Safe Harbor Statement

Statements in this presentation about IsoRay's future expectations, including: the advantages of our products and their delivery systems, whether interest in and use, awareness and adoption of our products will increase or continue, whether opportunities will be available to expand the market for our products, whether changes to IsoRay's management and sales team and strategy will result in growth, whether investments in sales and marketing, production and research and development will result in growth, whether our technical assistance in the brain and gynecological applications will result in a viable commercial product for sale, whether studies and protocols will produce favorable results or lead to publications, whether peer-reviewed publications of treatment results using our products will report favorable results, whether our intellectual property will adequately protect our proprietary technologies, and all other statements in this presentation, other than historical facts, are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 ("PSLRA"). This statement is included for the express purpose of availing IsoRay, Inc. of the protections of the safe harbor provisions of the PSLRA. It is important to note that actual results and ultimate corporate actions could differ materially from those in such forward-looking statements based on such factors as physician acceptance, training and use of our products, our ability to successfully manufacture, market and sell our products, our ability to manufacture our products in sufficient quantities to meet demand within required delivery time periods while meeting our quality control standards, our ability to enforce our intellectual property rights, whether additional studies are released and support the conclusions of past studies, whether ongoing patient results with our products are favorable and in line with the conclusions of clinical studies and initial patient results, patient results achieved when our products are used for the treatment of cancers and malignant diseases beyond prostate, successful completion of future research and development activities, whether we, our distributors and our customers will successfully obtain and maintain all required regulatory approvals and licenses to market, sell and use our products in its various forms, continued compliance with ISO standards as audited by BSI, the success of our sales and marketing efforts, changes in reimbursement rates, changes in laws and regulations applicable to our products, and other risks detailed from time to time in IsoRay's reports filed with the SEC. Unless required to do so by law, the Company undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

For more information regarding risks and uncertainties that could affect IsoRay's results of operations or financial condition review IsoRay's filings with the Securities and Exchange Commission (in particular, it’s most recently filed Form 10-K and Form 10-Qs). IsoRay undertakes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. This presentation shall not constitute an offer to sell or the solicitation of an offer to sell or the solicitation of an offer to buy any securities of IsoRay nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction.
Overview

Isoray Medical passionately designs and develops innovative and personalized permanent implant brachytherapy products that effectively treat many forms of cancer. We believe in pioneering solutions for life beyond your cancer. Isoray’s Cesium-131 isotope, with a shorter half-life and higher energy than other commonly used radioisotopes for low dose-rate (LDR) brachytherapy, has been shown to be a highly effective cancer treatment with less side effects and quicker recovery time.

Market Data

<table>
<thead>
<tr>
<th>Ticker (NYSE MKT)</th>
<th>ISR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price (2/10/2017)</td>
<td>$0.52</td>
</tr>
<tr>
<td>52 Week Range</td>
<td>$0.48 - $1.30</td>
</tr>
<tr>
<td>Market Cap</td>
<td>$28.7 M</td>
</tr>
<tr>
<td>Average Daily Trading (3 mos)</td>
<td>~145,000</td>
</tr>
<tr>
<td>Common Shares Outstanding</td>
<td>55.0 M</td>
</tr>
<tr>
<td>Cash, Cash Equivalents &amp; CD’s*</td>
<td>$11.9 M</td>
</tr>
</tbody>
</table>

* As of December 31, 2016
Investment Highlights

• Only manufacturer in the world of Cesium-131 LDR brachytherapy seeds, a radioisotope which represents a significant advancement in cancer therapy with minimal side effects and at lower cost than alternative treatment options
  • More than 10,000 patients have been implanted with patent protected Cesium-131 seeds

• Renewed focus on growth and establishing market leadership in LDR brachytherapy treatment of prostate cancer
  • Launched new sales strategies in September with more experienced leadership and sales team
  • Current LDR brachytherapy market void of leadership
  • Making significant investments in market development of prostate and other body parts to support assumption of leadership

• Opportunities to leverage growth segments in Prostate Cancer Market
  • Increasing numbers of higher risk patients
  • Evidence continues to mount supporting the use of combination radiation therapy – including brachytherapy -- for the treatment of high risk prostate cancer
  • Emerging interest in targeted / focal treatment options

