Thank you. Good afternoon, everybody, we will start off by thanking Heather for all of the work she does to get us organized and make us look good because she does a lot of work in the background leading up to the talk of and getting things organized. Huge thanks to her and Amy and Dr. Spevak for all of their support. I do not have any disclosures.

I do, just have one. I teach on a contract basis for continuing education.

Disclaimer this is a general disclaimer. We will cover pain rehabilitation some assessment some exam skills in counseling and a case at the end to advocate what we covered and open it up to questions.

We will be monitoring the chat, we can posit if you want to raise your hand, we want you to be able to give us what you want out of this. It is a little bit tricky, we put it back on you to be able to tell us, ask questions and make sure you're getting the most out of this. We can always backup on stuff. We should be able to stay on time.

What is pain? Pain is weakness leaving the body. An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage. What is interesting in this is that they added more keynotes. Please mute yourself. Six keynotes beyond the definition are pain is always a personal experience that is influenced to bearing degrees by biological, psychological and social factors. Pain and nociception are different phenomenon. Pain cannot be inferred solely from activity and sensory neurons. Through their life experiences, individuals learn the concept of pain. A person's report of an experience as pain should be respected. Everybody has their own version and description and experience we want to respect that. Although pain usually serves an adaptive role, it may have adverse effects on function and social and psychological well-being. Verbal description is only way to express pain. Just because you cannot communicate doesn't mean you do not have pain. Having these bullets are important because they put qualifiers on the definition to speak to the complexity of chronic pain.

Other definitions that come up describe chronic pain as pain of any etiology extending induration beyond the expected temporal founder tissue injury and normal healing, and adversely affecting the function or well-being of the individual. That is something we spend a lot of time focusing on. The rehabilitation providers soapbox, what should the focus of treatment be? Pain of any ideology, extending induration beyond the expected temporal boundary tissue injury and a normal healing, and adversely affecting the functional well-being of the individual. A lot of the treatment is about is function and well-being. Sometimes chasing a pain score you will be struggling.

We will say in order to what? It is not, uncommon I want to have less pain. In order to, next. Sometimes that is part of therapy intervention. People with persistent pain have sometimes lost that. We will cover overview of history taking from the team perspective. Exam basics, role of imaging in chronic pain workup, and counseling strategies.

An overview of history taking. These are the big ones that you want to focus on. You want to get a good history. Look for red flags. Prior treatment failures and defining failure. Risk stratification. Functional impact. Patient goals. Goals when evaluating chronic pain from the medical standpoint. This is the primary things we are trying to focus on from a goal. Exclusion of worrisome neurologic or systemic conditions. Determine if there are factors that are associated with prolonged core/worsening. Working diagnosis. Develop therapeutic rapport. I don't think we have the model in here come if we do we have it a little later. There is a nice model called VEMA.

You should reassure your patient there is nothing going on. Then you want to validate their experience and educate them on what you think is going on and what can help and then maybe do a little bit of motivation. The doctors urgently not going to do a ton of motivation and activation so really, we are trying to get the patient validated. And get them over to the rehab people. If you do those, that does help.

The order of that is specific to if you start to educate before you validate, that person will not listen to you. In my field reassurances with validation. It is important enough to really pull it out and reassure the person that they are safe. And that you have them. Then you validate and I hear you say XYZ and I'm hearing that this is the impact on your life. Then educate and if you try to activate before you motivate, that is going to be a failure. You have to find that 30 Mac. It helps inform your decision-making because there is really a scenario where pain psychology physical therapy are not good options. You have a patient who isn't very receptive to your education, you may decide your treatment plan and tweak different specialties accordingly and help inform your decision-making. You may create more conflict. It is a great model. History specifics for spine pain, these are global concept. You look at the neck, upper or lower?

Same thing with the low back pain and beltline is it above or below the belt line? The location helps. Onset, any trauma or injury related to onset will help you. How are things progressing? Are they stable or is it getting worse? What are prior episodes like? We see a lot of people was spine pain and you had pain in 1985 and had surgery in 2000, has your pain changed or the same thing? That will be helpful to know.

In the neck, is it going down the arms verses to the head, or lower back pain down the legs or below the knee? [Indiscernible]. I always want to ask about weakness and numbness. History specifics for widespread pain. Locations, symmetry, joints versus tissue. Onset, any trauma/injury, sudden or gradual? Progression, prior episodes, alleviating, aggravating? Associated symptoms like weakness, numbness, joint swelling? Stiffness in AM that improves with activity? Sleep disturbance? Family history of rheumatologic conditions? These are global things that make it easy to remind you to ask. Neuropathic pain, you can read all of them but there are things that are different versus dermatomal versus docking/glove.

Unilateral versus bilateral. Onset, description, burning, stabbing, allodynia? Temporal variation, progression, prior episodes, alleviating/aggregating, aggravating, associated symptoms like weakness,

numbness? Neurologic systemic red flags. Unexplained weight loss, bowel and or bladder dysfunction. Progressive neurologic deficit. Personal history of cancer. Recent trauma. Age greater than 50 years old. Do they have fevers and chills? Immunosuppression? Can they rest at night, or do they have pain?

If they are over 50, they are having a history of cancer and unexplained weight loss and her pain has changed or progressed, even if it is, I would be looking closely to see if it has changed.

If they swear up and down it is the same, okay. But there is an awareness and monitoring you should do. Especially if the pain has changed. You want to start to investigate treatment failures. We don't want to have the patient drag out every single failure that they had that starts to [Indiscernible]. If they say they have PT, who was the treating therapist? Did you feel like you are seeing eye to eye with the therapist? Length of therapy and level of engagement? Did you do things outside of therapy? You want to do a thorough review of medications.

Different classes and likes of trial before failure. If they have had injections, are they diagnostic therapeutic, and any benefit? If so, what was the duration? If they felt amazing or had an RFA and that was no good, you want to know that. That make you into some other treatment options.

There are elements of all of these some of them will be more closely aligned. I'm trying to highlight the nuances here. In PT we are the movement experts so we will look at how all of that stuff impacts movement. We are watching them from the moment they get up from the waiting room and observing them come without saying, I am watching you. People change what they do when they know they are being observed.

We will be looking at these kinds of perceptual assessments. We might be looking at right left discrimination. These are some of those bonus things you might get in your PT exam. Looking at five to, function and are they safe? Keeping a deeper dive [Indiscernible]. I want you to think of the occupation. What do you do from the moment you wake up until you go back to sleep next, and doing physical exams? They will look at behavior, a lot of associated behaviors and cognitions surrounding functional deficits. They will look at family roles and structures, and social roles and structures and again, they are excellent at looking at expectations and goals. I think occupational therapy is a secret weapon. Not everybody will say [Indiscernible]. If you're hoping to change that, OT people will not know what to expect. [Indiscernible].

