

Fibromyalgia: Clinical Approaches for the Manual Therapist
By Steven Goldstein
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1. Title

2. The Manual Therapist

- As a soft-tissue specialist you cannot go it alone with the treatment of Fibromyalgia.
- You must be current and informed about evidenced-based research.
- You must know whom to and when to refer your client based on the complexity and confusion with presenting symptoms.

3. Part of a Health Care Team

- The syndrome is multi-faceted in manifestation and widespread in musculo-skeletal pain.
- Fibromyalgia has numerous triggers and overwhelms the coping & cushioning mechanisms to create overload & overwhelming of the central nervous system.

4. Health Care Team

- You as an Manual Therapist, General Practitioner, Specialists, Rheumatologists
- Neurologists, Behavioral, Cognitive or Mental health therapist, Psychologist
- Psychotherapist.
- Naturopathic Physician who also has these tools: Homeopathic, Iridology, Allergist, Diet, Detoxification

5. Official Definition of Fibromyalgia

- We must remember that fibromyalgia has only had a official recognition as a distinct syndrome by the American Medical Association since 1987 and accepted by the American College of Rheumatology (ACR) definition which was produced in 1990.

6. Official Definition of Fibromyalgia

- Let us view the practitioners/clinician diagnosis of fibromyalgia from the *American College of Rheumatology*:
- A history of widespread pain for at least 3 months.
- Pain is considered widespread when all of the following are present: pain in the left side of the body, the right side of the body, below the waist and above the waist.
- In addition there should be axial pain (cervical or anterior chest or thoracic spine or low back)
- Pain (with the patient reporting 'pain' and not just tenderness) in 11 of 18 tender points on digital pressure involving 4 k of pressure.

7. Picture or photo slide

8. Picture or photo slide

9. What Causes Fibromyalgia?

- The etiology still remains unclear as it is neither infections, trauma, nor psychiatric abnormalities that consistently precede the onset of FMS

- Evidence indicates central pain processing abnormalities in FMS patients: such as: hyperalgesia, allodynia, abnormal temporal summation of second pain, neuroendocrine abnormalities, and abnormal activation of pain-related brain regions. (Straud and Domingo 2002) Meghan Morean Fibromyalgia: Stress & Disease, Web PPT October 29, 2002

10. What Causes Fibromyalgia?

- Symptoms strongly correlated with decreased mechanical pain thresholds, even in those patients who do not meet criteria for the syndrome.
- Tender point count is highly associated with the level of patient distress. The low pressure pain threshold (mechanical hyperalgesia) represent a very important aspect of the syndrome's underlying pathophysiology
- Meghan Morean Fibromyalgia: Stress & Disease, Web PPT October 29, 2002

11. Dysregulation Spectrum Syndrome

- Muhammad Yunus, M.D., of the University of Illinois College of Medicine.
- Views FMS and CFS as being part of a larger spectrum of conditions, which he calls Dysregulation Spectrum Syndrome or DSS. Dr. Yunus uses the term dysregulation to mean biophysiological abnormalities, possibly in the neuro-hormonal system.

12. Fibromyalgia Etiology: Muscle Pathology?

- It presents as widespread musculoskeletal pain.
- Because of lack of consistent muscle abnormalities, subsequent research focused predominantly on central nervous system (CNS) abnormalities.

13. Fibromyalgia Etiology: Neuroendocrine Abnormalities?

- Physiologic pain modulation: ANS and HPA hormones
- Increases in Corticotropin Releasing Hormone CRH and Adrenocorticotrophic Hormone ACTH lead to a decrease in pain symptoms (Pillemer SR, Bradley LA, Crofford LJ, Moldofsky H, Chrousos GP. The neuroscience and endocrinology of fibromyalgia. *Arthritis Rheum* 1997;**40**:1928-39.)
- Hyperactivity of the HPA axis leads to significant increase of ACTH release when stimulated with CRH (Clauw DJ & Chrousos GP. Chronic pain and fatigue syndromes: overlapping clinical and neuroendocrine features and potential pathogenic mechanisms. *Neuroimmunomodulation* 1997;**4**:134-53.)

