ACR Update

James A. Brink, MD
Chair, Board of Chancellors

SCARD / SCORCH

September 29, 2016
ACR Key Facts

- Founded 1923
- 400+ staff in these locations
  - Headquarters
    - Reston, VA
  - Government Relations
    - Washington, DC
  - Clinical Research
    - Philadelphia, PA
  - American Institute for Radiologic Pathology
    - Silver Spring, MD
ACR Is Led by Members

- Over 2,000 members volunteer their time and talents together on commissions and committees to promote excellent patient care and professionalism in radiology

James A. Brink, MD, FACR, of Boston, MA, was elected Chair of the ACR Board of Chancellors to serve from April 2016 to April 2018

Geraldine McGinty, MD, FACR, of New York, NY, was elected by the ACR Board of Chancellors to serve as Vice Chair from April 2016 to April 2018

William T. Herrington, MD, FACR, of Athens, GA, was elected Council Speaker to serve from May 2015 to May 2017

Timothy L. Swan, MD, FACR, of Marshfield, WI, was elected Council Vice Speaker to serve from May 2015 to May 2017
ACR / ACRA Core Areas

- Advocacy: acr.org/advocacy
- Economics: acr.org/economics
- Quality and Safety: acr.org/quality-safety
- Research: acr.org/research
- Education: acr.org/education
- Membership: acr.org/membership
- RADPAC: www.radpac.org
Consolidated Appropriations Act Of 2016

- Rolls back the MPPR impact to 5%
- Preserves women’s access to screening mammography
H.R. 2029 and PC MPPR

- On Dec. 18, 2015, Congress passed H.R. 2029, the Consolidated Appropriations Act of 2016
  - Huge, bipartisan legislation to fund government through fiscal year 2016
- Effective Jan. 1, 2017, PC MPPR will be lowered from 25% to 5%
  - Policy now matches empirical evidence published in *JACR®* in May 2011 regarding true level of PC “efficiencies”
H.R. 2029 and PC MPPR

- Inclusion of provisions to address the PC MPPR in H.R. 2029 marked culmination of 4½ year lobbying campaign
- Lowering PC MPPR is tremendous legislative victory for ACR which promises to return approximately $352 million in reimbursement to radiologists over 10 years
Private Payer Activities

- Multiple Procedure Payment Reduction:
  - United Healthcare implemented the professional component reduction of 25% in November 2015
  - ACR efforts delayed implementation by one year (initially announced implementation date of Sept. 2014)
  - United Healthcare will announce in its November Bulletin that the reduction will be reduced to 5% on Jan. 1, 2017
  - ACR Managed Care Committee continues to contact payers who have implemented the PC-MPPR to push them to align with the CMS mandate (5% reduction)
Late April 2015, USPSTF issued DRAFT mammography screening recommendations

- **C Grade:** Biennial mammograms for women 40–49
- **B Grade:** Biennial mammograms for women 50–74
- ACA requires private insurance only to cover screening services that receive grades of “B” or above without cost-sharing
H.R. 2029 and Mammography Screening

- H.R. 2029 ultimately included provisions delaying implementation of USPSTF draft mammography screening recommendations for two years
- Recommendations cannot be implemented until Jan. 1, 2018
- In interim, 2002 USPSTF recommendations remain most recent guidelines pertaining to screening
- Two-year delay designed to give ACR and allies additional time to work with USPSTF
H.R. 1151/S. 1151: USPSTF Transparency and Accountability Act

- H.R. 2029 is not a panacea for the problems plaguing the United States Preventive Services Task Force
- USPSTF is not subject to federal rulemaking notice and transparency requirements
  - Federal Advisory Committee Act (FACA)
  - Administrative Procedures Act
- Instead, USPSTF employs an opaque development and public comment process
H.R. 1151/S. 1151 requires the USPSTF to:
- Broaden its membership to include specialty providers, patients and other relevant stakeholders
- Utilize panel of external SMEs to review draft research reports BEFORE public comment
- Require 60-day public comment period
- Establish preventive service stakeholders’ board to advise the Task Force on recommendations
H.R. 1151/S. 1151: USPSTF Transparency and Accountability Act

