Implementation of Hospital-Based Direct Access: Highlighting Direct Referral for Radiology and Reimbursement

Aaron Keil PT, DPT, OCS
Dr. Keil currently serves as clinical associate professor at the University of Illinois at Chicago. He has spoken at national conferences on the topics of direct access and diagnostic imaging and has provided guidance to several institutions across the country who are pursuing these initiatives.

Dr. Keil recently served on the authorship committee for the APTA-sponsored white paper ‘Diagnostic and Procedural Imaging in Physical Therapist Practice’.

He has functioned as a first-contact provider both at Georgetown University Hospital in Washington D.C. and the Johns Hopkins Hospital in Baltimore Maryland where he provided leadership to the outpatient rehab department.
Quiz

The reason I decided to attend this presentation was...

#1 Interested in DA at a hospital
#2 Interested in Reimbursement
#3 Interested in Direct Referral for Imaging
Quiz

How many states currently have a provision for direct access?

45
48
50
53
Quiz

How many states currently allow physical therapists to order diagnostic imaging studies?

4
Quiz:

I or a physical therapist I know can order diagnostic imaging studies directly.
Quiz:

The most common reason direct access hasn’t been implemented more in hospital-based outpatient clinics is...

#1 It isn’t allowed by the hospital
#2 Insurance won’t reimburse for it
#3 Resistance from Physicians
Who am I?

painfreerunning

SHARP

Rees-Stealy Medical Group

MedStar Georgetown University Hospital

JOHNS HOPKINS MEDICINE

UIC

The University of Illinois at Chicago
I was working on this presentation 20 mins ago
Disclosures

No relevant financial relationships
Session Learning Objectives

• Upon completion of this program, participants will be able to:
  • Identify key components to developing a strategic plan for implementing direct access at your institution.
  • Identify in advance several administrative and procedural challenges that may exist when attempting to implement direct access.
  • Understand which key stakeholders may be at play in this process and how to effectively dialogue with each.
Session Learning Objectives

• Upon completion of this program, participants will be able to:

• Create a compelling Executive Summary for incorporating direct access at your institution.

• Cite key research data that supports the use of physical therapists in Direct Access roles including granting physical therapist privileges to order imaging studies.

• Effectively develop clinical competencies for physical therapists functioning in direct access roles.
One more thing...
Session Outline:

- Intro / Quiz
- A Hx of Direct Access
- The case for DA
- The case for Imaging
- (BREAK)
- Georgetown case study
- Outcomes
- Q&A
Where we came from...
Birth of a Profession:

- U.S. Polio outbreak
  1916
Birth of a Profession:

• 1917 WWI
• Reconstruction aides prepare for oversees deployment
Birth of a Profession

Mary McMillan

- 1919 Chief Reconstructive Aide at Walter Reed Hospital
Birth of a Profession:

• January 15\textsuperscript{th}, 1921

• “American Women’s Physical Therapeutic Association”
Transitions...what’s in a name?

• 1920 ‘American Physiotherapy Assoc.’

• 1925 ‘American College of Physical Therapy’
  • formed by physicians

• ‘American Registry of Physical Therapy Technicians’
  • formed by physicians
Transitions...30s

1937 American Physiotherapy Association goals

“To cooperate with, and work only under the prescription of members of the medical profession”
Transitions...the 40s

- Polio epidemic continues
- 1941 the U.S. enters WWII
- Walter Reed ‘Emergency Training Course’
- 1943 Congress endorses the name “Physical Therapist”
Transitions...the 40s

• Increased need to treat veterans
  • PT roles expand
• 1944 APTA House of Delegates is formed
• 1946 “American Physical Therapy Association”
• 1947 education shifts from 9 mos to 12 mos
• A shift towards State Licensure vs Registry
Transitions...50s

• “Technician” to “Professional”
• 1950 Korean War
• BS degree (19 schools)
• 1955 Salk Vaccine
• Continued push for state licensure
American Registry of Physical Therapists
OF THE AMERICAN CONGRESS OF PHYSICAL MEDICINE
AND REHABILITATION
1955

To All to Whom These Presents May Come, Greeting: THIS IS TO CERTIFY THAT
- CAROL LEE GOLDMAN - Simons

is a qualified PHYSICAL THERAPIST as defined by
the American Registry of Physical Therapists in confirmation of which the signatures of
the officers of the Board of the Registry and of the President of the American Congress
of Physical Medicine and Rehabilitation are herewith inscribed.