14. Fibromyalgia Etiology: Neuroendocrine Abnormalities?

- Adrenal insufficiency in PFS Polyglandular failure syndromes, which might serve clinically as an explanation for the reduced aerobic capacity and impaired muscle performance these patients display.
- Griep EN, Boersma JW, de Kloet ER. Altered reactivity of the hypothalamic-pituitary-adrenal axis in the primary fibromyalgia syndrome. *J Rheumatol* 1993 Mar;**20**(3):469-74

15. Fibromyalgia Etiology: Neurotransmitters

- Tryptophan and Serotonin – low levels - decreasing pain signals in the brain, initiating sleep, fighting depression, and increasing the ability to concentrate
- Norepinephrine – low levels - responsible for various duties including enhancing awareness, focusing abilities, and putting the brain's function

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systems into 'alert' mode. (MJ Pellegrino, *The Fibromyalgia Supporter*, Columbus, Ohio: Anadem Publishing, 1997).

16. Fibromyalgia Etiology: Pain Process & Neurotransmitters

- Peripheral areas exposed to painful stimuli leads to neurotransmitters released into the spinal cord which in turn activate receptors in the brain, depending upon the intensity and duration of the painful stimuli
- Severe or persistent pain from any source will heighten sensitivity to pain.
- The perception of formerly non-painful stimuli becomes painful and the sense of pain spreads beyond the original site of injury

17. Fibromyalgia Etiology: The Pain Process and Neurotransmitters

- Substance P (SP) – neurotransmitter released in the spinal cord
- Overabundance of SP diffuses to neighboring neurons causing sensitization, leading to the perception of pain in uninjured tissue
- RM Bennett, "Understanding Chronic Pain," <http://www.myalgia.com/off/chrpain.htm> 10 February 1998).

18. Fibromyalgia Etiology: Brain Abnormalities

- PET Scan Positron Emission Tomography Nuclear medicine
- Reduced blood flow to limbic system (esp. thalamus)
- Increased signal intensity in the prefrontal cortex and cerebellum after noxious stimuli

19. Fibromyalgia: Physical Examination

- Positive Findings
 - multiple tender points
 - skin fold tenderness
 - cutaneous hyperemia
 - reticular skin discoloration
 - (diffuse puffiness of fingers)
- Negative Findings
 - absent joint swelling
 - normal ROM of joints
 - normal muscle strength
 - normal sensory functions
 - normal reflexes
 - Bill Newkirk PPT Web 1999

20. Fibromyalgia Personality Traits

- Pain-prone personality
- history of being abused as a child
- history of being treated affectionately as a child only when ill
- Fibromyalgia personality; workaholic, avoidance of conflict, unaware of anxiety and its effects
- Somatization
- Bill Newkirk PPT Web 1999

21. Fibromyalgia Personality Traits

Somatization disorder (also **Briquet's disorder** or, in antiquity, **hysteria**) is a [psychiatric diagnosis](#) applied to patients who chronically and persistently complain of varied physical symptoms that have no identifiable physical origin. One common general [etiologial](#) explanation is that internal [psychological](#) conflicts are [unconsciously](#) expressed as physical signs.
Wikipedia definition

22. Somatic Symptoms slide

23. Dr. John S. Gillick's Premise

- Gillick presented a paper that listed five key concepts necessary to understand Fibromyalgia (FM):
 - Vulnerability
 - Cushion & Overload
 - Trigger & Enabler
 - Active Fibromyalgia
 - Ownership

24. Vulnerability

- There is an apparent increased vulnerability among certain persons toward development of fibromyalgia. Others, exposed to the same triggers, show no signs of the condition.
- Vulnerability (predisposition) appears to be familial with women more vulnerable than men. However, with enough trauma, virtually anyone can develop fibromyalgia. There are not significant cultural, ethnic, geographic, or generational predisposes or protectors.

25. Cushion & Overload

- People have varying capacities to cope with or cushion ongoing stress and trauma. An intact, healthy capacity allows multi-task coping without exhaustion.

26. Cushion & Overload

- Each individual has a limited capacity for trauma with which can be overwhelmed. When the coping mechanism are strained or maladaptive -- during illness, severe mental stress, marked sleep depravation --capability (buffering, cushioning) is decreased and an individual can become chronically overwhelmed.

27. Trigger & Enabler

- Fibromyalgia is started (triggered) by painful stimuli (traumas) which overwhelm an individual's physical and mental defenses or coping mechanisms.
- Fibromyalgia (FM) can be categorized by how it starts.