- ACR GR urging House & Senate to consider the bill
  - Currently, 67 House cosponsors (53 R, 14 D)
  - Senate bill struggling to gain cosponsors because Senator Vitter retiring and bill introduced without a lead Democrat
  - Despite support in House, bill viewed as another attack on the ACA
  - Faces long odds for enactment this Congress but building the case for consideration in 2017 after the election
On April 16, 2015 The SGR Fix Finally Became A Reality.... 484 Yea / 45 Nay

H.R. 2 – Medicare Access And CHIP Reauthorization Act
MACRA 2015

- April 2015 — House and Senate passed H.R. 2: Medicare Access and CHIP Reauthorization Act (MARCA)
- MACRA permanently repeals the SGR formula and initiates 2-track system to prod MDs into risk-based payment models
  - Starting in 2019 — Merit-Based Incentive Payment System (MIPS) vs. Alternative Payment Models (APMs)
  - MIPS is essentially a modified fee-for-service program
  - **MIPS payment adjustments:** Negative for those below threshold; zero for those at threshold; positive above threshold
- APMs loosely defined in statute to permit innovation
- Qualifying APMs mandate physicians to use certified EHR, assume “nominal” two-sided financial risk and include quality component
- In short-term, most radiologists will be use MIPS
Good For Congress…Will it be good for physicians?

Incentives For Value And Quality
Incentives For Value-Based Care

MACRA

- Merit-based Incentives Payment System
  - MIPS
- Alternate Payment Models
  - APM
Medicare Access and CHIP Reauthorization Act

Key Payment Policy Provisions:

- MACRA repeals the SGR formula but in return it sets up a 2 track payment system to encourage physicians into risk-based payment models:
  - Merit-Based Incentive Payment System (MIPS)
  - Alternative Payment Models (APMs)

- June 2015-December 2019: all physicians get 0.5% annual update.

- January 2020- December 2025: reimbursement rates are frozen at 2019 levels with possibility of earning additional reimbursement either through participation in MIPS or APMs.
CMS Quality Payment Program - MIPS

**Now (2016-2018)**

1. Physician Quality Reporting System
   - Reporting Rate

2. Value Modifier
   - Performance Rate

3. Meaningful Use

**Future (2019- )**

1. Quality Reporting Rate Performance Rate

2. Cost (Resource Use)

3. Advancing Care Information

4. Clinical Practice Improvement Activities

American College of Radiology
Merit-based Improvement Payment System: Components And Qualifications

- ABR MOC
- PACS, RIS, EHR
- IMAGING3.0™
- PQRS + Others

Components and Qualifications:

- Quality Measures (30%)
- Resource Use (30%)
- MU CEHRT (25%)
- CPI (15%)

Unresolved Opportunity For Radiology
MIPS

Calculation of the Bonus or Penalty:

- A composite score (0-100) is calculated for each physician based on their performance on these 4 categories.

- Composite scores will be weighted compared to a threshold which will determine reimbursement bonus or penalties.

- CMS will decide what the performance threshold is – could be mean, median or any other point on the scale it chooses.

- The payment adjustments: negative for those below the threshold; zero for those at the threshold; positive above the threshold:
  - 2019 +/- 4%  
  - 2020 +/- 5%  
  - 2021 +/- 7%  
  - 2022 +/- 9%
Merit-based Improvement Payment System: Winners And Losers

- Low quality / Low cost
- High quality / Low cost +4 to +9%
- Low quality / High cost -4 to -9%
- High quality / High cost

Courtesy James Borgstede MD at the Global Summit On Radiological Quality and Safety
Alternative Payment Models: Key Features

COORDINATING care

IMPROVING quality

REDUCING costs
Alternative Payment Models

- Loosely defined in the statute but
  - **Does** require physicians to assume two-sided financial risk & must include a quality component
  - Requires the use of Electronic Health Records
  - Will involve coordinating care, improving quality and reducing costs.
  - Examples: ACOs, bundled payments, etc.