• Growing clinical evidence for multiple cancer indications in difficult to treat recurrent patients
  • Brain, Gynecology, Head & Neck, Lung

• Strong balance sheet to support growth strategy
  • $11.9 million cash* and no debt as of December 31, 2016

*Includes cash, cash equivalents and certificates of deposit
Management Team & Technology
Experienced Management Team

Tom LaVoy
Chairman of the Board and Chief Executive Officer

- Director, IsoRay since 2005 before appointment as Chairman and Chief Executive Officer in early 2016.
- Over 35 years experience leading and building successful, publicly traded businesses.
- Previously Deputy Chief Operating Officer, President of Corporate Services and Chief Financial Officer, SuperShuttle International, transportation industry leader, 1997-2015. Instrumental in developing strategic growth plans including: growing revenue from $35 million to >$340 million; acquiring 30+ businesses; expanding operations to 50+ locations; spearheading sale to large international partner, Veolia Transportation Inc., in 2006.

William A. Cavanagh
Chief Operating Officer and Chief Scientific Officer

- Appointed Chief Operating Officer, March 2016; previously Vice-President R&D, 2010 – 2016.
- Over 20 year career in cancer treatment technologies beginning in early 1990s, including research and development of a therapy involving insertion of radioactive sources directly into prostate for treatment of prostate cancer.
- Designed several cancer treatment-related studies; listed as author on 34 peer-reviewed publications; listed as inventor on U.S. patent application detailing a novel treatment for cancer.
- Previously Director, Haakon Ragde Foundation for Advanced Cancer Studies, Seattle, WA.

Michael L. Krachon
Vice President, Sales and Marketing

- Over 20 years’ experience of progressive growth in sales and marketing in the medical industry.
- Chairman of Coalition for Advancement of Brachytherapy, 2009 – 2016.
- Recognized national speaker for brachytherapy; instrumental in successfully supporting the industry through congressional lobbying efforts to re-establish reimbursement codes for brachytherapy.
Accomplishments Since Appointment of New Team

- Completed Top–to-Bottom strategic review
- Intense focus on driving revenue growth
  - Resources focused on sales and marketing
    - Commercial team is now fully staffed
  - Adopted new go-to-market strategy
    - Increased LDR brachytherapy for key prostate cancer treatment segments
      - High risk patients
      - Targeted treatment procedures
      - Combo therapy
      - Recurrent prostate cancer from other treatment modality failures
- Funds re-allocated to strategic areas
  - Renewed commitment to marketing, awareness, training and communication
  - Increasing investment in R&D
  - Addressing reimbursement coverage issues for other areas of the body
  - Manufacturing automation project
- Exploring collaboration opportunities
Cesium-131 is the Most Significant Radio-Isotope Advancement in Permanent Implant Brachytherapy in Over 30 Years

- **Shorter Half Life, Higher Energy, Low Dose Rate (LDR) isotope aggressively attacks cancer**
  - Low impact on critical tissues surrounding a treatment site
  - Faster radiation deposition for fast growing cancers

- **Targeted therapy delivers high dose of radiation to only a few millimeters of tissue beyond the intended treatment site, allowing for precise treatment and preservation of critical structures**
  - Prostate, Gynecologic, Brain, Head & Neck, Lung, including recurrent disease

- **Delivered through multiple 510(k) cleared products**
  - Sutured seeds, Seed sutured mesh, Implantable strands, Single seed applicators

- **Single treatment session – “One and Done”**
  - Done at time of surgery or instead of surgery
  - Enhanced quality of life resulting from low side effect profile

- **Most cost-effective cancer radiation treatment**

- **Strong IP portfolio covering proprietary chemical separation methods and construction of device**
  - includes U.S., Canadian and EU patents
  - Trademark strategy for updated branding
Cesium-131 is the Fastest Acting LDR Isotope for Treating Aggressive Cancers

Differences Between Brachytherapy Isotopes

<table>
<thead>
<tr>
<th></th>
<th>^131Cs</th>
<th>Iodine-125</th>
<th>Palladium-103</th>
</tr>
</thead>
<tbody>
<tr>
<td>Half-life, days</td>
<td>9.7</td>
<td>60</td>
<td>17</td>
</tr>
<tr>
<td>90% dose, days</td>
<td>33</td>
<td>204</td>
<td>58</td>
</tr>
<tr>
<td>Total dose, Gy</td>
<td>115</td>
<td>145</td>
<td>125</td>
</tr>
<tr>
<td>Energy, KeV</td>
<td>30</td>
<td>29</td>
<td>21</td>
</tr>
</tbody>
</table>

Of the three available brachytherapy isotopes, Cs-131 has the shortest half-life, the fastest delivery of a therapeutic dose of radiation (90% dose), and the lowest total radiation exposure.