Psychology colleagues will be looking at assessing associated symptoms and behaviors. If they need to be addressed, you want to treat the whole person. Treating the whole person is very important. Focusing on the laws what did you used to do and what can you do now? They will look at that sense of self that gets wrapped up in all of this. We have a pain pharmacy colleagues who really does a great job. Looking at the medication history, what they are using in addition to prescribed medications and how does that all roll into their goals? There are some great ways to stratify risk for treatment. This is a great tool that puts

you in buckets for low medium and high risk for classification of pain. That can be issued by anybody and guide your treatment. Psychology and sometimes OT will look at the depression and anxiety screens. Physical therapy wants to move people so they have the temple scale of Kino city, Kennesaw Arabia. The patient fill this out and you need to count 29. That will score it and decide if this is somebody who has more of those psychosocial factors. Catastrophe station built in. That way you're probably going to need your approach to be shifted. Why is risk stratification important? Fear avoidance beliefs serve a strong predictor of disability and clarification and LBP. Current research indicates that back pain related already existing in the general population and pain-free population. It is always about the patient. And their experience. We need to respect the patient's experience. We can't have their experience every day. We have to take it at face value. We often get questions when we do this talk about [Indiscernible]. Unless that is your targeted job, to adjudicate that, I would really just take your patient at face value. Listen to what they are saying that they are telling you about distress.

The percentage in the population is exceedingly low. I would just encourage you to not get wrapped up into that and leave that decision-making or questioning by the wayside. Pain exists in the context of this person's attitudes and beliefs that their level of distress them and then the behaviors that are manifest and then how does that impact their social context? They are coming into you with this big, huge wall and if we can start to make things better, suddenly pain can really become a lot more manageable. All of these components are at play. These are depicted as equal, but that is not always the situation.

We want to look at values because goals just because they are not linked to a value, they become empty. What is important to you, the why, and when we set goals, and this again can be a therapeutic intervention. I wouldn't expect the provider to go into this much detail. That is more of therapy team. You want to be specific, measurable, achievable, realistic and time managed. Tools and tips, patient specific functional scale.

Goalsetting worksheets. Help shift the focus to despite the pain I can [Indiscernible] you set your measurement of how well you are doing and based on how they are doing toward the goals. Helping to shift the focus in order to or despite the pain I can. That shifts it away from this numeric target of zero pain. Which is probably not realistic. Despite the pain, I can and despite the pain, I do. When we look at imaging in chronic pain, there is a lot of controversy.

Patients are really hooked on imaging. And a lot of us can be as well. When we look at the evidence, there is direction when imaging is appropriate. If you have trauma, suspecting pathology you want to be able to get imaging to help you roll that out. When can imaging cause problems? If you find nothing, well then what is wrong with me? Do think it makes them more safe or less safe? That is a trap that we get into. So you are saying it is in my head, which is the dreaded trap in pain treatment.

Questionable persistence of findings. Impacts treatment decisions. Wording used in reports and in explanations by providers impacts tubing

and response to treatment. That can impact response to treatment. In a negative way. We can have pathology without pain. We will find anthology with imaging. This is information I encourage you to keep at the ready. The pain is not there imaging. It may not sentence them to a lifetime of pain. It helps you show that there are other contributing factors beyond what is happening in tissues and structures that impact their function and pain experience. I love this, look at some of these where we can see there is path apology, and they may not have any pain at all. Then we can also have pain in the absence of direct pathology. What joint is this? Those two things are not always linked. We will pause for questions.

We will move into a physical examination section. Sounds good. Goals of physical exam are comprehensive, efficient, informative for patient, Bill therapeutic relationship, evaluate for conditions that require urgent workup such as imaging, surgery et cetera. Generate a diagnosis and guided treatment plan. You want to be prepared when you say the MRI is normal, and you have to have a game plan on how you approach that because they might think you think it is all in their head. But it doesn't mean that we don't know what is causing your pain and we have to figure out how you can feel better.

That will help you navigate those conversations. They can still go badly. The value in that is repetition. Medical providers have the white coat effect. You can set them up nicely to have that reiterated by PT and others, or you can set them up to be at odds with you and we will lose. As fun and knowledgeable as I can be and am, if I'm at odds with the physician has told them come, I am probably losing.

The title of this is [Indiscernible] for a reason. Trying to capture what happened in the room and having a conversation about the nervous system and it is well received, then that is important information for the next person to be aware of. [Indiscernible]. Physical exam stuff. The goals of the physical exam you want to get the information you need.

The goals of the physical exam should be comprehensive, efficient, informative for patient, build therapeutic relationship, evaluate for conditions that require urgent workup such as imaging, surgery et cetera. Generate a diagnosis. Guide a treatment plan. You want an overview with the history, inspection, competition.

Neuromuscular for strength, reflexes. Proactive maneuvers such as special tests. Any pain behaviors? We will talk about what those really mean. This is generally how we teach here a systematic approach. We do inspection, palpitation, range of motion, neurological, hip, and the knee P axial low back pain is differential. It is a little bit of all of these things, so it is not so simple in theory.

Pain from the leg [Indiscernible]. Leg pain, big options. Referred pain, myofascial, facet, joined to myelopathy. Peripheral nerve injuries. Vascular claudication. There are micro categories within this. You want to assess the gates, gait. Observe how they are walking in and out. You want to assess those things. Look at the stands if there is a loss of lordosis, look for pelvic tilt and/or shoulder asymmetry. Difficulty with

transitional movements such as moving from sit to stand. Always palpate the skeletal system and myofascial screen.

If you cause pain when palpating, is it the thing impacting this situation? Tender points and trigger points these are different to differentiate.

Trigger points top and then muscle, local and/or referred pain. Jump sign or twitch response. Reduced ROA and, and is it relevant? If you do find a trigger point, you should decide how you want to attack him. Here are some of the trigger points. Neuromuscular testing is for strength, sensation, reflexes and pathologic reflexes. These are the things you want to do when you screen. [Indiscernible]. What muscle should you test? Key lower extremity my toes are hip flexion, knee extension, ankle, great toe extension, ankle. [Indiscernible].

It depends on the age group, but it is higher than you think. There is some data that talks about the 20s and the repetitions. If you have another partner in your clinic who is focus is musculoskeletal chiropractor of PT, if this is not your expertise, do a screening and we can get into the weeds and that's when it comes in. We volleyed back and forth in our clinic. It is great to have another set of eyes and see the patient in a different day and light and go from there. If this is not your strength, that is okay, we want you to be okay with the basics. And then let those of us who is there bread-and-butter decide.

Sensory exam is a picture of the testing. These are very commonly accepted areas. Pathologic reflexes such as the ankle and suggestive of insult forebrain, brainstem, spinal cord.

Straight leg read as, straight leg raises no Dural tension. Tension on sciatic roots is 30 degrees to 70 degrees. Little to no tension on sciatic roots greater than 70 degrees. It doesn't mean that the system doesn't need some work. It is a nice way to look at the same test. These are very classic. Your slump test is another great way to look at your system is moving. I want you to think less about tension. You want to do it systematically and have a way that you do this. Typically, the base test will be to the slouch first, drop the head down, and then you would have them straighten and extender leg and see what happens. And then ask them how they feel? We just want to say I want to look at how you move, they are the position, hold for 15 seconds and see if there are any changes. If they do have something, I left their head up we don't want to [Indiscernible]. This test is pretty good related to reproduction of pain. It can give you some clues on what test you should do. It is unlikely to be a vascular situation. We think there is something related to the movement of the nervous system.

I want to add to any of these three tests we are talking about starting with the asymptomatic side. If you have asymmetry, start examining the left leg. If you go to the more painful side, you will flare them up and it easy to target the leg without the pain. I do all of the testing that way. Then you want to do the hips stuff. Generally, people come in with hip pain you want to qualify it if it is actually the hip. This is happening on the same points. For hip pain assessment due palpitation,

range of motion, provocative testing. These are the common muscles you will target.

