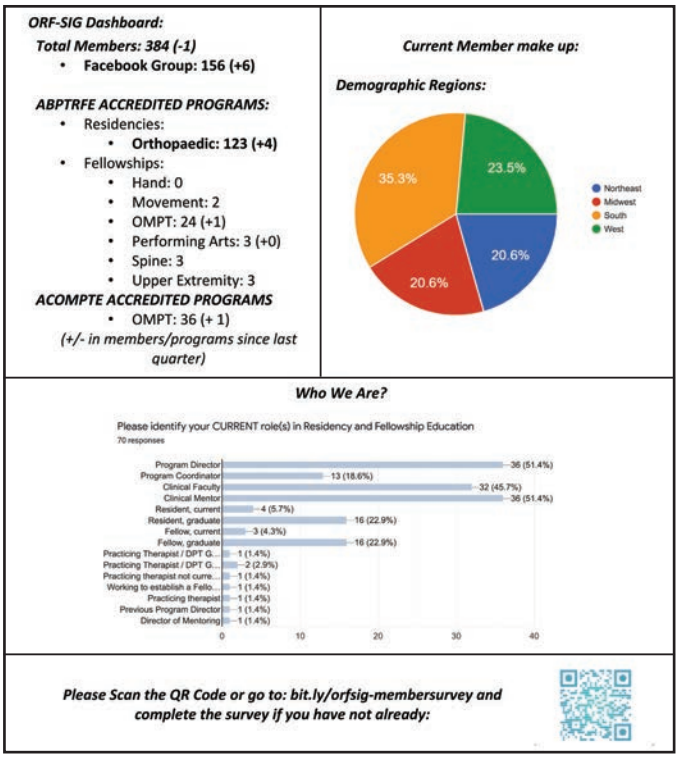
ORF-SIG Dashboard:



PRESIDENT'S MESSAGE

ORF-SIG Members,

Recently, I represented our residency program at a local physical therapy school to discuss the benefits of residency and fellowship education to 1st and 2nd year students. The physical therapy program did an excellent job bringing in various specialty programs including sports, neurological, woman's health, and acute care. After a short introduction regarding residency and fellowship education, the students were asked to move into break-out rooms of their choice based on the type of program interest. As the specialty teachers were moved to their rooms, we anxiously waited for students to trickle in and learn more about post professional opportunities in orthopaedic residency and fellowship education. As time ticked by the room sat silent…tick tock, tick tock, and after a few minutes not one student crept into the room.

As speakers sat in the room contemplating the little interest in orthopaedics, several hypotheses were thrown around. *Was this due to the students being exposed to their orthopaedic residents who serve as teaching assistants? Is it that our entry-level orthopaedic training is making more students fully prepared to enter the workforce? Are students more fearful of evaluating and treating the spine since this has historically been a misconception of the differences between Sports and Orthopaedics?* Several other speculations were discussed with only one truth-this current class did not feel they needed to learn more about orthopaedic residency education.

One could say, *"Well we are just doing a great job…they have all the tools they need"*. While it would be great if this were the case, unfortunately this is not what I am hearing from program directors and their number of applicants. Every month I receive an email or two asking if the ORF-SIG can in some way assist with a program to increase applicants. To further evaluate our members' concerns, the ORF-SIG has put a special focus on looking at **Program Sustainability**.

To tackle this project, we recognize that **sustainability** is built upon several different facets. These include:

Recognition: Identifying what barriers may be in place for reaching potential residents/fellows, including geographic, financial, and perceptual biases.

