



Did you know?

October, 2005

Thulium Fiber Laser Spins-Off to Support Medical Applications

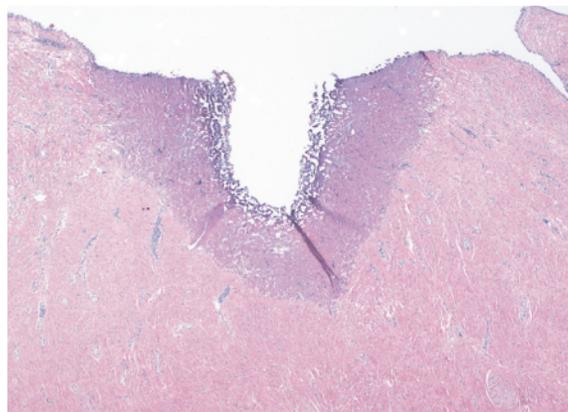
A 110 watt, 1.94 micron Thulium (Tm) fiber laser, developed by IPG Photonics with NASA funding, was recently demonstrated as an emerging tool for urologic procedures by Dr. Nathaniel Fried of the Johns Hopkins School of Medicine. Originally developed for wind measurements with funding from the Earth-Sun System Technology Office (ESTO) Laser Risk Reduction Program (LRRP), the laser system has received attention from the medical community for its promise in prostate and other cancer surgeries.

The Tm fiber laser is, according to Fried, “a promising new laser technology that may find its niche in medicine as a single, compact laser platform capable of performing multiple applications, including precise incision,

rapid vaporization, and adequate coagulation for hemostasis during soft-tissue procedures.” In addition, when compared to current tools, the Tm fiber laser system is much smaller, eye-safe, more efficient, and is a better match to tissue absorption lines which improves precision.



An article in Laser Focus World (September, 2005), “Fiber lasers find opportunities in medical applications”, showcased Dr. Fried’s work in exploring the feasibility of the laser.



Histological image showing the laser’s impact on a tissue sample. The Tm fiber laser leaves a clean, distinct cut, or kerf, with little damage to the surrounding tissue.

Dr. Fried’s results and details of the demonstration procedure have been published and presented several times, including in the *Journal of Endourology* (Vol. 19, No. 1, 2005) and *Lasers in Surgery and Medicine* (Vol. 36, No. 1, 2005), leading to firm commitments in

the medical community to pursue the technology.

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