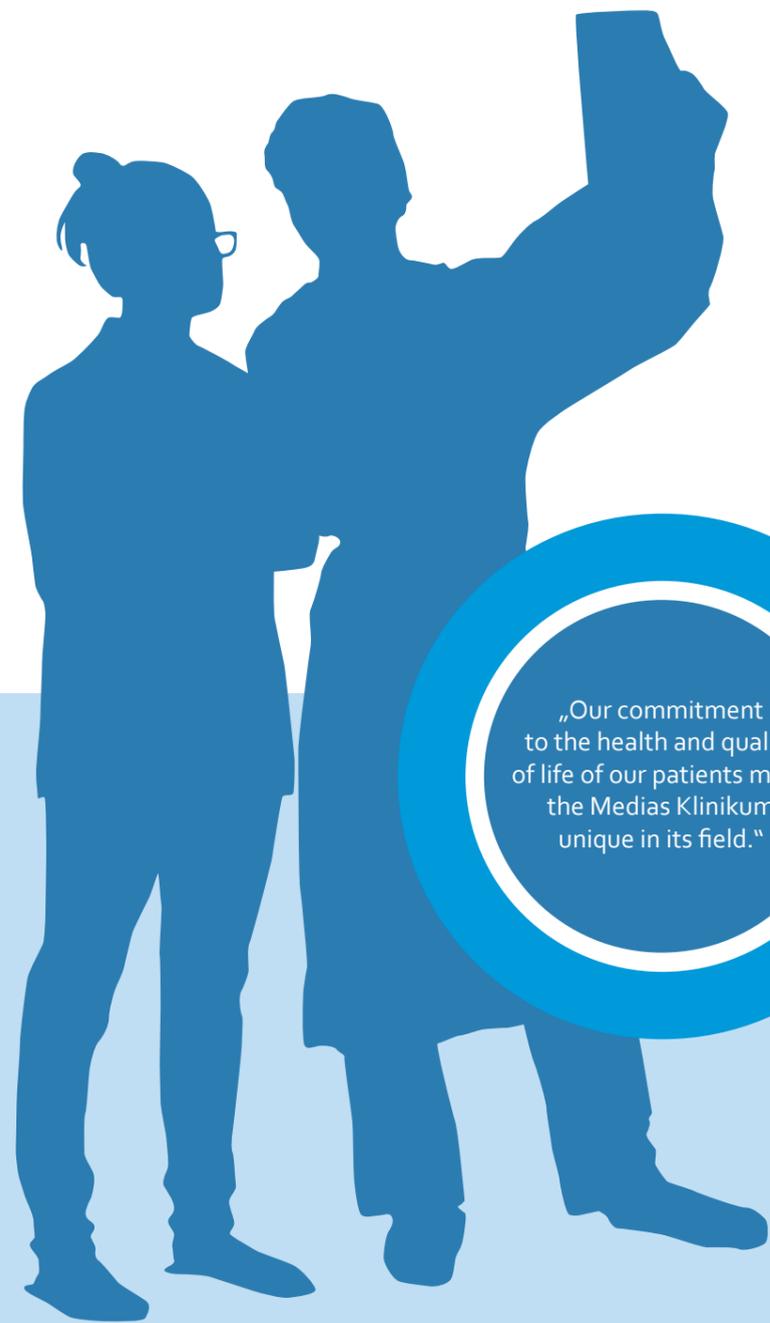
A team of internationally experienced oncology specialists, supplemented by specialists from other areas of expertise, together with our commitment to the health and quality of life of our patients make the Medias Klinikum unique in its field. Our services also include palliative medicine and supportive medicine as well as anaesthesiology with a major focus on pain therapy.

A high staffing ratio and excellent nursing staff allow us to provide our patients with individualized and warm-hearted care.



At our hospital we offer you modern, comfortable single and double rooms. All of the rooms are equipped with telephone, WLAN connections and television. Modern exceptionally comfortable bathrooms round off the amenities. Of course, we are glad to accommodate your family members as well.

Naturally, we are also set up to meet the needs of international patients. Our medical team speaks several foreign languages and in addition, we can provide you with an international foreign language translation service.



Our daily concern is your health.

„Our commitment to the health and quality of life of our patients make the Medias Klinikum unique in its field.“

In order to meet your needs and offer you the highest quality medical treatment and comprehensive care and counselling, we have assembled a team of motivated, experienced physicians. Our team is augmented by experts from other specialties along with a professional nursing and administrative staff.

