

Theralase's photodynamic therapy offers a targeted and non-invasive cure against cancer

✘ Toronto-based Theralase is a leader in this field. It uses lasers, which have been approved by the FDA and Health Canada and received the European Conformity (CE) Certification, can relieve pain and heal wounds. They may also be used to destroy cancer cells.

Theralase Technologies Inc ('Theralase', TSXV: TLT) produces laser equipment for biostimulative and biodestructive clinical applications for the treatment of chronic pain and healing wounds. Last week, Theralase announced the launch of its TLC-3000 multi wavelength laser system, intended for the activation of the Company's patented (and patent pending) 'Photo Dynamic Compounds' (PDCs), which destroy cancer cells in a preclinical environment. Theralase is developing Low Power Laser Therapy (LPLT) in partnership with some of the most important medical institutions in North America. LPLT, once considered a mere game of lights, has proven its effectiveness.

The Princess Margaret Hospital cancer Centre and the University of Toledo, a leading center of global cancer research have performed the related preclinical safety and efficacy testing. Theralase has also established a partnership with JSS Medical Research Inc. ("JSS"), a Montreal based research organization to help it complete a Phase I/II clinical study for the FDA in the United States and Health Canada, which will take place in 2015. The study will evaluate the effectiveness of Theralase's Photo Dynamic Therapy against bladder cancer. Thanks to its new links to Quebec, Theralase

can be expected to establish important links and agreements (potentially worth millions) with the fast growing biotech sector in Quebec over the course of 2015 and beyond.

Theralase has applied for intellectual protection for its laser system under a pending US patent. In 2015, Theralase expects to apply enhancements to its multi wavelength laser technology in order to activate Theralase's patented and patent pending PDCs from a few hundred microns (millionths of a meter) to ten centimeters in depth in human applications, allowing oncologists the ability to target surface as well as deep cancerous tumors.

Theralase's laser system can be adjusted for emission of laser light and the amount of energy transferred to a specific set of PDC impregnated cancer cells, which will enable the researchers (and eventually the end users) to better and more quickly determine the best PDC for a given application – in this case a particular type of cancer. Bladder cancer will be the first major target but Theralase will use the laser to determine how other types of cancer respond as well.

Theralase plans to develop and sell the lasers, the PDC technology, the consumables associated with the various treatments to maximize medical and commercial effectiveness.

The PDC's, or photodynamic compounds, are specially made or assembled molecules, which have an affinity or likeness to cancer cells. The laser is used to deliver the light to the PDC's which target the nucleus of the cancer cells, killing them upon activation. This is a far 'cleaner' way to destroy the cancer cells than the better known chemical methods.

The Photo Dynamic Compounds (PDCs) react to specific types of light; or, one might say, light triggers the PDC's, giving them the ability to destroy cancer cells. And the combination of light and PDC is much less invasive than other cancer treatments; in fact, the penetration of the light source via optic fiber is the only invasive procedure involved. Theralase will introduce a more advanced technology in the

fourth quarter of 2014 that will allow light penetration to be gauged; giving the operator a precise reading of the depth and facilitating the triggering of PDC in cases of cancer.

Theralase's anti-cancer technology offers a serious alternative to surgery, chemotherapy – which uses cytotoxic drugs – and radiation in the effort to treat cancer. Theralase's technology also improves a cancer patient's quality of life during treatment because it causes no harm to the immune system. The lasers and PDC combination target only cancer cells.

Theralase has chosen to target bladder cancer because the bladder is an easier to access organ than others. A catheter is all that is needed, whereas other organs such as the brain or the pancreas would require invasive procedures, expensive operations and anesthesiology. Bladder cancer is, therefore, an easier organ to examine for the initial phase – subjects will be recruited in 2015 – and it is also the fifth most common cancer with a very high recurrence (80% plus). Nevertheless, Theralase has already gathered sufficient evidence from studies at the Princess Margaret Cancer Center in Toronto that its technology is effective across a wide range of cancers: brain cancer, breast cancer, prostate, pancreatic, bladder, lung or colorectal.

It is not easy to kill cancer cells without damaging normal cells; the traditional treatments with ionizing radiation and conventional chemotherapy are very difficult for the body. Theralase's photodynamic approach offers a targeted therapy against cancer (and potentially other diseases) while avoiding the worst aspects of cancer treatments. Theralase is developing an approach that is quite simply 'softer', which should be preferred by patients. With Theralase there is no hair loss, no scarring, no loss of appetite and none of the common side effects following the treatment with ionizing radiation.

At the end of August, Theralase released its second quarter

2014 financial results, which showed a year to year revenue increase of 1% for the three month period ended June 30, 2014.