

American Society of Neuroimaging

Patient Satisfaction And Value Creation-A Neurologist Perspective

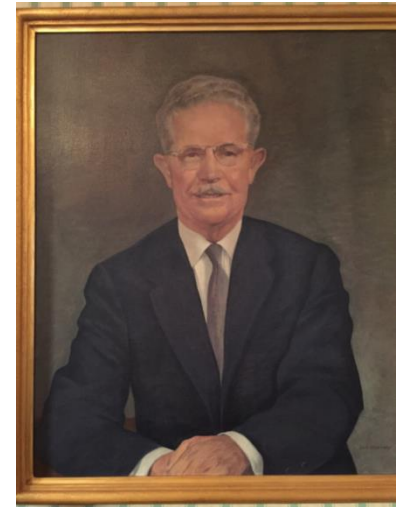
Laszlo Mechtler MD, FAAN, FASN, FEAN
Professor of Neurology, Neurosurgery and Oncology
Medical Director of Dent Neurologic Institute
Past President of ASN

Disclosure

- Philips MR Neuro-Imaging Key Thought Leader (KTL)
- ACR neuro expert panel for Appropriateness Criteria
- Medical Director of Dent Institute
- NeuroNet Pro Advisory Board Chairman



About Dent Neurologic Institute



- Outpatient Group Practice
- 80 Providers
- 300,000 Visits per year - 25,000 MRI
- 1200 visits per day
- 53,150 phone call last month

- Comprehensive Ancillaries
Imaging, Infusion, END, Dizziness/Audiology
- Access, Subspecialty Team-Based Model
- Center of Excellence
- Research and education



DENT SubSpecialties

- Dementia
- Dizziness
- Headache
- MS, MD
- Movement Disorders
- NeuroMuscular
- Pediatrics
- Psychiatry, Addiction, Depression
- Psychology
- Oncology
- Seizure
- Stroke / TIA
- Physiatry
- MRI
- Ultrasound
- CT
- PET
- Infusion
- Chemodenervation
- Audiology
- EEG
- EMG
- Sleep
- TMS
- Pain Intervention
- Ketamine clinic
- Cannabis clinic

Subspecialty Expertise

High Volume of Clinical Cases

Comprehensive Longitudinal Data

Protocol Control

Integrated Feedback Mechanism Across Services

Clinical Trials

Strategic framework for value-based health care implementation to achieve better patient outcomes.



Value-Based Health Care Benefits

PATIENTS

Lower Costs
& better
outcomes

PROVIDERS

Higher Patient
Satisfaction
Rates &
Better Care
Efficiencies

PAYERS

Stronger Cost
Controls &
Reduced Risks

SUPPLIERS

Alignment of
Prices with
Patient
Outcomes

SOCIETY

Reduced
Healthcare
Spending &
Better Overall
Health

How to improve patient satisfaction?

- Improve communication with patients
- Respect your patients
- Make your practice look engaging
- Optimize the appointment process in an easy to use manner
- Simplify the billing process with the help of the best medical billing software
- Find effective ways to follow up with patients

Dent Neurologic Business Principles

- Start with Excellent Neurologists
- Create Superb Access
 - Days not weeks or months for appointment
 - Immediate reports
 - PCPs rely on neurologist to order the appropriate tests (not compelled to shotgun testing)
- Subspecialize in Volume Markets
 - Add Extenders to Maximize MD Consults
 - Train them to be excellent at subspecialty
- Invest in High Volume Ancillaries Critical to Subspecialties
 - Use Ancillary Operating Income (Technical Revenue less expenses) to Offset Group Overhead Costs
 - Fully Distribute Professional Revenue (less overhead) to MD Partners, fully rewarding their hard work
- Recruit Fellowship Trained Expert Neurologists
 - Market the ability for them to see high volume in their expertise
 - Much better pay
 - Volumes that support Clinical Trials
 - Free to Roll Clinical Trial “Profits” into Personal Research Fund
 - Outcomes Research Papers with Powerful Stats, funded by this PRF

Private Practice Academic Centers of Excellence- Neurological Institute

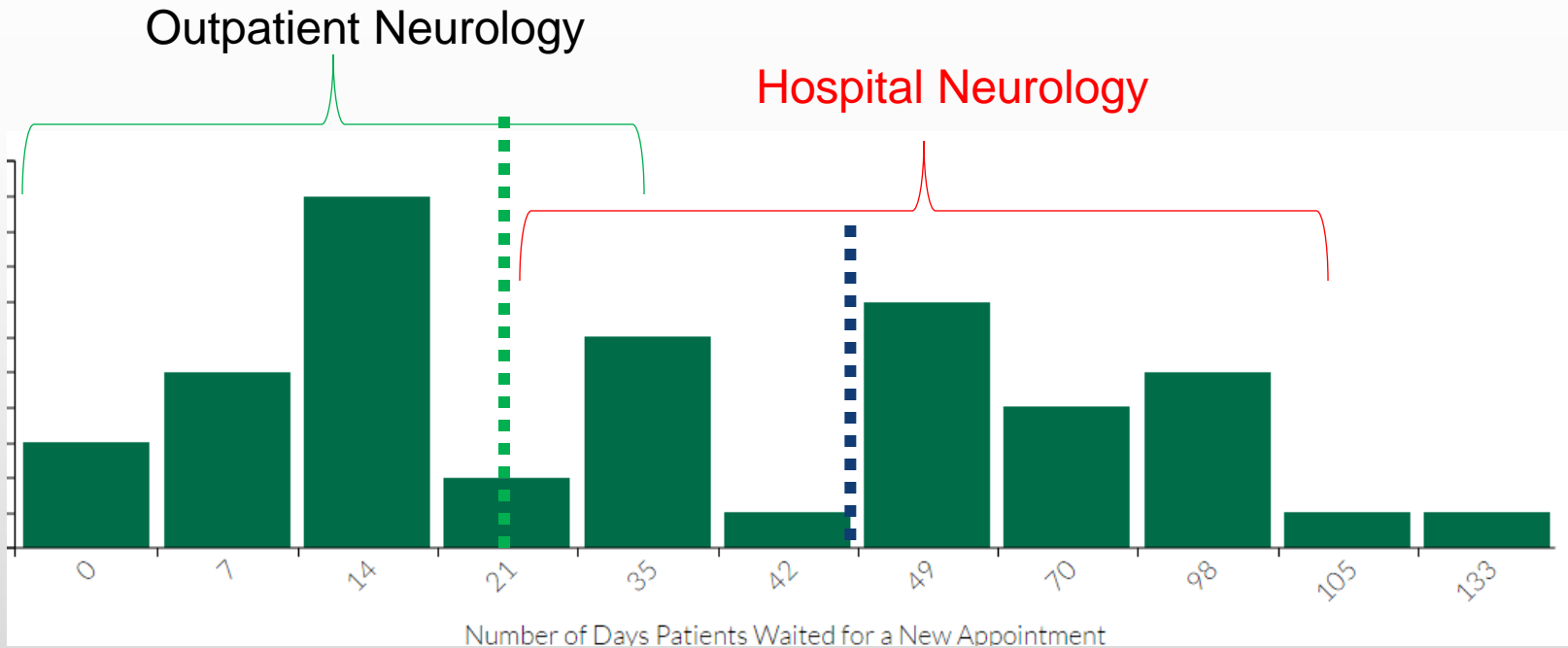
- Patient care
- Research
- Education

Ideal Practice Characteristics

- High volume
- 6+ Neurologists
- General neurology access
- Mid-level provider structure (NP/PA)
- Community presence
- Access to capital
- Risk tolerant
- Stark-compliant structure
- Access to business acumen

Wait Times to See a New Patient

Practice Type	Min	Median
Institutional	14	45
Outpatient	0	21



Clinical and Business Principles

- Keep you and your patients out of the hospital
- Open Access
- Best physicians
- Welcoming Attitude and Efficient Operations
- Comprehensive Care (Center of Excellence)
- Respect for Privacy
- Great marketing