28. Trigger

- "Secondary" FM (10-30%) has a rapid (within three months) onset associated with a specific traumatic episode or event (macro trauma).
- "Delayed-secondary" FM: (20-30%) onsets six months to several years after a traumatic episode or disease that leaves an ongoing, chronic measurable

residual (i.e., whiplash, chronic inter-vertebral disc syndrome, rotator cuff injury...).

29. Trigger

- “Primary” FM: (50% +/-) - also called "idiopathic" -- has a gradual onset without immediately obvious trigger(s).
- Gillicks' clinical experience suggests that multiple, chronic, cumulative micro-traumas are its usual trigger(s).

30. Enabler

- Once activated, the global condition of active FM is kept active by ongoing irritations or traumas, which Gillick dubs enablers. Enablers are usually multiple. They may be ongoing residuals of macro-trauma triggers (i.e., whiplash, coccydynia, systemic diseases) or ongoing (micro) traumas (i.e., chronic sinusitis, repeated impact trauma, musculoskeletal dysfunction in the upper or lower extremities, positional sleep traumas...).

31. Active Fibromyalgia: THE ULTIMATE CUMULATIVE TRAUMA OVERLOAD SYNDROME

- Active Fibromyalgia is manifest or hypersensitive (“hyperalgesia”) widespread myalgia with extreme sensitivity to the slightest noxious stimulus (“allodynia”).
- The FMS persists as a widespread neuro-muscular-spasm condition with "pain-begetting-pain." Living with fibromyalgia is like living in a “pain-amplification-chamber.”

**32. Active Fibromyalgia
THE ULTIMATE CUMULATIVE TRAUMA OVERLOAD SYNDROME**

- Fibromyalgia continues because of uninterrupted daily activity trauma amplification (DATA).
- Amplification of daily activities traumas continues to further injure and prevent recovery of the individual's normal coping responses.

**33. Active Fibromyalgia
THE ULTIMATE CUMULATIVE TRAUMA OVERLOAD SYNDROME**

- The fibromyalgic is unable to adequately blunt or cope with even small daily traumas. Until the enablers and the triggers are corralled, the fibromyalgic's diminished physical/ mental coping mechanism (thalamic down-regulation) is overwhelmed.

34. Ownership

- Gillick states: “Control of fibromyalgia is dependent upon the individual, not the health professional.
- Fibromyalgia cannot be turned off by some doctor, some special treatment, pill, diet or supplement from the outside
- Tools for control are education (understanding), behavior modifications with removal of the T&E's, adjunctive medications, physical modalities, and emotional support.

35. Ownership

- Fibromyalgia can control the individual when it is hyper-active. It becomes a dominant factor that limits home and employment activities, etc.. .
- Fibromyalgia may co-exist within the individual when the individual has some *ownership* of the condition and can temporarily "shut-down" the condition (the echo or amplification effect) by willpower and concentration.

36. Ownership

- The Fibromyalgic *owns* the condition when the individual can "turn-down," then "turn-off" the condition by removing the triggers and the DATA -- daily activity trauma amplifiers – that keep it active. *Clearly Gillick is presumptive in his attitude.*

37. Hyperalgesia and Allodynia

- *Hyperalgesia* is amplification of pain sensations.
- *Allodynia* means that non-painful sensations such as touch, noise, vibration, lights or smells are painful.
- Anything that results in tissue injury, whether from obvious trauma such as an auto accident or from subtler biochemical damage, can cause hypersensitivity at the injury site.

38. Hyperalgesia and Allodynia

- If there is repeated or continued trauma, other areas can hypersensitize (Yaksh, Hua, Kalcheva et al. 1999).
- This can lead to "central sensitization" in response to chronic, long-term pain (Staud, Smitherman, 2002).

39. Acute Pain

- Differentating Acute from Chronic Pain
- Acute typically serves as a warning of possible tissue damage to prevent further damage. Special nerve endings, nociceptors secrete chemical mediators such as histamine, bradykinins or prostogladin to achieve inflammatory processes to repair tissue.

