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Welcome to Fibromyalgia Facts: Foundations for Assessment, Care, and Treatment Strategies, the CME certified expert panel initiative jointly sponsored by the Mount Sinai School of Medicine and MBL Communications, Incorporated. I am Doctor Philip Mease, Clinical Professor at the University of Washington School of Medicine and Chair for this program.

Joining me are Doctor Roland Staud, Professor of Medicine at the University of Florida, and Doctor David Williams, Professor of Anesthesiology and Medicine and Psychiatry and Psychology at the University of Michigan.

In this interactive online activity, we will present 2 cases of patients with fibromyalgia and issues commonly related to the condition, with the goal of educating physicians and other health professionals on the particular concerns for patients with fibromyalgia.

One of the most common chronic pain syndromes, fibromyalgia affects approximately 5 million adults in the United States. Diagnosis and treatment of the disorder is also particularly difficult as fibromyalgia often presents with comorbid conditions and vague symptom reports. Utilizing case studies in addition to evidence-based information, this program will provide users further insight into the presentation of fibromyalgia and how to best treat the condition in patients with multiple ailments.

Lastly, before we begin the presentations, I would like to remind listeners that the fibromyalgia facts website contains additional resources and educational materials about this subject.

Our first case is a 42-year-old white female referred by her primary care physician because of chronic generalized pain, which has developed over the last 6 months. She works as a pharmaceutical representative responsible for promoting a drug for the treatment of osteoporosis. She describes significant morning stiffness that last at least 2 hours and involves her upper extremities, torso, as well as lower extremities.

Pain in her hands and wrists have made it difficult to unscrew jars and write frequently on her netbook. Pain and stiffness in her neck, shoulder region, low back, and hip girdle are troublesome and interfere with her exercise program, which includes a 3 times per week hot yoga class.

When she gets up in the morning she feels like she is walking on marbles. Her aunt has severe rheumatoid arthritis, thus she is concerned that this may be occurring in her. She has tried ibuprofen, which takes the edge off of the pain, but frankly has not helped much.

When asked about fatigue, she exclaims, oh my God, this is what really gets me. I get home from work and I have absolutely no energy left to help get dinner on the table for my husband and 11 and 9-year-old daughters. They are grumbling about what has happened to me. Her sleep has worsened. She gets up at least twice to go to the bathroom and she is quite tired in the morning.

Indeed, she comments that she is finding herself urinating more frequently and often experiences a subtle irritation with urination. Her periods have become more irregular and she is wondering if she might be going through early menopause.

Laboratory obtained by the primary care physician demonstrates a sed (sedimentation) rate of 47, C-reactive protein that is elevated at 1.8, ANA slightly elevated at 75 IU, and rheumatoid factor that is elevated at 128.

Physical exam reveals tenderness of her left second through fourth metacarpal phalangeal joints, right second through fourth PIP joints, and second through fifth MCP joints.

Swelling is present in the second and fourth MCPs bilaterally and both tenderness and swelling of both wrists, both ankles, and tarsi. A bilateral squeeze test of the MTP joints in her feet is painful. She has 14 of 18 quite positive fibromyalgia tender points.

Strength and other neurologic exam is unremarkable and essentially normal. There is no lymphadenopathy or rash. X-rays of the hands and wrists are normal.

Based on this presentation, what is the best diagnosis for this patient: fibromyalgia alone, rheumatoid arthritis alone, fibromyalgia and rheumatoid arthritis?

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Let us look at the classification criteria for both rheumatoid arthritis and fibromyalgia, starting with rheumatoid arthritis. Here are listed the 7 elements that go into the classification criteria.

A patient may have morning stiffness for at least one hour, simultaneous arthritis of 3 or more joints, arthritis of hand joints, symmetrical arthritis, and of these 4, they must be present for at least 6 weeks.

Additional elements include the presence of rheumatoid nodules, abnormally elevated serum rheumatoid factor, and radiographic changes typical of rheumatoid arthritis on hand and wrist films.

This patient displays the first 4, and since she has been symptomatic for at least 6 months, presumably part of that time with rheumatoid arthritis, as well as an abnormal serum rheumatoid factor, it is likely that we can give her a diagnosis of rheumatoid arthritis at this time.