“Power is in the number’s”

- ✓ Control of patient lives
- ✓ Control of referral patterns
 - a. hospitals
 - b. neurosurgeons
 - c. other subspecialties
- ✓ Ancillary’s

*Cost Effective Neuroimaging
= Cost Effective Neurology*

Dent's success

Academic large private practice:

Center's of Excellence

Ancillary support

Multidisciplinary

Geographically diversified

Strength in numbers

Strong networking relationships

Research



NEUROLOGY

- Shortage of neurologists in 40 states, esp rural areas
- Demand for neurologists outpacing supply*
 - 2012-11% shortage
 - 2025-16% projected shortage
 - Aging neurologists-avg age in US is 52
- Physician burnout (>50%)



Freestanding imaging center

The least expensive cities for a brain MRI from a freestanding imaging center

1. Oklahoma City, OK — \$601
2. Riverside-San Bernardino-Ontario, CA — \$611
3. San Diego-Carlsbad, CA — \$614
4. Birmingham-Hoover, AL — \$616
5. Atlanta-Sandy Springs-Roswell, GA — \$660
6. Columbus, OH — \$663
7. Cleveland-Elyria, OH — \$670
8. Los Angeles-Long Beach-Anaheim, CA — \$681
9. Phoenix-Mesa-Scottsdale, AZ — \$693
10. St. Louis, MO-IL — \$698

The most expensive cities for a brain MRI from a freestanding imaging center

1. Raleigh, NC — \$1,285
2. Minneapolis-St. Paul-Bloomington, MN-WI — \$1,277
3. Boston-Cambridge-Newton, MA-NH — \$1,077
4. Milwaukee-Waukesha-West Allis, WI — \$1,062
5. Portland-Vancouver-Hillsboro, OR-WA — \$1,053
6. Dallas-Fort Worth-Arlington, TX — \$1,031
7. Richmond, VA — \$986
8. Chicago-Naperville-Elgin, IL-IN-WI — \$974
9. Charlotte-Concord-Gastonia, NC-SC — \$950
10. Virginia Beach-Norfolk-Newport News, VA-NC — \$949

Amino 4/2017

Hospital Imaging center

The least expensive cities for a brain MRI from a hospital imaging center

1. Birmingham-Hoover, AL — \$923
2. Phoenix-Mesa-Scottsdale, AZ — \$1,054
3. Baltimore-Columbia-Towson, MD — \$1,065
4. Pittsburgh, PA — \$1,153
5. Buffalo-Niagara Falls, NY — \$1,187
6. New Orleans-Metairie, LA — \$1,251
7. Philadelphia-Camden-Wilmington, PA-NJ-DE-MD — \$1,260
8. Louisville/Jefferson County, KY-IN — \$1,270
9. Riverside-San Bernardino-, CA — \$1,402

The most expensive cities for a brain MRI from a hospital imaging center

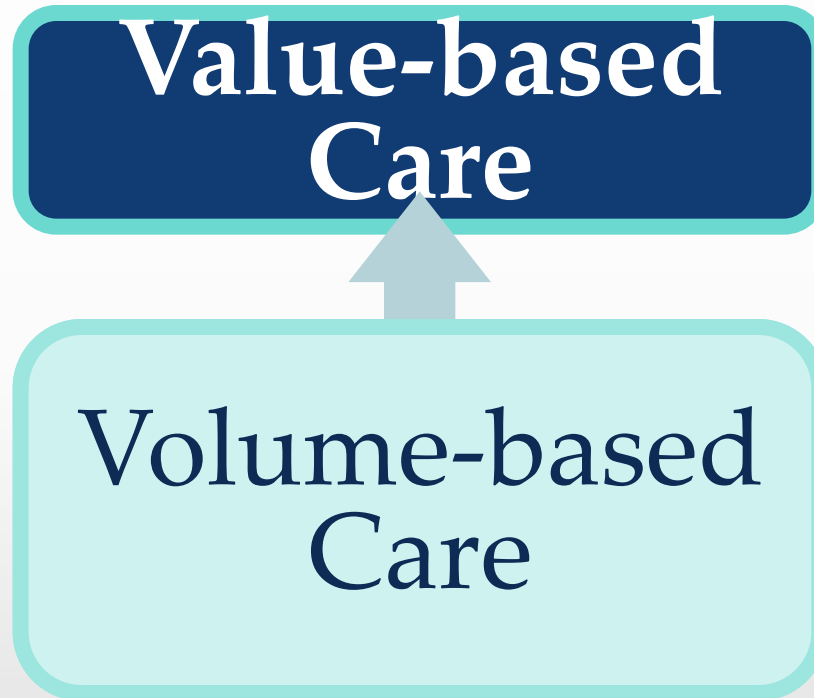
1. Portland-Vancouver-, OR-WA — \$2,987
2. Hartford-West Hartford, CT — \$2,797
3. Virginia Beach-Norfolk, VA-NC — \$2,746
4. Raleigh, NC — \$2,673
5. Seattle-Tacoma-Bellevue, WA — \$2,580
6. Richmond, VA — \$2,307
7. Chicago-Naperville-Elgin, IL-IN-WI — \$2,240
8. Charlotte-Concord-Gastonia, NC-SC — \$2,096
9. Houston-The Woodlands- TX — \$2,096
10. Jacksonville, FL — \$2,091

Blues giant *Anthem* will no longer pay for MRIs and CT scans performed on an outpatient basis in hospitals across the country.

As healthcare costs continue to rise, Indianapolis-based Anthem, which is run by a former health system CEO, is taking aim at a service that can be far more expensive in a hospital than in a free-standing imaging center.

On average, a brain MRI costs \$1,767 at a hospital or \$787 at a freestanding imaging center





Imaging Center Survival Requires Cost-effective Approaches to Neuroimaging

*Do the right scans,
provide helpful results,
as quickly as possible,
as inexpensively as possible*





"I'll want to get a few tests on you, just to cover my ass"

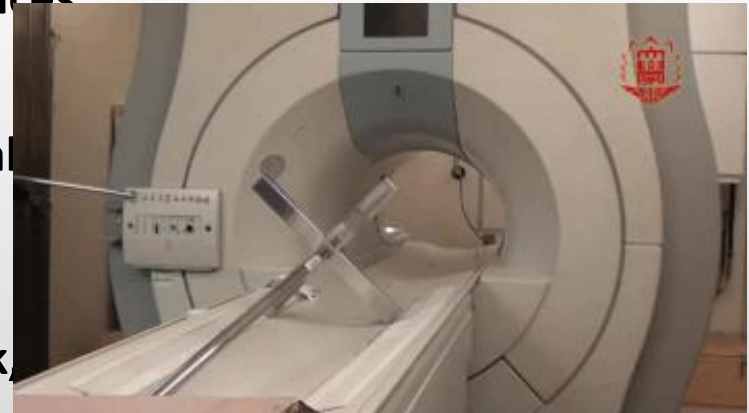
Purported causes of overutilization of imaging



1. Fascination with new technologies
2. Duplication of studies from site to site
3. Inappropriate examination ordered/wrong body part imaged
4. Defensive medicine
5. Self-referral financial incentive
6. Patient demand for test
7. Studies ordered by protocol without individual consideration
8. Fraudulent activity

Optimized Imaging Workflow

- **Maximize Volume per Scanner**
 - Extended Hours of Operation
 - Reminders and Smart Overbooking to Minimize Cx/NS
- **Minimize On/Off Table Time**
 - “Keep the Gradients Knocking”
- **Minimize Scan time Per Patient**
 - Fewer sequences, fast/motion tolerant sequences
- **Minimize doubt/repeat imaging**
 - targeted sequences, adjust on the fly, tech qual
- **Minimize Door-to-Scan Time**
 - Time-Motion Studies
 - Patient coordination in advance for paperwork



Issues for Neuroimagers in an MRI Center

- **Optimize Sequences for the Referring Indications**
 - Is the order clear and appropriate?
 - Which sequences offer the most clinical insight?
 - Which Fast imaging sequences are applicable?
- **What are the secondary diagnoses I'm considering?**
 - Are additional imaging studies necessary?
- **Concise report that answers the clinician's questions**