40. Chronic Pain

- Physical and emotional trauma releases the body's own painkillers: endorphins.
- Endorphins are produced in response to orders from the hypothalamus, pituitary and adrenals
- HPA axis is disrupted in Fibromyalgia with usually elevated substance P in CSF and decreased serotonin levels

41. HPA Axis

- The HPA axis, which has traditionally been seen as the body's "stress system", and which ultimately controls levels of cortisol and other important stress related hormones, is generally underactive in people suffering from CFS and burnout.
- New research is beginning to show that the HPA axis should instead be thought of as the body's energy regulator, as it is ultimately responsible for controlling virtually all of the hormones, nervous system activity and energy expenditure in the human body, as well as modulating the immune system.

42. Chronic Pain in Fibromyalgia

- When a stress response is triggered by acute pain, endorphins flood the body, dampening the pain in response to the threat
- With chronic pain, the body does not get used to the pain, instead it becomes harder to endure
- After time, fewer endorphins are produced to counter the same amount of pain
- Body cannot remain in 'flight or fight' mode without succumbing to exhaustion

43. Associated Conditions with Fibromyalgia

- Chronic Myofascial Pain Syndrome (MPS)
- Chronic Fatigue Syndrome (CFS).
- Multiple Chemical Sensitivity(MCS).
- Post Traumatic Stress Disorders
- Sleep Disorders
- Irritable Bowel Syndrome
- Chronic Headaches
- TMJ Dysfunction

44. Observations from 200 Fibromyalgia Patient Reviews out of 1000 by Dr. Devin Starlaynl

Table 1. Symptoms in Numerical Order x	Difficulty getting out known words 127
Post-nasal drip 189	Muscle twitching 127
Fatigue 160	Nail ridges 125
Sleep unrestorative 149	Handwriting difficulties/pain 124
Short term memory impairment 144	Headaches 124
Trouble concentrating 144	Irritable bowel 121
Sensitivity to cold 143	Mood swings 118
Morning stiffness 142	Weak ankles 118
Numbness/tingling 131	Carbohydrate cravings 117
	Unaccountable irritability 114

45. Observations

Stair climbing problems 113	Sensory overload 106
Irritable bladder 111	TMJD 106
Tinnitus 111	Sensitivity to light 104
Dizziness when head turned fast 110	Bloating 102
Chocolate cravings 109	Buckling knee 102
Sensitivity to odors 109	Swollen glands 102
Confusional states 107	Cries easily 101
FMS/MPS sinus syndrome 106	Vision Perception problems 101
Hypoglycemic symptoms 100	Weight gain 101
Shortness of breath 100	Free-floating anxiety 100

46. Observations

Problems holding arms over head 98	Directional disorientation 93
	Sciatica 93

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Reflux esophagitis/heartburn 92	Nausea 84
Low back pain 91	Sore throat 84
Balance problems/staggering gait 88	Difficulty swallowing 83
Diffuse swelling 87	Sensitivity to mold/yeast 82
Growing pains 87	Delayed reactions to overdoing it 81
Sensitivity to humidity 86	Night driving difficulty 81
Sensitivity to pressure changes 85	Unexplained toothaches 80
Sensitivity to heat 76	Panic attacks 77
Heart attack like pain 84	Leg cramps – lower 76

47. Observations

Ear Itchy 75	Vision Changing 64
Weak/painful grip 75	Hyper-sensitive nipples 63
FMS/MPS foot 74	Meralgia paresthetica (numbness pain on outside of the thigh-femoral cutaneous nerve) tingling outer thigh) 63
Groin pain 74	Myoclonus (involuntary twitching muscle movements/jerks/night) 63
Allergies 73	Tight hamstrings 63
Cramps (GI) 71	Family clustering 62
Itching/rashes 71	Restless leg syndrome 62
Pelvic pain 71	Electromagnetic sensitivity 61
Breast pain 70	PMS 61
Shin splint-type pain 70	Sore spot on top of head 61
Menstrual problems 69	Tight Achilles tendons 60
Vision Blurry 67	
Drizzling in sleep 66	
“Fugue” type states 66	
Carpal-tunnel-like pain 64	
Migraines 64	