- Higher Energy
- Shorter Half-Life Dose
- Improved Efficiency of Dose Coverage
- Rapid Resolution of Side Effects
- Higher Biologically Effective Dose
- Demonstrated Disease Control

Significant Cesium-131 Experience

- Over 10,000 patients treated
  - Includes ~500 patients over last 4 years in more aggressive cancers of Brain, Head & Neck, Gyn
- Cleared for use in U.S. for all types of cancer and tumors
  - FDA clearance received in 2003
  - CE mark/ISO certified for EU sales since 2012
- Increasing number of peer reviewed articles have been published
  - 6+ years of prostate data now available
  - Multiple cancer sites under study
- Published studies facilitate increased utilization and commercialization
  - Management expects this to lead to multi-institutional reporting and more general adoption
Prostate - Most Immediate Opportunity

- **Management estimates the current market at $90 - $120 million annually**
  - ~30,000 procedures / year @ $3-4,000 / procedure
  - IsoRay has 3% market share; room to gain share with new sales and marketing focus
  - Cesium-131 compares favorably to Palladium-103, which is used for ~35% of procedures

- **Prostate brachytherapy market now stabilizing after 8 years of decline**
  - Decline due to competing therapies with newer technologies and better financial reimbursement
  - Competing therapies have not performed as well as predicted
    - Recurrences have occurred in radiation and prostatectomy therapies at higher rates than brachytherapy
  - Brachytherapy continues to deliver consistent disease control

- **Segments of prostate cancer treatment are showing increased growth**
  - More advanced prostate cancers being diagnosed due to the discouragement of PSA screening
  - "High risk" prostate cancers are more successfully treated by a combination of radiation treatment (ASCENDE-RT trial)
  - Targeted (focal) treatments are growing because of urologist demand
  - Salvage treatments – 20-40% of external radiation patients will need additional treatment

- **No clear industry leader**
  - Small number of Brachytherapy competitors left, all with reduced sales forces
  - Consolidation of market is continuing and companies continue to tighten expenses
  - Making significant investments in market development of prostate and other body parts to support assumption of leadership

- **IsoRay has production capacity to support growth**
  - Minimal additional investment necessary for production expansion
  - Evaluating / developing delivery systems to support different physician techniques
Meta analysis of the literature suggests a higher rate of control for high risk prostate cancers with “triple therapy” - external beam radiation, brachytherapy and hormone therapy - compared to other treatment approaches.

Range of results was fairly compact, suggesting high reproducibility of outcomes (light blue oval).

“The superiority of triple therapy is now supported by the results of a randomized trial”
ASCENDE Trial J Clin Oncol 33, 2015 (suppl 7; abstr 3)

Grimm, P, BJUI, 109(S) 22-29, Feb 2012

www.pctrf.org
Cesium-131 for Prostate Cancer

Patient Advantages

The short-half life of Cesium-131 delivers treatment quickly to the patient, allowing the patient to recover quickly.

Initial studies have shown that the patient IPSS will return to baseline faster than following brachytherapy with Iodine-125.

Outcomes Are Encouraging

Study Results

- 485 patients, 99.5% disease specific survival rate 5 years after treatment
- Decreased duration of urinary and bowel morbidity, a major problem with other isotopes
- Results on par with Iodine and Palladium reports at a similar time-frame
- With availability of interim long-term data, The American College of Radiology recognized Cesium-131 as an established brachytherapy isotope as of November 2016

"... these intermediate-term outcomes show that there is no reason at this time to suspect that 131Cs will not provide oncological outcomes at least on par with those of 125I and 103Pd." …Ronald Benoit, M.D. University of Pittsburgh Medical Center
High Rates of Local Control Have Been Demonstrated with Other Aggressive Cancers