- Quality in the competitive MRI marketplace is like the Loch Ness Monster: frequently mentioned but little supporting evidence of its existence

SAME price....unequal quality



Out patient MRI

In Patient MRI

Cheaper
expensive

more



“Immediate” Access

- Days not Weeks
- Same Day if Stat (Urgent Care Partner?)
- MD Templates – Consult Heavy
- PAs/NPs – Followup Care
- Control the Ancillary Decision Making
- Respect your referring MD’s



Benefits of Comprehensive Model

- Patients/PMDs: Prompt Care, Definitive Answers, 1Stop
- Payers: Cost Effective, Relationship with Top Physicians
- Sustainability: Infrastructure to Manage Regulations
- Market Share: Fast Access, Ancillaries
- Negotiating Power: Strength in Numbers
- Financial: Diverse Revenue, Lower Risk, Lower OH
- Recruitment: Fulfilling Environment, Lower OH



Healthcare trends that effect Cost effectiveness in Neuroimaging

- Telemedicine
- Patient adoption of Health related Apps
- Cloud usage (interoperability, rapid image sharing and storage)
- PACS infrastructure including cloud-based archiving solutions
- Patient portals enhances the workflow between doctors and patients
- Cyber security
- Imaging sites will turn to big data for efficiency gains
- value-based payment models
- Appropriate use Criteria
- Double studies
- Gadolinium use
- CT use



Providers as Strategic Teams

- **Appropriate & Precise orders**
 - Referring Indications, Associated ICDs
 - MRI Sequences Targeted to Medical Condition
- **Efficient Authorization Process**
 - Trained staff, automation
- **Rapid Access to Avoid Leakage**
 - PCP to Neurologist to Imaging
- **Concise and Timely Reports**
 - Answer Clinical Question
 - Fast Turnaround, Critical Results
- **Efficient Communication**
 - Curb-side consults
 - IT Interoperability (report transfer, image access)



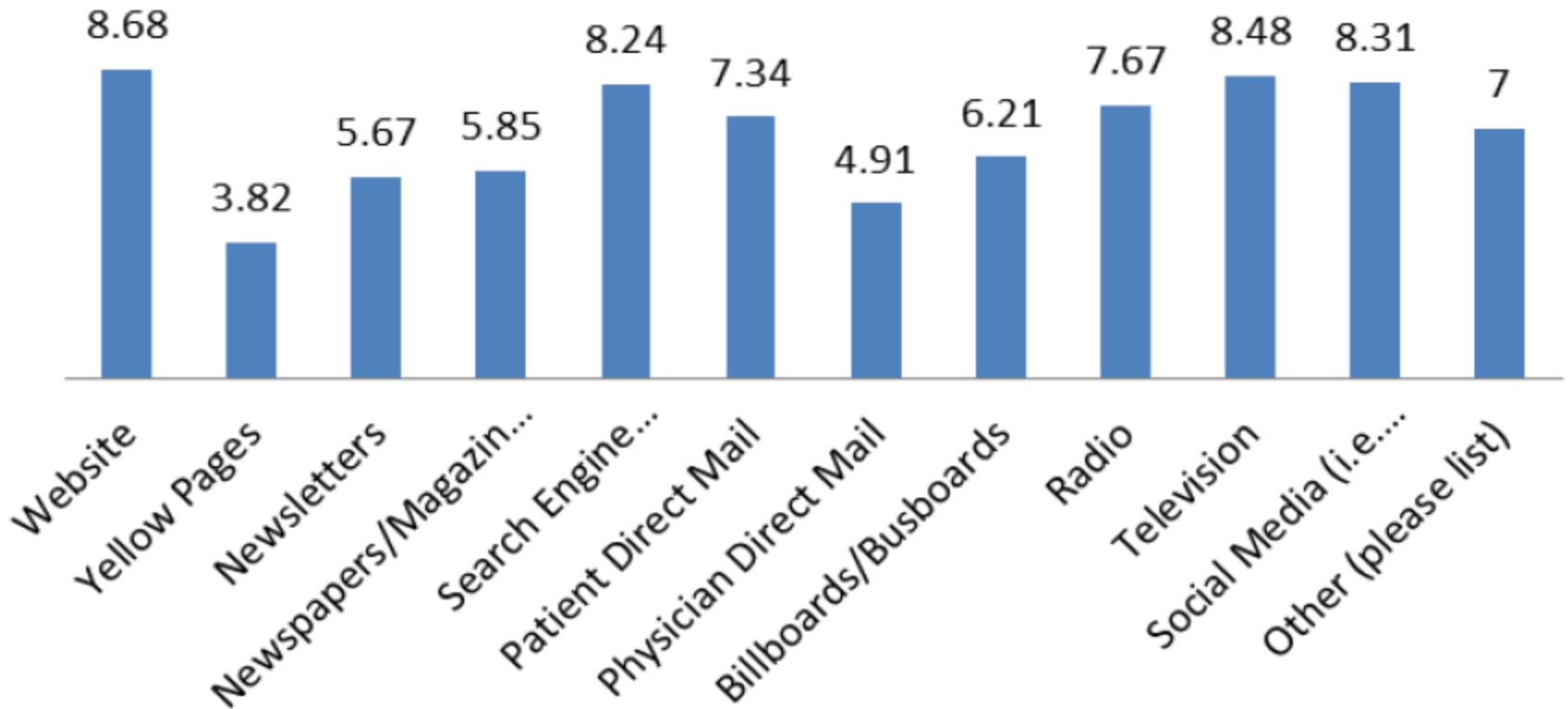
What is Marketing?

