

Advances in MRI: Keeping Up Orthopedics' Image

Maria Shepherd • Data Decision Group

New advances in whole-body magnetic resonance imaging (MRI) technology have created a powerful diagnostic tool for the entire musculoskeletal system—for the knee, spine and shoulder, in particular. Whole-body MRI is a valuable tool that allows non-invasive evaluation of the spine and the spinal cord to evaluate intervertebral discs, nerves, trauma to the spine and ligaments. However, there are implications for patient safety. A high local specific absorption rate carries risk of patient injury, as does large cumula-

tive energy doses delivered during long exam times. Patient comfort in long exams, as is the case with those typically performed on the spine, also is an issue.

Why It's Important

Like robotics, the average selling price (ASP) for an MRI system is expensive. In 2010, the ASP for a whole body MRI system was estimated at \$1.2 million. Prices are expected to decline as the market becomes more competitive, declining to an estimated \$1.13 million in 2015. U.S. healthcare reform is reported to be the

driver of a 20 percent to 25 percent decline in reimbursement for MRI, affecting providers, payers and patients that have high-deductible plans.² Even with this strong emphasis on cost cutting, the most recent data shows that the U.S. healthcare system still generates the highest ASP.³

High-field and very-high-field whole-body scanners lead the market, supplied by major international companies including GE Healthcare, Siemens, Philips, Toshiba and Hitachi. Very-high-field whole-body systems provide additional applications previ-

Chart 1

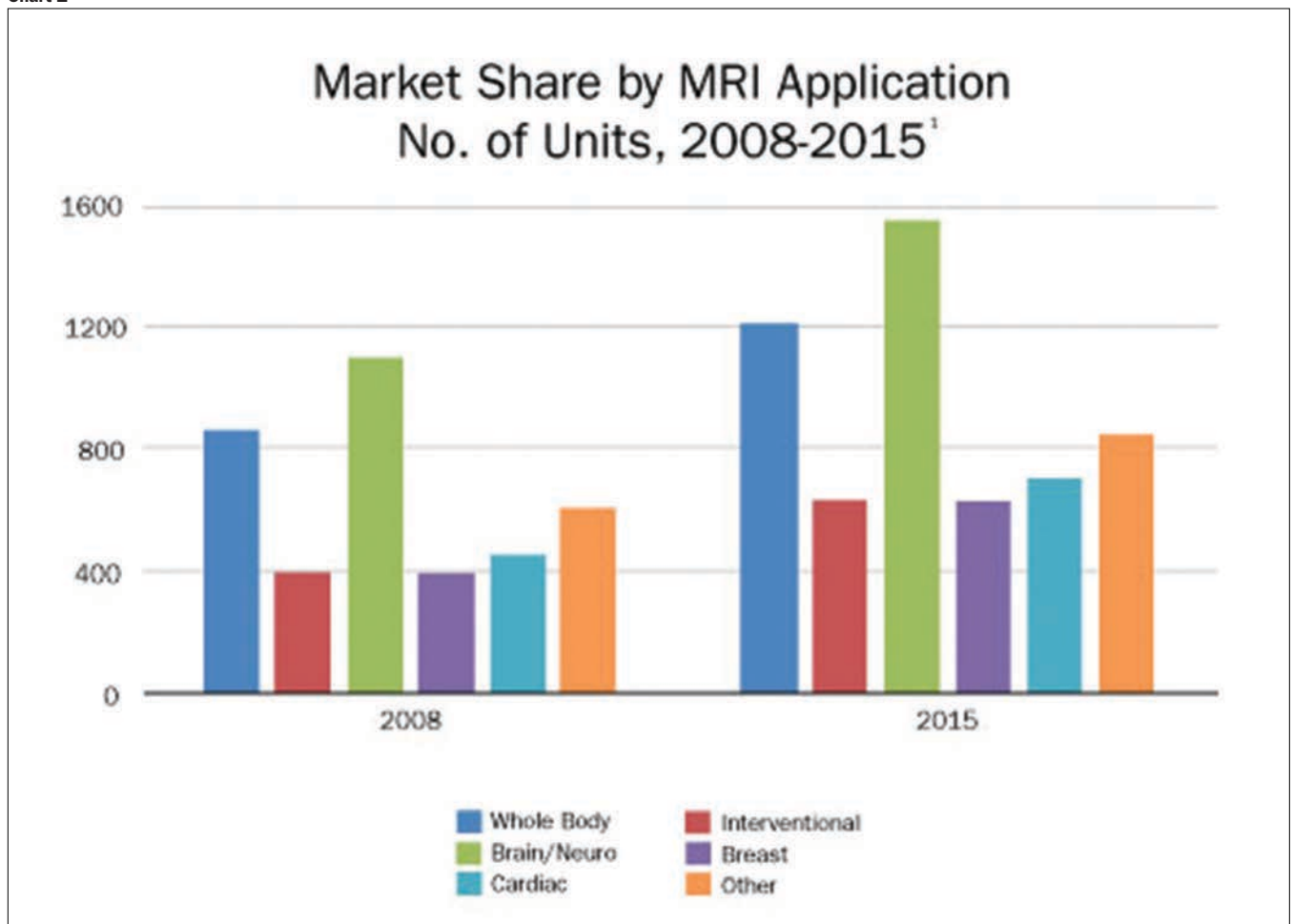
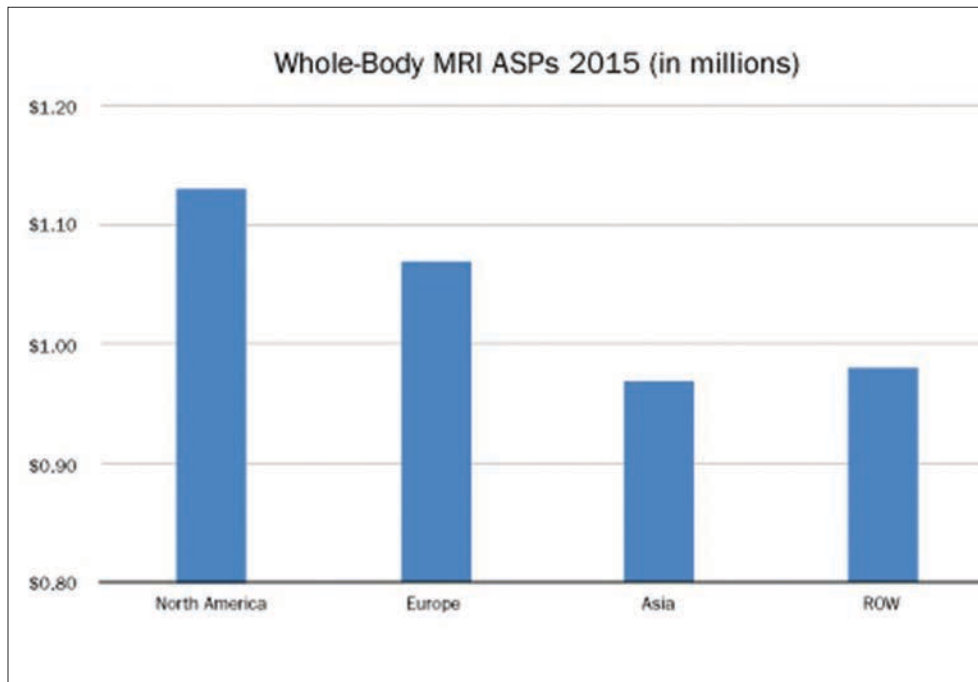