- To encourage physicians to take on this risk:
  - annual 5% incentive payments from 2019 to 2025
Participants need to receive at least 25% of their Medicare revenue through an APM in 2019-2020
- Revenue threshold increases in 2021 and 2022 to 50% and 2023 and onwards: 75%
- APM Participants would be exempt from MIPS quality program

Beginning in 2026, providers in a qualifying APM may earn up to 0.75% in annual automatic adjustments
- all others will receive 0.25%
Qualification For Maximum Bonus

- 2019 and 2020: 25%
- 2021 and 2022: 50%
- 2023 and on: 75%
ACR’s Alternative Payment Model Efforts

- ACR Surveys
- Mammography Bundle
- CT Lung Bundle
- Stroke Bundle
- ICE-T App
- R-SCAN
# Summary of New Payment Provisions

## MIPS

- **Consolidated Value Based Payment Programs**
  1. Meaningful Users of EHR
  2. Quality Measures
  3. Resource Use
  4. Clinical Practice Improvement Activities

- **Positive/Negative Adjustment phase in**
  - 2019 - 4%
  - 2020 - 5%
  - 2021 - 7%
  - 2022 and subsequent years - 9%

## APM

- A 5% bonus each year from 2019-2025.

- Must have 25% of revenue from an APM in 2019-20, 50% 2021-22, 75% 2023 and beyond.

- Professionals who qualify for this bonus will be excluded from the MIPS.

- In 2026, Providers participating in APMs can earn up to .75% in annual automatic adjustments. Other professionals will receive 0.25%.
What Will APMs Look Like For Radiology?

ACR MACRA Workgroup

- Commission On Economics
- Government Relations
- Commission on Quality and Safety
- Commission on Informatics
- Neiman Health Policy Institute
- Commission on Patient and Family Centered Care
- Specialty Commissions
- Outstanding ACR Staff
- ACR Members And Our Patients

ACR MACRA Workgroup

ACR Members And Our Patients

ACR MACRA Workgroup

ACR Members And Our Patients

ACR MACRA Workgroup

ACR Members And Our Patients
To create meaningful opportunities for radiologists to participate in imminent value-based payment models that positively impact patient care at equal or lower costs. This effort includes the development of models and measures that improve and grow the entire profession to the benefit of patients.
What Will The Metrics Be For Radiology?

- Process Metrics
- Compliance Metrics
- Outcomes Metrics
How Will We Document The Metrics?

One Hundred Fourteenth Congress
of the
United States of America

AT THE FIRST SESSION

Began and held at the City of Washington on Tuesday,
the sixth day of January, two thousand and fifteen

MACRA

“(E) USE OF REGISTRIES.—Under the MIPS, the Secretary shall encourage the use of qualified clinical data registries pursuant to subsection (m)(3)(E) in carrying out this subsection.
Communication And Documentation

Qualified Clinical Data Registry (QCDR) –
CMS approved entity that collects medical and/or clinical data for the purpose of patient and disease tracking to foster improvement in the quality of care provided to patients.
ACR National Data Registries

Patient Follow-Up Documentation for Health Systems and Payers

Data Mining for Best Practice

NRDR CTC™ CT Colonography Registry

Designs, implements, and validates the patient undergoing CT colonography. The CTC registry provides evidence-based health outcomes and process data for decision-making purposes. The registry allows facilities to compare their results to regional and national benchmarks for quality improvement.

National Mammography Database

National mammography data that radiology practices are already collecting by providing comparative information for national and regional benchmarking. Participants receive semi-annual feedback reports that include important benchmark data such as cancer detection rates, positive predictive value rates, and recall rates.

GRID General Radiology Improvement Database

The GRID collects information about imaging facilities which is then aggregated to establish benchmarks for quality improvement. Comparisons and process outcomes with facilities of similar size and type.

NRDR LDG™ Lung Cancer Screening Registry

The ACR is developing a Lung Cancer Screening Registry to support prospective practice audits. The ACR will apply to the Centers for Medicare and Medicaid Services (CMS) for approval of the registry to be used by providers billing Medicare for lung cancer screening exams.

Dose Index Registry

The NRDR Dose Index Registry is designed to aggregate the results of all dose index measurements taken across CT body part and exam type to establish national benchmarks for CT dose indices.

