Robotic Manipulator

Eases Head and Neck Cancer Treatment

Head and neck cancer is the 7th most common cancer in the world.

The conventional way of treating laryngo-pharyngeal tumours remains challenging, requiring the patient in extreme positioning including retraction of the tongue, opening of the mouth and/or extension of the neck of patients to achieve adequate tumour exposure for laser delivery.

Medical and engineering experts from CUHK and HKU have developed a soft robotic manipulator for transoral laser microsurgery on head and neck cancer, guided by intra-operative MRI.

Dr. Jason CHAN Ying Kuen, Associate Professor, Department of Otorhinolaryngology, Head and Neck Surgery at CU Medicine, stated, "It enables direct exposure of the ablation laser to the target lesion, without the need for positioning patients with extreme neck extension to accommodate rigid laser micromanipulators. MRI guidance provides intuitive and precise feedback of the ablation process, which is critical for function preservation of surrounding structures."

Looking forward, the research team plans to further reduce the robot size, making it possible to access more confined sites such as the nasal cavity and sinus cavity.

This innovation has been reported in the international journal ***Science Robotics***.