48. Observations

Fibrocystic breasts 59	Appendicitis-like pains 49
Bothered by pressure of glasses/headbands/coats 57	Thick secretions 48
Hands hurt in cold water 56	Depression 47
Leg cramps – upper 56	Heartbeat Irregular 47
Feeling continued movement in car after stopping 55	Sweats 47
Stripe/check patterns cause dizziness 55	Bruising 45
Bruxism 54	Scars easily 45
Painful intercourse 54	First steps in morning walking on nails 44
Mottled skin 53	Leg cramps 43
Heartbeat Rapid 51	Unable to recognize familiar surroundings 42
Thumb pain/tingling numbness 51	

49. Observations

Heartbeat Fluttering 40
Lack of endurance 40
Stiff neck 40
Tilted feeling when cornering in car 39
Eye/ear pain/dysfunction 33
Disrupted fat metabolism 32
Normal low temperature 32

Vision Double 31
Chest tightness 29
Motor coordination problems 29
Chronic cough 28

50. Sensitivity to environmental 28
Night sweats 25
Sensitivity to blackfly/mosquito bites 25
Chest pain 24
Dry nares with bleeding 22
Adrenalin surges 21
Nails that curve under 21
Weight loss 21
Vision "Floaters" 20
-

51. Observations
- | | |
|-----------------------|---------------------------|
| Deep hip pain 19 | Tennis elbow 11 |
| Immune dysfunction 19 | Hears florescent lights 9 |
| Raynaud's 18 | Dysnomia 8 |
| Hair loss 16 | Choking on saliva 7 |
| Sleep Apnea 16 | Ear Dysfunction 6 |
| Belly fat pad 15 | Impotence 6 |
| Burping 14 | Eye pain 5 |
| Eye dysfunction 11 | Sicca 5 |
| Ingrown hairs 11 | Ear Stuffiness 4 |
| | Ear Pain 3 |
-

52. Health Hx Questions

- As a manual therapist you will obviously enquire initially about the soft-tissue presentations.
- Equally it is important to realize the complexity and variety of the syndrome.
- Everyone has a 'pet theory'
- Patients with FMS can be sensitive to smells, sounds, lights, odors, pressure and temperature fluctuations and vibrations.

53. Fundamental Health History Questions

- Clients general health?
- Has fibromyalgia been diagnosed by a physician? Usually a rheumatologist. What method of Dx? Tender point palpation? Criteria vs Diagnosis.
- Have you received massage therapy since diagnosis? Response? Post treatment side-effects?

54. Leading Clinicians in Fibromyalgia Treatment & Research

- M.D. Prescribed Fibromyalgia & Chronic Fatigue Syndrome Treatments *FM* [R. Paul St. Amand, M.D.](#)
- Guaifenesin Treatment *FM* [Robert Bennett, M.D.](#)
- Detailed Treatment of Fibromyalgia *FM* [Daniel J. Clauw, M.D.](#)
- Effective Treatment of Fibromyalgia *FM* [Mark Pellegrino, M.D.](#)
- Prescribed Medications for Fibromyalgia *FM* [Devin Starlanyl](#)
- Medications for Fibromyalgia *CFS* [David Bell, M.D.](#)

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- Medications for Chronic Fatigue Syndrome *CFS* [Paul Cheney, M.D.](#)
- Treatments for Chronic Fatigue Syndrome *CFS* [Charles Lapp, M.D.](#)

55. Leading Clinicians in Fibromyalgia Treatment & Research

- Treatments for Chronic Fatigue Syndrome *FM* & *CFS* [Derek Enlander, M.D.](#)
- Treatment of Fibromyalgia & Chronic Fatigue Syndrome *FM* & *CFS* [Jay A. Goldstein, M.D.](#)
- Unique Treatment Protocol for Fibromyalgia & Chronic Fatigue Syndrome *FM* & *CFS* [Dale Guyer, M.D.](#)
- Holistic Treatment of Chronic Fatigue Syndrome & Fibromyalgia *FM* & *CFS* [Kent Holtorf, M.D.](#)
- Treating Fibromyalgia & Chronic Fatigue Syndrome *FM* & *CFS* [Richard Podell, M.D.](#)
- Treatment protocol for Fibromyalgia & Chronic Fatigue Syndrome *FM* & *CFS* [Michael E. Rosenbaum, M.D.](#)
- Treating Fibromyalgia & Chronic Fatigue Syndrome *FM* & *CFS* [Carol Ann Ryser, M.D.](#)

