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ASIA EDITION

A palm sized medical gamma-ray camera invented

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A team of scientists has invented a medical gamma-ray camera which weighs only 580 gm and fits in the palm of a hand, making it the world's most compact Compton camera.

Using the camera developed by a team of researchers at Waseda University, Tokyo, the scientists have been able to overcome limitations of common molecular imaging techniques used in nuclear medicine.

The Compton camera has been used in generating high-resolution, multicolour 3D molecular imaging of a live mouse which was administered with three different radioactive tracers. The scientists discovered that the tracers iodine, strontium, and zinc accumulated in the thyroid, bones and liver respectively, confirming that these new tracers concentrated in each target organ.

Though not limited to the medical field, this technology could help track behaviours of cancer cells and minerals in the body by combining the conventional PET drugs with newly found tracers, calculate the survival rate of a transplanted organ, develop cheaper and more convenient drugs for medical imaging, and monitor online the effectiveness of particle therapy by measuring various prompt gamma rays emitted during treatment.