Board of Registry

Issued June 23, 1955
Transitions...the 50s-60s

• Cont. shift from PT Registry to state licensure
• First national PT exam in 1954
• 1957 PT Fund
• 1959: 45 states required licensure
Transitions...70s

• 1971 AMA dissolves the Registry
• 1973 APTA plan for PT practice without a referral
• 1976 all states have licensure laws in place
• 1976 first CSM
• 1977 APTA becomes sole accrediting agency
  (via Commission on Accreditation in PT Education)
• 1978 American Board of PT Specialties
Transitions...80s

• 1981 APTA ‘practice without a referral is ethical’
  • (as long as legal in state)
• 1985 First Specialty Certification given
  • Cardiopulmonary
• 1988 DA legal in 20 states
Transitions...90s

• Decade of ADVOCACY
• Vision 2020

By 2020, physical therapy will be provided by physical therapists who are doctors of physical therapy, recognized by consumers and other health care professionals as the practitioners of choice to whom consumers have direct access for the diagnosis of, interventions for, and prevention of impairments, activity limitations, participation restrictions, and environmental barriers related to movement, function, and health.
Hx of Direct Access

U.S. States with Direct Access (1956)
Hx of Direct Access

U.S. States with Direct Access (1957)
Hx of Direct Access

U.S. States with Direct Access (1970)
Hx of Direct Access

U.S. States with Direct Access (1980)
Hx of Direct Access

U.S. States with Direct Access (1990)
Hx of Direct Access

Hx of Direct Access

U.S. States with Direct Access (2010)
Hx of Direct Access

U.S. States with Direct Access (2014)
Session Outline:

• Intro / Quiz ✓
• A Hx of Direct Access ✓
• The case for DA
• The case for Imaging
• (BREAK)
• Georgetown Case Study
• Outcomes
• Q&A
Two main concerns with DA:

• #1 Patient Safety
  • Are PTs adequately trained?

• #2 Financial
  • Cost / Overutilization
#1 Are PTs adequately trained?

For what?

To Diagnose
Diagnosis?

“Diagnosis by a physical therapist is essential ...to be able to provide the proper interventions. Diagnosis is a label for a cluster of signs and symptoms gathered by examination and evaluation that is essential to guide the selection of appropriate interventions in physical therapy practice” APTA
Illinois PT Practice Act:

“Physical therapy **does not include** radiology, electrosurgery, chiropractic technique or **determination of a differential diagnosis**; but this stipulation shall not in any manner limit a physical therapist .... from performing an **evaluation**"
We can’t perform a Differential Diagnosis?

‘Diagnose’?
How is a Diagnosis made?

• “The process of determining by examination the nature and circumstances of a diseased condition.”
• “The identification of the nature of an illness or other problem by examination of the symptoms.”
• “The act of identifying a disease, illness, or problem by examining someone or something”
If the point of conducting an examination is to render a diagnosis...

Can we perform an Examination??
“Physical Therapy” means all of the following:

- “Examining”
- “Evaluating”
- “Testing”
- “Classifying these disorders”
- “Determining a rehab prognosis”
Examination ≠ Diagnosis
Evaluation ≠ Diagnosis
Testing ≠ Diagnosis
Classifying ≠ Diagnosis

?
It gets worse...
Illinois PT Practice Act

“A physical therapist shall refer to a licensed physician...any patient whose medical condition should, at the time of evaluation or treatment, be determined to be beyond the scope of practice of the physical therapist.”
The referral mandate...

Who is responsible for ‘determining’ when a condition falls outside our scope of practice?

The PT
What would you call this process?

The process of differentiating between two or more conditions that share similar signs or symptoms.

**Differential Diagnosis:**
THE problem in Illinois:

We are not allowed to perform a ‘differential diagnosis’

YET...