Let us turn to fibromyalgia criteria. Here we see the 1990 American College of Rheumatology classification criteria for fibromyalgia in which to fulfill the criteria one must have a history of chronic widespread pain for at least 3 months and the patient must exhibit at least 11 of 18 tender points that have been specified by the criteria committee showing significant tenderness in such patients. This criteria yielded a sensitivity of 88% and a specificity of 81% in identifying patients with fibromyalgia.

An important point is that there were no exclusions for other diseases or abnormal laboratory or radiographic findings, so it certainly is allowed that a patient could have fibromyalgia concomitant with another rheumatic disease such as rheumatoid arthritis. And this patient has these elements including the history of chronic widespread pain and at least 11 of 18 tender points.

Now another key point about fibromyalgia is that there are often other symptom domains that are present besides the widespread pain and these include fatigue, cognitive impairment, sleep disturbance, morning stiffness, prior or current depressive and anxiety symptoms, as well as impaired social and occupational functioning.

And oftentimes, as well, other symptom complexes that are part of what we call central sensitization syndromes or central amplification syndrome such as irritable bowel syndrome, what is known as painful bladder syndrome or interstitial cystitis, temporal mandibular joint disorder, and so forth.

And one of the symptoms of this patient has been frequent urination with pain, which we would consider painful bladder syndrome, assuming that a urinary tract infection has been ruled out. And then, of course, she has had other symptoms and signs listed here including prominent fatigue and sleep disturbance.

So these clinical symptom domains should be considered along with the classification criteria. The prevalence of fibromyalgia is actually quite common. It is considered to be present in typically at least 2% of the general population in the United States and other parts of the world, which represents about 5 million adults.

It is more present in the female population than in the male population and it can affect people of all ages. It is commonly seen in general practice. One survey suggested that it should be seen in about 5-6% of patients in a general medical practice.

And it is frequently seen in rheumatology practice in up to 10-16% of patients either presenting as fibromyalgia alone or present concomitantly with diseases such as rheumatoid arthritis and lupus.

Now I mentioned earlier that there are frequently comorbid symptoms and syndromes, which have been called various things including, in this article by Aaron, et al., central sensitization syndromes, but which also goes under the name central amplification or central augmentation syndrome.

These are conditions in which there is significant symptom complaints, but not much in the way of peripheral pathology in the organ systems where the complaints arise.

Take, for example, irritable bowel syndrome where if you biopsy the bowel you do not see pathology, but there is significant symptom problems of diarrhea, constipation, abdominal pain,

and we are now beginning to recognize that some of the same central neuropathophysiologic features present in this condition may be present in some of the other conditions listed here, including fibromyalgia, as well as chronic chest pain, temporal mandibular joint syndrome, painful bladder syndrome, etc.

So these are often accompanying symptoms in these patients. In addition, fibromyalgia may be a fellow traveler with many other chronic diseases such as rheumatoid arthritis, lupus, Sjögren's syndrome, osteoarthritis; various infections and inflammation such as hepatitis C, Crohn's disease, Lyme disease, parvovirus infections;

psychological disorders such as depression and/or anxiety, or posttraumatic stress disorder; and we have already spoken about other pain states such as irritable bowel syndrome.

There have been a number of studies that have documented the frequency of occurrence of fibromyalgia with other rheumatologic conditions.

For example, studies suggest that it can be seen in patients with lupus, for example, in 30% of patients (that is the common figure that is often used), rheumatoid arthritis in about 17% of rheumatoid patients, up to 50% in Sjögren's syndrome in a study done by Peter Bonafede, and a study by Wolf and Cathey, up to 7% of patients with osteoarthritis may have fibromyalgia.

And then frequently present in patients with irritable bowel syndrome, migraine headache, and frequently in chronic fatigue syndrome. Fred Wolf, in his registry, has made some interesting observations about distinguishing the symptom burden of patients with rheumatoid arthritis alone, as compared to patients who have both fibromyalgia and rheumatoid arthritis.