**Our medical team is led by Prof. Dr. med. Karl R. Aigner.**

He is one of the world's pioneers in the field of regional chemotherapy. He has been involved with regional chemotherapy for over 35 years and today he is considered as one of the world's most experienced experts in this treatment method. Numerous lectures and guest operations in the USA, Japan, China, Israel, Egypt, Australia and a number of other countries, as well as over 200 professional publications, lectures and guest operations both in Germany and abroad attest to his medical commitment to RCT – regional chemotherapy.



— **Emir Selak – Chief Senior Physician**

He completed his medical studies in Banja Luka (Bosnia & Herzegovina).

— **Dr. med. Sabine Gailhofer – Senior Physician**

Studied in Munich and Los Angeles (USA) and obtained her doctoral degree in 1988 in the Dermatology Department at the Ludwig Maximilian University of Munich.

— **Karl E. Steinbach – Director of Anaesthesia and Pain Therapy**

Completed his medical studies at the Ruhr University Bochum and the University of Hamburg.

— **Kornelia Aigner – Biologist**

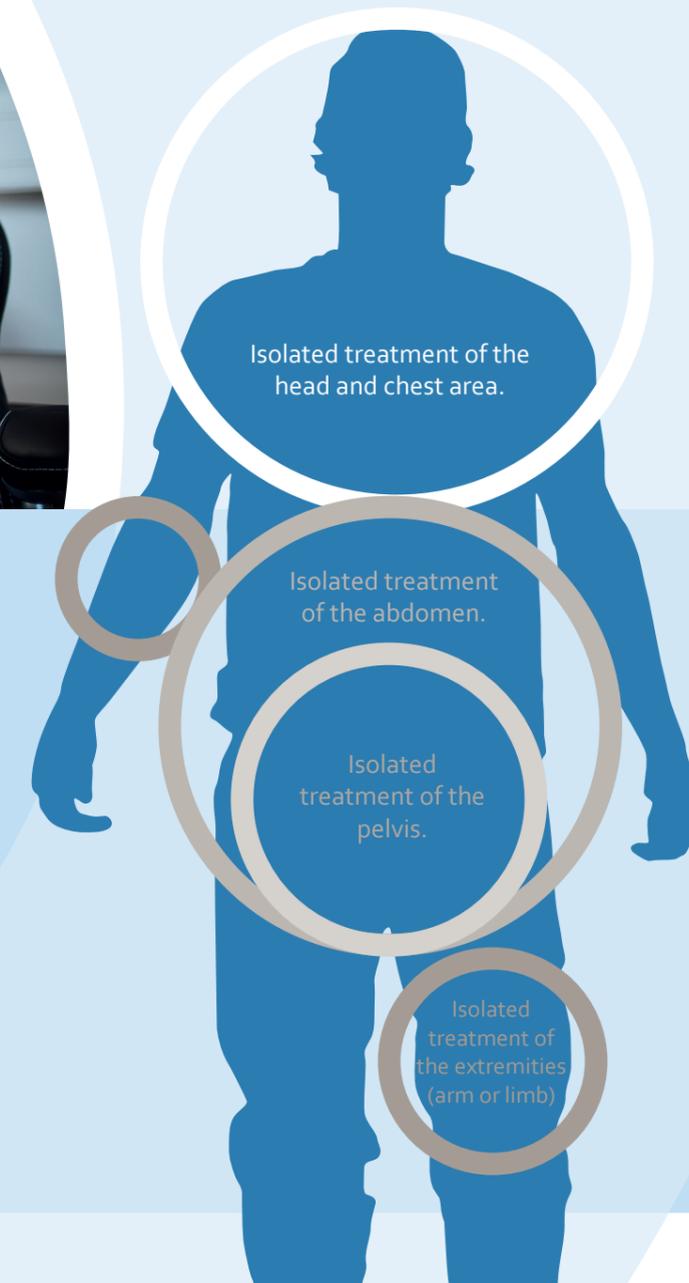
Studied in Regensburg and Düsseldorf, specialising in the fields of immunology and bioinformatics.

— **Dr. med. Hans-Ulrich Mayr – Consultant for internal medicine** He studied medicine at the Ludwig Maximilian University (LMU) in Munich and the „Université Pierre et Marie Curie“ in Paris.



#### What is regional chemotherapy (RCT)?

Regional chemotherapy (RCT) is regionalized chemotherapy, that is, chemotherapy restricted to one region of the body or to one organ. Thus, medication (a cytostatic or chemotherapeutic agent) is administered into the arteries (blood vessels) that supply the tumour or the tumour region with blood. Using regional therapy, a larger amount of the administered cytostatic agent is taken up by the tumour in the tissues. Immediately following the treatment procedures, the blood is washed out by chemofiltration and the excess medication removed.