56. Treatments for Fibromyalgia Syndrome

- Often some form of medication
- Naturopaths gear toward decreasing toxicity, so liver detoxifications are common
- Combating fatigue and low energy
- Low thyroid is seen in most cases

57. Michael E. Rosenbaum, M.D. prescribes complimentary medicine

- Energy: B Complex vitamins, especially vitamins B1 and B12; NADH – a stabilized form of vitamin B3, Coenzyme Q10. The above vitamins all participate in the formation of ATP energy packets. For muscle energy, creatine, carnitine and branched chain amino acids are often very useful.
- Treatments for Fibromyalgia Syndrome:
Exercise
- Most research date indicates that some form of daily activity is beneficial for the fibromyalgia sufferer.
- The conundrum is that they often have little energy to exercise, or
- A small amount will fatigue them for the rest of the day
- **Treatments for Fibromyalgia Syndrome: Medications: Tricyclic Antidepressants**
Many of the tricyclic anti-depressants have side effects that may be intolerable for some people. These include constipation, drowsiness, dry mouth and eyes, headache, heart rate abnormalities, increased sensitivity to sunlight, morning "hangover," and weight gain.
- These side effects may improve after patients have been using the medication for a few weeks. If not, the doctor should be consulted regarding another medication. Michael Niss PT [A Physiotherapist's Approach](#)

58. Medications: Tricyclic Antidepressants

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- **Elavil** (Amitriptyline) dose is typically 2.5 to 50 mg per night. Elavil is known for pain relieving effects and ability to help sleep. This medication should be taken early in the evening, or half-dose in the evening and the other half at bedtime to avoid morning hangover.
- **Flexeril** (Cyclobenzaprine) dose is usually 10 to 30 mg per night. A tricyclic drug similar to Elavil with muscle relaxant qualities. May be taken along with Elavil to provide muscle relaxant relief. This medication usually reaches its maximum effect after one to two weeks of continuous use.
- Michael Niss PT [A Physiotherapist's Approach](#)

59. Medications: Tricyclic Antidepressants

- **Sinequan** (Doxepin) a typical dose is 2.5 to 75 mg. Also a tricyclic that functions in the body as an antihistamine. Available in tablet form as well as liquid.
- **Pamelor** (Nortriptyline) the usual dose is 10 to 50 mg per night. Similar effects as Elavil but may be less sedating.
- **Desyrel** (Trazodone) the usual dose is 25 mg to 50 mg per night. Desyrel is as effective as the other anti-depressants, however, is chemically different and may be less likely to cause side effects. Desyrel is a mild stimulant and may make a sleep problem worse if combined with a tricyclic anti-depressant at night.
- **Michael Niss PT** [A Physiotherapist's Approach](#)

60. Treatments for Fibromyalgia Syndrome: Benzodiazepines (anti-depressant/anti-anxiety)

- **Xanax** (Alprazolam) a typical dose is 0.25 to 1.5 mg at night. Xanax has been found to be more effective if taken with 2400 mg (per day) of ibuprofen. However, Xanax may cause depression in some people, and has been known to be addictive. Xanax may be effective for some fibromyalgia patients if taken in low doses.
- **Klonopin** (Clonazepam) 0.5 to 1 mg at night is helpful in sleep myoclonus (arm and/or leg spasms). Klonopin may help patients who grind their teeth. It stays active in the body longer, and has the same possibility of being addictive as Xanax, and may cause depression in some people.
- Michael Niss PT [A Physiotherapist's Approach](#)

61. Treatments for Fibromyalgia Syndrome: Serotonin-Boosting Medications

The following are some of the side effects of serotonin boosting medications: anxiety/nervousness, headache, insomnia, mood swings, sexual difficulties, nausea and stomach distress.

Michael Niss PT [A Physiotherapist's Approach](#)

62. Treatments for Fibromyalgia Syndrome: Serotonin-Boosting Medications

- **Prozac** (Fluoxetine) is available in liquid as well as tablet form. Typical dose is 1 to 20 mg in the morning. Prozac may cause insomnia, but it can be taken in combination with one of the sedating tricyclics such as Elavil or Sinequan.
- **Paxil** (Paroxetine hydrochloride) the usual dose is 5 to 20 mg in the morning. This medication is the most potent of this type. A sedating medication may be needed at night in conjunction with Paxil. It can cause nervousness, insomnia, nausea, sexual difficulties and sweating, although many patients report having fewer side effects with Paxil as compared to Prozac.