And whether you look at clinical variables such as pain, sleep disturbance, anxiety, depression, fatigue, and so forth, patients with fibromyalgia and rheumatoid arthritis typically have at least twice as much symptom severity as patients with rheumatoid arthritis alone.

Also when looking at issues around disability, that patients are much more likely to be work disabled and this can be a significant burden on not only the individual and their family, but also the society in general if they have concomitant fibromyalgia and rheumatoid arthritis.

Recent studies have been presented at both the ACR and EULAR meetings that suggest that when evaluating rheumatoid arthritis patients, for example, with the DAS scoring system, that the DAS will be elevated more so in patients with both rheumatoid arthritis and fibromyalgia than appears to be warranted based on the patient's burden of inflammation from the rheumatoid arthritis.

So this should be kept in mind when scoring the patient's rheumatoid arthritis and especially when you are thinking about changing immunomodulatory medications.

For example, if you feel like the patient is in more pain or having more fatigue than you would expect based on their sed (sedimentation) rate or C-reactive protein or presence of swollen joints, think hard about whether or not the patient is just not responding to their rheumatoid treatment,

when in fact it may be fibromyalgia that is concomitantly present in that patient is very symptomatic and it would be important to treat that condition in addition to immunomodulatory treatment of their rheumatoid arthritis.

When thinking about evaluation of fibromyalgia in your patient, and in this case this patient with both rheumatoid arthritis and fibromyalgia, there are a number of symptom domains that should be thought about and assessed when you are thinking about treatment.

The OMERACT or outcome measures in rheumatology clinical trials, fibromyalgia working group, has established a core set of such symptom domains to be assessed in clinical trials and hopefully assessed in clinical practice, as well.

The key elements include evaluation of pain, tenderness, fatigue, patient global, which means all the ways in which fibromyalgia is affecting them, multidimensional function, and sleep.

Other important areas to evaluate include mood disturbance such as depression, and increasingly we are interested in the phenomenon of cognitive disturbance, which is often expressed by these patients as a problem.

And recent trials have suggested that some of the medicines that we are utilizing and have been approved for the treatment of fibromyalgia may beneficially affect this clinical domain, as well. So we need to think globally when we are thinking about how to go about treating our patients.

When thinking about the management of fibromyalgia in this patient or in any patient with fibromyalgia, one wants to think about a number of approaches both nonpharmacologic and pharmacologic. Doctor Williams will be focusing in on the nonpharmacologic approaches shortly, including the value of aerobic exercise, cognitive behavioral therapy, and patient education, amongst others.

When it comes to the pharmacologic treatment, we have learned a lot in the last few years. We know that there are certain neuropathophysiologic features of fibromyalgia that can be specifically targeted by certain medications.

For example, we know that in the descending pain fiber network, which is largely mediated by norepinephrine and serotonin and which has an inhibitory role in terms of pain processing, there is a deficiency in fibromyalgia patients.

Thus we have learned that the use of neuromodulatory medicines of the antidepressant class, particularly the serotonin-norepinephrine reuptake inhibitors such as duloxetine or milnacipran, which work by augmenting norepinephrine and serotonin in the central nervous system, are beneficial not only in treating pain, but also in treating other symptoms that patients have including fatigue.

The other problem that has been noted is in the ascending pain fiber network in which there is an excess of no susceptible neurotransmitter effect including the effect of substance P and glutamate.

Medicines that are of the anticonvulsant class, including pregabalin, which has also been approved for the treatment of fibromyalgia in addition to duloxetine and milnacipran, appear to work by diminishing the effect of substance P and glutamate in the central nervous system,

thus having an analgesic or antinociceptive effect in addition to other beneficial effects that the drug may have such as its beneficial effect on sleep.

These are the 3 drugs that have been formally approved, but there are also a number of other medications that have been used historically, including the tricyclics, which presumably work through serotonin and norepinephrine mechanism, and analgesics such as tramadol.

Now in this particular patient we need to be thinking about management of both rheumatoid arthritis, as well as fibromyalgia. So for the rheumatoid arthritis it would be appropriate to use things like nonsteroidal antiinflammatory drugs, short-term steroids perhaps, and methotrexate.