## Regional Chemotherapy (RCT): harms the tumour – not the patient.

#### What is the working principle underlying regional chemotherapy?

Our aim in using regional chemotherapy is to severely damage the tumour while keeping side-effects for the patient to a minimum. Regional chemotherapy is effective in treating what are known as „solid tumours.“ However, not every type of tumour responds equally well to highly concentrated chemotherapy.

Some tumours require extremely high concentrations of the anti-tumour medication, while others show treatment effects even at lower concentrations. The rule of thumb is that to permanently damage a solid tumour, you need about six times the concentration that can be achieved using conventional chemotherapy. With a number of different RCT techniques, it is possible to reach concentrations of cytostatic agents that are between three to ten times (and in extreme cases up to eighty times) as high as those in conventional chemotherapy. The goal of regional chemotherapy is to reduce the size of the tumour prior to surgery to such an extent that the ensuing surgical procedure can be kept as small as possible. In the best case, the tumour disappears completely even before surgery.

#### What are the advantages of regional chemotherapy?

Since regional chemotherapy is always restricted to a single body region or organ, the overall effects upon the body as a whole are less, despite the intense regional effect, and fewer side-effects occur. Not least, as a result of the systemic detoxification performed after each treatment using chemofiltration, in 95% of cases patients tolerate the treatment extremely well. Their quality of life is less impaired, and often, it already begins to improve quite rapidly directly after treatment. Nausea and vomiting are very rarely seen after the treatment.



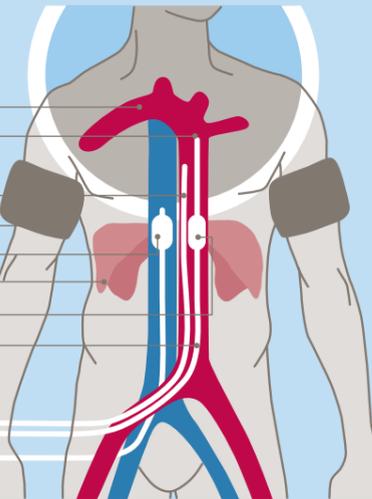
„In RCT, the anticancer drugs are administered directly into the organ or body region affected by the tumour.“



All treatments are based upon the principle:  
It is the tumour that should suffer – not the patient.

**Isolated perfusion for example thoracic perfusion (ITP)**

- aortic arc
- coaxial catheter
- in stopflow catheter
- angio catheter
- upper arm pneumatic cuff
- v. cava balloon block
- diaphragm
- aortic balloon block
- stopflow catheter
- cytotoxic drug
- pumpe with chemofilter

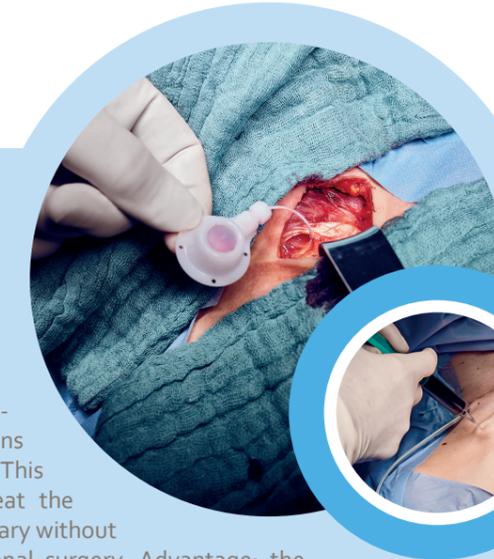


**Isolated perfusion**

Isolated perfusion is also performed as part of a surgical operation. In this procedure, an organ or body region is isolated using catheter systems and this region is subsequently perfused with a high concentration of the cytostatic agent by means of an external pump. At the same time or just prior to the procedure, the tumour can also be heated (hyperthermia) and/or the oxygen content of the blood can be reduced after administration of the cytostatic agent (hypoxia). For some cytostatic agents, this can result in up to a tenfold increase in drug concentrations (toxicity) for the tumour. To remove excessive amounts of chemotherapy agents from the systemic circulation we use chemofiltration after each isolated perfusion – the patient experiences few side effects.