Interventional Radiology Registry

The new interventional radiology registry for interventional radiology and the American Radiological Society of Interventional Radiology (SIR). Used to promote quality of care for patients undergoing interventional radiology procedures. The new registry is scheduled to be available in the fall of 2015.
Plans for the Quality Payment Program in 2017: Pick Your Pace

- **Option one: Test the program**
  As long as you submit some data to the Quality Payment Program, including data from after Jan. 1, you will avoid a negative payment adjustment, Slavitt said. This option is intended to ensure that the system is working and that physicians are prepared for broader participation in the coming years as they learn more.

- **Option two: Partial-year reporting**
  Physicians can choose to report Quality Payment Program information for a reduced number of days. Your first performance period could begin well after Jan. 1 and your practice could still qualify for an incentive payment.

  Slavitt offered an example. “If you submit information for part of the calendar year for quality measures, how your practice uses technology and what improvement activities your practice is undertaking,” he said, “you could qualify for a small positive payment adjustment.”

- **Option three: Full-year reporting**
  If your practice is ready to get started on Jan. 1, you can choose to report Quality Payment Program information for the full calendar year. Your first performance period would begin on Jan. 1, and if you submit information for the entire year your practice could qualify for a modest positive payment.

- **Advanced Alternative Payment Model (APM) option.**
  This option is still available and qualified participants in advanced APMs will be eligible for five percent incentive payments in 2019.
Complimentary Programs

ACR

RSNA
Radiology’s Value Proposition

IMAGING3.0™

American College of Radiology
# What Is It? — Imaging 3.0

<table>
<thead>
<tr>
<th>Today: IMAGING 2.0</th>
<th>Tomorrow: IMAGING 3.0™</th>
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<tbody>
<tr>
<td>Volume-based</td>
<td>Value-based</td>
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<tr>
<td>Transactional</td>
<td>Consultative</td>
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<tr>
<td>Radiologist centered</td>
<td>Patient centered</td>
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<tr>
<td>Interpretation focused</td>
<td>Outcomes focused</td>
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<tr>
<td>Commoditized</td>
<td>Integral</td>
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<tr>
<td>Invisible</td>
<td>Accountable</td>
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</tbody>
</table>
Sound Familiar?

“Radiology must be a clinical practice by broadly trained physicians and not just a technical service by “plate readers””.

Thomas Groover MD, FACR
ACR President, 1935
THE IMAGING CHAIN

RADIOLOGISTS RESPONSIBLE FOR ALL ASPECTS OF IMAGING CARE

TRADITIONAL RADIOLOGICAL CARE

RADIOLOGIST

PATIENT

REPORT

ORDER

IMAGE

INTERPRET

PACS

REFERRER

NARRATIVE REPORTS

DIGITAL MODALITIES

RADIOLOGIST

TECHNOLOGIST
THE IMAGING CHAIN

FUTURE STATE

ENHANCING OUR PATIENTS’ EXPERIENCE

CURRENT STATE

REFERRER

RADIOLOGIST

BRIEFING

PROTOCOL

NARRATIVE REPORTS

DIGITAL MODALITIES

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IMAGING3.0™
We need to own the entire patient experience in radiological care to ensure our relevance to the clinical team.
RADIOLOGISTS RESPONSIBLE FOR ALL ASPECTS OF IMAGING CARE

ORDER WISELY

PATIENT

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RADIOLOGISTS RESPONSIBLE FOR ALL ASPECTS OF IMAGING CARE

PATIENT

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CLINICAL DECISION SUPPORT

PATIENT EDUCATION

APPROPRIATE SCREENING AND BIOMARKER RESEARCH

DIGITAL MODALITIES

PACS

INTERPRET

IMAGE

NARRATIVE REPORTS

RADIOLOGIST

TECHNOLOGIST

APPROPRIATE USE OF IMAGING
- OVER-DIAGNOSIS
- UNDER-DIAGNOSIS
- DISEASE DETECTION
- POPULATION HEALTH

RADIOLOGIST

CLINICIAN
On April 1, 2014, President Barack Obama signed the “Protecting Access to Medicare Act of 2014,” HR 4302, which creates a one-year patch for the Sustainable Growth Rate (SGR) Medicare physician payment formula, to April 2015.