For fibromyalgia management it would be appropriate to think about using one of the approved drugs such as duloxetine or milnacipran of the serotonin-norepinephrine reuptake inhibitor class, or possibly pregabalin. So with that I would like to turn over to Doctor Williams to discuss some of the nonpharmacologic options that might be used in such a patient.

Hello. This is David Williams and I will be discussing some of the nonpharmacologic treatment options as they pertain to this case. The behavioral practitioner will want to take a look at several of the issues from the history, as well as the current situation of the patient.

From the history, it is relevant that the onset of fibromyalgia really has been recent in the last 6 months. It is also important to note the family history of rheumatoid arthritis as this may also impact the condition. The patient claims to exercise regularly, which is actually considered kind of a benefit in this case.

This may be something that has been buffering some of the symptoms that the patient has been experiencing and may be a strength in considering the particular case. The patient remains employed, which is also a very positive indication for treatment, however she is employed in a fairly demanding field, which can add some stressors to the condition.

Currently the patient reports that fatigue may be the most troubling symptom. Oftentimes patients will present with pain, as she does, however, sometimes pain is not the primary concern, that some of the other concerns that Doctor Mease just discussed may actually be the thing that is most troubling.

In this case, fatigue seems to be troubling to the patient, as well as morning stiffness, tenderness, and then pain. Sleep problems are also an issue that will need to be addressed from a nonpharmacological consideration and the patient reports having worries about the family being upset or unhappy with the decreased functional status of the patient.

The patient appears to be playing a prominent role within the family and having many responsibilities that she has had to cut back on. And so this too will need to be something that can be addressed in the course of a behavioral intervention for the patient.

At this point, we will ask a clinical decision question; the question being, would short-term behavioral pain management treatments be beneficial for the continuing treatment of this patient?

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Several short-term behavioral medicine approaches that would be relevant for this patient would follow the following outline. First you would want to assess the various clinical targets and those kind of laid out earlier. Many times patients will cutback on activities. They engage in activities that would be very appropriate for an acute pain condition.

However, cutting back on responsibilities, cutting back on activities, cutting back on social contacts, while may be appropriate for management of acute pain, may not be appropriate for the management of something like fibromyalgia, which by definition is a chronic pain condition.

Engaging in activities, maintaining exercise, maintaining social contacts is actually highly important if you are going to be managing something like chronic pain over the long-term. And so, by being able to address these types of issues early on before bad maladaptive behavioral patterns set in can be of great benefit to the patient.

In this particular case, the fact that the onset has been recent is actually a real strength because you will be able to catch some of these maladaptive long-term management behaviors before they start to become ingrained in the patient's lifestyle.

So in terms of several short-term therapeutic approaches, you might engage the patient in pacing, particularly pacing at work. It sounds like she is remaining employed and she is continuing to do a number of activities, however, they may become stressful if she is experiencing fatigue and pain at the same time.

It is important to note that pacing activity should be based upon time, and in this case, even a very highly functional individual could benefit from 10 minutes of rest or a mental break every 2 hours or so.

Because the family is starting to show signs of being concerned that the patient is not meeting family responsibilities, family communication and assertiveness training would be 2 behavioral approaches that could be quite beneficial,

both in teaching the patient how to assertively ask the family for help when she needs it, as well as educating the family about what it means to have someone in the family who has a chronic pain condition and may need to cut back a little bit.

Sometimes families will make the mistake of taking all responsibilities away from the patient. This, in the long-term, is not of benefit because in the sense you need to remain active and maintaining responsibilities adds to self-esteem and actually is part of the long-term behavioral strategy to help patients remain functional.

Reframing is another method of helping the patient deal with some of the family stressors that may be there. Getting realistic perspectives on the areas that she is experiencing worry or putting demands into a great perspective can also help reduce anxiety and improve mood.

In addition, relaxation strategies and behavioral sleep strategies would be recommended in the short-term management for this patient. In terms of how to gain access to the short-term behavioral medicine interventions, there are a number of self-help web resources.

There is also a number of behavioral medicine practitioners and this can be a physician, a psychologist, social worker, nurse practitioner; many people are trained in the delivery of behavioral approaches to the management of pain.

