



PRESS RELEASE

3. Prize – Privatdozent Dr. Axel Rolle,
Specialized Hospital Coswig, Germany

"Lung Parenchymal Laser Surgery"

Laser light offers completely new possibilities for treating illnesses due to its specific characteristics. In thoracic surgery, the new laser scalpel by Dr. Axel Rolle with a wavelength specifically designed for lung tissue has been introduced with exciting success – even for patients with many lung metastases who have been classified as inoperable. For this method the Berthold Leibinger Stiftung awarded him the third prize.

Lung tissue – known in the medical field as lung parenchyma – is made up of thousands of alveoli, which are surrounded by a close network of vessels. If this tissue is cut, blood vessels and alveoli are severed, air and blood are released and the lung collapses.

In the past, in order to prevent this from happening when removing lung tissue, a clip suture device was used which squeezes lung tissue together and staples it with metal clips. This can only be used along the edge of the lung. Therefore, much additional lung tissue is lost when removing a metastasis. This results in loss of air volume and capacity. Previously, if a number of metastases were found throughout the lung, the patient was considered inoperable.

That is why medical scientists tried very early to use the laser as a scalpel in lung surgery. The tissue at the hot focal point of the laser is vaporized, the edge of the cut is fused together at low temperatures sealing the blood vessels.

The surgeon Dr. Axel Rolle, chief physician of thoracic and vascular surgery at the specialized hospital in Coswig, recognized as early as 16 years ago that a laser scalpel with the device-determined standard wavelength of 1064 nanometer is still unable to cut lung tissue and avoid bleeding. He developed a marketable 1318 nanometer laser system together with an industrial laser device manufacturer.



He convinced specialized medical professionals and the innovation prize jury of the improved cutting and sealing capability of the new laser

scalpel, which cuts metastases from every part of the lungs. The lungs lose only a small amount of volume and the patient's quality of life increases. Lung cancer patients classified as inoperable in the past can now be successfully operated on.

Digital pictures of the prize winners and the awarded work are available at www.leibinger-stiftung.de.