- To address this, the ORF-SIG has put a sub-committee together to evaluate possible applicant shortages based on residency/fellowship program density in specific regions of the country. Using the ABPTRFE aggregate data, we will be looking at several factors including access to programs and/or positions, potential salary/tuition influences, etc. If you would like to assist, please contact mhaberl@orthopt.org.
- Additionally, the ORF-SIG has been reaching out on social media platforms to identify perceived barriers from student physical therapists and new graduates. Initial feedback has been that recent graduates want/need a break from school-based learning. Perhaps our focus needs to shift to the benefits of Mentorship vs Education?
- Alongside this, we are actively sending out campaigns to educate the public regarding the benefits of residency and fellowship training/specialty certification. Look out for some great infographics for you to share the benefits with your patients and student interns!

Representation: Highlighting the value of programs, graduates, and impact of residency and fellowship education on personal/professional goals and influence on company culture.

- The ORF-SIG is connecting its members with potential residents/fellows through a variety of options:
  - The development of an Applicant Registry on our website for potential applicants to be shared with our members.*
  - Monthly Program Faculty/Mentor/Graduate highlight creating an opportunity for members to highlight their program and openings to increase residency/fellowship recognition.*
  - Regional Virtual Residency/Fellowship Career Fairs for programs to meet with potential applicants.
  - In-Person Residency/Fellowship Career Fair for programs to meet with potential applicants at the annual APTA Combined Section Meeting.

Regulation: Understanding the impacts of accreditation standards as well as the different pathways to specialty practice.

- The ORF-SIG has created a variety of FAQ documents regarding regulation changes due to COVID, Addition of Practice Sites, and Primary Health Conditions.*
- Additionally, collaboration with the Academy of PT Education Residency and Fellowship SIG regarding regulatory reminders to assist programs in a variety of topics- RF-PT-CAS, Virtual Sites Visits, etc.*
- The ORF-SIG is considering other forms of education to provide to residency/fellowship stakeholders to further en-

courage applicant interest in residency and fellowship education.

*Access to these resources can be found at the end of this message.

Currently, orthopaedics makes up more than 58% of all American Board of Physical Therapist Specialists certifications. Come work with the ORF-SIG to continue to move this tradition forward. If you would like to Get Involved within the SIG, make sure to reach out to mhaberl@orthopt.org.

THANK YOU,
Matt Haberl
President, ORF-SIG

REFERENCE

1. ABPTA Certified-Specialists Statistics. Accessed August 3, 2021. https://specialization.apta.org/about-abpts/abpts-certified-specialists-statistics

APPLICANT REGISTRY: STEVE KAREHA, MATT HABERL, KIRK BENTZEN, CARRIE SCHWOERER

One big problem facing programs over the years is the ability to sustain consistent applicant bases despite using or not using Residency and Fellowship Physical Therapy Centralized Application Service (RF-PTCAS). Based on your feedback, we have created 2 surveys to aid in this effort.

1. The first is to become a contact list library for our member programs of physical therapists and physical therapist students interested in learning more about orthopaedic residency and fellowship programs.
   a. Currently, we have 30 interested people who have signed up to receive more information about our programs.
2. The second is specifically for those qualified applicants who are excellent candidates and have already been vetted but applied to a program that does not have any available spots. The program denying admission may then provide the applicant with a flyer explaining the database and providing them the option to participate. Member programs may access these qualified, vetted applicants as needed by contacting Steve Kareha (stephen.kareha@sluhn.org). Updates on the numbers of candidates in this list will be provided quarterly to the membership.
   a. Currently, everyone who was on this list has been admitted into a program.

Residency & Fellowship Interest

http://bit.ly/2OH6zdX

Residency & Fellowship Qualified Applicants

http://bit.ly/3u0JR0s

PROGRAM RESIDENT/FELLOW/FACULTY SPOTLIGHT: CAITLYN LANG, KRISTINE NEELON, BOB SCHROEDTER

We are proud to launch this new and exciting monthly Program Spotlight feature of orthopaedic residency/fellowship programs, and their respective Resident/Fellow/Faculty nominated ambassadors. The Spotlight will allow one or more residency/fellowship programs a month to be showcased as a marketing, sustainability, and post-professional education advocacy vehicle. Programs will be able to highlight their program in various ways by highlighting current or graduated residents/fellows and or faculty to showcase their respective program and available positions. Look for social media blasts in the coming weeks and for ORF-SIG website information on how to communicate interest and to apply!

