



Robotic treatment couch for modern advanced radiotherapy systems

The Radiotherapy Patient System (RPS) is a robotic treatment couch for highest requirements. In this case, the system will adapt to your individual requirements and can be integrated into existing systems, combined with new linear accelerators or installed in new constructions.

RPS extended combines increased efficiency, improved security and greater patient comfort: Patients are prepared in parallel in three preparation rooms for radiation treatment - without haste and time pressure. Each patient will be picked up from the RPS and transported vibration free to the linear accelerator. In the basic version, RPS base, the Radiotherapy Patient System is used for the modernization of existing systems or extended with the new acquisition of the linear accelerator. This is because RPS offers decisive advantages when com-

pared to conventional radiation couches:

RPS provides even more safety during radiation treatment in addition to improved patient comfort due to low entry height. The system supports optimum patient positioning by the integrated RFID (radio-frequency identification) reader. Thanks to the ultra-modern six degrees of freedom couch, the patient can be placed in the ideal position for the radiation treatment. RPS balances during the radiation treatment respiratory movements and peristalsis.

RPS at a glance:

- **6 DoF robotic couch**
- **More safety thanks to an RFID reader**
- **Optimal radiation treatment angle**
- **Efficient multi-user system**
- **Integrated documentation**
- **Improved patient comfort**

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Improved documentation: The RPS robotic treatment couch delivers reliable data

It is especially important in cancer treatment and cancer research to document all treatment steps exactly. The Radiotherapy Patient System RPS supports physicians, medical physicists and radiotherapy assistants in their daily work through automatic and reliable documentation. The RFID (radio-frequency identification) reader integrated in the system records without contact the patient's position and moves it automatically on the basis of the stored data from the simulation or previous radiation treatment sequences into the defined position. The radiation treatment position is recorded and documented exactly for each day of treatment. This also

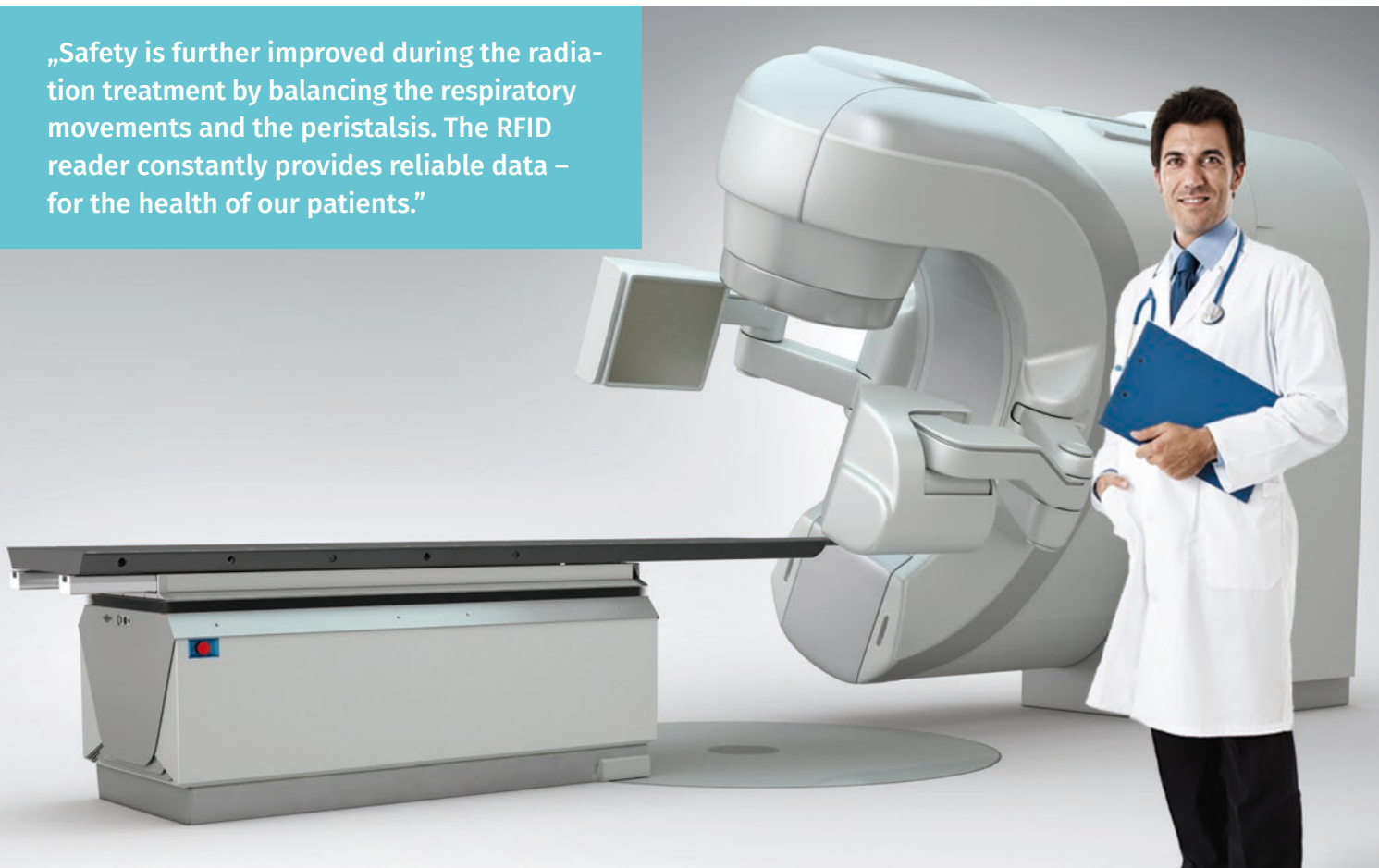
assists quality assurance as the data can be passed on to research institutions or cancer registries, or compared with those of other radiotherapy centers. Indicators of early and long-term results of individual therapies can be collected and analyzed. Of course, the data flows from RPS on demand also into the electronic medical record and are available here for billing or later case reconstructions.