We **must** perform a ‘differential diagnosis’ to know when to refer
Illinois PT Practice Act Language:

In order to treat a patient, a PT must have:

a) A referral OR

a) Documented “current and relevant” diagnosis
Referral:

• "Referral" means a written or oral authorization for physical therapy services for a patient by a physician...who maintains medical supervision of the patient and makes a diagnosis or verifies that the patient's condition is such that it may be treated by a physical therapist.
Referral:

• "Referral" means a written or oral authorization for physical therapy services for a patient by a physician...
Referral:

- "Referral" means a written or oral authorization for physical therapy services for a patient by a physician...who maintains medical supervision of the patient and makes a diagnosis or verifies that the patient's condition is such that it may be treated by a physical therapist.
In order to treat a patient, a PT must have:

a) A referral OR

a) Documented “current and relevant” diagnosis
Current and Relevant Dx:

- "Documented current and relevant diagnosis" for the purpose of this Act means a diagnosis, substantiated by signature or oral verification of a
Current and Relevant Dx:

- "Documented *current* and relevant diagnosis" for the purpose of this Act means a diagnosis, substantiated by signature or oral verification of a
Current and Relevant Dx:

• "Documented current and relevant diagnosis" for the purpose of this Act means a diagnosis, substantiated by signature or oral verification of a physician...
Current and Relevant Dx:

• "Documented current and relevant diagnosis" for the purpose of this Act means a diagnosis, substantiated by signature or oral verification of a physician...that a patient's condition is such that it may be treated by physical therapy as defined in this Act, which diagnosis shall remain in effect until changed by the physician, dentist, advanced practice nurse, physician assistant, or podiatric physician
So what?

1. If the patient has a referral
   • Evaluate and Treat

2. If the patient does not have a referral but has a “Current and Relevant Dx”
   • Evaluate and notify person who made the Dx
3. If no referral and no current and relevant dx:
   • Still Evaluate and either:
     i. Get a “referral”:
        1. ‘oral authorization that the pts condition is such that it may be treated by a PT’
     ii. Get a ‘dx’ before treatment
        1. ‘substantiated by signature OR oral verification’
        2. Notify the person who substantiated the Dx.
So what?

We can start physical therapy with anyone.
Reality:

• Are we overly cautious?
• IDFPR and PT Board relationship
• Do you know of anyone in Illinois who has been sanctioned by the IDFPR for Diagnosing?
• Do physicians routinely disagree with your impression of what is wrong?
So, do we “diagnose”?

Options:

#1 Say ‘signs and symptoms consistent with…’

#2 Not a ‘medical’ diagnosis

#3 Do what you’ve been trained to do
If therapists do diagnose, are we any good at it?
Clinical Diagnostic Accuracy and Magnetic Resonance Imaging of Patients Referred by Physical Therapists, Orthopaedic Surgeons, and Nonorthopaedic Providers

Josef H. Moore, PT, PhD, SCS, ATC¹
Donald L. Goss, PT, MPT, OCS, ATC²
Richard E. Baxter, PT, DSc, OCS, ATC³
Thomas M. DeBerardino, MD⁴
Liem T. Mansfield, MD⁵
Douglas W. Fellows, MD⁶
Dean C. Taylor, MD⁷
The chart shows the percentage agreement between clinical diagnosis and MRI for three groups:

- **Physical Therapists**: 108/145, 74.5%
- **Orthopaedic Surgeons**: 139/172, 80.8%
- **Nonorthopaedic Providers**: 86/243, 35.4%
ORIGINAL RESEARCH
DIAGNOSTIC IMAGING IN A DIRECT-ACCESS SPORTS PHYSICAL THERAPY CLINIC: A 2-YEAR RETROSPECTIVE PRACTICE ANALYSIS

Michael S. Crowell, PT, DSc
Erik A. Dedekam, MD
Michael R. Johnson, PT, DSc
Scott C. Dembowski, PT, DSc
Richard B. Westrick, PT, DSc
Donald L. Goss, PT, PhD
• 2 yr retrospective analysis
• 4 Military PTs
• 1300 New patients (3500 visits)
Table 3. Overall utilization of diagnostic imaging