Interface between
Operations and
Customer Perception





Perceived Success

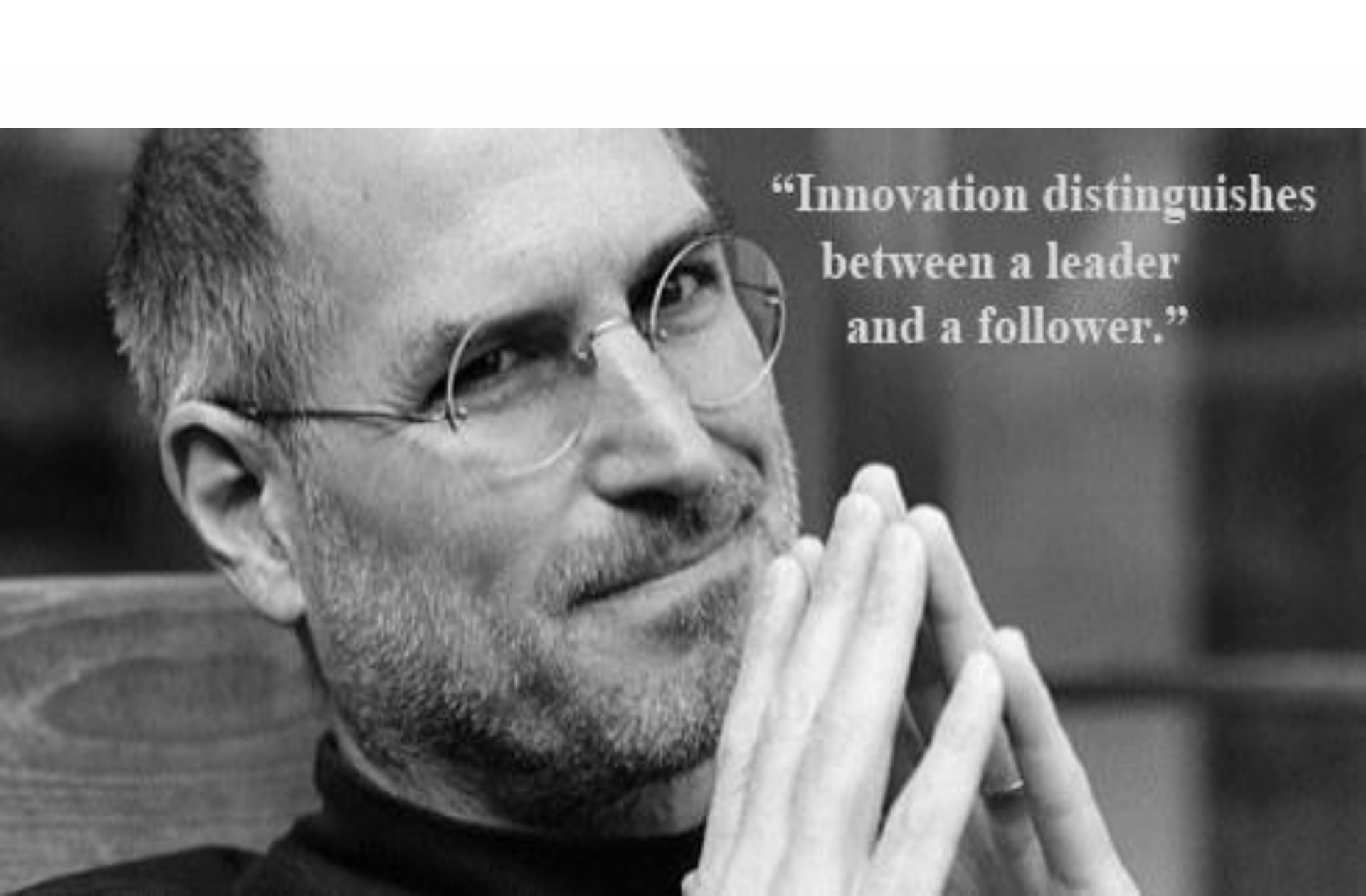


(10 = very successful)

Word of Mouth Trumps All

- Overall Experience
- Phone
- Parking
- Reception
- Time with Provider
- Personal Interaction
- Access (appointments, phone, portal, results)
- Dictations, notes, phone calls



A black and white close-up photograph of Steve Jobs. He is wearing his signature round glasses and has a slight smile. His hands are clasped together in front of his chin, with his fingers interlaced. The background is dark and out of focus.

“Innovation distinguishes
between a leader
and a follower.”

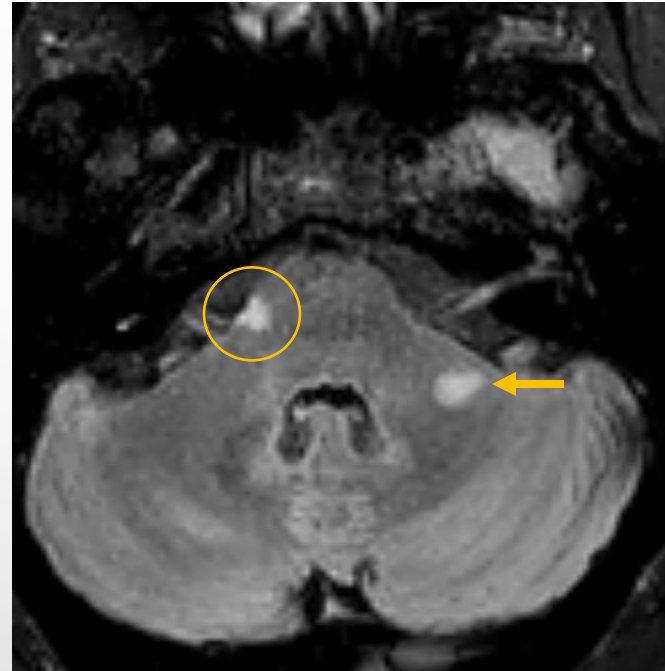


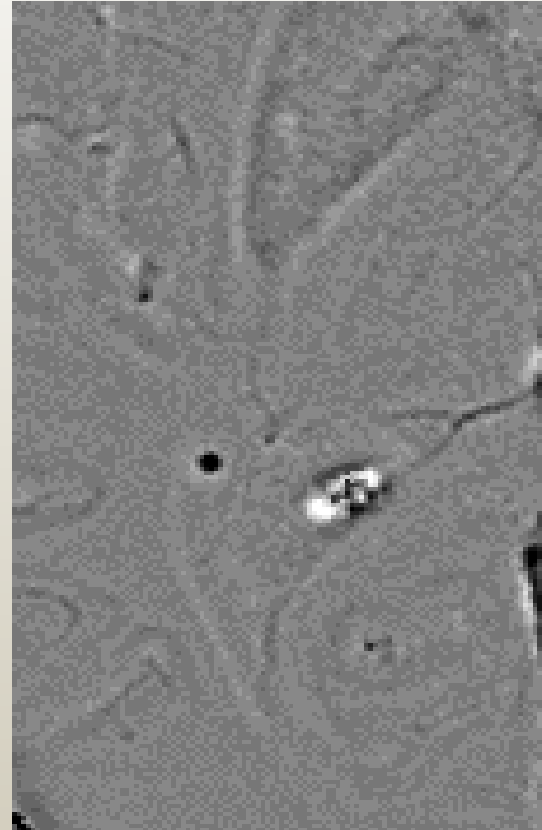
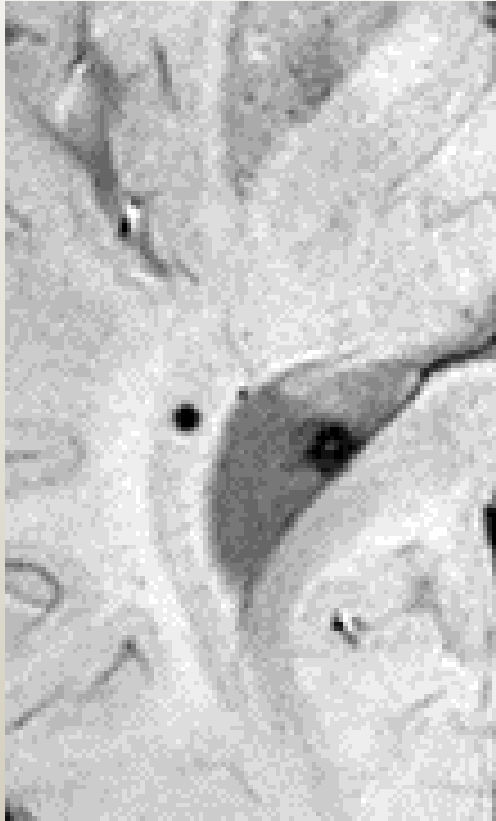
Clinical optimization – 3D approach

2D FLAIR



3D FLAIR





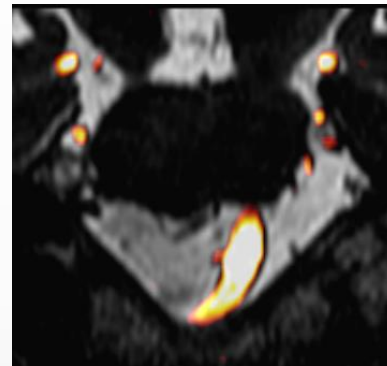
SWI phase imaging



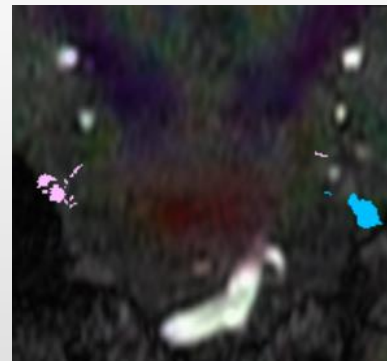
Clinical optimization – Disease specific protocols