Hip joint range of motion, is there symmetry? Flexion should be 140 degrees, extension 20 degrees. Internal rotation should be 30 degrees, external rotation 45 degrees. Of duction 40 degrees, adoption 25 degrees. Do internal and external rotation test. As far as provocative tests if you want to make your life easy, the top one is the one to do. It is a pretty high sensitivity screening test. You may need to take a little deeper. For the knee examination you want to do inspection, palpitation. Palpitation, a picture of the things you want to do. Palpitating joint line.

Flex the knee. See if there is any tenderness. Pain behaviors is important. These are the pain behaviors the things that are listed. You have to take patients at face value because these are signs of distress. These things feed into the concepts that people have been struggling for years and when they finally get to somebody who recognizes what is going on, they are sensitized and are categorized as overreacting. These are normal responses so you have to take the entire package and decide what to do with it.

Signs of sensitivity, and I think there are other things since that and he wishes they use the signs to rule out, he misspoke when he was saying nonorganic. We note that sensitization is an organic process. It is a change in your nervous system and physiology. To say nonorganic or a physiological I wrote that in my charts in my early career and I am ashamed of it now with what I know. But these aren't [Indiscernible] responses. These are likely signs of sensitization and if not, they are signs of distress.

This is the last slide before we have a break. Focused examination, opportunity to develop a relationship with your patients. Can be efficient. Help to identify impairments that underlie primary complaint. Aids In treatment planning. Are there any questions before we take a break? We will put the timer up for a nine-minute break that will take us to 20 minutes after. Please feel free to type your questions.

Did anybody think of anything on the break? Some patients like it, but it is hard to code. It gets messy related to your productivity especially in PA you can get productivity added on as an additional provider. That doesn't go into helping numbers for larger assessment and data collection. That can be problematic, but we prefer the logistic stuff. Somebody may say something to me when a physician is indifferent, but they may say something different when a psychologist is present. We feel like this gives us a chance for robust and well-rounded conversation. I can see the value of having everybody there. We have to try to stack appointments for people who live far away.

There is a code you can use for team meetings about patients, but you have to spend at least 30 minutes discussing and it must be documented. We have team rounds every Friday and we bring up the patients who are scheduled and follow-up for the position that following week and or

additional cases where we need to spend more time on collaboration and discussion.

We do a lot of curbside consultation. I saw Mr. Jones today; he is coming to see you next week here's what I think. We look at the upper corner next. Same approach, in the neck a lot of differential things. The shoulder is really key in the pain potentially also insane with neck and knee and shoulder.

We will look for referred pain, myofascial, facet joint, peripheral joints and shoulder. Radiculopathy, myelopathy, peripheral nerve such as entrapment and neuropathies. For inspection and checked the had inspiration, head position. Forward head carriage versus neutral. Scapular motion if it is normal versus disk analysis, are they in a gallon, tank top or without shirt? Have patient of [Indiscernible] shoulders. Can add wall push-up. Symmetric movement of scapula and winging. Here is some spine anatomy. You want to touch some of these things. Don't poke them hard. It can be therapeutic. In the shoulder these are your landmarks and be able to find them because once you know that you know your origins of insertion. In the upper quarter you can have myofascial structures that will mimic symptoms. If somebody has read any pain down the arm, does that mean it is the same? If you can poke the structures and reproduce their symptoms, then we are starting to think further away. We have had a lot of people where you may have trigger points in more than one area.

Have they palpated elsewhere because maybe that is not the issue? These are good things to look at. In the lower extremity we want to look at myotomes. It will give you a clue as to what is happening. Reflexes, looking at biceps and triceps. Some of these are easier than others. These take practice. If you're not comfortable confident, find anybody who is and start doing reflex hammers. This does take practice. It surprised me how uncomfortable some providers are with neurologic screenings. That is okay, we lose what we don't use. We do have upper motor neuron pathological signs. Asymmetric presence suggestive of insult for brain, brain stem, spinal cord. What to do if you find asymmetric Hoffman’s? Are there other pathologic findings that correlate? Upper or lower limb hyperreflexia and ankle climates. This is one that gave us a clue for people who had MS. Practice that test and figure out what is wrong.

If you find it in the uppers, you want to go down and corroborate and seize their hyperreflexia happening? Sensory testing, this is one that is useful, I think it is less useful than some of the other neurologic tests we use. I think people don't always follow the pattern in the book. Cervical range of motion. With extension you want to see if they can get parallel to the ceiling. It is not necessarily pathological. In rotation, 80 degrees is a lot. We want to see somebody over 60 degrees of rotation. These are some tests for looking for radiculopathy or potentially stuffing the neck. You don't have to crank on people to do this. It looks like they are putting a lot of force, please do not do that to people go gradual and slowly.

That is not a way to build therapeutic alliance and trust. There is a cluster of tests that look at cervical range of motion. That can be a nice use of some of these tests. There is lots of stuff out there that you can look up online.

Early in my life I was deftly putting on pressure and I pretty much don't. I have patients turn as far as they can. Then have them tilt your head backwards. And then have them hold it for 20 seconds and are you developing anything down your arm and use that information.

As far as the shoulder, we talked about pain that can go through the shoulder. We are focused on the left column related to the main areas. Is there evidence of instability? Doesn't feel like there shoulder is going to pop out? as far as myofascial took a look at the things you want to palpate. [Indiscernible]. Shoulder range of motion, these are the norms. You want to go gentle.

We will have them live there arm as high as they can. There are couple of tests, external rotation, strength, external test is another one. We will help you. We can talk about it if there are questions. Summary wise, we talked about this it is all the same stuff. Focused examination, opportunity to develop a relationship with your patients. Can be efficient. Clustering of exam findings can help direct you to likely pain generator. Help to identify impairments that underlie primary complaints. Aids in treatment planning. Your ability to document is super important.

The other thing is that there is a study that looked at just even the assessment for back pain. They look at people's fears and reaction a small little case study. We see that there is therapy value in taking a thorough history and letting the patient tell their story. There is value in a really nice physical exam. It is thorough but thoughtful and not doing all the things just because you have this list on your exam form. You're listening to the subject and basing your exam on that. And taking the time to highlight the positives. Every time I do a neuro- exam and things check out, I'm saying this looks great that tells me there is nothing wrong in the way the message down to your leg. Your body is doing what it is supposed to do. It is priming the patient for helpful placebo and setting expectations and to see that not everything has gone to crap. Which is a lot of patients with persistent pain just think their bodies have [Indiscernible]. Taking time to highlight the positives in taking time to link what you are finding. You are linking some of those findings in with what they told you in the history, and then think about what that does to validation? And then you can educate them.

All of those things are just setting the stage and the more the first-line provider can do that, the better you set up the team for success. Before we move into treatment, we have questions. Please if you think of us, so traditional treatments what is interventional style. Biomedical treatments impressive. That doesn't mean patients don't benefit the vast majority as a standalone it is not enough. I tell patients I don't fix anything with the needle. You have to do it and we can I make the noise quieter. One of the issues we run into the complexity of pain in everything involved. Whether it is the periphery, [Indiscernible].