<table>
<thead>
<tr>
<th></th>
<th>OVERALL</th>
<th>PT #1</th>
<th>PT #2</th>
<th>PT #3</th>
<th>PT #4</th>
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<tr>
<td><strong>RADIOGRAPHS</strong></td>
<td></td>
<td></td>
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<tr>
<td>2-year overall utilization [per new patient evaluation]</td>
<td>40.0% (521/1303)</td>
<td>33.6% (94/280)</td>
<td>40.1% (184/459)</td>
<td>37.8% (137/362)</td>
<td>52.5% (106/202)</td>
</tr>
<tr>
<td><strong>MRI/MRA</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2-year overall utilization [per new patient evaluation]</td>
<td>8.3% (108/1303)</td>
<td>7.5% (21/280)</td>
<td>7.4% (34/459)</td>
<td>11.9% (43/362)</td>
<td>5.0% (10/202)</td>
</tr>
</tbody>
</table>
• ACR guidelines followed 83%

• Diagnostic Accuracy:
  • Clinical Exam vs MRI = 65%
  • Clinical Exam vs surgery = 90%
What about Cancer?
“Physical Therapists aren’t trained to make a medical diagnosis or recognize many potentially life-threatening conditions beyond their limited expertise. MDs are.”

“When a patient goes to a physical therapist, the goal is to receive treatment not a diagnosis.”
Can we screen for spine CA?

We need to know:

1. Age>50
2. Personal hx of CA
3. Weight loss
4. Inadequate relief with rest

Screening for CA:

Sensitivity = 1.00
Specificity = 0.60
+LR = 2.5
- LR = 0.0

(Jarvik and Deyo, Annals of Internal Medicine 2002;137:586-597)
What about increased risk and liability?
Risk Determination for Patients With Direct Access to Physical Therapy in Military Health Care Facilities

Josef H. Moore, PT, PhD, SCS, ATC
Danny J. McMillian, PT, DSc, OCS
Michael D. Rosenthal, PT, DSc, SCS, ECS, ATC
Marc D. Weishaar, PT, DSc, SCS

Moore et al. JOSPT 2005:35:10
Moore et al:

• >472,000 PT visits

• >113,000 NEWs

• >50,000 New pts via DA
Findings:

# Adverse events
# Disciplinary actions
# Litigation Cases

= 0
“PT direct access is not a risk factor that we specifically screen for in our program because it has not negatively impacted our claims experience in any way.”

Letter to APTA March 22, 2001

Liability insurance has not increased at all as a result of implementation of Direct Access
Two main concerns with DA:

• #1 Patient Safety
  – Are PTs adequately trained? ✓

• #2 Financial
  – Cost / Overutilization ?
Pop Quiz:

True or False?

– A Medicare patient may access physical therapy services by self-referral.

– The majority of insurance plans do not yet cover physical therapy services without a referral.
Cost?

“A Comparison of Resource Use and Cost in Direct Access Versus Physician Referral Episodes of Physical Therapy”

Mitchell, de Lissovoy, Phys Ther; 1997;77:10-17
## Results

<table>
<thead>
<tr>
<th>Model Dependent Variable</th>
<th>Difference Relative to Physician Referral Episode:</th>
</tr>
</thead>
<tbody>
<tr>
<td># PT visits</td>
<td>-65%</td>
</tr>
<tr>
<td>Paid PT claims</td>
<td>-68%</td>
</tr>
<tr>
<td>Total Claims</td>
<td>-137%</td>
</tr>
</tbody>
</table>
Results: (60,000 episodes, 28% DA)

<table>
<thead>
<tr>
<th></th>
<th>Self-Referred</th>
</tr>
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<tbody>
<tr>
<td>Total number of PT visits:</td>
<td>▼ 14%</td>
</tr>
<tr>
<td>Total non-PT related costs:</td>
<td>▼ 17%</td>
</tr>
</tbody>
</table>
Old Approach
Average cost, $2100-$2200
The initial meeting might not happen for up to a month, and then there is no set procedure for treatment

New Approach
Average cost, $900-$1000
Immediately see physical therapist
Initiate evidence-based conservative program

Virginia Mason example for a pathway for LBP management.
Virginia Mason: results

• Decreased wait times to 1 day
• 40% reduction in MRIs
• 94% reduction in lost time off work
Primary Care Referral of Patients With Low Back Pain to Physical Therapy

Impact on Future Health Care Utilization and Costs

Julie M. Fritz, PT, PhD, ATC,* John D. Childs, PT, PhD,† Robert S. Wainner, PT, PhD,‡ and Timothy W. Flynn, PT, PhD§

Early access to PT = total savings of >$2700 per patient
“Direct Access Compared with Referred Physical Therapy Episodes of Care: A Systematic Review”

Ojha et al. Phys Ther Journal 2014 Jan;94:1
Ojha et al, results:

• Increased Patient satisfaction
• Improved clinical outcomes
• Dec number of PT visits
• Dec imaging
• Dec meds
• Dec cost

The case … is closed
Session Outline:

• Intro / Quiz
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• The case for Imaging
• (BREAK)
• Georgetown Case Study
• Outcomes
• Q&A
Should PTs be allowed to order radiologic imaging studies?

