→ Chief physician Timo Joensuu uses the Docrates imaging devices with brisk efficiency. Assisted by radiographer Jarno Lillak he might take a PET-TT scan to check the effect of a single dose of chemotherapy. The artificial sky in the PET room is a nice touch.

DOCRATES CANCER CENTER

TREATING CANCER, TREATING PERSON

↓ Every detail of the Docrates building enhances cancer treatment in some way, physically or psychologically. Many procedure rooms are just behind the wall of the lobby, so there is no chance to feel the gloomy hospital feeling. The place doesn't even smell like a hospital.

Docrates is not so much a building on the Helsinki seafront, but more like a medical device that just happens to be the size of a house. The clinic was designed from the ground up to treat a person with cancer.

The nature of the design can be seen even in the parking hall, if you know what to look for. At first sight the hall looks cramped with oddly placed pillars, but there is more to this than meets the eye.

The pillars are supporting 2,5 meter (eight feet) thick concrete walls that enclose the linear accelerator that is used for the external radiation therapy. That's the first part of the story.

The second part is more interesting. All cancer treatment centers have devices like this, but they are usually built underground, precisely because of those heavy radiation protections.

The Docrates linear accelerator was built on the ground floor and the reason was - daylight. The clinic designers didn't want to force their patients to a dark bunker, so they rather made a compromise on the garage. Now the patient can walk directly from a sunlit hallway to the wood paneled radiation therapy room.

Why? This way the patient will feel a little better.

EXTREME SPORTS

The parking space is just about the only compromise in the entire building. Everything else has been thought through with such vigorous attitude that sometimes one of the founders Timo Joensuu sounds more like an athlete than a doctor.

-In the middle of an appointment I might ask the patient to wait a moment. I rush into the lobby and ask the staff to set up a MRI (magnetic resonance imaging). The patient might be in the scanning machine within an hour.

Immediately afterwards Joensuu

huddles around the results with a group of oncological heavyweights that is actually called "the action team". The office might be packed with experts on radiology, radiotherapy, surgery and chemotherapy. Everyone attacks the data from their position and then an idea might appear: hey, this is it! This solves the puzzle!

The next step in the treatment is often started on the same day, not weeks or months later.

As cancer care goes, this is the extreme sport version. Even the floor plan of the building was designed to make everything happen fast and fluid. The patient can simply walk on a path from the reception to the doctor's office and then to the drug treatment room and so on. When things get better the patient walks into the physical therapy room to get her strength back.

The path can be understood symbolically as a carefully planned healing process, but also as a physical route. The house design includes a passage for a patient who doesn't want to be seen in the clinic, whether it be a celebrity or just someone with a shy character.

ARTS AND CRAFTS

Listening to Joensuu and spending some time in the clinic creates a deceptive illusion of normality. Why, of course cancer is treated like this - without delays and with hard hitting energy. Of course a modern clinic looks like a pretty nice hotel.

The best symbol for this illusion is the aforementioned radiotherapy room with the Scandinavian luxury atmosphere. In the middle of the room stands a massive machine that seems to represent the full power of medical high technology. Just push a button and something wonderful happens.

Not so. In practical terms the VMAT RapidArc machine resembles a relatively simple paint brush. To be truly effective, it must be handled with great manual skill and a sort of artistic ambition.

As it happens, the necessary artistry was pioneered in Finland in the 1980s. A government research program spawned a start-up company that still today continues to develop the intricate dose planning calculations that make the difference between masterpieces and doodles.

Some of those pioneers work in Docrates now. They and a team of highly skilled technicians keep adjusting and re-adjusting the machine every day, because on its own it doesn't do much.

For example, radiating a prostate cancer might sound like a straightforward task. Just aim the photon burst on the tumor and the cancer cells die off.

The actual therapy session starts with the question: where is the tumor today? A prostate moves around inside the body several millimeters every day, so blasting yesterday's place would do more harm than good.

AS CANCER CARE GOES, THIS IS THE EXTREME SPORT VERSION.

After finding the correct spot with orthogonal roentgen or a CT scan you have to find out how the radiation beam will disperse inside this particular person's tissues. What part of the tumor is behind a bone, where is the bladder wall and how to avoid damaging the surface of the large intestine? Then you need to adjust the optimal sub dosage within, say, two month treatment period, and so on.

