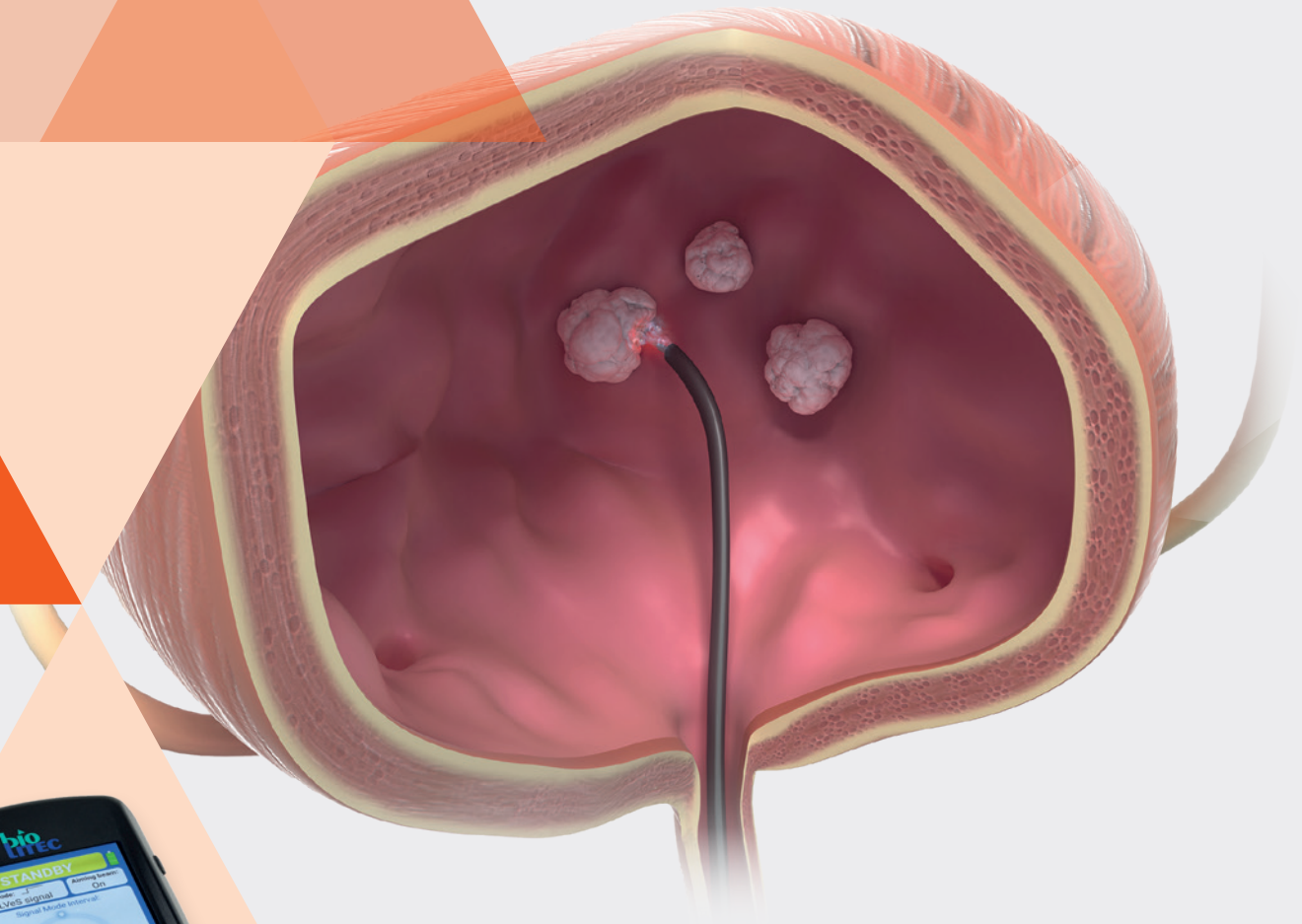


# TULA<sup>®</sup> DUAL

Trans Urethral Laser Ablation of  
Recurring Bladder Tumors



- The real ambulatory care
- Quick, safe and easy
- TULA<sup>®</sup> outpatient procedure with DUAL wavelength
- Excellent vaporization and hemostasis
- Management of high-risk patients

# TULA<sup>®</sup> DUAL – DUAL Laser Technology

Staying true to its tradition in pioneering new minimally invasive treatments, biolitec<sup>®</sup> combines DUAL wavelengths of 980 nm / 1470 nm to provide excellent and efficient intra and post-operative results. Dual diode lasers with high quality fiber optics make procedures safe and cost effective for both healthcare professionals and patients.

## Literature TULA<sup>®</sup> DUAL

**Introduction and Objectives:** Non-invasive bladder cancer is often recurrent. 5 - 10 % of patients will have recurrences that are small and few. Treating these recurrences causes morbidity to patients because of the frequent resections under general anesthesia that are needed to control the disease. (...)

This project aims to prove the safety and efficacy of receiving outpatient laser treatment under local anesthetic. Laser vaporization of small bladder tumors has several advantages over standard electrocautery techniques. The lack of electrical conduction reduces discomfort to patients, bleeding is almost absent and even patients on anticoagulation therapy can be treated. (...)