What other first contact providers can order imaging?
Other first contact providers

• Physicians
• Physician Assistants
• Nurse Practitioners
• Chiropractors
• Physical Therapists??
What other first-contact providers **CANNOT** order imaging?
Military model

• Success for decades...why?
• What resources do military therapists have?
  • Imaging privileges
  • Prescribe meds, duty restrictions
• JOSPT Imaging section
  • Most are from the military
• 1300 NEW patient encounters
• ACR guidelines followed 83%
• Diagnostic Accuracy:
  • Clinical Exam vs MRI = 65%
  • Clinical Exam vs surgery = 90%
Effectiveness of Physical Therapists Serving as Primary Care Musculoskeletal Providers as Compared to Family Practice Providers in a Deployed Combat Location: A Retrospective Medical Chart Review

Lt Col Troy McGill, USAF BSC

**ABSTRACT**  
Objectives: A medical records review to compare efficiency and effectiveness of a physical therapist (PT) functioning as a musculoskeletal primary care provider (PCP) compared to family practice (FP) physicians functioning as musculoskeletal PCP. Hypothesis: (1) Use of medication/imaging studies will be significantly less with a PT as PCP compared to FP as PCP. (2) Return-to-duty (RTD) rate will show significant increases when patients with musculoskeletal conditions are seen by PT as compared to FP. Methods: One PT practicing in a deployed combat location collected data on patients that presented directly to the PT clinic or FP clinic for care of musculoskeletal complaints. Treatment patterns of two Air Force physicians were accessed regarding patients with musculoskeletal conditions. Fifty-four patients were randomly selected for the PT group and 95 patients for FP group. AHLTA was searched for cases reported from June 2009 to January 2010. Data regarding age, gender, medication, imaging use, and return to duty (RTD) rate were collected. Results: Of the study population, 126 (84%) were males, 23 (16%) were females (age range: 19–54, mean 29). RTD rate was 50% greater for PT. Rate of medication and imaging use for PT was 24% and 11%, whereas FP was 90% and 82%, respectively (p <0.01). Conclusion: Using PT as the musculoskeletal PCP was shown to be an effective and efficient practice model to assess and treat patients with musculoskeletal complaints.
Do emergency department physiotherapy Practitioner’s, emergency nurse practitioners and doctors investigate, treat and refer patients with closed musculoskeletal injuries differently?

Stephen T E Ball, Kate Walton, Stephen Hawes


Ball STE, Walton K, Hawes S. EMJ. 2007;24(3):185-188
Comparison of resource use between PTs, NPs, MDs
Management of acute MSK disorders (non-spine)
3 months of visits
• ~130-150 pts each

Ball STE, Walton K, Hawes S. *EMJ*. 2007;24(3):185-188
Ordering of x-rays:
The case for imaging...

#1 Standard for other first contact providers
#2 Example in Military and other countries
#3 The referral mandate

In order to identify conditions outside our scope, it is critical.
The referral mandate:

‘A physical therapist shall refer to a licensed physician...any patient whose medical condition should...be determined to be beyond the scope of practice of the physical therapist. ‘
Ottawa ankle rules:

Ankle x-ray series is required only if there is any pain in the malleolar zone and any of these findings:
- Bone tenderness at A
- Bone tenderness at B
- Inability to bear weight both immediately and in emergency department

Foot x-ray series is required only if there is any pain in the midfoot zone and any of these findings:
- Bone tenderness at C
- Bone tenderness at D
- Inability to bear weight both immediately and in emergency department
The case for imaging...

#1 Standard for other first contact providers
#2 Example in Military
#3 The referral mandate
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• Georgetown Case Study
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• Q&A
Pop Quiz:

• True or False?