Fusion of TOF and DRIVE

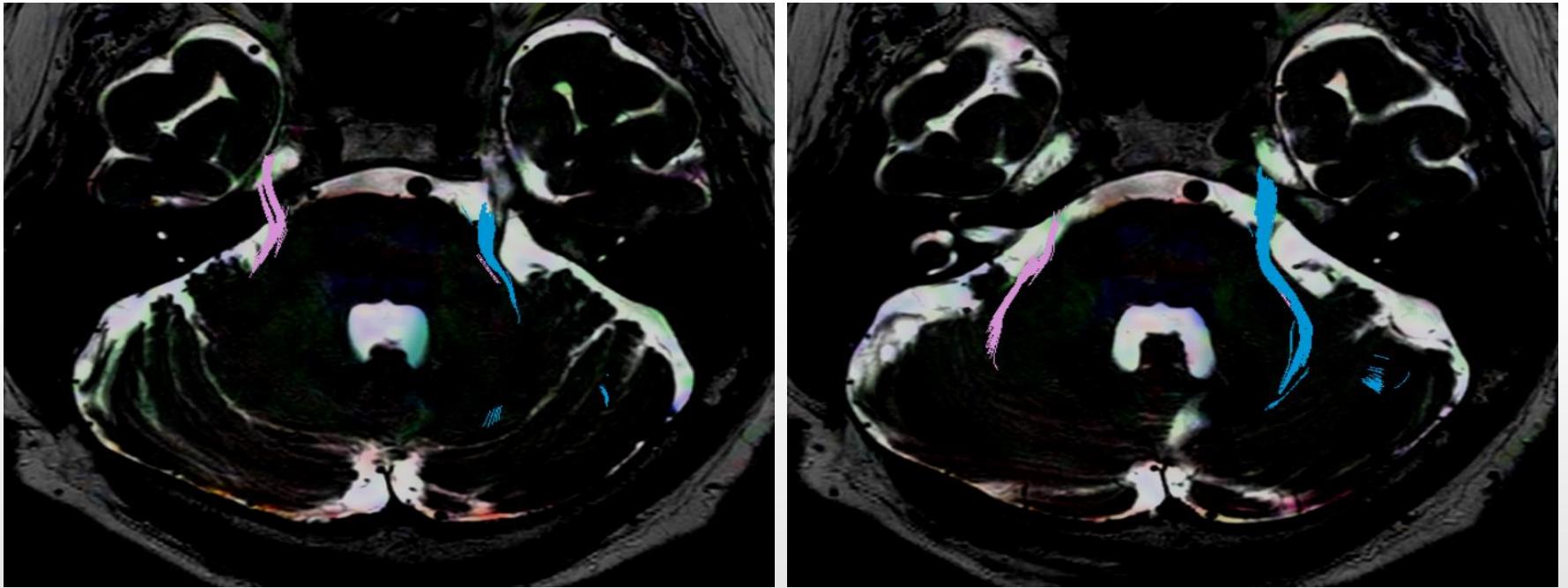


TOF + DRIVE



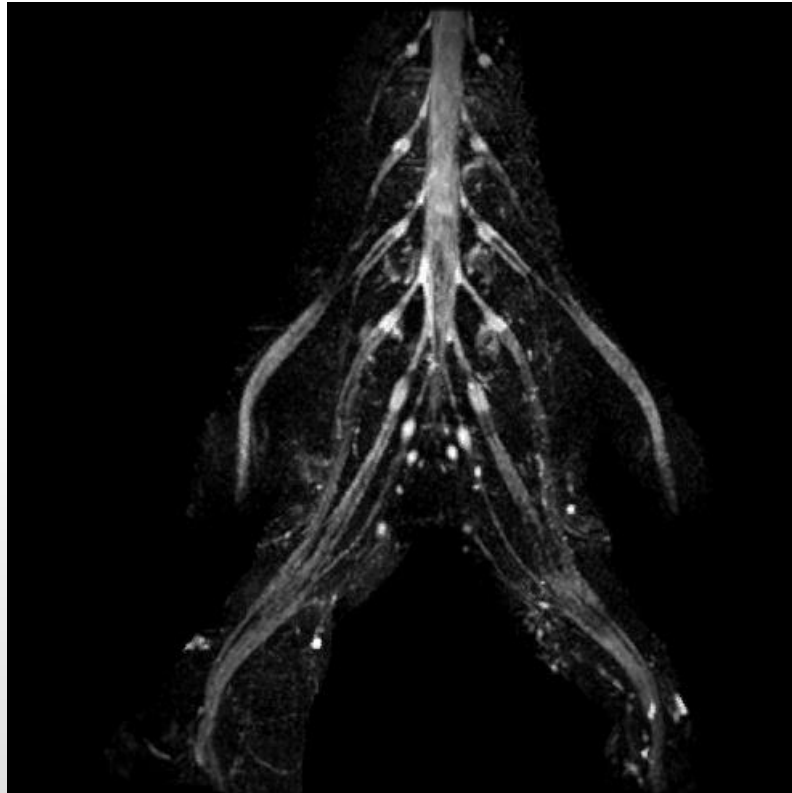
TOF + DTI

Integrate Neurologists into Protocoling and Edu

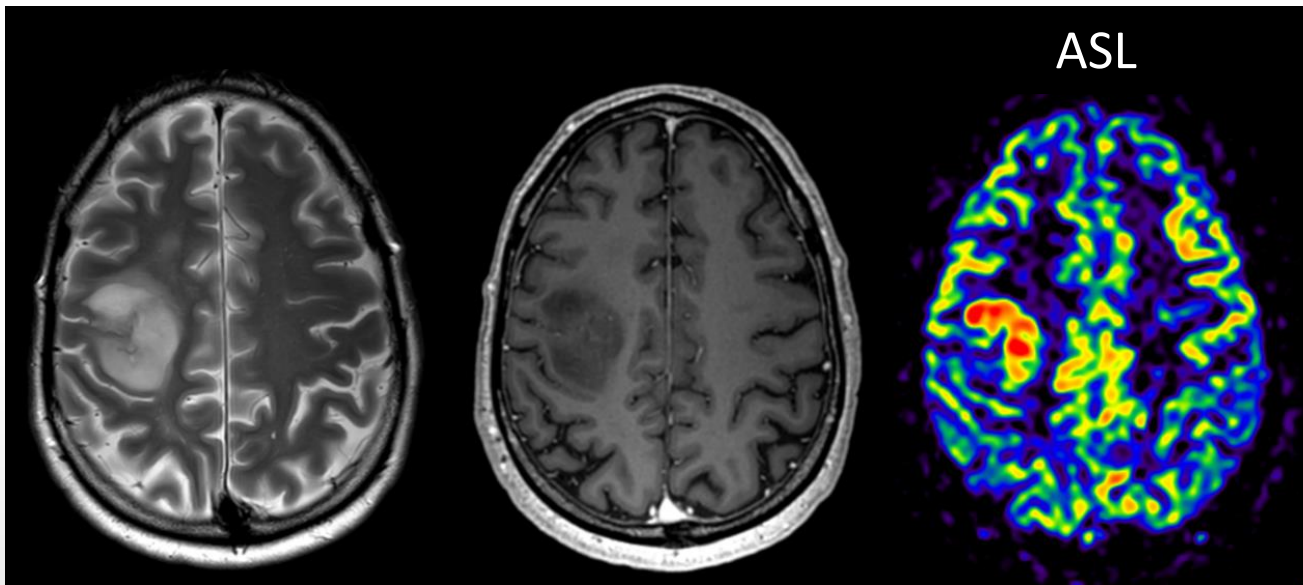


(from Dent Neuroimaging Rounds)