You start getting the changes in the entirety of the system can be more sensitized. This is the underpinnings for everything. To varying degrees. The more sensitized something is, probably more severe it becomes. We don't see a lot. I don't see acute things as much as chronic. A lot of what happens is you have brain and memory in the system is uncomfortable for a long time. They flare back up. It starts setting off alarm bells. It is important to understand how to help people in front of us. This is what we run into. This is the biomedical model of pain. Your symptoms, you have a diagnosis, treatment, and you come up with a cure. You give them an antibiotic it gets better you never have to treat the pain again they are done in a problem is in chronic pain, it is not really a thing because we struggle to find a diagnosis that has a specific treatment that cures it.

We don't care chronic pain very often because we don't care chronic pain. The reality is curing it is not making the pain go away it is improving the quality of life and function to give them quality of life. The pain has lessened and able to function better. Then you have people who want to fix, it is very difficult. Try to educate to make the anatomy change or to fix the pain to lessen the noise and impact. We talked about this already but the bio cycle model tons of different graphics. Pick whichever one you like. All of them impacted. It is not eliminating the idea that there is anatomy, that is real. It is contributing and they have a ton of sensitization with a catastrophic life going on and a history of abuse and lost her job and struggling, it is one of the many factors that contribute to the pain.

All of them contribute to varying degrees and every person can be psychosocial. You need to assess all of these factors. We spend a lot of energy at the bottom three boxes, and you have to do a decent job of getting a sense of what these factors contribute and then figuring out how you get the patient to the right place to address the factors. Here are some quick bulleted stuffs that are conditions. This is from the guidelines. The references down at the bottom. For any spine pain it holds true. They have these long lengthy guidelines that are designed for spine pain. It is uncomplicated. It means no significant deficits, no weakness numbness and tingling and thinking this is axial pain what do you do? Reassure. Educate, do smart treatments and get them back and active. Get them exercising to a lot of the stuff we said and we could probably have the entire talk on this, it would be a boring talk so we learn to make sure these are the concepts that they really kind of hold true for a lot of the pain. And reassurance in education addressing avoidance encouraging activity of the mainstays for chronic pain across the board.

It is not as simple as just telling somebody best. It may be that somebody is afraid and so now you will need one of your teammates to either also step in and reassure and educate. There is repetition that has value in it, if you can sprinkle it in at the beginning and even if they are not buying what you are selling, at that moment you can tap in another teammate, and they can see them start to see it in a different way or reiterate what you say we start to break through the barriers.

I was thinking back to last week I was seeing a patient who I sent to PT and psychology for multiple months and they said the psychologist is the only person that ever told me this stuff related to fear avoidance and activity which isn't the case because I had done it six different times PT dated but they always hear from the first person in the second person it is repetitive messaging. And then kind of look for crack in the door where there is insight there and the psychologist in this case was [Indiscernible] but also somebody that they just meshed with. Sometimes they don't mesh with every single provider that is okay. They don't absolutely love me but if they hear what I'm saying we can get you to the right place.

This is a nice slide. This is from the 2008 Spine Journal article. It is ridiculous how many things are listed. The funny thing is the stuff we should be doing on the scorecard it is like a lot of the other stuff is a massive amount so again, activity modification and reassurance. Those are the big things you want to do. It is all the same stuff and there are bunch of options to go to with varying levels of evidence. The interventional stuff [Indiscernible]. It is an idea there are host of ways to go and you have a good sense of overarching evidence you can guide patients the right way. You don't want to guide them to treatments likely not help. That's one of the worst things you can do patient struggling, failing a treatment that you told them will help them just breeds more fear. The imaging idea finding things that nothing can be fearful you have to set them up to succeed and lay the groundwork correctly so back pain [Indiscernible]. Paint the right picture and set up for success.

Here's the other stuff for chronic pain. Pharmacologic stuff, anticonvulsants options there are some. Gabapentin is reasonably safe. People have a lot of cognitive impairment. The data on these meds for neuropathic pain is pretty good for their pain conditions not so great. They are in the guidelines for sure. For lower back pain but it is not good.

As far as neuropathic pain antidepressants turning back. Most of the studies on the [Indiscernible] because the older ones they studied the reality is they are used more often. These can prolong the PT. You want to be careful. Duloxetine is an option for neuropathic pain. By it can be helpful for neuropathic pain and decent evidence of back pain. They suggest or recommend the current duration of the [Indiscernible]. Chronic musculoskeletal toll pain, not appropriate globally. Muscle relaxants are messy. They don't do a full-on relaxation of the muscles. There is only one that works. It is not used [Indiscernible].

The rest of the muscle relaxants generally are central nervous system depressants. They are making you sleepier. So, with acute back pain or skeletal pain it can be helpful because it gets people to rest. After a week or two there is no evidence for further use. [Indiscernible]. If you will use them, use them short-term. People unbearably on medications like this short use get started and they never come off. Starting from at a sword amount giving a couple maybe 7-to-10-day prescription the telling patients to not do this long-term. [Indiscernible]. Muscle relaxants are the best way to do that.

This is a physical therapy and exercise slide. Exercise, exercises like smoking cessation it is hard to get to buy into it even though they know it is good for you, and this is where your motivational techniques common. In helping people make positive change. Or building physical activity into their life the great news is that when they look at exercise can there is no one silver bullet. It is really whatever somebody can and will do them and will do it consistently. If yoga is their jam, great have them do it. I don't buy into there have been some studies that say that yoga is awesome for low back pain, talked about data pelvic pain in the previous data for low back pain is not great so now it is flipping around the other way. It is very mixed, there is no such thing that direct correlation between poor weakness and low back pain where people who are phenomenal athletes who are, have very strong cores and have low back pain. That is not the silver bullet.

We have a lot of people who say it makes sense that if you adjust the core of the back pain and will get better that is one of those where you set people up to fail. And you can give them that placebo and say you need to strengthen your core and they go and do a bunch of core exercises and the lower back doesn't get better and they safety exercise does not help. I want you to be powerful about that and really just staying active and being active is really powerful medicine. Movement is medicine.

There is some [Indiscernible], I think that flips back and forth. [Indiscernible]. Find what fits in their lives and is accessible and have them do that. There is some evidence for Pilates, tai chi, yoga and now we are reviewing it again for the next low back to guidelines and [Indiscernible]. Does it mean don't use it, in fact if that is somebody's jam, use it. And I think it has some benefits for people. It layers in movement and mindfulness, and I think anytime we can double up on those things, I think that is better. That is my opinion. I think people, I like strength training because I think that people inherently RD, people in pain become deconditioned because they become weaker function, I think it is the quality and health of the tissues and I think conditioning with strengthening is a good move.

Before we get into the intervention I will put in the chat, patients who have been taking muscle relaxers for months and years so they be tapered off and my response is not necessarily that you have to decide risk benefit. If these are working, you want to define function.

If they are coming in is still coming in with low back pain I don't know how well they are working. There is a balance. If there stable and doing well, it may be a win for the system we on a low dose, Flexeril remember [Indiscernible]. You want to be careful with that if patients are older or counseling for serotonin. I kind of leaned toward [Indiscernible] because it literally is designed as a depressant.

It metabolizes which is a barbiturate and that's not a good medicine to be on at all. It has a lot of side effects and issues and addiction potential, so I do not recommend that, and some people are really big fans of that, but it has a lot of issues with potentially lightheadedness and dizziness I tend not to be excited about that. Maybe low doses vocationally if you've tried other things and failed but that would be

it. Those are the ones I use on the short end if I'm thinking this is going to take me longer than I personally like the patience to be on. I don't know that I have written for in 15 years at this point. As a PT I get really nervous when my older patients are on that because I start to worry about falls.