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„Safety is further improved during the radiation treatment by balancing the respiratory movements and the peristalsis. The RFID reader constantly provides reliable data – for the health of our patients.”



Improved patient positioning – for even more safety and optimal treatment quality

The patient positioning during radiotherapy is critical to the success of the treatment. The Radiotherapy Patient System (RPS) will support you in the exact patient positioning and repositioning for each additional radiation treatment sequence.

High radiation doses improve the effectiveness of the radiation therapy. However, the higher the intensity of the radiation treatment, the more important careful patient positioning becomes - only in this way can surrounding tissue and vital organs be protected. The RFID reader integrated into the RPS records without contact the position of the patient and checks the current location on

the basis of predetermined parameters. By minimum rotational and tilt movements, the system balances locational changes and positions the patient optimally. The likewise integrated documentation covers all data, stores these and makes them available for further radiation treatment sequences of the patient.



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2

While the radiation treatment of a patient is running under the linear accelerator in the treatment room, the next patient is already positioned. The separate preparation room allows a quiet, careful and focused alignment of the patient. The correct position is ensured by the previously imported data of the RFID reader.

The linear accelerator and RPS extended at the heart of the modern radiotherapy system reaches from here over a distance of six meters to the preparation rooms and prepared patient with a body weight of up to 150 kg vibration free and without changes in site.

3

Another patient can already be brought in and greeted. The radiotherapy assistants again explain the planned procedure, the patient lies down on the couch and is also prepared. The low entry height of the RPS is even easily manageable for wheelchairs.



„The RPS extended with three separate preparation areas works very efficiently but at the same time removes the tension from the preparation time. We as radiotherapy assistants know that the linear accelerator should be used as much as possible for reasons of cost. We are also working with patients who are enduring a serious

illness. RPS extended allows us to deal with the patients in a quiet and personal manner and not just to rush them through as quickly as possible. Even the positioning and immobilization measures now occur even more carefully. “

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1



"With the construction of our new radiotherapy center, we have the choice to install a conventional radiation treatment system, or to decide straight away for RPS extended. We were convinced by the concept of parallel patient preparation. Of course, we have weighed all the costs and benefits. RPS extended has a larger surface area requirement and the number of employees increases

for the preparation. On the other hand, the benefits outweigh this making RPS extended 55 percent more efficient than conventional systems. By the parallel preparation of the patient, a continuous work flow is provided at the linear accelerator, which is thus optimally utilized. The number of daily potential radiation treatments increases considerably – even more patients benefit from this modern treatment method. I am personally impressed that the patient does not come under time pressure, but we have even more time for preparation – and thus for more humanity in the medical field."

4

When the radiation treatment sequence is completed, the patient is brought back via the automatic radiation protection door into their preparation room. The satellite arm retracts after depositing. Without time pressure, the patient is now ready to get up, can still sit for a moment and then in calm put back on clothing or shoes.



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6 DoF couch – these are six degrees of freedom for still more precise radiation treatments

RPS base suggests itself for clinical centers not planning new buildings. The innovative system with its 6D control provides a lot of comfort and efficiency. The patient platform's flexible mobility and the user-friendly handling represent additional quality features.

The rigidity of the RPS base absolutely guarantees optimum positioning of the patient. The system is also prepared for dynamic corrections. Further advantage: Older linear accelerators can be updated or upgraded with RPS base.



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