**Arterial infusion through a surgically implanted port catheter**

In this method, a port catheter is implanted directly into the vessel supplying the tumour by means of a surgical operation. This makes it possible to treat the tumour as often as necessary without the need for any additional surgery. Advantage: the patient is mobile afterwards, since arterial infusion can be performed by puncturing the port each time. The operation provides better information about the extent of the tumour. Disadvantage: surgery and its attendant risks.

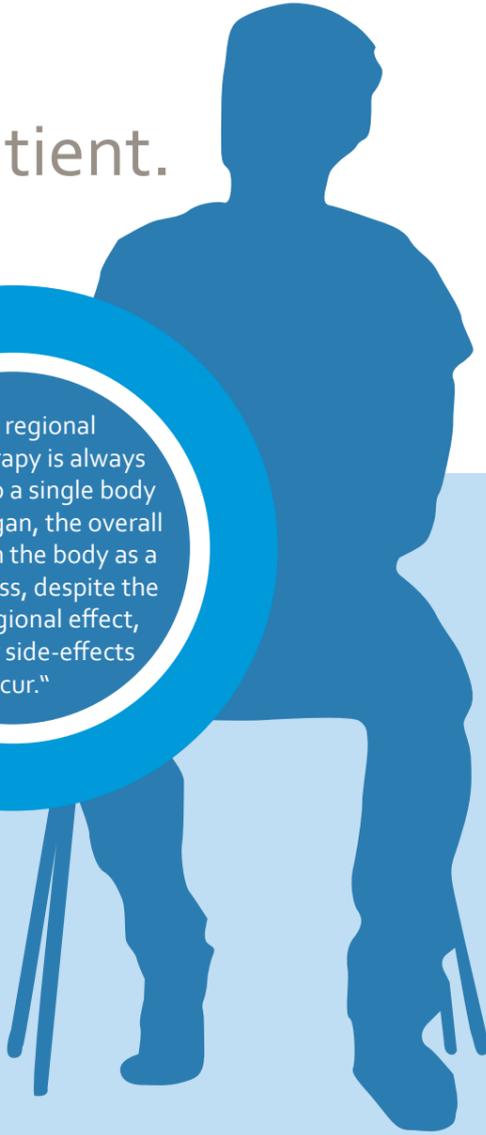


**Arterial infusion via an angiographically placed catheter**

For arterial infusion, a catheter is inserted into an artery in the groin area under regional anaesthesia and its tip is directed into the tumour region under X-ray monitoring and placed there. Advantage: no surgery required.

Disadvantage: during treatment (3-4 days), the patient cannot get out of bed.

„Since regional chemotherapy is always restricted to a single body region or organ, the overall effects upon the body as a whole are less, despite the intense regional effect, and fewer side-effects occur.“



Our goal is to reduce the size of the tumour prior to surgery.

„We supplement surgical treatment with individually adapted pain therapy. In this way, we can keep our patients largely symptom-free.“

#### Surgical Oncology

- the no touch isolation technique, which refers to the surgical removal of tumours with a minimum of manipulation in order to prevent dissemination of cancer cells during surgery.
- additional treatment of the tumour bed for thorough prevention of later regional recurrences. For this purpose, we use regional chemotherapy adapted to the specific situation, in the form of an arterial infusion or the isolated perfusion of an organ or a segment of the body.
- Low-complication surgery has a direct impact upon quality of life, especially if the operative time/duration for major procedures can be kept to a minimum, if blood loss is avoided and the occurrence of postoperative complications eliminated or minimized.
- Reconstruction following extensive procedures for tumour removal, and avoiding mutilating operations whenever possible are likewise important elements in maintaining quality of life.

- Setting indications for surgery: especially for advanced stages of tumours, this is of major importance. Surgical treatment will be performed in a manner that is adapted to the stage of the tumour, administered at the proper time, and, its extent determined in accordance with the patient's resilience.

#### Hyperthermia

##### Deep hyperthermia

Using deep hyperthermia, we raise the temperature of the tumour region above 43°C. This causes direct destruction of tumour tissue as a result of thermal damage.

##### Whole-body hyperthermia

In whole-body hyperthermia, the entire body is warmed in a hyperthermia bed. A temperature of 38 to 39°C results in increased circula-



tion in the tumour due to dilation (expansion) of the tumour vessels. Increased circulation improves the blood supply to the tumour, and more cytostatic agent is thus brought to the site during regional chemotherapy.