- January 1, 2017

Physicians must consult government-approved, evidence-based appropriate-use criteria through a CDS system when ordering advanced diagnostic imaging exams (CT, MRI, NM and PET).
Current Legislative Efforts - Appropriateness Criteria / Clinical Decision Support

- CMS announced through 2017 MPFS Proposed Rule that the January 2017 statutory implementation date for consultation of AUC will be delayed
  - Indicating 1/1/2018 may be the start date for mandatory consultation of AUC by ordering MDs
- ACR working with Congressional staff to adhere to 1/1/2018 implementation date
  - Potential forthcoming House and Senate letter to HHS/CMS urging 1/1/2018 start date
How is R-SCAN Supported?

- R-SCAN was awarded a CMS grant as part of its *Transforming Clinical Practice Initiative* (TCPI).

- TCPi Goals:
  1. Support more than 140,000 clinicians in their practice transformation work
  2. Improve health outcomes for millions of Medicare, Medicaid and CHIP beneficiaries and other patients
  3. Reduce unnecessary hospitalizations for 5 million patients
  4. Generate $1 to $4 billion in savings to the federal government and commercial payers
  5. Sustain efficient care delivery by reducing unnecessary testing and procedures
  6. Build the evidence base on practice transformation so that effective solutions can be scaled
A collaborative team–based process where radiologists and referring physicians work together to improve patient care by:

- **Reducing unnecessary** imaging based on Choosing Wisely® topics
- **Improving quality** of patient care
- **Lowering cost** of care

R-SCAN: Background

Funded by CMS through Medicare’s Transforming Clinical Practice Initiative
R-SCAN Topics

Free Participation For Referrers And Radiologists Including Residents, Fellows And Students

rscan.org

Step-By-Step Guide
Radiology Support, Communication and Alignment Network (R-SCAN)

- Benefits of Participation
  - Step-by-step guided PQI project to earn ABR MOC Part 4 Credit
  - Access to Web version of ACR Select® — a decision-support tool that incorporates ACR Appropriateness Criteria®
  - Tools and training on coordinating care with ordering physicians
  - Opportunity to inform future payment and care delivery models
- Sign up to participate at rscan.org
REPORT WISELY

- Computer Assisted Reporting
- Patient Education
- Appropriate Screening and Biomarker Research
- Clinical Decision Support
- Appropriate Use of Imaging
  - Over-diagnosis
  - Under-diagnosis
  - Disease Detection

PATIENT

ORDER

REPORT

INTERPRET

IMAGE

PACS

Digital Modalities

Radiologist

Actionable Reporting
- ↓ Variability
- Standardize recommendations
- Manage results

Technologist

Referrer
The Challenge

Agreement Is Lacking
- 1 cm thyroid nodule
- 5 mm non-calcified lung nodule
- 2 cm high density renal cyst
- Short segment SB intussusception
- Focal GB wall calcification
- Describe coronary artery calcification
- 1 cm splenic cyst

Between academic departments

Within the same academic department
We Have Some Guidance

[Flowchart image]

LEGEND
- If patient has clinical signs or symptoms of adrenal hyperfunction, consider biochemical evaluation
- Consider biochemical testing to exclude pheochromocytoma
- Benign imaging features = homogeneous, low density, smooth margins
- Suspicious imaging features = heterogeneous, necrosis, irregular margins

APW = Absolute Percentage Washout
RPW = Relative Percentage Washout
CS-MR = Chemical Shift MRI
F/U = Follow-up
HU = Hounsfield Unit
↓ = decreased

1 If patient has clinical signs or symptoms of adrenal hyperfunction, consider biochemical evaluation
2 Consider biochemical testing to exclude pheochromocytoma
3 Benign imaging features = homogeneous, low density, smooth margins
4 Suspicious imaging features = heterogeneous, necrosis, irregular margins
But We Still Have Variability


Figure 1: Percentage with guidelines-concordant recommendation for follow-up CT. The clinical decision support (CDS) group was significantly more likely to have a concordant recommendation than the non-CDS and pre-intervention historical controls (both with p < 0.01).
Computer Assisted Reporting

Adrenal Nodule

**Size**

12 mm

**Side**

Right

**Previously characterized**

- ✔

**Diagnostic feature**

- ✔

**Hx malignancy**

- Yes

**Changed size**

- ✔

**Body**

In the adrenal gland, a 12 mm lesion does not have specifically benign imaging features.