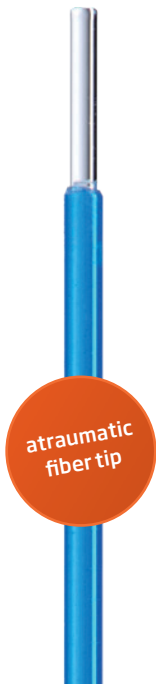
**Methods:** (...) The diode 1470 nm (1 mm depth of penetration) offers improved hemostasis over the Holmium (0.2 mm) and limits the reported bladder perforation risk with the deeper ND:YAG and diode 980 nm (5 - 10 mm). As such the diode 1470 nm may represent the ideal 'urothelial' laser. We kept a prospective dataset of patients receiving TULA treatment over a five year period. Parameters recorded include number of patients/procedures, patient age, comorbidities, procedure time, pain perception, complications, readmission rates, and patient satisfaction.

**Results:** Between 1st May 2012 and 28th December 2016, there were a total of 454 laser ablations performed on 306 different patients. The median age was 75 (range 24-99 years old). Median procedure time was 10 minutes, mean energy 759 J. Out of 306 patients, 192 had pre existing TCC (141 Ta, 34 T1, 4 T2 (following DXT), 6 CIS, 7 unknown/ historical NMIBC). 102 Laser ablations were conducted whilst the patient was on anticoagulants: (25 aspirin, 22 clopidogrel, 53 warfarin, 1 dabigatran, 1 tinzaparin). No complications were recorded secondary to bleeding. (...)

**Conclusions:** Bladder cancer can re-occur in up to 50% of patients over a 5 year period. This often requires multiple procedures and general anesthetics in patients with multiple medical issues. The Diode Laser vaporization of NMI bladder cancer has been proven to be well tolerated, less onerous on patients, and may reduce post operative complications.

Philip James, Sachin Agrawal, Aakash Pai (Ashford & St. Peter's NHS Foundation Trust)

Altaf Shamsuddin (Imperial College Healthcare NHS Trust)



# Non muscle invasive bladder tumors

Non-muscle invasive bladder tumor normally has a high recurrence rate, leading to multiple treatments. Elderly patients with multiple morbidities are not fit for conventional treatment under general anesthesia. TULA® DUAL offers a technique using flexible cystoscopy for the treatment of bladder tumor under local or even no anesthesia in outpatient settings.

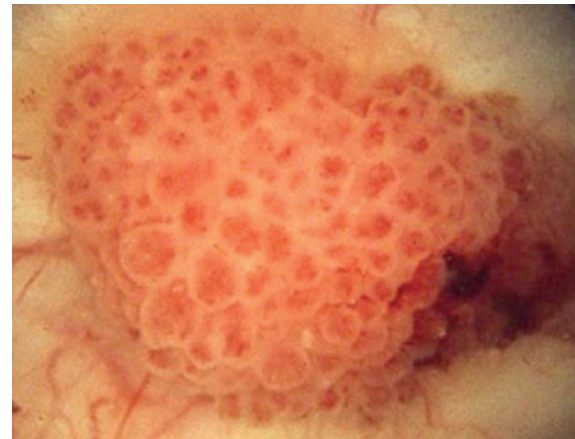
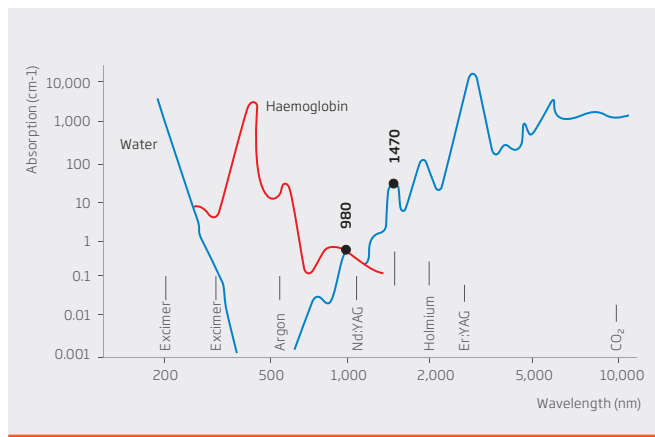
## Advantages:

- Avoidance of the obturator-nerve reflex
- Specially designed fibers for best results
- Controlled and focussed penetration depth with less thermal spread
- Atraumatic fiber tip enables a smooth insertion and protects the working channel
- Dual concept for a matched penetration depth of tumor

## Indications:

- Non muscle invasive bladder tumor
- Radiation cystitis

LEONARDO® DUAL with specially designed fibers combines the wavelengths of 980 nm and 1470 nm with high absorption in water and hemoglobin



## LEONARDO®



Model	<b>LEONARDO® Mini Dual</b>
REF	SL980+1470 nm 14 W
Power / Wavelength	10 W (980 nm) / 4 W (1470 nm)
Fiber diameter	≥ 360 µm
Aiming beam	635 nm, max. 4 mW
Treatment mode	CW, pulse mode (optional)
Pulse duration / -break	0.01 – 60 sec / 0.01 – 60 sec
Power supply	110 – 240 VAC, 50 – 60 Hz (7.2 VDC @ 36 W)
Batteries	Li-ion batteries
Dimensions (H x W x D)	6 cm x 9 cm x 21.5 cm
Weight	900 g

## Fiber

REF	Product
503100410	TULA® Fiber, IC

# Contact us

to learn more about a whole new world  
of minimally invasive laser therapies



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All fibers are free of latex and DEHP. Our fibers are single use products (unless otherwise indicated) delivered sterile for immediate use.

### **Imprint**

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