#### Immunotherapy

Immunotherapy at Medias Klinikum Burghausen is

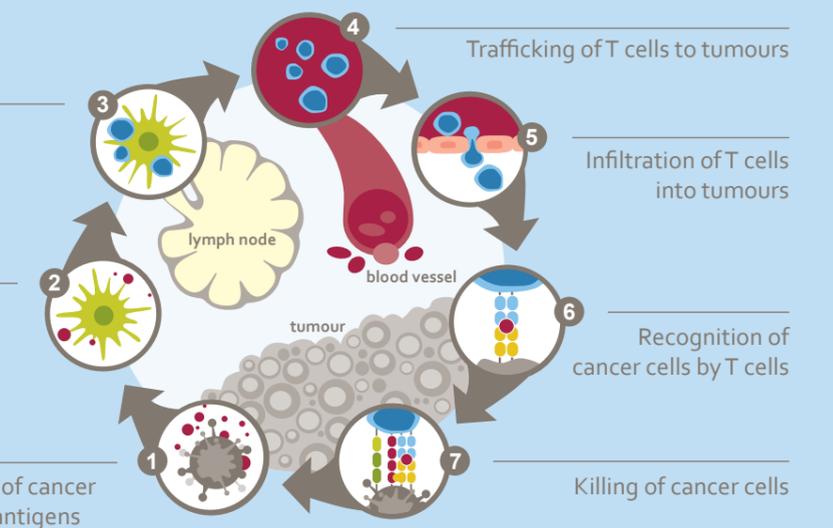
- according to latest scientific knowledge/ state of research
- personalized
- targeted and health tissue conserving
- and strengthen the own immune system.

#### The Cancer Immunity Cycle

Priming and activation

Cancer antigen presentation

Release of cancer cell antigens





„Each tumour responds different to any kind of therapy. It is crucial therefore to find out which kind of therapy is more effective. This can be achieved by precise diagnostics.“



## Individual treatment plans for each patient.



### Molecular Diagnostics

We offer various methods of molecular diagnosis. In order to treat and target your cancer not only locally but also molecularly, we apply a variety of tests for molecular and cellular analysis.

State-of-the-art analytical methods enable the creation of a personalized therapy plan and accurate monitoring of the therapy process using blood samples and tumour tissue.

### Personalised Therapy

Targeted treatment of only the affected body regions and therapy decisions based on molecular diagnosis enable highly personalised therapy. In this way, the tumour is specifically and effectively damaged and healthy tissue is spared.

The health condition and immune status of each patient is different. Every tumour has a specific molecular and genetic profile and therefore responds uniquely to different therapies.

Targeted molecular diagnostics can be used to find a personalised and effective therapy combination for each patient.

### Treatment plan

Regional chemotherapy is administered in cycles. One cycle is carried out per month during a one-week in-patient stay. A treatment usually requires 2 to 6 therapy cycles.

The possible combination of regional chemotherapy with other therapies is discussed and planned individually with you. Further hospitalisation is not required for this.

You are welcome to contact us regarding a potential course of therapy at the Medias Klinikum.

Do you have any questions? Please contact us – we will be happy to assist you.

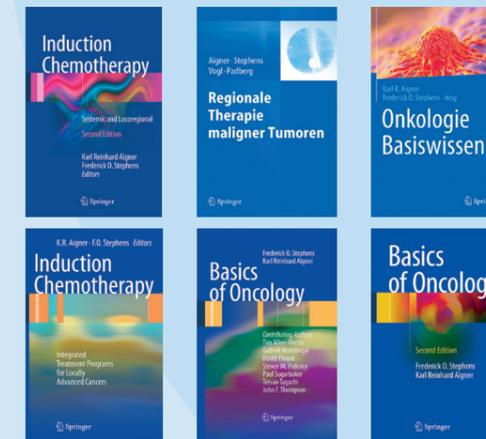
„Your well-being and your satisfaction are the goals of our daily work.“



For more information on Regional Chemotherapy please see:

- Basics of Oncology; Frederick O. Stephens, Karl Reinhard Aigner (eds), 2009
- Induction Chemotherapy; Karl Reinhard Aigner, F.O. Stephens (eds), 2011
- Regionale Therapie maligner Tumoren, K. R. Aigner, F. O. Stephens, Th. Vogl, W. Padberg (eds), 2013
- Basics of Oncology Second Edition; Frederick O. Stephens, Karl Reinhard Aigner (eds), 2016
- Induction Chemotherapy Second Edition; Karl Reinhard Aigner, Frederick O. Stephens (eds), 2016
- Onkologie Basiswissen; Karl R. Aigner, Frederick O. Stephens (eds), 2016

For further literature please visit: [medias-klinikum.de](http://medias-klinikum.de)



Do you have any questions, or would you like to make an appointment?

Please write to us or call us on the telephone.

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