Chart 2

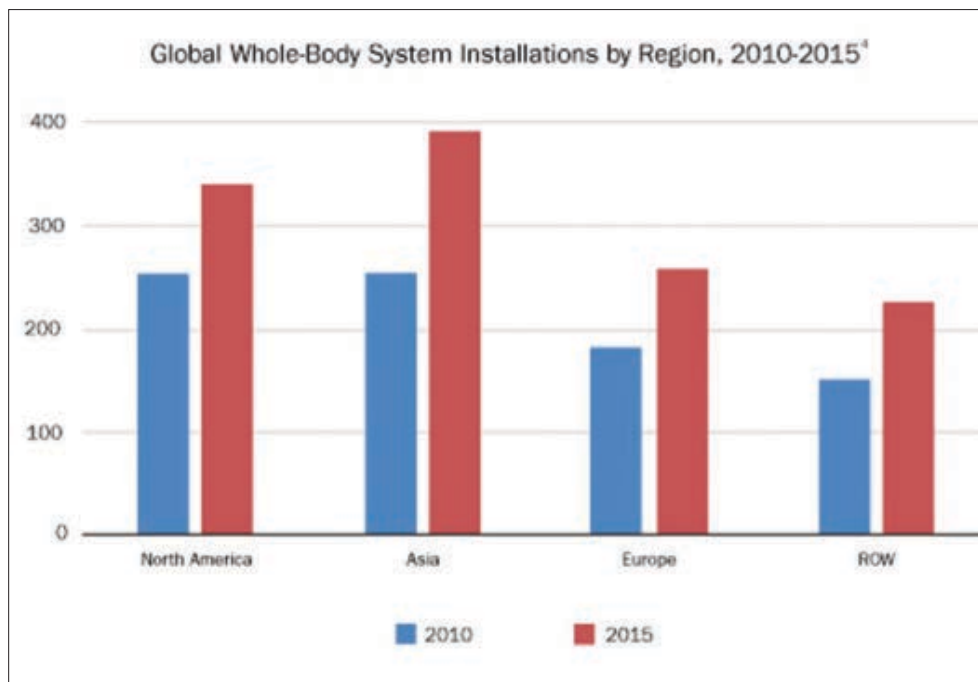


vascular structures, and regions of the brain affected by stroke.⁵ The MRI industry is driven by the demand to provide high-quality service to patients in a competitive environment. High-volume production of MRI magnets has led to efficient magnet designs. Still, there are many opportunities for improvement to enable this diagnostic tool to be available to patients around the world. ❖

References

1. *MarketsandMarkets*, 2010 MRI Imaging
2. *Ibid*
3. www.itnonline.com/article/advances-mri-market-technology-trend-analysis
4. *Op. cit.* 1
5. *Op. cit.* 3

Chart 3



Editor's note: Readers are invited to submit their market data and trend questions to Maria Shepherd. Periodically, selected questions will be presented in this column along with answers from Maria.

Maria Shepherd has 20 years of leadership experience in medical device/life-science marketing in small startups and top-tier companies. Following a career including roles as vice president of marketing for Oridion Medical (a company acquired by Covidien, which is now Medtronic), director of marketing for Philips Medical and senior management roles at Boston Scientific Inc., she founded Data Decision Group. Shepherd recently was appointed to the board of the

ously unavailable and greatly improve imaging resolution and quality. However, very-high-field whole-body MRI systems generally are large, costly to purchase and expensive to install.

Technology Prevails

Many think that MRI has become the preferred diagnostic method for imaging the central nervous system, in detecting brain tumors, spine injuries,

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