ABPTRFE FREQUENTLY ASKED QUESTIONS DOCUMENTS:

Recently, the American Board of Physical Therapy Residency and Fellowship Education (ABTPRFE) released updates to their Policies and Procedures including some changes to the Primary Health conditions and CoVid-19 accreditation recommendations. The ORF-SIG was able to work with the Chair of ABPTRFE, Mark Weber, and the Lead Accreditation Specialist, Linda Csiza. Together, they provided some further elaboration on several Frequently Asked Questions. Check out these documents here:

- Policy 13.5 Addition of Practice Sites FAQ
- Primary Health Conditions / Medical Conditions List FAQ
- CoVid-19 Temporary Guidance FAQ
- Program Sustainability: Applicant Sharing and Recruitment FAQ

RF-PTCAS: KIRK BENTZEN, STEVE KAREHA, MEGAN FRAZEE, CARRIE SCHWOERER, CHRISTINA GOMEZ

We hope that everyone has had a good summer. As summer winds down, it is essential to attend to preparations for the next RF-PTCAS admissions cycle. Please watch your e-mail and the APTA Hub for these instructions.

If you are a newer program or need a refresher on some of the nuances of the processes and timelines, please review the following podcast: *Navigating RFPTCAS*, which can be found https://musc.hosted.panopto.com/Panopto/Pages/Embed.aspx?id=0841c14e-a3f7-4196-b654-acd90169c9e2. Presenters of this podcast include Ryan Bannister, Director-Centralized Application Services and Student Recruitment and Orthopaedic Residency and Fellowship SIG leadership, including Kirk Bentzen, Christina Gomez, and Steve Kareha.

Please contact Carrie Schwoerer (cschwoerer@uwhealth.org) with questions.

OTHER KEY RESOURCES:

ABPTRFE Updates: Community HUB
Don't miss out on the latest ABPTRFE Updates from Kendra Harrington:

- Updates to ABPTRFE Processes and Procedures
- What Sites Should, and Should Not, Be Included on the Participant Practice Sites?
- ABPTRFE Recent Actions
- July 1 Policy Reminder

ACOMPTE Website and Resources:

Orthopaedic Manual Physical Therapy Fellowship programs find ACOMPTE Information here:

APTE RF-SIG Resources: Christina Gomez aptaeducation.org/special-interest-group/RFESIG/

You can also find more great information from the Academy of Education's Residency and Fellowship SIG (RFESIG). Here you will find a variety of Podcasts they have completed for Residency and Program

Directors. Please make sure to check these out as well as the Think Tank resources.

- Virtual Site Visit
- RF-PTCAS Reminders

Take advantage of our member-only communication forums to share and develop ideas.

ORF-SIG Facebook group

bit.ly/orfsig-fbgroup

AOPT ORF-SIG Communities HUB

bit.ly/orsig-communityhub

Gait Instability Under Low Back Pain Referral: Underlying IDH Wild-Type Astrocytoma

Zachary M. Stapleton PT, DPT, OCS[1], Lauren Momberger PT, DPT[2], Daniel T. Ginat MD, MS[3]

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[2]Northern Rehab Physical Therapy Specialists, DeKalb, IL
[3]University of Chicago Medical Center – Radiology Department, Chicago, IL

BACKGROUND

Low back pain (LBP) is one of the most common reasons adults are referred to outpatient physical therapy. It is estimated that up to 80% of individuals experience LBP at some point in their life, with an incidence of 1-36% occurring in a single calendar year.[1] Similarly, falls have become an increasingly prevalent health and safety concern for older adults. One in 4 adults over the age of 65 experiences at least one fall per calendar year, with 1 in 5 falls leading to serious injuries or eventual death.[2] Many factors contribute to increased fall risk in older adults including: delayed postural responses, sensory impairments, inactivity and muscular deconditioning, depression, fear of falling, medications,[3,4] and a variety of different environmental components.[5] Given this and the large quantity of healthcare costs associated with treating the consequences of/injuries from falling, reducing fall risk has become quite important in current medical practices across all domains.[1]