• The majority of insurance plans do not yet cover physical therapy services without a referral

• A Medicare patient can access physical therapy services by self-referral.
Medicare's Conditions of Participation for Rehabilitation services

1. Separate and Distinct guidelines

2. Defines the standards of patient care a hospital must comply with to participate with Medicare

3. Conditions apply to all patients
   (not just Medicare)
Medicare's Conditions of Participation for Rehabilitation services (Sec. 482.56)

(b) Services must only be provided under the orders of a qualified and licensed practitioner who is responsible for the care of the patient, acting within his or her scope of practice under State law, and who is authorized by the hospital's medical staff to order the services in accordance with the hospital policies and procedures and State laws.
Our Story...
Direct Access: Legislative Success

- 50 States and the District of Columbia allow patients to be examined without a referral
- 48 Include provisions for treatment
Why the lack of Implementation?

• APTA survey 2009 (~1,700 therapists)

• Top reasons for lack of implementation:

  #1 ‘A requirement by my facility that all patients have a referral’

  #2 ‘Concerns over reimbursement’
Direct Access at Georgetown

- Practice Act updated to allow DA in 2007
- Late 2009 asked ‘Why not’?

Common responses:
- “Hospital policy won’t allow it.”
- “CMS doesn’t allow it”
- “Insurance companies don’t pay for it”
Fact Finding:

• Practice Act Language?

• Hospital policy language?

• Reimbursement?

• Has it been done before at a similar institution?
Pursuit and Implementation of Hospital-Based Outpatient Direct Access to Physical Therapy Services: An Administrative Case Report

The Plan:

- Staff & Local Leadership Support

- Executive Summary:
  - Highlighting Consumer Choice

- Chain of Command
Thoughts from staff...

• Most embraced the idea
• Why?
• Apathy
• Not unanimous
Local leadership

- Supportive but cautious
- Payment?
- Medicare?
Executive Summary

• 1 page summary
  • Overall scope
  • Key data:
    • Patient safety
    • Therapist training
    • Other institutions
  • *Consumer Choice
What about imaging?

Two camps:

1. It’s too much to ask for all at once
2. Go big...It makes sense to do it now

Examples:

– Military
– Univ of Wisconsin
Imaging...

What do we do?

Gwen Simons PT, JD, OCS, FAAOMPT
PT Board Opinion
PT Board Query:

• Goal: Compliance with the referral mandate

• “Does section 6710.13 prohibit physical therapists from referring patients directly for diagnostic imaging studies?”
PT Board Opinion:

• “Based on the foregoing language, the Board believes that a physical therapist may refer a patient for diagnostic imaging to a health care provider who is qualified to perform such testing, provided the other conditions as set forth in the regulation are met.”
Strategic Planning:

• Preparing for questions:

  “Will insurance pay for it?”
  “Will it be over-utilized?”
  “Is it safe?”
  “What does ortho think?”
  “Are you really adequately trained?”
What does ortho think?

• Strong relationship with key surgeon

• Chief?
  • Complete support
  • ‘Consumer choice’
Are we really adequately trained?

• BS, MS, DPT, tDPT, DSc???

• Option 1:
  • “It’s legal”

• Option 2:
  • Go above and beyond
Clinical Competencies:

- Coursework:
  - Medical Screening (Bill Boissonnault)
  - Radiology (Michael Ross)
- Shadow time in Radiology
  - Follow ACR guidelines
- Clinical Vignettes Discussion
- Selected articles
- Patient tracking
The Chain of Command:

- Director of Rehab
- Medical Director
- Chief of Orthopedics
- Vice President of Medical Affairs
- Chief Operations Officer
- Bylaw Review Committee
Updating Hospital Policy Language:

Policy #109 Section 9

- “Per District of Columbia regulations (Direct Access Physical Therapy), out patients may be seen by a physical therapist without the prescription of or referral by…”

- “Only Physical Therapists who have received appropriate training…”
Updating Hospital Policy Language:

Policy #109 Section 9

• ‘Per the District of Columbia…Physical Therapists can directly refer outpatients to a radiologist for imaging studies which may include but are not limited to; x-rays, magnetic resonance imaging, bone scans and Doppler ultrasound studies’.
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First DA patient at Georgetown

• Presentation
  – 50 y/o male
  – DM, s/p mid-foot fusion ~2 months
  – Recent P. T. ‘not great’

• CC knee pain... (NO REFERRAL for KNEE)
  – NWB (Rollator walker)
  – Insidious onset
  – Grossly swollen
  – Warm to touch
  – Severe loss of ROM
  – No Fever
PROCEDURE: DIA 0137 - KNEE 4V OR MORE, LEFT

CLINICAL HISTORY:
Arthritis.