Keep the questions. So, the injections for low back pain not a good option. We should not be using them for axial low back pain. If people have radicular pain the best description, is they may be helpful in the short term. There is not good data at all in long-term benefits and when I say long-term, beyond a couple weeks. Whether it's the guidelines there is last year there was a review that came out about basically said there is probably a short duration effect which was like the best thing they could say which is not very impressive. It sounded like there is a short-term effect.

They don't seem to do a lot from a cost-effectiveness standpoint. They have no grade they don't functional benefit. Again, people can engage in actually things that help rehab therapies activity exercise. If you're using it as a bridge it makes sense and if you're not using it as a bridge but as a standalone it is not the greatest treatment to do and patient are always looking for effects in your educational that is critical because if it does not help would be frustrated and my biggest pet peeve is whether it's here or anywhere I will tell people it's going to work for 2 to 3 months. I never say that the work for 2 to 3 month if I can get 6 to 8 weeks out of it I'm super excited and that's like anything you're definitely never 6 to 8 weeks.

I would be careful to even put a time parameter in a concrete way because patients are coming to see me and they will say yes, coming up in six weeks, this is getting worse right here. Ever the caution away from that. As a team sport I got a little epidural injection, I do. Not for me personally but I love to get patients in that window where they've had that in there feeling a little better and this is great, and we have created a opportunity to get us rolling. Or if I'm really hurting, if they started with PT and I'm hitting a wall, it might be something I will go back to so what do you think about maybe doing this? Just grazed these gears a little bit. I think that works really nicely in tandem.

That's how I love interventional procedures. I think they really help create an opportunity or open a window for us to be really effective with the other treatments. I love pairing them. We work really thoughtfully I think in our clinic related to timing and pairing of interventions with active therapies.

I just stuck a quick note to giving the evidence on their about that and I still use them. Nothing don't use them. It is just realizing the limitations. We should not talk about them as a cure all because they are not. And no two patients look the same which makes it a very complex study to tease out in studies. There is a question here.

So, related to sleep for any of the medications I think but definitely the muscle relaxants for sure are one where what is it providing for a benefit? If they have been taking it for years and are able to exercise

more and are able to be active that's different than I take it for sleep which is off, then what happened so I definitely agree with that comment.

There's another treatment that's done for axial back pain and it can be effective in the long term. The data on it for low back pain is okay-ish that's the most kind thing I can say and for the neck pain is actually much stronger and for the neck pain it's headaches and for axial neck pain and cervical the number needed to treat for one percent relief that is six months so for every two people you get it's going to be pretty good relief and lower back pain it's not so good because it is messy and that's a lot cleaner and a lot less struggle so just recognize those limitations. Does not mean you should not consider it. A lot of things with the frequency is there is a step with that which is a diagnostic step and if it is done well and correctly as part of a more broad treatment plan it is a pretty safe procedure and you can get information of how much maybe that's a 100% relief may be rare but if you're getting 50% to 70% relief that makes a lot of sense maybe but then it should be some other treatment on top of that.

And acupuncture, that has been in sort of when talking -- we added the slide yesterday but headaches which is a little bit different but in chronic back pain pretty good data for intermediate-term, short intermediate benefits for pain.

This is pretty exciting slide. Behavioral stuff, we talked about this importance of psychology so cognitive behavioral therapy is good. Mindful and stress reduction is good and for low back pain there was a couple of studies done there was an initial study in a follow-up to your study couple of years ago the look of cognitive behavioral therapy and that found that to be a equivocal both efficacious but there was not one there was super strong which is good because that gives options not all patients wanted one thing so giving him a shopping cart above of options may be a more simplified one. So here are the options we have been talking about how you get people to cognitive behavioral therapy and how you get them to the treatment team to do this is important and I'm not doing cognitive behavioral therapy.

My goal is to convince people that this is a good thing to do and this is good for you and your nervous system is irritable for lack of better term than we will be in treatments to get that irritability to be less and less of these treatments have been shown to be helpful and to help your disability and that's all we're trying to convey and get them to do that. And the other thing is compared to everything else we talked about for treatment and we purposely left off the opioid slides, there is no risk associated with doing this stuff. The medical risk is basically little to nothing. Again, little to no medical risk. Is just getting people engaged and part of their treatment plan which is hard and the buy-in is tough but if you can get them to be engaging, they will do much better for sure.

So education for patients that is part is a model to validate and educate there is really some mixed evidence out there. There is some data that shows when we help patients by educating them help them manage expectations, it really helps to decrease the fear and catastrophe

station. There is some data that shows that it improves managing expectations through education and improve their satisfaction with even postsurgical outcomes, so I think there is value in it. We are still having a hard time identifying what exactly that delivery mechanism should look like. There is language or certainly data out there that tells us what not to do and it's not to over pathology I not to over medicalize and not to scare people and when we fixate on jargon and pathophysiology it scares people. They don't understand it well because they're not medically trained, and they perseverate on it and you can start to create problems in your treatment plan even for years to come.

There is a study by Ben Darlow and a few others that looks at essentially the lingering impact of what medical professionals say to patients. They believe you. They trust you more than their neighbor and they trust you more than Google and they trust you more than even their own experiences. If they've had a neck sold of low back pain and they did fine and you come in and say you got the spine of an 80-year-old, chances of them doing fine with this episode of low back pain goes down precipitously. We have to look out for the language we use because it can instill no Siebel which is placebo's evil twin a much more powerful so you can entrench the recalcitrance to treatment into patients we have to be really careful not to do that and it is harder than you think.

Simple jargon that we might use or think of examples that we used to try to explain the patient wear and tear. If we talk about wear and tear and the evidence for best treatment is movement if we just described it as wear and tear, do you think the patient wants to move it? What are they envisioning every time there walking around or moving the joint? It is wearing and rotting away so we have to be very thoughtful and careful about the words. And then we have insufficient evidence related to what kind of education and what role it plays in functional pain and we do know that when we scare people, they do worse, so I think that is really the take away related to education.

The other kinds of treatment out there you can look at multidisciplinary treatments and multimodal treatments so when we talk about multimodal we are trying lots of different things. There is a time and a place for doing sequential treatment and were going to try this and then this anyone to be really careful to not make the next step in treatment or something the patient really wants, which is often a passive treatment like an injection contingent on failing something that might be active. We got a lot of well, will give you an injection in the shoulder if [Indiscernible] does not work. You essentially just put the nail in my coffin for what I'm going to do is a PT. Or we're going to send you to psychology and if you don't get better, we will look at this medication. Well, again you set them up to fail probably.

Looking at multidisciplinary that can mean we are bringing in other professionals and restart to bring in more and more numbers of the team to do these lots of different things and nothing that provides a richness the treatment and options to treatment. There is some discussion in the literature related to multidisciplinary versus interdisciplinary and I want you to think a little bit about multidisciplinary as this kind of parallel play for you might be seeing PT and you might be seeing

physiology but they're not discussing and collaborating on your treatment plan so as we go along these ideas in these concepts of multidisciplinary interdisciplinary and transdisciplinary the levels of communication increase in the levels of collaboration between professionals increase in the level of trust because you have to have a my high models and high trust value if you're going along from interdisciplinary which means I'm relying on you to support these treatment goals that we have agreed upon with the patient and I'm relying on you to do your part and when we get into transdisciplinary which is high functioning teams where I maybe as the PT doing elements of SNRI.