It works very well if the primary care physician can be familiar with the resources and the types of behavioral interventions that the patient is engaging in. And then when the patient visits the primary care physician they can also ask about how not only the medications are doing, but how the behavioral interventions are doing, as well.

One key to remember in any type of behavioral change is that having the information or the educational part is really just the first step. It is very important to do the homework, as well, in order to have lifestyles change so that you can actually live with pain more effectively.

It is important to both know what to do, which is the education part, but you also have to actually engage in the homework and actually start making the behavioral changes.

Sometimes making the behavioral changes are challenging or difficult and that is why a knowledgeable physician who is aware of the types of changes that the patient is trying to make can be incredibly reinforcing to the patient in terms of making these changes long-term.

We will now begin discussion on a second case involving fibromyalgia.

Hello, this is Doctor Roland Staud. I am going to discuss the case of a fibromyalgia patient with fatigue and multiple ailments.

MN is a 48-year-old female with a 13-year history of fatigue, neck pain, and lack of energy; is divorced; has 2 children; and works as a secretary, but is presently unemployed. Her current medical history is significant for chronic muscle pain, headaches, fatigue, insomnia, as well as hypertension, chronic constipation, neck and upper back pain with stiffness.

She takes _____ Xanax, Lotensin, Purinol for headaches, as well as multivitamins and calcium. However, due to her low energy levels, she is unable to exercise regularly on her aerobic rider and cannot go hiking, skiing, or biking. She requires up to 10 hours of sleep daily, including naps.

Her presenting complaints are lack of energy, waking up exhausted daily, as well as difficulty sleeping, frequent dull headaches, and pain all over, but mostly in the C7 to T1 area of the neck, which she rates as a 9 on a scale from 0-10. She recalls first not have energy in the fourth grade.

Her mother was reportedly an overachiever and expected her daughter to continue activities despite low energy levels. She reports having an unhappy childhood. Her chronic pain onset occurred around

age 35 during a time of intense personal stress caused by multiple family situations. She felt pulled in all directions and had to depend solely on her self for support.

In addition to pain she also reports having experienced depressed mood and anxiousness in the past. During some of these episodes she felt extremely restless and sometimes became agitated. Most of the time, however, she describes herself as too tired to get out of bed and is full of self-loathing and hopelessness over being unemployed and in debt.

She has failed multiple therapies including medical and nonmedical treatments like acupuncture, Ki Gong, and chiropractic manipulations. She has only poorly respond to narcotics and NSAIDs and trigger-point injections.

She failed amitriptyline, cyclobenzaprine, fluoxetine, and duloxetine. She reports increased agitation with the use of some antidepressants requiring large doses of benzodiazepines(?). She was never seen by a psychologist or psychiatrist and is reluctant to accept a referral, arguing that these healthcare providers might consider her pain being all in her head.

Her past medical history is significant only for hypothyroidism, one admission for suicidal attempt, gall (?) cystectomy, hysterectomy, and hypertension.

She is overweight, show signs of mild osteoarthritis in her hands and knees, the range of motion of her neck is limited to 45 degrees rotation in both directions, and she has moderate rotatory scoliosis. However her neurologic exam is normal, but she has 18 out of 18 tender points positive.

Her lab work, including CBC, creatinine kinase chem (chemical) panel, and thyroid function _____ are normal, as well as her autoimmune panel including ANA and rheumatoid factor. Inflammatory mediators like erythrocyte sedimentation rate and C-reactive protein are also not elevated.

At this point would it be useful to conduct a sleep study for this patient?

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Planned evaluations and treatment for the patient include referral for physical therapy including aqua therapy and massage, as well as prescription of a home exercise program consisting of short bouts of aerobic exercise.

It appears important for her to undergo weight management including diet and referral to a nutritionist. A sleep study should be considered because this patient is at high risk for disordered breathing including obstructive sleep apnea. She may benefit from CPAP titration and she should also be evaluated for restless leg syndrome.

A referral to a psychiatrist or psychologist should be considered. Should attempts of pharmacological therapy for her mood disorder fail, she may need an urgent referral to a psychiatrist. Should the patient opt for nonpharmacologic therapy of her mood disorder, a psychologist could begin cognitive behavioral therapy.