Physical therapy has shown to be an effective, conservative treatment option for individuals presenting with both LBP and fall risk.[4] The LBP Clinical Practice Guidelines recommend using treatment-based categorization after performing a thorough examination and assessment of a patient's body structure/functional deficits, activity limitations, and participation restrictions.[6] Similarly, a comprehensive exercise program focusing on muscular strength, power, and balance training has shown to be an effective treatment option for individuals experiencing multiple falls or wishing to reduce fall risk.[4]

Although most cases of LBP are not associated with sinister pathology, it is possible that undiagnosed malignancy, fracture, or other neurologic compromise could be the cause of the LBP in patients referred for physical therapy. Given that the etiology of insidious-onset high risk for falls can be multifactorial, it is imperative that the patient presenting with multiple falls receive a thorough examination. New evidence suggests that typical screening questions often asked to assess for sinister underlying pathology in individuals with neuromusculoskeletal disorders are not the most effective at determining the true presence of an underlying disease process. In many cases, the recognition of these red flags, based on current guidelines, neither improves nor worsens the probability of identifying underlying pathologies such as fracture or malignancy. Instead, performing a comprehensive examination and thorough evaluation process in conjunction with these screening questions is considered the best step to take in proceeding with caution in these cases.[7] The purpose of this case report is to outline the residency trained physical therapy clinical reasoning process behind the evaluation, treatment, and urgent referral of a patient presenting with repeated falls and gait instability despite having been referred by his primary care physician (PCP) to physical therpay with a diagnosis of LBP.

CASE PRESENTATION

A 68-year-old male with a body mass index of 44.47 kg/m^2 and a past medical history including hypertension, hyperlipidemia, coronary artery disease, heart failure with preserved ejection fraction, obstructive sleep apnea, history of prostate cancer (staged as Clinical T1c NxMx adenocarcinoma Gleason 9, but was in remission after radiation and hormone therapy) was referred by his PCP for physical therapy evaluation and treatment of LBP. Pain started 3 weeks prior to physical therapy exam after a mechanical fall from tripping over a step in his home. He landed on the floor, sustained no other injuries, and described the LBP as, "muscular", above the bilateral iliac crests with no symptoms of radicular or referred pain. Although he was referred for pain, it had completely self-resolved in the 2 weeks since visiting his PCP. Instead, his primary concerns included progressive left lower extremity weakness and balance problems spanning the previous 3 months that contributed to falls or near falls 3 to 4 times per month. When asked, the patient attributed his leg weakness to side effects from previous hormone therapy and increasingly sedentary lifestyle. He denied any weight loss over the past 3 months, paresthesias, numbness, or night pain. At baseline he used a walker for bilateral, persistent knee pain with ambulation, was generally sedentary and deconditioned, and could complete all of his activities of daily living with

modified independence. After the onset of the progressive left leg weakness, he resorted to using a wheelchair for mobilizing in the community, a single point cane in the home, and moved in with his sister for assistance with heavy household chores. He came to physical therapy evaluation without any recent imaging studies.