CBT and the psychologist may be doing elements of physical activation which I think is great but you have to really have a high trust model and high communication model and your providers need to be experts in their practice in order to grow and assimilate and go sharing increases as we go along and the integration of skills. Away from just your basic skills goes up as we move along in these different models of pain care.

So, there is something I learned after working with the DOD colleagues Functional Restoration program and these can all differ and I will give you some base definitions if you will so functional restoration are often used in the DOD and have seen them in some more common situations where you're trying to return somebody to their previous activity. And you might be returning somebody to the same job and they often are physically activation base but with a great approach so we start low and we move along slowly and grade up people exposure and their activation and there is often a behavioral health component but if we are looking at the distribution it might be 70/30, or 60/40 physical activation to behavioral activation.

So there's often a physical activation piece and there is a behavioral modification or behavioral activation piece. It often will flip in that there might be more of a focus on the behavioral activation or behavioral modification piece with grated physical activation as part of that as well. And these can look like a lot of different things. You might have PT psychology, OT, you might have a number of different providers on them. These can vary in intensity and what they look like some are inpatient and some are outpatient, and they can be outpatient intensive they are programming, or the can be spread out over six weeks and six months. We don't have any good information in the data about dosing so who needs intensive six weeks of therapy versus who needs the same interdisciplinary model, but it can be spread out over six weeks once a week for two hours. The risk stratification tools will help us related to how much and what level of intensity or how much of that multimodal mold that is very care might be needed and people on the start back score in the highest category and they probably need more of these pieces of the treatment plan so they might need physical activation plus behavioral modification or behavioral activation so that they tell you that they might benefit more from a more intensive program versus not but otherwise we don't have great data.

Some is looking for PhD study work I would love for you to do this and help add to the body of knowledge. This is essentially another way of showing what we showed at the beginning that pain is complicated and we

can have no deception and we can have pain but nociception is neither sufficient nor necessary for pain. We can have pain without peripheral deception, and we can have peripheral nociception without pain but there's all sorts of stuff that goes into it. That goes into the actual pain experienced. Without processing up top you don't have a pain experience. Some people say no brain no pain. Just another way to look at it.

Now we will move on to counseling but I want to check and see if there's any question comments or thoughts. Before I move on to this next section. We have alluded to a lot of us already were the harmony with the heel and your words are very powerful and empathy is something we have not talked about quite yet. Goes into therapeutical alliance and report and it's actually caring about what your patient says and being able to sit with him.

Sympathy is more saying that really sucks that that's happening for you and empathy is let me sit with you and without and this sounds really happy. There is a subtle difference but it's more being with the person as opposed to standing outside of that and saying that sucks.

Talking about the role of the central nervous system you have to be very very colorful with that and that you don't say it's all in your head and even if you do this perfectly, like an education and then John, patients may still walk away with that. Our providers and our clinic are very good and we have worked together so long and none of my providers would ever say it's all in your head and yet I still have patients who say he told me it was all in my head. Well that is clearly what you walked away with. I don't believe for one minute that he said that. You want to look for opportunities to create hope. Change that there is an opportunity for change and tomorrow is different than today and next week is different than today, I think. [Indiscernible - audio cutting in and out]

There is some temporary rotation is making the system more dangerous. Is it perceived to be dangerous? Yes, because it sent to [Indiscernible] It is sensitive to remind to put on sunscreen and to wear long sleeves when you're out in the sun and i want to learn and do different. There are things that you can do as the patient to influence the sensitivity of the system and my message to providers is that there are things you can do to influence the sensitivity of that system. What we talked about knocking down the noise and I talked about the language you use. If you scare people you're going to increase the sensitivity of that alarm because now there are more threatened so we want to use language that helps decrease the threat value of what's happening to them. Or happening around them.

Helping people understand that persistent pain is complex and your nervous system changes in response to pain that goes into that linking the [Indiscernible] and with her experience. The alarm system and the central processing center both change and become more sensitive. We need a plan when pain is complex there is not one simple fix. It's not going to be the epidural. It's not going to be core exercise. It is going to be ways to address the bottom-up so is there a peripheral generator? If there is, let's do that and let's unload that tissue let's decrease the noise in the periphery. And we also have to look at the top down issues.

We have problems with descending modulation. What is contributed to that? Is it that they are not sleeping? They have mood problems. They have anxiety? If we can do bottom-up and top-down and it takes a team to do that effectively, we have a better chance for success. All of the treatments are geared towards decreasing the sensitivity of the system and increasing tolerance for activity treatment that's aerobic, please undo that and if you don't think an injection will help paired up with an active treatment. I jokingly say I hold them but also involve me and engage to patients and their goals and refrain and pain-free is not the focus. And we have talked about is complex and it's a multifaceted approach is probably the way to do it.

Even if you go back a couple of slides this stuff here this is the stuff in order to sell [Indiscernible] treatments need to be as a provider or what level you're comfortable with this uncomfortable conveying it in a non-jargon eyes approach and whether the user drums slamming version analogy and also I'm usually pretty honest to patients and I was and if I get in my house and attempts to get [Indiscernible] asked the patient what happens to me? What happens to me and it gives you a sense of I will make it more interactive and telling them what happens and I asked him to say what you feel there? What you think happens in those scenarios and if they are heart rate goes up and palms get sweaty and have the same conversation if I'm in the alley shooting hoops with my son and that same dumpster [Indiscernible] 10 feet away you don't dump it at all and it allows you afraid that is your nervous system being irritable and that's what pain is.

Your system responding to and of noxious stimuli are not threatening stimuli as if it's a threat is what happened with chronic pain and refuse to train the nervous system and respond as if you're in the alley shooting. That is important and the better you sell it goes to the question of the comments down there which is how you make this not about is their head circle you have to generally pivot really quickly and will often do before I get a chance to do that a lot of patients now making something that's in there had. I think is in your head the flip side of bad as I'll be honest your brain is in your head and your brain is that they that manages all the noise coming in so in your brain is in your spinal cord and in your nerves that what's managing all this noise in your ability of your brain to decide what to do is critical to how much it impacts your life.

The other analogy I use because you're stuck in hospital most of the time when I'm talking to patients becomes overhead with a code blue and I was describing it as the most annoying voice everybody fast most annoying voice says Florida 3 section F I have an ability to ignore the patient and almost turned them into the teacher at peanuts and I will tell them I can ignore you for a little while you know you're talking I cannot hear what you're saying and I can listen to all the numbers and letters and when they say it's in the basement I can ignore the annoying voice but if you're bombarded with that endlessly it is hard to separate and parse out those noises.

Those type of analogies whatever you pick that is not specific to the pain but just talking about nervous systems sensitivity, irritability, is

good to provide background and context and it also gives you as the provider an ability to gauge inside is this person super concrete and are they well but I have an 05 L5 disc and your like man, that is -- did we lose audio or are we still okay?

Can people still hear us?