And pharmacologic therapy, of course, needs to be considered. Most patients with chronic muscular/skeletal pain strongly benefit from physical therapy, which can be separated into active with passive therapy approaches.

Active approaches include aerobic exercises, which can be done at home, as well as function training and postural education. Passive therapeutic approaches include massage, ultrasound, and hot and cold packs.

Now in regards to the previously mentioned possibility of obstructive sleep apnea, I want to discuss the mechanism that leads to worsening of chronic pain, as well as increased daytime sleepiness. It is well-known that with sleep onset a loss of neuromuscular compensation occurs resulting in decreased pharyngeal muscle activity.

Specifically during REM sleep, these changes can result in airway collapses, as well as apnea, followed by hypoxia and hypercapnia. Hypercapnia particularly results in increased ventilatory effort and frequently arousal from sleep.

This is often in restoration of pharyngeal muscle activity. The airway opens again and hyperventilation corrects the hypoxia, as well as hypercapnia. And this cycle then starts all over again. Now in order to make the diagnosis or at least a presumptive diagnosis of sleep apnea, several symptoms need to be considered, including sleep fragmentation, as well as excessive daytime sleepiness.

However, not only sleep fragmentation or excessive sleepiness is an important factor in sleep apnea, but also cardiovascular complications, including hypertension, which can lead to cardiovascular disease, as well as increased mortality.

A diagnosis of obstructive sleep apnea needs to be suspected in patients with obesity (that means a body mass index of more than 30 kg/m²), reported snoring or of apnea, as well as frequent arousals. In addition, these patients often complain of increased daytime sleepiness.

The diagnosis of obstructive sleep apnea, however, can only be made by a sleep study or polysomnography. During this study monitoring of EEG, EMG, EKGs are supplemented by measurements of chest and abdominal movement, as well as esophageal pressures resulting in a complete assessment of possible obstructive sleep apnea.

Let me briefly mention the current approach to pharmacological approach of chronic muscular/skeletal pain. This approach is mostly focused on the abnormal pain mechanism that are _____ in chronic muscular/skeletal pain disorder like fibromyalgia.

They include peripheral sensitization, mental sensitization, as well as abnormal ascending and descending modulation from brain-related pain areas. Peripheral sensitization can be approached by injection of local anesthetics into painful muscle areas, as well as the application of topical analgesics.

Peripheral sensitization also responds to treatment with anticonvulsants and antidepressants. Mental sensitization cannot only be treated with balanced serotonin-norepinephrine reuptake inhibitors, as well as anticonvulsants, but also with NMD receptor antagonists like ketamine or dextromethorphan.

And last but not least, descending modulation seems to respond to anticonvulsants, as well as antidepressants. And now Doctor David Williams is going to discuss nonpharmacological options.

Hello, this is David Williams and I will be discussing the nonpharmacological options as they pertain to this case. From the perspective of the behavioral practitioner there is a number of issues that are pertinent if you look through the history and the current condition of this case.

There is the history of an unhappy childhood with many unmet expectations from parents. There was the low energy experienced by the patient as a child that was also kind of unrecognized by the parents. There was the personal stress at the age of 35, which is coincident with the pain onset.

Low expectations of success and required to rely solely on her self, depressed and anxious mood, a suicide attempt, and failed multiple pharmacological, as well as complimentary and alternative medicine trials. Currently the patient is divorced with 2 children, which is a social phenomenon that is going to be very important in the management of the patient.

She is unemployed with debt, adding a great deal of stress. She has the symptoms of fibromyalgia (pain, fatigue, sleep disturbance, and mood), however, she is not engaging in exercise (one of the nonpharmacological approaches that can be very effective), and she has lost most of the pleasant activities that she used to engage in.

She reports poor sleep, napping during the day; she has perceptions of herself that are quite negative, they are self-loathing and hopelessness; and she does not seem to understand the linkage between physical symptoms and the role that mental influences play on her well-being. So there is a number of challenges that would be facing the behavioral practitioner.

In this case there really needs to be a 2-phased approach to the patient. Given that she is reluctant to engage in a referral to a psychiatrist or psychologist, it might be important to start with a short-term behavioral management, behavioral medicine approach focused largely on the symptoms that the patient is experiencing.