After a multitude of scans and calculations the team positions up to 120 small multi-leaf collimators that function like the silhouette play you do with your fingers and a lamp on the wall. A single shield inside the VMAT RapidArc might throw a shadow on one sector of the bladder, so that the healthy tissue "stays dark" and the cancer cells right next to it get a "blazing spotlight".

The machine circles around the patient's body and paints the entire tumor with a 360 degree pattern of destructive radiation. Clumsy brushwork would leak the radiation around, but a skillful hand draws clear lines.

BEST POSSIBLE EVERYTHING

In other words, Docrates staff works hard to make things look easy. There is actually very little that could be called normal inside these walls. Most elements of cancer care, big and small, have been taken apart and then rebuilt with a singleminded, muscular focus: if you can think of a better way of reaching a goal, do it. Do it now.

The unorthodox procedures start as you step in the house. The first doctor appointment usually lasts some 90 minutes, but may go on for two hours. Every minute is spent on an extremely thorough conversation. The patient walks in as a scared and confused cancer victim, but she walks out as a minor oncology expert.

The doctor gives the patient a sort of condensed medical education. They talk about the science behind the different treatments, they may watch cancer videos and they discuss the best possible options for this particular case.

Next the patient takes a couple of steps down the clinic pathway and continues the empowerment with

← Nurse Malviina Ruohonen administers the chemotherapy sessions in a glass-walled room overlooking the Helsinki seafront. The more time you spend inside the Docrates building the more you appreciate the architecture.

↑ The big "lens" of the RapidArc machine turns around the patient and shines radiation to every side of the cancer tumor. Radiographers Outi Eloranta and Jarno Lillak are part of the multidisciplinary team that fine-tunes the radiotherapy process.

YOU WON'T BE ALONE AND YOU WON'T BE POWERLESS.

→ Chief physician Tuomo Alanko specializes in medical oncology, so he leads the team that creates extremely individualized medicines for different patients. In real life he seldom handles the medicine bottles himself, because most of his work is done with patients at the appointments.

her dedicated nurse. Examinations and treatments are fitted in the patient's ordinary schedule, not the other way around, and if the patient chooses so, the nurse also gives her the Kaiku communication software that is introduced on page XX of this book. The patient is now a member of the team.

The treatment plan is usually ready and the treatment itself can begin within one week, which is an extremely short timeframe.

Unorthodoxy continues with the hardware. Docrates has an arsenal of machinery that is seldom found under the same roof. Just the diagnostic imaging devices include, among others, CT, PET-CT, SPECT-CT and MRI. The acronyms mean that almost every possible image can be made here and now, and if needed, side by side. There are no cumulative delays of different scans made in different days and different locations.

KNOWLEDGE IS POWER

On the second floor there is even an in-house nuclear medicine factory with a GMP-level laboratory. It produces the radioactive tracers that the Docrates-team uses to find every last tumor anywhere in the body. The marker fluid is injected in the patient's blood circulation where it finds its way to a cancer cell and lights it up on the PET-scanner screen.

The level of implementation is, again, pretty extreme. There are clinics in the world with over a dozen PET scanners, but they utilize maybe only two different tracer agents. Docrates has one scanner, but up to seven tracers. Most types of cancers can be hunted with a specialized weapon.

This is one of the reasons why Docrates resembles a single medical device. It makes a great deal of sense to order, produce and use these quickly perishable fluids inside one building. This is a true rarity that actually is seen only in a handful of hospitals in the entire world.

All in all, the Docrates Cancer Center is a remarkable mixture of fast action, deep science, high technology, clever craftsmanship and remarkably smart human touch.

Just read the extensive Docrates website and you already feel less anxious about getting cancer. The in-depth information is written with such clarity that anyone can understand what it means to get this illness and what can be done about it. You won't be alone and you won't be powerless. You meet your action team, you take your own position in the lineup and you start on your path.

www.docrates.com

← When the cancer cells are defeated the treatment path leads to recuperation. Physiotherapist Eija Olkkonen belongs to the "Health and recovery" team that helps the current and former patients to regain their strength. The service includes, for example, specialized massage, psychotherapy and nutritional counseling.