Surgical Research Typically Conducted on Most Difficult Cases with Few Remaining Options

<table>
<thead>
<tr>
<th>Patient Population</th>
<th>% Local Control</th>
<th>Years Under Development</th>
<th># of Ongoing Clinical Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain Recurrent</td>
<td>95%</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Gynecological Recurrent</td>
<td>80%</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Head &amp; Neck Recurrent</td>
<td>56%</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Lung High Risk</td>
<td>100%</td>
<td>6</td>
<td>2</td>
</tr>
</tbody>
</table>
On-Going Collaboration with GammaTile, LLC

• **Novel system to deliver brain brachytherapy treatment at time of surgery**
  - Developed by team of neurosurgeons, radiation oncologists and other medical professionals from the prestigious Barrow Neurological Institute, Phoenix, AZ
  - Device is a combination of Cesium-131 seeds embedded into collagen “tiles” that are placed onto the resection margin during surgery; the process adds less than 10 minutes to brain surgery
  - GammaTile LLC has made significant investment
    - Holds six issued U.S. patents; 15 additional applications filed

• **80 patients have been treated with the system over the past five years**
  - Pre-commercialization evaluation
  - Recurrent and primary tumors
  - Metastatic brain cancers – affect ~15% of all cancer patients

• **2 Clinical series reported in 2016 at Society for Neuro-Oncology**
  - 20 tumors in 16 patients with very aggressive recurrent malignant meningioma
    - 95% tumor local control, despite multiple failures of previous surgery + radiation
  - 18 patients who had recurrences of high-grade glioma following standard-of-care therapy
    - 84% experienced no tumor re-growth at surgical site at median time of analysis of ~six months
  - Very low rate of side effects

• **FDA approval and Reimbursement code assignment in process**
  - NTAP application for reimbursement submitted in October 2016
  - 510(k) application process expected to occur in 2017

---

1Brachman, D., Prospective trial of surgery and permanent intraoperative brachytherapy (S+BT) using a modular, biocompatible radiation implant for recurrent aggressive meningiomas., Society of Neuro-Oncology Conference on Meningioma, Toronto, Canada, June 17-18, 2016.

Growth Opportunities
Prostate Segments in Need of Solutions

• **Higher Risk Patients**
  - Growing as a result of reduction in PSA screening
  - Randomized data show benefits of brachytherapy combined with external radiation treatment

• **Targeted (Focal) Treatments**
  - MRI diagnosing individual lesions
  - Patients want to preserve quality of life
  - Urologists want to preserve later surgical options
    - Exploring HIFU, Cryo, Lasers

• **Salvage Treatments**
  - Large number of “in process” external beam failures
  - No tolerance for additional radiation to surrounding tissues
  - Benefit from highly targeted nature of Cs-131
Large Market Opportunities in Other Areas of the Body

<table>
<thead>
<tr>
<th>Disease State</th>
<th>Annual Diagnosis*</th>
<th>Potential LDR Patients*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostate cancer</td>
<td>200,000</td>
<td>140,000</td>
</tr>
<tr>
<td>Recurrent Brain Tumors</td>
<td>200,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Recurrent Gynecological Tumors</td>
<td>7,000</td>
<td>3,500</td>
</tr>
<tr>
<td>Head &amp; Neck Tumors</td>
<td>61,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Lung Cancer</td>
<td>180,000</td>
<td>10,000</td>
</tr>
<tr>
<td><strong>Total Opportunity</strong></td>
<td><strong>648,000</strong></td>
<td><strong>218,500 Patients</strong></td>
</tr>
</tbody>
</table>

* IsoRay estimates
"Use of the Cesium-131 tiles, which were able to be implanted very quickly at the time of surgery, and starting radiation therapy at the time of resection as opposed to weeks after resection when using external beam radiation, were advantages of our novel approach. We are seeing 95% local control of the treated tumors in our study using surgery and Cesium-131 implants. In addition, we observed a very low rate of radiation injury, which has been a major concern in the past, for patients who have undergone multiple treatments for their brain tumors."