This approach would not be done all by itself. There would be a second approach, which would be more of a long-term psychotherapeutic approach, which could address the longer standing issues of depression, family dynamics, the self-loathing, and worthlessness.

However, the short-term behavioral medicine approach, we want to start with an assessment of potential symptom targets and then apply cognitive behavioral strategies that would be appropriate for symptom management and lifestyle adaptation modification to the chronic pain condition itself.

The short-term approach does not need to go on and on. It is not a very long intervention, but is very targeted to the symptoms that are presenting the most problems currently.

In order to do this effectively, you would probably want to start with a good assessment of the multiple symptom domains that would be serving as targets. You would want to get a pre-assessment, as well as a posttreatment assessment, and it is very important at the outset to understand and have an agreement with the patient what would constitute a good outcome in each of these domains.

So, for example, in the area of pain, you might want to use something like the brief pain inventory to get a current assessment of pain and then identify what would be a relevant outcome to the patient in terms of a decrease in pain. The same type of strategy would be used with fatigue, and here the multidimensional fatigue inventory would be one possibility for assessing fatigue.

Sleep would need to be assessed. The Pittsburgh Sleep Quality Index is one option. Functional status. Something like the SF-36 would allow assessment of multiple areas of functionality. And because of the patient's problems with anxiety and mood, something like the State-Trait Anxiety Index would be helpful or the Beck Depression Inventory to assess mood.

At this point there is a clinical decision point; the question being, what are some possible nonpharmacologic interventions that would be beneficial for this patient?

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In terms of the short-term behavioral medicine approach for this patient, you might want to start with relaxation strategies. Relaxation strategies come in many varieties.

Progressive muscle relaxation, visual imagery, biofeedback, yoga, hypnosis; these are all methods of producing relaxation responses in patients and basically teaches the patient how to generate the relaxation response on their own.

The benefits of using relaxation strategies in this patient is that it would provide something that she could control and use when needed and has a direct impact upon pain and upon sleep. So very quickly the patient could start seeing that something she is doing is actually producing some benefits in 2 areas that are identified as problematic for the patient.

Behavioral sleep strategies are another set of skills that would be important for the patient.

While there are medications to help with sleep, there is a number of things that she can do on her own that can benefit sleep such as having regular sleeping hours, making sure her environment is conducive to sleep, and making sure that she is not engaging in exciting activities right before trying to sleep. Graded activation and exercise.

Exercise has benefits both for the management of pain, as well as for the management of mood. And given that she is not engaging in a great deal of activity at this time, she may need to very gradually increase the amount of activity she is doing.

The concern here is you do not want to have a flare up of pain or fatigue, however, engaging very gradually in regular activities such as exercise or even pleasant activities could be of benefit to the patient.

In addition, pleasant activity scheduling is one approach that can be helpful in terms of bringing pleasant things back into her life. Many individuals with fibromyalgia have lost most of the things that bring pleasure to their life and therefore mood tends to plummet.

And in this case, scheduling activity just as you would schedule an appointment or schedule a doctor's appointment or a meeting, the pleasant activity gets scheduled on a calendar on a regular basis to make sure that it occurs.

The patient is facing a number of problems, and so having a structured approach to solving problems can be beneficial for the patient, as well as reframing or trying to help the patient think differently about the concerns and worries that she is experiencing.

Reengaging with activities that have brought pleasure to her in the past or maybe starting new activities that are pleasurable for the patient can improve mood and to help her think more adaptively about the daily tasks that she is facing.

These types of activities really are part of a short-term approach. In addition to the short-term approach, when she starts seeing benefits from these behavioral medicine strategies, she may then want to also pursue longer-term therapeutic approaches to address the more longstanding problems with depression.

This is Doctor Philip Mease, and on behalf of myself, Doctor Staud, and Doctor Williams, we would like to thank you again for viewing today's program, Fibromyalgia Facts: Foundations for Assessment, Care, and Treatment Strategies. On behalf of the Mount Sinai School of Medicine and MBL Communications, thank you for joining us today.

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