63. Treatments for Fibromyalgia Syndrome: Serotonin-Boosting Medications

- **Zoloft** (Sertraline) 50 to 200 mg is the usual dosage. Anecdotally proven helpful for some patients. Sedating medication may also be needed to combat insomnia.
- **Serzone** (Nefazodone) is the newest of these agents. As well as increasing serotonin, it also increases norepinephrine. Serzone's efficacy and side effects are similar to Effexor.
- **Effexor** (venlafaxine hydrochloride) the usual dose is 27.5 mg two times per day. This dosage can be adjusted, depending on the effects. Effexor is not related to the tricyclics or the Prozac-like drugs; however, it does boost serotonin and has tricyclic properties. The typical side effects are nervousness, anxiety, insomnia and increased blood pressure.

64. Treatments for Fibromyalgia Syndrome: Muscle Relaxants

- Patients should be cautioned that muscle relaxants can cause drowsiness.
- **Norflex** (Orphenadrene Citrate) is one to try if the patient does not respond to Elavil or Flexeril. The recommended dose is 50 to 100 mg twice a day. Norflex is a central acting analgesic muscle relaxant that has been found to decrease pain in some FMS patients. Norflex is most often taken at night; some patients are able to tolerate this medication in the morning as well.
- **Flexeril** (Cyclobenzaprine) is a muscle relaxant and can be beneficial to help loosen the tightness of FMS muscles. Flexeril may be taken in combination with Elavil to provide maximum relief.

65. Treatments for Fibromyalgia Syndrome: Nonsteroidal Anti-Inflammatory Agents (NSAIDS)

- Used alone, anti-inflammatories have not proven effective in reducing FMS pain. However, Elavil and Xanax's effectiveness is increased when used in combination with ibuprofen (2400 mg per day). If the patient has arthritis, osteoarthritis or tendinitis these medications would be helpful in alleviating the pain. These medications can cause stomach upset and some patients have developed bleeding ulcers.

66. Fibromyalgia Diagnostic Points slide

67. Fibromyalgia Diagnostic Points slide

68. Peter Baldry's Clinical Characteristics of Fibromyalgia Syndrome slide

69. MPS Myofascial Pain Syndrome

- Fibromyalgia & MPS share muscle pain as a symptom and tenderness as a clinical sign. This has resulted in many persons with bilateral or widespread muscle pain being diagnosed as having FMS when in fact they have MPS, or other types of myalgia.
- Key to diagnosis is widespread pain versus localized manifestation of MPS via active or latent trigger point activity.

70. Differentiating Trigger Points in Myofascial Syndrome and Fibromyalgia slide

71. As above

72. Differential Diagnosis of Fibromyalgia & MPS

Table. Differential Diagnosis of Fibromyalgia and MPS

Characteristic	MPS	Fibromyalgia
Gender distribution	M/F = 1/1	M/F = 1/10
Anatomic site	Regional	Widespread
Early fatigue	Unusual	Common
Morning stiffness	Regional	Generalized
Trigger point	Invariable	Only present with associated MPS
Tender point	Limited region	Widespread
Response to treatment	Local anesthetic; vapocoolant spray	Seldom responds to any one modality
Natural course	Usually remits	Seldom remits

M = male; F = female; MPS = myofascial pain syndrome.

73. Manual Therapy Approaches for Fibromyalgia

- Two major approaches in manual therapy:
 - Direct technique
 - Indirect technique
- Leon Chaitow uses MET Muscle Energy Technique modified to postural muscles
- Eric Dalton utilizes joint mobilization and active client movement (enhancers) calms pain generating articular receptors
- Russians advocated a type of medical massage utilizing swedish massage strokes;

74. Direct Technique

- Direct meets tissue resistance either capsular, ligamentous, muscle, or myofascial.
- Utilizes swedish massage manipulations especially effleurage, pertissage and,
- Frictions will effect alpha motor neurons
- Static & ischaemic for trigger point or golgi tendon organ release
- Frictions that have motion: longitudinal, circular, shear or transverse
- Direct technique has to be carefully administered to the Fibromyalgia client