New Technologies: 3D Nerve VIEW

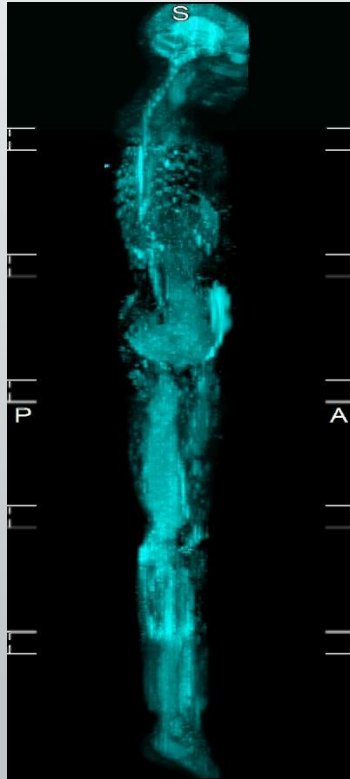


New Technologies: 3D Arterial Spin Labeling



Whole Body STIR for Tumor

DWIBS Rotation



STIR Pathology Warm LUT

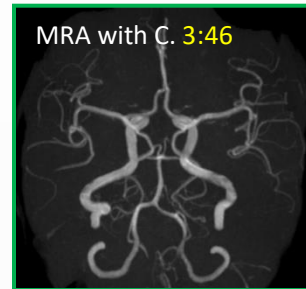
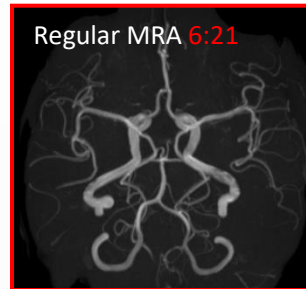


STIR Warm LUT



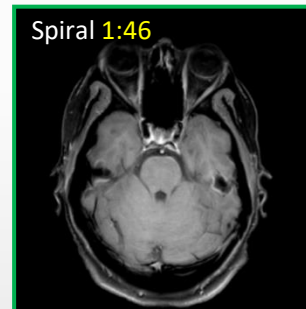
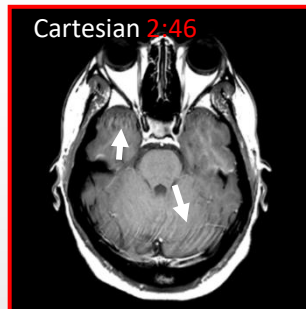
Research Highlights: Fast MRI

Compressed
Sense
PHILIPS



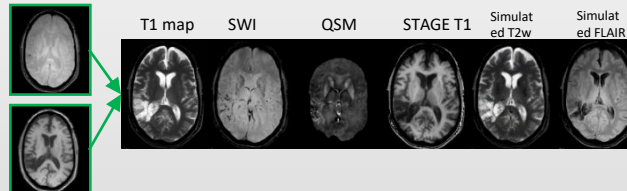
40% faster

Spiral MRI
PHILIPS



**36% faster
No pulsation
artifact**

Synthetic
MRI
Mark Haacke



**3-4
minutes**

6 minute MRI will revolutionize the medico-economics of Neuroimaging



Keys to Neuroimaging Success

- “Be the best you can be” ...Fellowship, Preceptorship, courses
- Teach, educate and start a fellowship
- Sit on Neuroimaging committees
- Be Political Active (BRAIN PAC) and “Neurology on the HILL”
- Be a active member of ASN and AAN NI section
- Publish and support the Journal of Neuroimaging
- Start NI Research
- Do not except the status quo
- Be Passionate



Summary

- Seamless Team Based Care to Share Expertise
- Responsive to Referring Neurologists
- Workflow That Improves Efficiency and Quality
- Educated Staff
 - Show Clinical Relevance to Improve Quality and Engagement
- Clinically Optimized Methods and Workflow
- Clinically Targeted, Pragmatic Research



Viewpoints:

Why Neuroimaging Plays a Critical Role in Shaping the Future of Neurology

An integral part of clinical neurology and neurosciences, neuroimaging training must be better harnessed and incorporated into the educational spectrum of the specialty.

By Laszlo Mechtler, MD and Joseph Fritz, PhD

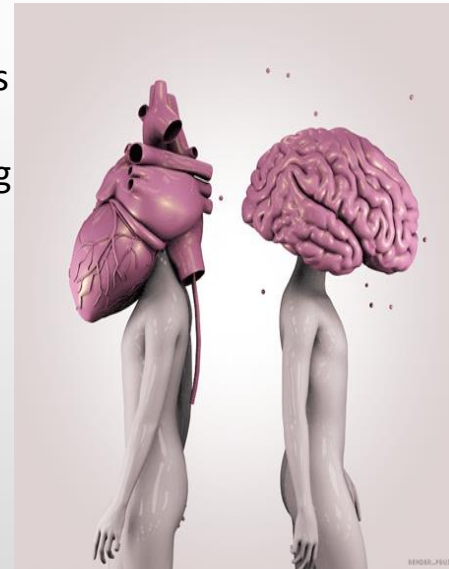


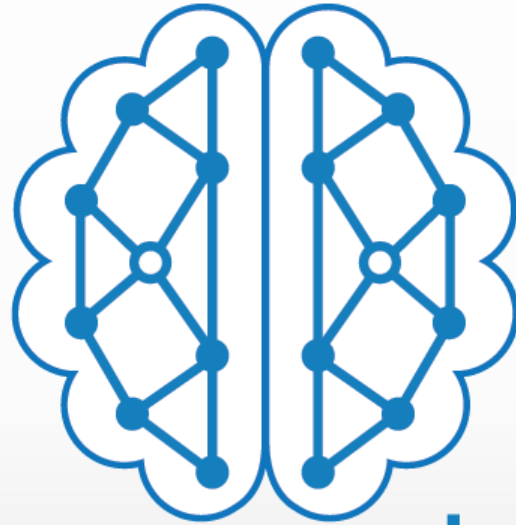
NOVEMBER/DECEMBER 2016 PRACTICAL NEUROLOGY

Advanced Cardiovascular Imaging Training

- 35 institutions offering ACVI training are all large universities, including 11 in the Northeast, 12 in the South, 7 in the Midwest, and 5 in the West.
- Twenty-seven of 35 institutions (77%) offer a single advanced cardiovascular (CV) imaging training pathway, 6 offer 2 pathways, and 2 offer 3 pathways.
- , 65 to 70 new trainees are accepted annually
- 1 year (56%) to 2 years (31%), with the remaining 13% flexible between 1 and 2 years
- Thirty pathways (67%) include both cardiologists and radiologists among the teaching faculty, whereas 15 (33%) include only cardiologists across all advanced CV imaging training pathways

“organ- specific imaging “





NeuroNet | pro



How Neurology Creates Value in the Healthcare System

Laszlo Mechtler, MD

Chief Medical Officer, Dent Neurologic Institute
Advisory Board Chair, NeuroNetPRO

Joseph V. Fritz, PhD

Chief Executive Officer, Dent Neurologic Institute
Partner, NeuroNetPRO


About NeuroNet Pro

- Our Expertise
 - NeuroNet PRO leverages decades of real-world medical practice experience to help you excel in the face of today's complex healthcare economics.
 - Thousands of clinical trials and eventual clinical implementation of new treatments
 - Innovating with new ancillary services
 - Developing improved practice workflow
 - Partnering with payers to find value-based solutions
- Consulting For Industry
 - Our team remains in clinical practice, we are constantly aware of hurdles associated with the changing healthcare landscape environment.
 - Our expertise lies in bringing new solutions to practical reality. The benefit to our industry partners is that we can help identify hurdles to new product releases, access real-life data to help understand market potential, identify and help develop educational materials.
- Consulting For Practices
 - Focused on creating practice-specific results, our team creates innovative solutions for your clinical and business needs.
 - We can help identify opportunities for improving business sustainability, physician income, and service quality through our extensive knowledge in clinical operations, and ancillary services including infusion therapy and neuroimaging.
 - Our experience with Alternative Payment Models has been recognized by payors..

NeuroNetPro.com

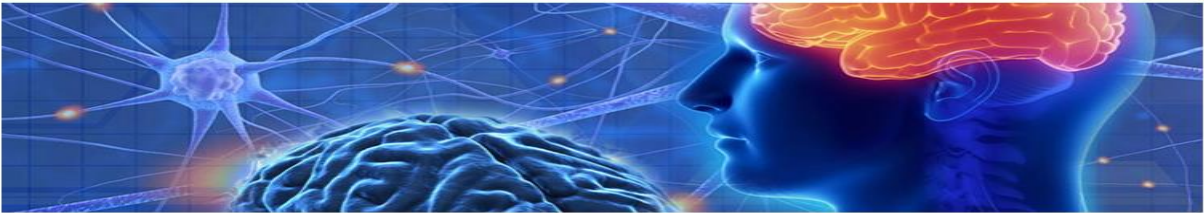
Hope you are well . Just want to let you know your teaching is making a big difference to the lives of people here in Punjab.
Thank you, plan a visit to India

text from Karanbir Singh 2019
Past Neuroimaging fellow




Home About Us Departments Hosp

Department of Neurology & Neuro Imaging



The Department of Neurology & Neuro Imaging is headed by **Dr. Karanbir Singh**.