EXAMINATION FINDINGS AND DIFFERENTIAL DIAGNOSIS

The physical examination revealed multiple benign and a few concerning findings. Vital signs were within a normal limit given he was taking metoprolol, enalapril, and furosemide (blood pressure: 129/57 mmHg, pulse: 66 BPM, SpO_2 on room air: 95%). Lumbar active range of motion that required contact guard assist (CGA) for impaired balance did not elicit any painful symptoms and was grossly 75% of a normal quantity in all directions. Substantial proximal left hip and left knee strength deficits bidirectionally in all cardinal planes of motion when compared to the right side were noted, however, there was no asymmetric weakness at the ankles or toes. He was able to ambulate 70 feet with CGA and a single point cane but then required a rest break due to fatigue. Multiple gait deviations were noted to be of moderate concern; he walked with more pronounced compensated Trendelenburg sign on the left than on the right side, decreased hip extension bilaterally, decreased foot clearance bilaterally, small step/stride length but equal bilaterally, and reduced trunk rotation bilaterally. His lower extremity dermatomes were intact to light touch sensation. The following fall risk assessments were performed: Five Time Sit To Stand Test, Rhomberg stance, and standing endurance test. He demonstrated the following respective performances: 43 seconds with bilateral upper extremity assist and CGA, unable to perform due to weakness and instability, and limited to 30 seconds with CGA and increased weight shift to the right. His Western Ontario and McMaster Universities Arthritis Index score was 56%. A list of concerning body structure/functional deficits was developed and included left hip and thigh weakness and impaired muscular endurance. From these deficits, activity limitations were established as difficult: walking, getting out of a chair, and navigating stairs. From these activity limitations, the patient's individualized participation restrictions were outlined as difficulty caring for his home and spending time with his family due to high fall risk and gait instability.

The differential diagnosis for gait instability is vast and should include non-muskuloskeletal sources. In this case, there was no concern for an acute central or peripheral neurogenic process at the time of evaluation given his vital signs were within a normal limit, he denied any upper extremity symptoms, his concerns were chronic and described as slowly progressive in nature, his gait deviations were consistent with those seen in individuals with hip-spine syndrome and were not classically neurogenic, and the neurologic screen (myotomes and sensation) was normal.[8] Given the prevalence of hip-spine syndrome that could be causing a lumbar 3 through 5 nerve root degenerative radiculopathy in combination with the data collected from the examination, the physical therapist felt comfortable treating the patient with substantial caution.[9] Caution was placed at the forefront of the management of this patient because he did not display any ankle or toe weakness that would be typically associated with this type of degenerative radiculopathy and because of the new onset of the weakness in the setting of a history of prostate cancer without any recent low back or pelvic imaging.[10–12] Immediately after the initial evaluation, the physical therapist conferred with the referring PCP over discrepancies between the referral diagnosis and the patient's presenting status. The PCP was receptive to concerns and supported physical therapy treatment with a request for a progress update in 5 to 6 weeks' time.

TREATMENT, RESPONSE, FOLLOW-UP

The patient received a total of 4 weekly treatment sessions focusing on closed-chain functional mobility training and strengthening alongside gait training, each week showing slight improvement. Improvements were noted to be reduced time and frequency of rest breaks, improved tolerance to larger volumes of exercise, and reported compliance with the developed and prescribed home exercise program. He was encouraged to walk around the house 5 to 10 times per day and to limit sitting in the chair to no more than an hour at a time.