75. Muscular Imbalances

76. Indirect Technique

- Michael Shea is fond of stating, “all soft-tissue release is predicated on how the nervous system is discharging it’s impulses.”
- The foundation to effect change is controlled and modulated by the CNS
- Affects limbic system effecting gamma motor neurons
- It’s local control is regulated by the autonomic nervous system which manifests as:
 - Flight or Fight

- Rest and Reponse

77. Energetic + Other Approaches

- Reiki studies
- Watsu= Water + Shiatsu New Zealand Study
- Tai chi studies
- Meditation

78. Goldstein's Approach

- Most of the research indicates central sensitisation as a key factor in fibromyalgia's widespread muscular pain.
- Introduce gentle techniques such Two-Pointing' that reduces SNS firing, lowering 'sympathetic tone' slowly and sufficiently to bring on parasympathetic response
- 'Rest and Repose'.
- Combine this with a sense of energetics

79. Diaphragms

- Horizontal or Transverse Planes of Connective Tissue
- Uro-genital
- Pelvic
- Respiratory
- Hyoid
- Cranial Base

80. Cranial Base

- With relaxed hands cradle occiput with palms and allow thumb & index fingers to relax and support head with fingers of one hand overlying the other.

81. Spinal Awareness Exercise

- Limbic system is at the centre of the body's postural control system.
- Gamma motor neurons interface with alpha motor neurons through muscle spindle cells & golgi tendon organs to regulate tonus control & reflexes.
- We can co-opt this mechanism by the use of intention & visualization

82. Spinal Awareness Exercise

- In supine position, place caudal hand between legs to cradle sacrum.
- Cephalad hand will start at C7 & move segmentally inferiorly to L4
- Ask patient to image the curves of their spine.
- You will work three dimensionally, that is you will focus your patient's awareness on three planes of motion.

83. Sagittal Plane

- First awareness of the sagittal plane by asking the patient to image anterior (lordotic)-posterior (kyphotic) curves of the spine, then...
- Imaging or pretending that this plane of motion actually moves. They think about movement with out actually using voluntary control of motion.
- Practitioner will usually feel some subtle change either energetically or physically

84. Sagittal Plane

Powerpoint Slide Descriptions

- Your ability to have your patient participate depends on your dialogue you have with them
- “Imagine that your spine can move or that you are floating horizontally or vertically. As you float allow for the slightest of ‘wave-like’ motion to occur.
- Do not force this motion, just allow it in your mind’s eye to have gentle motion.”

85. Spinal Awareness: Frontal Plane Motion

- Next have your patient imagine side to side motion, that the vertebral segments of the spine can move side to side.
- Decide whether to start at the head or the sacrum. If in doubt ask your patient which ‘feels’ better. Or just decide by starting in one area & then reverse it by doing the other.
- I use metaphors such as imagining a snake slithering along in that plane of motion.

86. Spinal Awareness: Rotational Plane Motion

- Finally we imagine that the spine can move in a spiral.
- I ask the patient which do they prefer, clockwise CW or counter-clockwise CCW?
- Then where they wish it to begin, C1 or Sacrum?

87. Positional Release Technique

- The commonality of all of these approaches is that they move the patient or the affected tissues away from any resistance barriers and towards positions of comfort.
- The shorthand terms used for these two extremes are ‘bind’ and ‘ease’

88. PRT Variations: Lawrence Jones’ Strain Counterstrain

- ‘Positions of Ease’ were usually an ‘Exaggeration of Distortion’
- Stated simply, the tissues which were already shortened were made comfortable by being supported in an even shorter state, so allowing neurological and circulatory mechanisms to operate and to assist in resolution of the dysfunctional state.

PRT Variations:

- Lawrence Jones’ Strain Counterstrain
- Replication of the position of strain
- If, as SCS suggests, the position of ease often equals the position of strain – then the patient needs to go back (or rather be taken back) into the direction of strain, in slow motion, until tenderness vanishes from a tender point which was being monitored, and/or until a sense of ease was perceived in the previously hypertonic shortened tissues.

89. PRT Concepts

- True SCS follows rules laid out by Jones and his tender point protocol
- No pain should be felt anywhere else in the body when using PRT
- Jones found all somatic dysfunction has palpable areas of tenderness
- Points are often only tender when palpated or probed
- Hold point for up to 90 seconds

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