IsoRay Medical

AMEX: ISR

Founded: 1998

Richland, Washington

Employees: 35

Market Cap (3/3/11): 32.5M
1901: Pierre Curie suggests that a small radium tube be inserted into a tumor thus heralding the birth of brachytherapy.

1903: Alexander Graham Bell made a similar suggestion, completely independently, in a letter to the Editor of Archives Roentgen Ray.

- It was found in these early experiences that inserting radioactive materials into tumors revealed that radiation caused cancers to shrink.
1985: Building on the preliminary work of Hans Holm MD (University of Copenhagen), John Blasko MD and Haakon Ragde MD perform the first transperineal, template and ultrasound guided prostate implant in the U.S. at Northwest Hospital in Seattle.
CLINICAL INVESTIGATION

10-YEAR BIOCHEMICAL (PROSTATE-SPECIFIC ANTIGEN) CONTROL OF PROSTATE CANCER WITH $^{125}$I BRACHYTHERAPY

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Prostate Brachytherapy Adoption

1990s
2000s
Lane Bray Richland, WA: Techniques for purifying Cs-131
2003: IsoRay receives 510(k) clearance for Cesium-131 for the treatment of cancers of the prostate, head/neck, brain, breast, etc.

2004: First Cesium-131 prostate brachytherapy case at UWMC Seattle, WA

2002 – 2006: Emergence of multiple non-surgical approaches to early stage prostate cancer.

2011: Over 5,000 cancer patients treated to date with Cesium-131.
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APEL Facility

350 Hills St. Richland Washington

IsoRay’s “State of the Art” facility is located within the APEL complex. The production facility is completely independent with its own HVAC and Emergency Power Systems.
Production line #1 consists of custom built glove boxes and fume hoods. There are 2 completed seed production lines plus a third line that is ~80% complete. The existing facility can support a significant increase in production demand.
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Hot Cell Operations Room

The custom built Hot Cell provides 120mm of lead shielding to protect workers during the chemical separations process utilized to produce ultra-pure Cesium - 131
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High Tech Laser Welding Operations

IsoRay employs highly skilled personnel whom perform laser welding of the brachytherapy seeds inside of glove boxes. All laser equipment and optical components were designed and implemented by IsoRay to support their manufacturing operations.
100% Prostate Focused
(“Prostate Company”)

“The characteristics of Cesium-131 make it the ideal brachytherapy source.”
Brachytherapy as an adjuvant to surgical resection

Planar implants following surgical resection of T1-T2 NSCLC (lung)

- Constructed dosing instrument
- Circulated study protocol
- Agreement signed with WCMC (B. Parashar) to head study
- Participating centers coming on board
**Cesium-131 is the Smartest Choice in Lung Brachytherapy**

Adjuvant lung brachytherapy can significantly increase local control following limited resection for NSCLC. When selecting a brachytherapy isotope, consider that Cs-131 delivers 90% of its dose in 33 days — six times faster than I-125.

Have confidence that your prescription dose is delivered as planned.

- Cesium-131 has delivered 90% of the intended dose 33 days post implant, compared to 32% of the I-125 dose.
- Cesium-131 has delivered 99.8% of the dose at 90 days, when bioabsorbable sutures/mesh have most likely dissolved, compared to 65% of dose delivered for I-125.
- Cesium-131 delivers uniform and symmetrical radiation penetration for a homogeneous lung implant.
- For the first 26 days after implant, the dose rate from Cs-131 is greater than from I-125.
- After 26 days, the dose rate from I-125 implant exceeds that of Cs-131.
- With Cs-131, radiation safety precautions can be discontinued much sooner than with I-125.
Brachytherapy as an adjuvant to surgical resection

GliaSite® brachytherapy following surgical removal of high grade gliomas

- In-licensed GliaSite and Iotrex IP
- Identified contract manufacturers and in-house work where possible; final agreements being negotiated
- 510(k) submittal in progress
- In many cases, out-patient administered
Re-introducing the gold standard in brachytherapy for brain cancer.

The GliaSite® Radiation Therapy System (RTS) is intended for use in the management of surgically resectable brain tumors where adjuvant radiation therapy of the post-resection tissue bed is indicated.

Over 200 GliaSite® RTS cases have been detailed in the peer-reviewed literature in reports from multi-institutional studies and academic centers.*

Brain cancers treated in these reports include primary and recurrent gliomas, as well as resectable metastatic brain tumors.*

GliaSite® RTS is well-tolerated and compares favorably to other management strategies when used as adjuvant radiation therapy in combination with surgical resection.*

Over 2,000 patients have been treated with GliaSite® RTS to date.

*see reverse side for published references
Brachytherapy as an adjuvant to surgical resection

Low dose rate (LDR) Accelerated Partial Breast Irradiation (APBI) with Temporary Cesium-131 Implant

- Constructed and tested several phantom models with direct dose measurement
- Issued “proof of concept” report to potential development partner Cianna Medical
- Outpatient model
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Near Future Needs

Physician and Institutional Collaborators

Opportunities for revenue generation from existing infrastructure and capabilities

R&D Funding/Grant Opportunities

- New organ site development / trials

- Animal modeling

- Isotope Production Development
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Tri-Cities Research District

March 16, 2010

Thank You