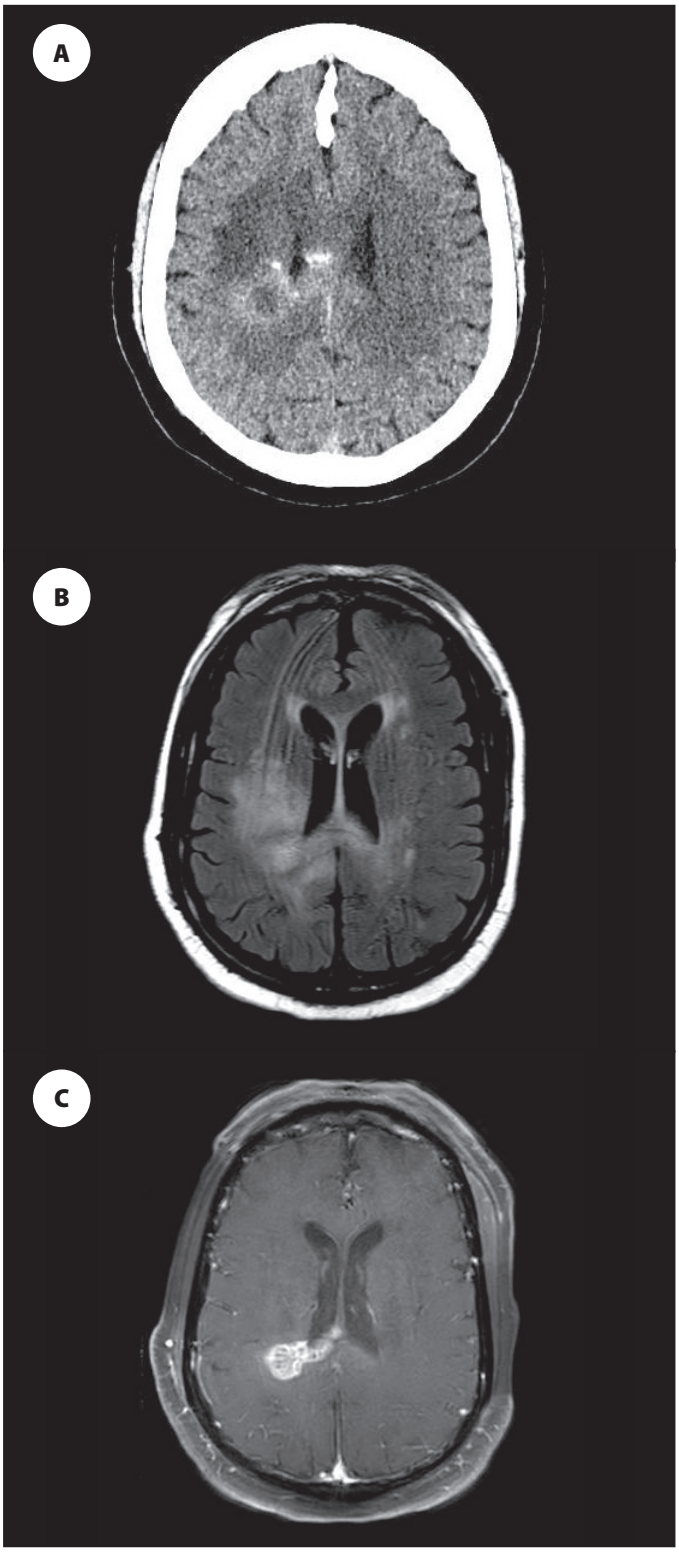
During the 5th treatment session, the patient demonstrated a significant decline in sit-to-stand and stand-to-sit transfer independence, a slight delay in answering questions but no definite aphasia, and acutely progressed weakening of the entire left leg. These signs were present despite a relatively normal blood pressure reading of 129/42 mmHg and pulse of 52 BPM, and denial of any other feelings of malaise. The physical therapist concluded this to be a very abnormal response to treatment and brought him to urgent care for assessment. Cranial nerve examination demonstrated subtle right sided facial droop and left upper extremity weakness was also discovered. The PCP in urgent care concluded a differential diagnosis of metastatic progression or acute neurologic process was appropriate and that he should be worked-up through the emergency department (ED). Computed tomography (CT) of the head in the ED revealed a brain tumor, but abdominal, chest, and pelvic CT were negative for prostate cancer metastases. Brain magnetic resonance imaging (MRI) and eventual biopsy staged the tumor as a primary, grade two IDH wild-type astrocytoma, MGMT promoter non-methylated, with 5% MIB-1 spanning the right anterior frontal lobe into the corpus callosum.