**Impression**

Indeterminate 12 mm adrenal nodule does not have the typical characteristics of a benign adenoma, although most such lesions will ultimately prove to be benign.

**Recommendations**

- Adrenal mass protocol CT in 6 months.
CDS For Radiologists Decreases Variability


Figure 1: Percentage with guidelines-concordant recommendation for follow-up CT. The clinical decision support (CDS) group was significantly more likely to have a concordant recommendation than the non-CDS and pre-intervention historical controls (both with $p < 0.01$).
# Algorithm Development (MGH)

<table>
<thead>
<tr>
<th>Clinical Topic</th>
<th>Findings to be Addressed</th>
<th>Deliverable: Recommendation or Classification</th>
<th>Modality</th>
<th>Imaging Division</th>
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</thead>
<tbody>
<tr>
<td>Lung cancer screening</td>
<td>Nodule management</td>
<td>Recommendation</td>
<td>CT</td>
<td>Thoracic</td>
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<td>Carotid artery evaluation</td>
<td>Stenosis grade</td>
<td>Classification</td>
<td>CT and MRI</td>
<td>Neuroradiology</td>
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<td>Aortic disease evaluation</td>
<td>Diameter-based management</td>
<td>Recommendation</td>
<td>CT and MRI</td>
<td>Cardiovascular</td>
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<td>Lumbar spine degenerative disc disease evaluation</td>
<td>Per-level involvement</td>
<td>Classification</td>
<td>MRI</td>
<td>Musculoskeletal</td>
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<td>Post-menopausal bleeding evaluation</td>
<td>Endometrial thickness and appearance</td>
<td>Recommendation</td>
<td>Ultrasound</td>
<td>Abdominal</td>
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<td>Gastropareisis evaluation</td>
<td>Gastric emptying time</td>
<td>Classification</td>
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<td>Lesion size and appearance</td>
<td>Recommendation</td>
<td>MRI</td>
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<td>Laceration appearance</td>
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<td>Pre-procedural anticoagulation management</td>
<td>Recommendation</td>
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<td>Hemorrhage grade</td>
<td>Classification</td>
<td>Ultrasound</td>
<td>Pediatric</td>
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</tbody>
</table>
Lumbar spine degeneration

**Level**: L4/L5

**Alignment**
- Normal
- Antero
- Retro

**Pars fractures**
- None
- Right
- Left
- Bilateral

**Marrow**
- Norm
- Edema
- Fat
- Sclerosis

**Endplate**
- Schmorl's node
- Fracture

**Disc Degeneration**
- Click to select

**Contour/Bulge**
- Click to select

**Body**
At the L4/L5 level: There is anterolisthesis with accompanying right pars interarticularis fracture. There is edematous degenerative endplate change with endplate fracture.

**Impression**

---

**Notes**

- L4/L5, Antero, Right, Edema, Endplate: fracture
<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disc Degeneration</td>
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</tr>
<tr>
<td>Contour/Bulge</td>
<td>Diffuse Bulge</td>
</tr>
<tr>
<td>Herniation</td>
<td>Extrusion</td>
</tr>
<tr>
<td>Herniation location</td>
<td>Left paracentral</td>
</tr>
<tr>
<td>Facet joint OA</td>
<td>Moderate</td>
</tr>
<tr>
<td>Synovial cyst(s)</td>
<td>Right Ant</td>
</tr>
<tr>
<td>Central canal stenosis</td>
<td>Mild</td>
</tr>
<tr>
<td>Right foramen stenosis</td>
<td>Severe</td>
</tr>
<tr>
<td>Left foramen stenosis</td>
<td>Mild</td>
</tr>
<tr>
<td>Right lateral recess stenosis</td>
<td>Click to select</td>
</tr>
<tr>
<td>Left lateral recess stenosis</td>
<td>Present</td>
</tr>
</tbody>
</table>
Disc Degeneration