FINDINGS:
Standing AP, oblique, and lateral views of the left knee. No comparisons
Moderate suprapatellar left knee effusion. Calcifications within the
hyaline cartilage may represent chondrocalcinosis. No significant joint
space narrowing or osteophytosis.

As we discussed there is an unusual vertical type fracture through the
lateral femoral condyle...

IMPRESSION:
Distal femoral fracture.
ICD-9: (715.26)

Distribution:
Ordering Dr: KEIL, AARON PAUL
Ordering Attending: KEIL, AARON
Attending Dr: KEIL, AARON
#2

28 y/o female, CP
Referred for gait / balance
Develops medial thigh ‘sensitivity / soreness’

Exam:
Palpable mass at postero-medial thigh
Osteochondroma
Osteochondroma
#3

23 y/o male competitive hockey player
Receiving treatment for discogenic LBP

Nearing discharge, develops increased LBP and leg pain
Hemangioma
Follow up
Questions:

Did we get paid??

Did we over-utilize imaging??
UIC / Georgetown Univ. Collaborative:

- UIC Orthopaedic Residency Grad
- 4 month Post-Residency Placement
Payment?

(DA)
Direct Access Claims:

• 22 different insurance plans
• Claims tracked over 4.75 years
• ~2500 total visits
• >500 New Episodes of care
Payment for DA:

% of Claims Reimbursed $= 100\%$
Payment?

(Imaging)
### 69 Radiographs

<table>
<thead>
<tr>
<th>Body Region</th>
<th>Number</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Hip/Pelvis</td>
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<tr>
<td>Ankle/Foot</td>
<td>11</td>
<td>7 ankle, 4 foot</td>
</tr>
<tr>
<td>Cervical Spine</td>
<td>8</td>
<td></td>
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<tr>
<td>Tibia/Fibula</td>
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<td></td>
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<tr>
<td>Knee</td>
<td>6</td>
<td>1 distal femur</td>
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<td>Lumbar Spine</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Shoulder</td>
<td>4</td>
<td>1 clavicle</td>
</tr>
<tr>
<td>Thoracic Spine</td>
<td>3</td>
<td>1 ribs</td>
</tr>
<tr>
<td>Wrist</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>69</strong></td>
<td></td>
</tr>
</tbody>
</table>

### 39 Advanced Studies

<table>
<thead>
<tr>
<th>Body Region</th>
<th>Number</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lumbar Spine</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Shoulder</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Hip/Pelvis</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Knee</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Ankle/Foot</td>
<td>4</td>
<td>3 ankle, 1 foot</td>
</tr>
<tr>
<td>Cervical Spine</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Tibia/Fibula</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>39</strong></td>
<td>3 CT; 35 MRI; 1 MRA</td>
</tr>
</tbody>
</table>
Payment for Imaging:

% of Claims Reimbursed = 100%
Over-utilization?
### UTILIZATION OF DIAGNOSTIC IMAGING
(Per new DA patient evaluation)

<table>
<thead>
<tr>
<th>Imaging Type</th>
<th>Percentage</th>
<th>Count (Denominator)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiographs</td>
<td>8.5%</td>
<td>43/503</td>
</tr>
<tr>
<td>Advanced Imaging</td>
<td>4.0%</td>
<td>20/503</td>
</tr>
<tr>
<td>Total Imaging Utilization</td>
<td>12.5%</td>
<td>63/503</td>
</tr>
</tbody>
</table>
Summary:

• The case for DA is SOLID
• The case for Imaging makes sense...now
• A Hospital-Based clinic may be the ideal environment
• Insurance DOES pay
• This is an optimal time
  Reduced Cost + Improved Outcomes = Increased value
References


31. McGill T. Effectiveness of physical therapists serving as primary care musculoskeletal providers as compared to family practice providers in a deployed combat location: a retrospective medical chart review. *Military Medicine* [serial online]. October 2013;178(10):1115-1120