The patient was discharged from outpatient physical therapy to the care of neuro-oncology. He received care in the form of hypofractionated radiation therapy (forty Gy in 15 fractions) with concurrent and adjuvant temozolomide for this unresectable tumor.[13] He eventually expired between 10 and 20 months after diagnosis of this brain tumor, cause of death is not accessible in the medical record. See Figure 1.

DISCUSSION

This case emphasizes the importance of a thorough physical therapy examination and assessment at 2 points within the plan of care of a patient with undiagnosed gait instability; after the initial evaluation when the patient presentation was inconsistent with the referral and again after an acute change in status. Based on the analysis of the data collected after the first assessment, one could argue that imaging of the pelvis or lumbar spine should have been more strongly considered given the history of prostate cancer. This was not a significant concern of the physical therapist because his prostate cancer had been treated and resolved 2 years prior to the initial physical therapy evaluation; he had been attending regularly scheduled appointments and the urologist had no concerns for metastases. Also, the patient denied any pain in the pelvis or lumbar spine and these areas are commonly associated with metastasis of prostate cancer.[14,15] Additionally, the patient did not certify

Figure 1. Results from Diagnostic Brain Imaging Performed After Physical Therapist Urgently Referred Patient for Further Examination Based on Changes in Neurological Status



A, First head imaging study, performed in the ED. Axial non-contrast CT image showing a heterogeneous infiltrative mass that contains calcifications in the right cerebral hemisphere with extension into the posterior corpus callosum. B, Axial T2-weighted, FLAIR-weighted MRI. C, Post-contrast T1-weighted MRI. Both B & C performed as an outpatient after being discharged from the ED show an infiltrative mass in the right cerebral hemisphere with multifocal enhancement and extension into the corpus callosum.

that any of the typical screening red flags for malignancy applied to him; he denied any unexplained changes in weight, malaise, or night pain. It is because of the history of prostate cancer and the insidious onset of these rather concerning symptoms that the physical therapist contacted the referring physician for consultation and diligently analyzed all responses and changes in symptoms during each visit.

Further focus could be extended to the importance of deep tendon reflex testing in this case. A recent case study highlighted the limited clinical utility of hyperreflexia from deep tendon reflex testing for diagnosing a space occupying lesion in the cerebrum.[16] Positive hyperreflexia findings do not provide much additional value in terms of diagnosis due to the number of healthy individuals who are benignly hyperreflexive or have reflex asymmetry.[17] Similarly, a negative result provides even less insight. A more prudent consideration may have been to assess the Babinski Reflex or for the presence of clonus to quick-stretch as these tests have demonstrated better validity for this diagnosis. Despite all of this, the patient's concerns were unilateral, chronic, and stable-appearing, which is why reflexes were not assessed at the initial evaluation. Future assessments of chronic gait instability could potentially benefit from including the Babinski Reflex and clonus assessment.

The second crucial moment in the care for this patient was when he demonstrated an acute change in status. In the setting of all of the aforementioned situational details, the therapist acted urgently and secured an urgent care appointment for the patient. Consideration of referral to the emergency room did occur, but given his relatively normal vital signs and the setting in which the patient was seeking care (hospital-based outpatient physical therapy clinic at an academic medical center with a level one trauma center), an urgent care appointment was considered to be the most appropriate referral. If this patient demonstrated any other abnormalities that might suggest an acute stroke or if the patient was seeking care in a less well-connected environment, then an ambulance would have been called so he could be taken to the emergency department.

This case supports unrestricted and direct access to physical therapy by the public. Despite the fact that the patient was seeking care for a reason that was undiagnosed by his PCP, the residency trained therapist skillfully identified concerning signs and acted appropriately. In addition to supporting unrestricted, direct access to physical therapy by the public, this case emphasizes the importance of the role that the physical therapist plays within the interprofessional medical team. Finally, this case not only supports previous discoveries pertaining to patient experience, patient-physician relationship, and quality of care but it may suggest that patients receive better care for their musculoskeletal concerns when they receive care from a physical therapist, first.[18,19]

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