- Normal
- Minimal
- Mild
- Moderate
- Severe

Herniation

- None
- Protrusion
- Extrusion
- Sequestration
Right lateral recess stenosis

- **NORMAL**
  - Lat. recess > 5 mm

- **MINIMAL STENOSIS**
  - Lat. recess
  - 3 - 5 mm

- **MODERATE STENOSIS**
  - Lat. recess
  - < 3 mm
  - Roots abutted

- **MARKED STENOSIS**
  - Lat. recess
  - < 3 mm or obliterated
  - Roots deformed
Body

At the L4/L5 level: There is anterolisthesis with accompanying right pars interarticularis fracture. There is edematous degenerative endplate change with endplate fracture. There is diffuse disc bulge with superimposed left paracentral extrusion. There is moderate facet joint osteoarthritis with right anterior synovial cyst formation and ligamentum flavum infolding. These findings contribute to mild central canal stenosis and severe right and mild left foraminal stenosis and bilateral lateral recess stenosis. Left paracentral herniation and right anterior synovial cyst formation cause mass effect on the bilateral descending L5 nerve root(s).

Impression

L4/L5 left paracentral extrusion and right anterior synovial cyst formation contribute to mild central canal stenosis and severe right and mild left foraminal stenosis and bilateral lateral recess stenosis with mass effect on the bilateral descending L5 nerve root(s).
Critical Results Reporting

**Actionable Findings and the Role of IT Support: Report of the ACR Actionable Reporting Work Group**


Paul A. Larson, MD\(^a\), Lincoln L. Berland, MD\(^b\), Brent Griffith, MD\(^c\), Charles E. Kahn Jr, MD, MS\(^d\), Lawrence A. Liebscher, MD\(^e\)
REPORT WISELY

IMAGING3.0™

PATIENT

ORDER

IMAGE

INTERPRET

PROTOCOL

PACS

APPROPRIATE USE OF IMAGING
- Over-diagnosis
- Under-diagnosis
- Disease detection

CLINICAL DECISION SUPPORT

PATIENT EDUCATION

APPROPRIATE SCREENING AND BIOMARKER RESEARCH

DIGITAL MODALITIES

ACTIONABLE REPORTING
- ↓ Variability
- STANDARDIZE RECOMMENDATIONS
- MANAGE RESULTS

COMPUTER ASSISTED REPORTING

RADILOGIST

TECHNOLOGIST

REFERRER
COMMUNICATE WISELY

PATIENT

ORDER

IMAGE

INTERPRET

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STRUCTURED COMMUNICATION

CLINICAL DECISION SUPPORT

PATIENT EDUCATION

APPROPRIATE SCREENING AND BIOMARKER RESEARCH

DIGITAL MODALITIES

APPROPRIATE USE OF IMAGING

- Over-diagnosis
- Under-diagnosis
- Disease detection

ACTIONABLE REPORTING

- Variability
- Standard recommendations
- Actionable result management

COMMUNICATION FLOW-UP RECOMMENDATIONS

PATIENT EDUCATION

APPROPRIATE SCREENING AND BIOMARKER RESEARCH

- Over-diagnosis
- Under-diagnosis
- Disease detection

ACTIONABLE REPORTING

- Variability
- Standard recommendations
- Actionable result management
IMAGING 3.0 REPORTING

INTERPRETATION

CLINICAL DECISION SUPPORT

IMAGE DATA

EXAM DATA

PATIENT DATA

SPEECH RECOGNITION

NATURAL LANGUAGE PROCESSING

RADIOLOGIST DECISION SUPPORT

ACTIONABLE FINDINGS

INFORMATION

RADIOLOGY REPORT

NARRATIVE COMPONENT

STRUCTURED COMPONENT

STANDARD LEXICON

FINDINGS

RECOMMENDATIONS

COMMUNICATION

EHR/PHR

CRITICAL RESULT MANAGEMENT

ALERT NOTIFICATION SYSTEMS

REGISTRIES

REGISTRY REPORTING

CMS PQRS, ABR PQI

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