We have a chat from the people that help run this. Your ability to define insight understanding of broad concepts versus being concrete will help you define where you go and the other thing about selling active treatments is I tell people all the time of the parable used car salesman trying to convince you to get into the car you really want to get to. And trying to sell you a 1998 Ford Taurus would like to people sitting backwards in the seat and that's the treatment you need and I have to figure out how to convince you this is the right thing and I will often tell patients at the end of an encounter if they are not bought in which is at least 30% to 40% of the time don't decide right the second. You probably don't want to and you're feeling like I'm forcing you and if I'm forcing you and you don't want to be there you're going to show up and you would be frustrated and don't want to go and you will be mad at me in my whole goal is to help you get you plugged into the resources that allow your nervous system to be quieter putting a little bit of the onus on the patient here is the options and here is what the pick from and here's I think I think are the right things by have to be the places them yourself so as long as you give them an opportunity to take ownership of the process and often they will come back and say -- or it may take them a couple of minutes to come back and the one common which is never make active or passive treatments contingent on after one is an important one that's not a good idea. We try really hard not to everything don't. We will do a whatever injection or whatever treatment. It's not a good idea. Always talking about things that we do passively to allow you to engage in the things that provide long-term benefits and are proven to work and that is the stuff we really want to spend time on so the more you get comfortable presenting that in different ways and you have to adjust depending on the individual the more successful you're going to be. It does not mean you will be successful all the time, but you will be more successful.

I agree. Essentially words that harm, metaphors that explain complex concepts and readers talked about some really benign metaphors but what if we use wear and tear and the widow maker when talking about somebody's MRI or who has a blockage work with you think that makes them feel hopeful for their longevity? No it does not and does it really help them to scare them ask I really don't think that kind of shock value is really helpful for our patients. The results are. Is it influencing? If somebody takes with their agency and their ability.

I think one of our participant is trying to sign back in via the phone so that creates a therapy biases are to limit their choices and take away some of our agency is a human we don't want to do that and when you scare people and when you use a jargon that they don't understand you start to get ambiguity in your messaging and that leads to confusion on the part of the patient in that way it limits your ability to participate in their own care.

When we think of words that we adopted a patient and if I have somebody who's really into I have metaphors I worked on to match patients background their age and their experiences and what they tell me in the subjective authority piecing together the examples and words I'm going to use when I go into my education or when I'm going to explaining pain to them.

Again empathetic and being okay with silence is really difficult but people with pain need time to process so just taking a beat and being quiet and letting them think and giving them a chance to come up with questions and to talk is a really powerful and it's a skill that I need to work on to be better at and it's something I have worked on and I am intentional about in my visit with patients now. It really gives time and works in building that therapeutic alliance.

We talked about the language of things and want to stay away from no pain no gain. It's actually not helpful if somebody is coming with persistent and bothersome pain and you say well, no pain no gain. That is not helpful there's a time and a place for that and I will tell you that does not belong there but also on the flipside that whole listen to your body if it hurts, stop. Also not helpful in the persistent pain population because they heard all the time if you tell him that, they will do nothing. There is a that balance so some of these little mantras. We want to stay away from words ripped, torn, bulging, degenerative. I hates [Indiscernible].

If we want to use fatigue, sore, the conditioned, even the conditioned is a little bit on the bubble for me for the right patient at the right time okay but we talked about this 1 million times now making it passive intervention a component of care and not contingent on feeling something.

We have a case study I want to go into but we will take a pause here and see if there are questions or comments. I think I saw anything.

Not so far. As we walk through this case send questions in the chat as are going to our thoughts about the case or even the stuff we covered so far and we will probably be about 10 minutes as we walked to this case and he won't have a chance for an open discussion as we go through so this is a real patient so it is not totally made up so sixty-year-old male veteran coming in with a complaint of low back pain, hip pain and foot pain. In the initial history pain and low back has been since the 2000 and they ultimately have a laminectomy in 2005 and we were pain-free until they fell off a ladder and after that they had increased back pain and suffered a mild TDI for that and really right off the bat tells you I'm tired of therapies. I've been sent to therapy over and over and over and I want to know what's going to be done to fix my pain which is always a hard starting point so we will talk about that they were not going to know that comment.

Pain across low back is this objective report we talked about that and pain is achy and some occasionally sharp but generally achy and worse with more activity but nothing specific and I cleaned out my garage this weekend and experienced a significant increase of pain and I do not know

and generally they can be really mild if not active and I had to go to the EDB for a couple of times so I ended up and the pain is interfering with sleep and ability to do things around the house. No red flags really. The only red flag is pain would rest and that's not really an isolation. The rest of these things in confidence and weight loss and progressive weakness those are actually fine.

So we check in our clinic that's promised pain interference score so the promise is designed and skills and there's multiple types of scales and there is a short and a longer pain and this is the short form and we cover this with all her patients and they get it on the front end. They see the physician for the evaluation and whichever one of the rehab teams sees it as a last touch point and we checked this to help demonstrate their doing well but also that were showing some improvement. It is a 1 to 5 scale so not a lot interference across the certain areas recreational activities significant interference and enjoyment of life and other things that are most impacted by pain. Pretty involved and significant cardiac disease with stenting and diabetes and hypertension and sleep apnea.

From a social standpoint not a whole lot going on. Continues to smoke otherwise married with a good supportive network and was an airplane mechanic before and not working anymore. This is some of the stuff about treatment. You have multiple rounds of therapy where you have gone for 10 visits both within and outside of the VA and he traveled outside once in the past without any benefit and they have done the chiropractic treatment and he tried different injections and acupuncture without any benefit and some of this has initially helped for a short little bit and then it had been previously on opioids hydrocodone up to 2 to 4 tablets per day and was taken off by his primary because he was not getting benefits and is still coming in with a complaint of pain so walks in the door, taking Tylenol and other things for his pain.

The exam is notsuper exciting. Has gate with [Indiscernible] and strength is five out of five and has a clonus and a slump. Low back exam mildly reduced in extension and diffusing lumbar paraspinals with mild discomfort and the hips provocative testing was negative and pain with resisted ER bilaterally and the glued media source provocative for him and on the left side more than anything at insertional tenderness that comes into the hips and joints and a little bit of sciatic on the rights of not finding anything like hyper specific, but it is there.

This is his MRI. If you see the MRI here with a bunch of questions so upper lumbar spine pretty unremarkable as you get into the mid and lower lumbar spine and he's had a laminectomy on both of these pictures and a couple of levels of multilevel of degenerative disease which is what the MRI reads and some stenosis and a couple of levels here and that is what the MRI red is the stenosis at L 2 capital three and advanced degenerative disease at multiple levels.

One of the things we try to do is to reassure him. He received this report and Becky blurred into the chat one of the comments which is radiologist's always use the degenerative term and she put two links in their there is data that the jargon and the terminology and MRI reports

is going to be harmful and Becky talked about that earlier it can increase fear and opioid use and it is not really good so there is good radiology re-literature if you put some qualifiers that these findings can be seen in age-appropriate people and what percentage of people who have no pain that qualifier can be helpful in reducing fear and the other part is we were trying to reassure the guy so you have stenosis but you don't have any shooting pain into the legs and weakness in numbness and tingling so while you have it, it's probably not contribute to your overall pain pattern and your pain is more in this one of the hips more than the others, it is not specific or bilateral.