Dr. David Brachman, Director of Radiation Oncology, Barrow Neurological Institute, Clinical Professor of Radiation Oncology, University of Arizona College of Medicine-Phoenix

“These women were facing very radical surgery to address their recurrent cancers and it turned out that Cesium-131 therapy offered a much better solution for them. This is the first study utilizing Cesium-131 therapy for these gynecologic cancers and we have followed these women closely in order to evaluate the effectiveness of this treatment. We are very pleased with the results.”

Dr. Jonathan Feddock, Assistant Professor of Radiation Medicine, University of Kentucky College of Medicine

“Cesium-131 is a very appealing new isotope for radiation oncologists and head and neck cancer patients. I would recommend Cesium-131 to other physicians… it is a great and safe option to re-irradiate patients with recurrent resectable head and neck cancer.”

Dr. Voichita Bar Ad, Associate Professor, Thomas Jefferson University - Philadelphia
Summary
New Focused Go-to-Market Strategy

• **Renewed Commitment to the Community through Marketing, Awareness, Training and Communication**
  - New sales and marketing team with deep experience
  - New website, branding and marketing materials focused on providing resources to patients, their friends, family and the community
    - Launched in September
  - Increased training and education resources for physicians
    - Urology awareness programs
    - Physician training opportunities “on-demand” at leading LDR facilities
  - Collaborating with the Prostate Cancer Treatment Research Foundation
    - Bringing resources directly to patients to help guide them through the process from diagnosis to post-treatment follow up
  - Re-instituted Medical Advisory Board
    - Top 4-5 medical leaders in prostate brachytherapy

• **Creating Centers of Excellence**
  - Display of IsoRay’s commitment to brachytherapy best practices for medical professionals through awareness, training, and publishing
### Balance Sheet Highlights

<table>
<thead>
<tr>
<th>($/000s)</th>
<th>Dec 31, 2016</th>
<th>June 30, 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash, Cash Equivalents &amp; CD's</td>
<td>$11,947</td>
<td>$15,359</td>
</tr>
<tr>
<td>Total Current Assets</td>
<td>13,179</td>
<td>13,629</td>
</tr>
<tr>
<td>Current Liabilities</td>
<td>871</td>
<td>1,094</td>
</tr>
<tr>
<td>Long Term Debt*</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Stockholder’s Equity</td>
<td>13,567</td>
<td>16,401</td>
</tr>
<tr>
<td>Total Liabilities and Stockholder’s Equity</td>
<td>$14,985</td>
<td>$18,102</td>
</tr>
<tr>
<td>Basic &amp; Diluted Common Shares Outstanding</td>
<td>55,017</td>
<td>55,011</td>
</tr>
<tr>
<td>Working capital</td>
<td>$12,373</td>
<td>$12,356</td>
</tr>
<tr>
<td>Current ratio</td>
<td>16.35</td>
<td>12.47</td>
</tr>
</tbody>
</table>

**Strong Balance Sheet to Support Growth Strategy**

*Long-term debt excludes amounts that are not related to cash borrowings or operational debt*
Key Takeaways

- **Only manufacturer in the world of Cesium-131 LDR brachytherapy seeds, a radioisotope which represents a significant advancement in cancer therapy with minimal side effects and at lower cost than alternative treatment options**
  - More than 10,000 patients have been implanted with patent protected Cesium-131 seeds

- **Renewed focus on growth and establishing market leadership in LDR brachytherapy treatment of prostate cancer**
  - Launched new sales strategies in September with more experienced leadership and sales team
  - Current LDR brachytherapy market void of leadership
  - Making significant investments in market development of prostate and other body parts to support assumption of leadership

- **Opportunities to leverage growth segments in Prostate Cancer Market**
  - Increasing numbers of higher risk patients
  - Evidence continues to mount supporting the use of combination radiation therapy – including brachytherapy – for the treatment of high risk prostate cancer
  - Emerging interest in targeted / focal treatment options

- **Growing clinical evidence for multiple cancer indications in difficult to treat recurrent patients**
  - Brain, Gynecology, Head & Neck, Lung

- **Strong balance sheet to support growth strategy**
  - $11.9 million cash* and no debt as of December 31, 2016

*Includes cash, cash equivalents and certificates of deposit
Thank You!

For Further Information:
  Tom LaVoy
  Chairman and CEO
  (509) 375-1202
  tlavoy@isoray.com