Dr. Karanbir Singh
M.B.B.S, M.D. (USA), D.M.,eq(USA)
Neurologist and Neuroimaging consultant.
American Board Certified
Email: karan@apex-hospital.com



- MBBS from Govt. Medical College, Amritsar
- Internal medicine residency from State University New York (USA).
- Neurology residency from State University New York (USA)
- Neuroimaging fellowship from DENT Neurologic Institute, Buffalo (USA)

After 6 years of training at top institutes of USA, Dr. Karanbir Singh left a lucrative career in US to serve the people of India by providing International standards of Neurological care in Jalandhar, Punjab.



MIND Klinika

*A key message for neurologists is
to leverage the scarcity of the
profession*



Us against them !

Peter Kalina

Mayo Neuroradiologist



Laszlo
Mechtler

Dent
Neuroimager



DENT

NEUROLOGIC INSTITUTE

Thank You!



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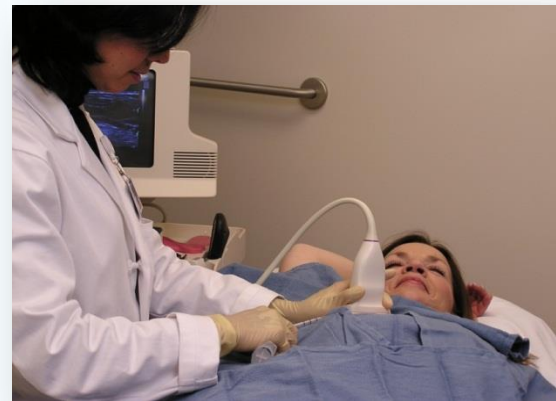
Thanks Joe Fritz PhD

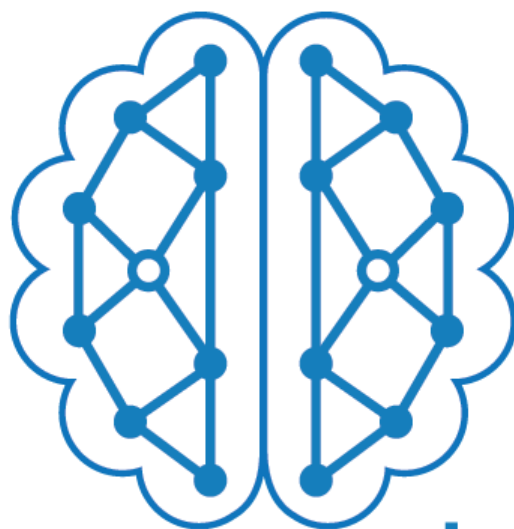


Maintenance Of Certification

3 of 6 competencies required for MOC:

- Interpersonal and communication skills
- Patient care
- Professionalism





NeuroNet | pro

How Neurology Creates Value in the Healthcare System

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Neurology in Patient Centered Care

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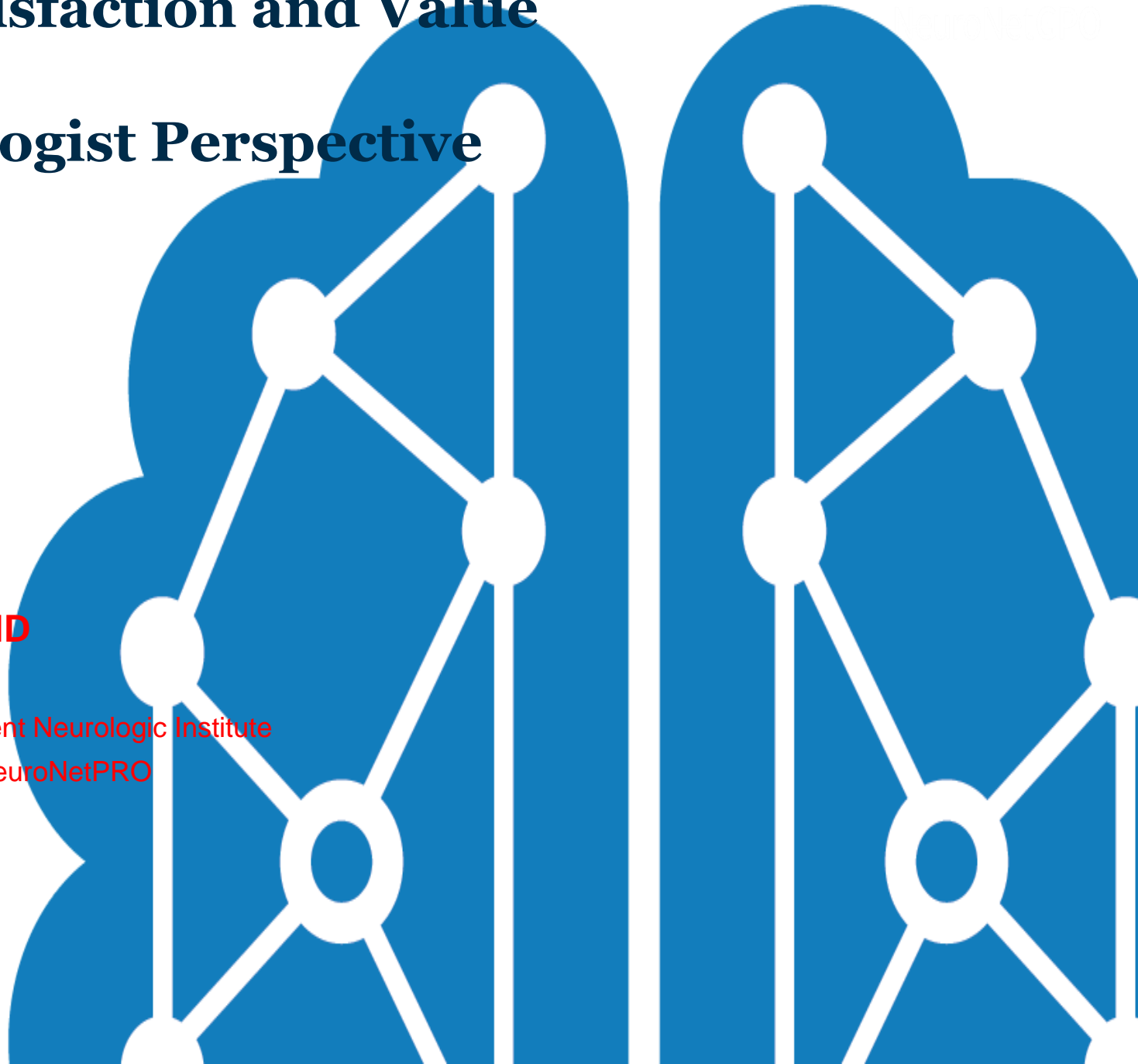
- Early Access to Diagnosis and Treatment
 - Neurologic Conditions become more disabling over time
- Ensure Patient Understand Benefits and Risks
 - Enormous Pipeline of New Treatments
- Foster Collaboration with Care Teams
 - APPs, Nurses, Social Workers, Therapists of all types, Primary Care, Other Specialists
- Monitor Quality of Life and Shared Decision Making
 - Consider the Entire Person, not just the disease
- Track Effectiveness and Compliance
 - Leadership in Real-time Quality Metrics, Guidelines (AAN Registry, Value Based Payment Models)
- Participate in Clinical Trials
 - Access to, and knowledge of, newest treatments
- Regular Collaboration with Neurologists
 - Global Network, Compare Best Practices