You're trying to explain that the MRI is not where he summoned, he wants a fix and he's found anatomy that needs to be fixed and back in the day surgery was not fixing so why are we fixing them. This was a construct that we have seen over time. He can walk but he cannot go very far. He cannot go beyond the block and he's very frustrated by this. It is hard to find the time some not really exercising. What you do now you get this patient sort of low back and hip pain and is not one specific targeted thing. He has tried the injection even though the scenario he has pain, and he tells you this stuff.

The background and he tells you not really doing the exercise because it hurts to do the exercise and I cannot walk farther because it hurts to walk farther. When I type in the chat any idea on what you do now flex any idea on what you do now?

Aquatic therapy that can be useful if it is novel and if it's a way to get them moving and get them exercising and something that they have not tried yet. So ask what you can do.

I think this is an excellent opportunity for motivational interviewing related to readiness for change and ability to make change. I see a couple of other comments.

It is a lot of what we did so what do you like to do and what are your hobbies, and this is one of the questions that Becky mentioned earlier that is the for everything I learned in fellowship was what is the last thing you did for fun? That very much elicits an emotional response in a lot of cases and it's a question that if you have never asked it and if you have a complex patient is a very reasonable question to ask because what you often get in the person was giving it 20 to 30 minute story in great detail is a pause and an inability to name something they have done for fun and that people stop and put their heads down and tear up enough people just say what you mean? I cannot even tell you the last thing I did for fun. Which this is an opportunity to be empathetic and to say that is not great. That is sad and were going to be there to help you and we want to change that answer and we want to be here next time and ask you that question you will be able to list things you have done and want to be able to change the approach to that answer and it gives you an opportunity to get your foot in the door when you otherwise have been running into a brick wall and we definitely looked at motivational interviewing.

We spent a lot of time talking about what have you done for fun and what are the things you can do but also talking about why he is not exercising? What are the things that are keeping him from it and advancing the sky for two years, in and out sometimes virtual because of the pandemic and he vacillates between being incredibly frustrated and very receptive and I think a lot of what happens is in the moment when I have my [Indiscernible] here's the messaging and he's back in his setting is very frustrated.

I understand that and we had a long conversation about when is the last time you exercised? You tell me don't exercise. When is the last time and he was like 1970? And I was taken aback, and I said, 1970? And he said yes that was in the military otherwise I don't do anything actively, so we had a long conversation about why and really that was the first time he said I don't have the motivation to do it. I know what I need to do but I don't have the motivation to do it and that was the first time he was willing to consider pain psychology in any other time would approach the subject he was pretty resistant and he's like it's not in my head. You need to fix this, and he was hearing that activity and exercise was the right thing for him. He was not fighting that idea but he was fighting himself, the motivation so getting that we had originally said we don't want to get you plugged into PT for the 95th time if you're not interested so that's a loss for everybody but he ultimately just the idea of talking about motivation was willing to see a pain psychologist and I do not see the pain psychology is going to fix your pain. I said he can help you with your motivation and that helps you be more willing to the activity and now we have a whole host of things to do and he had his spouse to get along that well and now does not work so well so anytime the spouse is there 100% you involve the spouse and the corroborating as long as they're not fighting with each other if the patient said they are able to do office stuff I will often be like I will peek over to the side and I get a different answer that is helpful and you can talk about the boom and bust stuff that occurs with a lot of people where he was talking about I clean the whole garage in one day and one afternoon and we had a conversation about this is what normal people do you feel good and you overdo it and when you overdo it and the nervous system is on high alert, it tells you know you activity and you get into the cycle of if I'm going to activity I'm going to hurt and if it hurts don't do it kind of thing that he was talking about so these are all things that how you convey them and motivational interviewing I think I'm guessing [Indiscernible]is a pain psychologist but if not, you speaking of the pain psychology language. That is a tough skill and there you go. I figured as much. I think those are probably things to learn how to do and as a physician doing pacing and working on the functional thought patterns is hard and your goal is to get your foot in the door and get somebody and get them to the right place. That's another question. That's our last slide.

We want to put in the chat a couple of articles. One gives examples of reworded MRI reports to take out some of that negative language and when I get into this conversation with some of my physician colleagues they worry about medical and legal issues. Read the things that you don't have to put degenerative in there is a misnomer. One of the things that I have done in my clinic is come right out and said I really think it's unfortunate when I see degenerative disease or degenerative joint disease

in the chart that probably does not sound very safe, does it? And then I will say well, I have shared I'm going to use a little therapeutic [Indiscernible] right now. I have degenerative face disease and people can stop and look at you funny so you know, as our bodies change we start to get wrinkles and gray hair and these things are seeing on imaging are the wrinkles on the inside. We are not worried about them. There are things I can do like smoking and being in the sun without sunscreen that might accelerate wrinkles in the skin and there are things you can do like inactivity and unhealthy habits that can accelerate some those changes in your joints.

But that does not mean that that has to hurt and that's when we sought to share more about that epidemiologic data and these changes can happen and might that be part of what's happened in part of your pain story perhaps and if that alone does not sentence you to an inability to do your stuff. To do the things you wanted to engage and have fun. I really stay away from describing things as degenerative and I say something is sore and there are some changes on imaging.

But what does what is the relevance? So we will talk what relevance and there's a question here so our clinic we have both à la carte stuff so that we are clinic works is that will come in and they will see the physician first and they will work on here are the options that we have for you within our clinic and that can be a lot of things or if you just want to start with one thing let's do that so we have PT, OT, wreck therapy, pain psychology, pharmacy, intervention and chiropractic care within our clinic so people can see any or one of those. We also run a pre-tran31 we have an intensive pain program that is a four week program that we run it's a day program and they stay at the facility on campus they're not technically inpatient so they have to be independent so we will run that and that's an intensive program and we also in COVID we pivoted and we offer a virtual pain 101 which is less intense and it's two hours for six weeks. And it's still an interdisciplinary group.

Interdisciplinary approach-based setting. So, there is more to that question. So I thank God there is a lot of power in groups especially for this population I think is getting a lot of commodity. There is skilled at facilitating groups and making sure somebody does not hijack the group. I believe are psychologist are the most skilled of this out of our group followed closely by the OT's and the PTs we just come in and have fun and move people around. We keep them on their toes. But that is where that transdisciplinary stuff comes into play where I am much better group facilitator so I've really broaden my skills so CBT concepts.

Next question. The elephant in the room. You know like our pain rehabilitation program there is other ones in the VA except active duty. We’re not only for veterans because we've had active-duty from multiple places to receive the same services that may not be available to the smaller medical center and that's why they exist in multiple places that the right way to get them plugged in and if people want to get out of the military will probably not be able to rehab them significantly but you also want to give them a chance to get better so you want to find a balance.

And if you don't have the structure to be intertwined for your psychology group pick up the phone and email them and say hey you see Mr. Jones, can we talk about his treatment and what else are you seeing anyone else you think I can do and here's what I feel we need to do. Start to build those bridges. I coach all lot of our PTs that honestly work on a team and work on the primary care providers, and I think that really starts and takes some more work and it really does but I think the satisfaction you get in having those collegial relationships really pays out in dividends.

Thank you everybody. We appreciate it and it is not as interactive as it could be but despite that we had really great questions and hopefully you learn the stuff and our emails are in there. I cannot click on all the file stuff, and I'll lose my screen but if you have any questions feel free to email us. We are happy to answer and collaborate wherever we can.

Have a great holiday weekend everybody. Be safe and take care of yourself and take care of each other.