CLINICAL ADVANCES AND FUTURE OPPORTUNITIES IN RADIOTHERAPY

Dr. Deepak Khuntia,
Vice President, Medical Affairs
Varian Medical Systems
Forward-Looking Statements

Except for historical information, this news release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Statements concerning industry outlook, including growth drivers; the company’s future orders, revenues, backlog, or earnings growth; future financial results; market acceptance of or transition to new products or technology such as TrueBeam and radiographic flat panel detectors, image-guided radiation therapy, stereotactic radiosurgery, filmless X-rays, proton therapy, and security and inspection, and any statements using the terms “could,” “believe,” “outlook,” or similar statements are forward-looking statements that involve risks and uncertainties that could cause the company’s actual results to differ materially from those anticipated. Such risks and uncertainties include global economic conditions; the impact of the Affordable Health Care for America Act (including excise taxes on medical devices) and any further health care reforms (including changes to Medicare and Medicaid), and/or changes in third-party reimbursement levels; currency exchange rates and tax rates; demand for the company’s products; the company’s ability to develop, commercialize, and deploy new products such as the TrueBeam platform; the company’s ability to meet Food and Drug Administration (FDA) and other regulatory requirements for product clearances or to comply with FDA and other regulatory regulations or procedures; changes in the regulatory environment, including with respect to FDA requirements; challenges associated with the successful commercialization of the company’s particle therapy business; the effect of adverse publicity; the company’s reliance on sole or limited-source suppliers; the impact of reduced or limited demand by purchasers of certain X-ray products, including those located in Japan; the company’s ability to maintain or increase margins; the impact of competitive products and pricing; the potential loss of key distributors or key personnel; challenges to public tender awards and the loss of such awards or other orders; and the other risks listed from time to time in the company’s filings with the Securities and Exchange Commission, which by this reference are incorporated herein. The company assumes no obligation to update or revise the forward-looking statements in this release because of new information, future events, or otherwise.
Highlights of the Last Decade

- Multileaf Collimators (MLC)
- On-Board Imager (OBI)
- High Definition MLC
- RapidArc
- trueBEAM
- EDGE

RADIOSURGERY SUITE
Radiosurgery Adoption Rising

SRS/SBRT National Forecast
US Adult Market, 2013-2023, in thousands

Source: SG2 Consulting, Skokie, Illinois, U.S.

97% increase projected
Lung Leading Expansion

Projected 10-Year Growth in SRS/SBRT Radiosurgery

- Lung
- Brain/CNS
- Prostate
- GI
- Bone mets
- Head and Neck

140% increase in lung procedures

Source: SG2 Consulting, Skokie, Illinois, U.S.
Brain Stereotactic Radiosurgery

- Patients receiving SRS boost live longer versus traditional radiation alone

- Linac and Cobalt SRS equivalent

Prostate SBRT on the Rise!

ASTRO SBRT MODEL POLICY 4/17/2013

“It is ASTRO’s opinion that data supporting the use of SBRT for prostate cancer have matured to a point where SBRT could be considered an appropriate alternative for select patients with low to intermediate risk disease.”
Head and Neck Cancer: Targeted Drugs Improve RT Outcome

Median survival rises from 14.9 months to 24.4 months

Radiotherapy plus Cetuximab for Squamous-Cell Carcinoma of the Head and Neck

Courtesy of Paul Harari, MD
Advanced IMRT: Sparing Memory

Even low doses to hippocampus damages memory

Avoiding hippocampus saves memo

Hippocampal Sparing Whole Brain RT

Black area: Hippocampus
Red contour: Hippocampal avoidance region

Gondi et al. IJROBP. Vol 78, No. 4, pp. 1244-1252, 2010
Gondi et al. ASTRO 2013 Plenary Session
SBRT Now Being Used for Pancreas!
BIG DATA: Survival prediction in NSCLC

AUC 0.75

Dehing-Oberije (MAASTRO), IJROBP 2009;74:355
Introducing RapidPlan™

Improving Quality and Speed of Treatment Planning

- **Beginner**
  - Increase Confidence
  - Good starting point

- **Experienced**
  - Improve Consistency
  - Clinician skills & experience

- **Busy clinics**
  - Increase Efficiency

- **Clinical trials**
  - Increase Participation
  - Increase Consistency
Personalized Medicine

Molecular Imaging

Genomics

Targeted Therapies

Patient Self-Care
Equicare
Radiation Medicine: New Opportunities

- Emphysema
- Cardiac Arrhythmia (atrial fibrillation)
- Depression
- Post Thoracic Surgery Neuropathy
- Plantar Fascitis
Emphysema: Role for Radiosurgery?

Courtesy of Billy Loo, MD Stanford University
Arrhythmia: A Non-invasive Approach

Normal Sinus Rhythm

Atrial Fibrillation
Functional Disorders: A Hopeful Outlook?

Pioneering Work in:

- Epilepsy
- OCD
- Depression
- Cluster headaches
QUESTIONS AND ANSWERS