Clinical Quality
Quality of Life
Safety
Patient Experience

Patient Satisfaction and Value Creation: The Neurologist Perspective

Laszlo Mechtler, MD

Chief Medical Officer, Dent Neurologic Institute
Advisory Board Chair, NeuroNetPRO



*Patient Satisfaction Depends on
Knowledge, Compassion, and
Process*

Determining Patient Satisfaction

- Complaint Line, Logs
- Online Comments
- Exit Surveys
- Contracted Surveys
- CMS CAHPS Surveys

Processes to Address Feedback

- Quality Committee to track and discuss Key Performance Indicators (Quarterly)
- Orchestrated approach for reviewing feedback with appropriate physicians and department management, contacting patient to thank them and obtain more insights (immediately)
- Culture that welcomes the feedback and identify root causes
- Review and improve processes

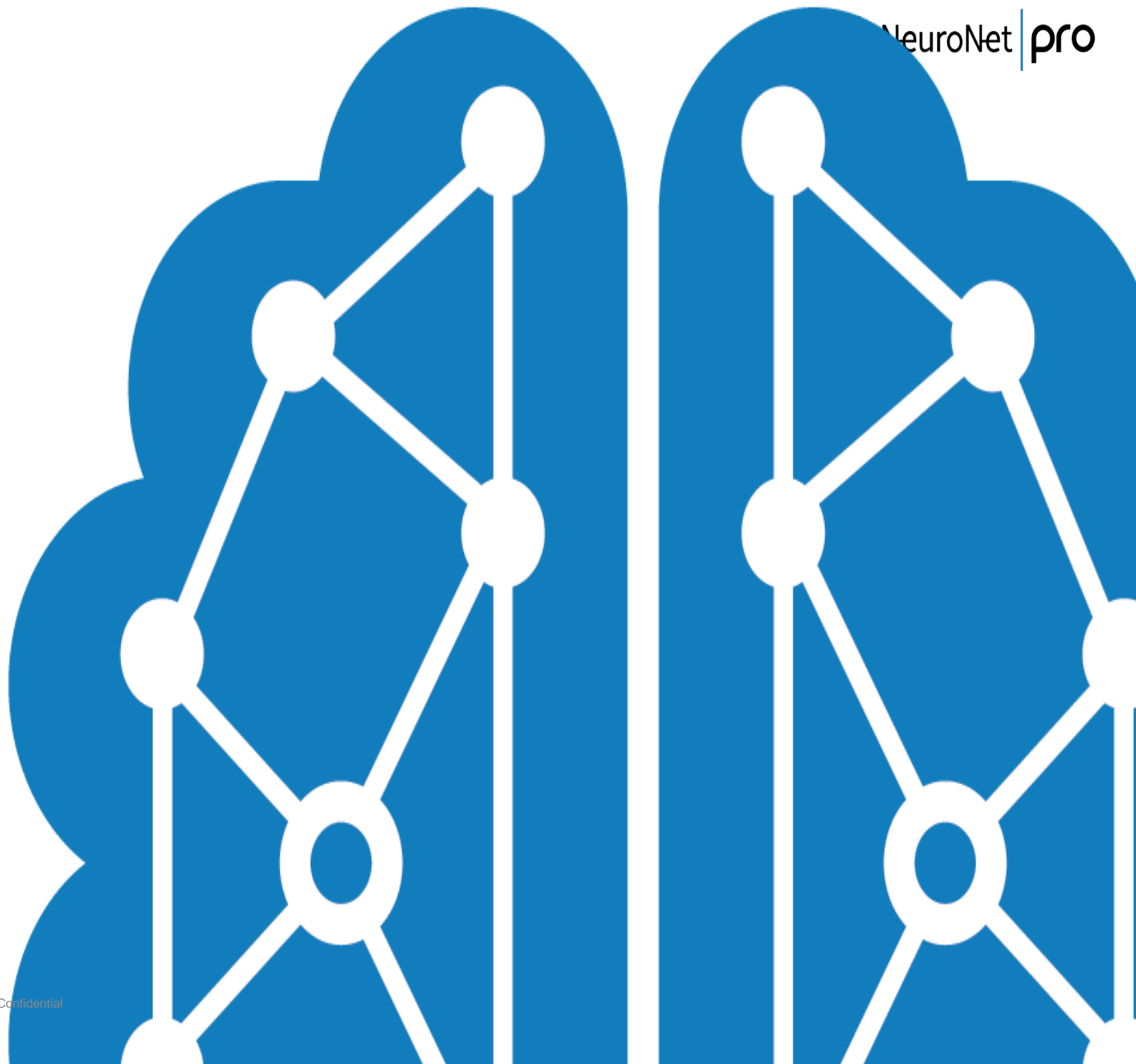
How to Foster Patient Centered Care and Satisfaction

- Early Access to Diagnosis and Treatment
 - Conditions are more disabling over time
- Relationships that Comfort and Ensure Understanding Benefits and Risks
 - Enormous Pipeline of New Treatments
- Efficient Collaboration with Care Teams
 - APPs, Nurses, Social Workers, Therapists of all types, Primary Care, Other Specialists
- Monitor Quality of Life and Shared Decision Making
 - Consider the Entire Person, not just the disease
- Track Effectiveness and Compliance
 - Leadership in Real-time Quality Metrics, Guidelines (AAN Registry, Value Based Payment Models)
- Access to, and knowledge of, state of the art
 - Participate in Clinical Trials, Community and Professional Education, Regular Collaboration with other Neurologists to Compare Best Practices

Clinical Quality
Quality of Life
Safety
Patient Experience

Creating a Culture of Patient Centered Care

- Pillars of Respect, Quality of Work and Productivity
- First impressions matter, whether the friendly call center or smile from the receptionist
- Tie Performance Reviews to Specifics within these pillars
- Don't be afraid to get help
 - Fellow neurology groups
 - Secret Shoppers
 - Payers and IPAs
 - Outside Consultants (MGMA, AAN, NeuroNet)



Patient Focused Operations

- Follow-up Phone Calls, Portal
- Identify Chronic Conditions
- Phone Courtesy
- Accurate Appointment Scheduling
- Room Prep and Facility Cleanliness
- Billing Process

Know Your Patient Customer

	Category*	Physician n=62	Group n=370	CMP n=8,640	CAHPS n=12,983	Importance
Overall Physician Rating						
Rate the doctor as a 9 or 10, where 0 is the worst doctor possible and 10 is the best doctor possible	--	83%	76%	82%↑	79%	--
Loyalty Questions						
Would you recommend this office	--	87%	84%	90%	NA	--
Top 5 Improvement Opportunities						
I get the care I need when I need it.	Personal Health	56%	53%	60%	NA	High
Follow-up on Test Results	Office Staff	39%↓	65%	68%	69%	Moderate
Got appointment for check-up or routine care as soon as needed	Appointments	58%	68%	79%↑	69%	Moderate
Got appointment for urgent care as soon as needed	Appointments	60%	66%	74%↑	64%	Moderate
Office staff was helpful	Office Staff	68%	66%↓	77%↓	78%	Moderate
Highest Performance vs. CMP Other Specialty Physicians						
Got answer to phone question after hours as soon as needed	Appointments	100%	73%	75%↑	61%	High
Doctor listened carefully	Communication	92%	79%↓	85%	85%	High
Doctor showed respect	Communication	94%	83%↓	88%	88%	High
Doctor gave easy to understand information	Communication	88%	78%	83%	82%	High
Wait time to be seen within 15 minutes of appointment time	Appointments	42%	36%↓	37%↓	52%	Low

<http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedbackProgram/2013-QRUR.html>

Summary

- Seamless Team Based Care to Share Expertise
- Responsive to Referring Neurologists
- Workflow That Improves Efficiency and Quality
- Educated Staff
 - Show Clinical Relevance to Improve Quality and Engagement
- Clinically Optimized Methods and Workflow
- Clinically Targeted, Pragmatic Research