Systemic lupus erythematosus (SLE) is a complex and typically chronic illness, producing a wide variety of symptoms and an unpredictable course. SLE is an autoimmune condition, commonly affecting the skin, joints, kidneys, brain, and other organs. This article describes the application of a multilevel integrative care plan, following the pathways model, to assist a patient with SLE in managing and moderating symptoms and improving quality of life. The patient, Mary Anne, was a 33-year-old female nurse with a 14-year history of SLE. Her initial response to lupus was biomedical, with a passive reliance on a wide range of medications and an increasingly inactive, sedentary lifestyle. Along with lupus she developed obesity, hypertension, migraine, sleep disturbance, depression, and anxiety. Her rheumatologist referred her for behavioral health interventions to help her to learn nonpharmacologic forms of pain management and motivate her for illness self-management for her various chronic conditions. The interventions were organized into the three levels of the pathways model and included Level 1, movement, sleep hygiene, and mindful eating; Level 2, aquatherapy, an illness self-management support group, and a mindfulness class; and Level 3, heart rate variability (HRV) biofeedback, self-hypnosis training with healing imagery, a nutrition consultation, and a sleep medicine clinic. This patient mastered excellent skills with self-hypnosis, paced breathing, and HRV biofeedback. She sustained increased physical activity and a modified diet. At the 3-year point, she reported less frequent pain and joint swelling, less nausea and sick feeling, moderate improvement in sleep, and less frequent and less severe Lupus flares.

Introducing Mary Anne
At the time of her initial contact, Mary Anne was a 33-year-old divorced woman. She described good health and an active involvement in athletics in childhood and adolescence. She began a BSN/nursing program at age 19. After 2 years of college, she began to feel sick and suffer discomfort in the joints; she dropped out of school four times before finally earning her degree. She completed college at 25, passed her licensing boards in nursing, and began work as an intensive care unit (ICU) nurse.

History
Initial Course of Illness
Mary Anne worked rotating shifts in the ICU, but after several months her sleep deteriorated, joint pain and swelling increased, and she frequently felt sick and feverish. Her primary care physician diagnosed depression and prescribed an antidepressant and then a benzodiazepine. She gained weight on her antidepressant. Her symptoms waxed and waned, and her moods shifted with the course of the illness.

Long diagnostic process. Soon Mary Anne was placed on probation for absenteeism. She encountered medical specialists at work who diagnosed fibromyalgia, chronic fatigue, and somatoform disorder. She underwent testing for Lyme disease. She suffered similar symptoms, with varying intensity over time, for 7 years before she arrived at a correct diagnosis. A nurse practitioner at the hospital noticed her hair loss and the distinctive skin rash on her face and suggested she see a rheumatologist. The rheumatologist gave her a primary diagnosis of systemic lupus erythematosus (SLE) and a secondary diagnosis of antiphospholipid syndrome. Her lab testing showed high antinuclear antibody (ANA) levels and elevated antiphospholipid antibody levels.

SLE is a complex and typically chronic illness, manifesting in a wide variety of symptoms and an unpredictable course. SLE is an autoimmune condition manifesting in multiple systems in the body, commonly affecting the skin, joints, kidneys, brain, and other organs. Estimates of prevalence in the U.S. population range from 20 to 150 cases per 100,000 population (Schur & Hahn, 2016). A
recent study reported that the prevalence for SLE in two Michigan cities was 72.8 per 100,000 and 128.7 per 100,000 in females (Somers et al., 2014). SLE incidence and prevalence is consistently found to be higher in women and afflicts a disproportionate number of African Americans and Asians (Schur & Hahn, 2016). The most distinctive marker is a butterfly-shaped rash across the cheeks and nose.

Common symptoms of SLE include chest pain when taking a deep breath, fatigue, fever with no other cause, generalized discomfort, feeling sick, hair loss, mouth sores, sensitivity to sunlight, skin rash, and swollen lymph nodes, among a variety of other symptoms.

Progression of Mary Anne’s illness. Mary Anne became increasingly sedentary with joint pain and sick feelings. She gained 65 lb during the time between initial onset and diagnosis, which contributed to her inactivity. She also developed hypertension and hyperlipidemia. Several of her medications listed adverse effects including weight gain, hypertension, gastrointestinal (GI) distress, depressive mood, headache, and anxiety.

Referral to Behavioral Health
Two years after her lupus diagnosis, Mary Anne was referred for assessment and treatment of depression, anxiety, disturbed sleep, migraine, hypertension, and poor compliance with her medical treatment regimen. Her blood pressure was 165/94, despite antihypertensive medication. The rheumatologist requested that a behavioral specialist address nonpharmacologic forms of pain management and motivate her for illness self-management for her lupus, near daily migraine headaches, and hypertension.

Medications at intake: Polypharmacy and off-label medications. At the time of evaluation, Mary Anne’s list of medications was extensive and included several off-label medications, medications used for a purpose other than their Food and Drug Administration–supported targets. Her medications for lupus included prednisone (a corticosteroid), Disalcid (a nonsteroidal anti-inflammatory), and Plaquenil (an antimalarial used as anti-inflammatory).

For depression, she was prescribed Celexa (a selective serotonin reuptake inhibitor), Pamelor (a tricyclic, used especially at bedtime for sleep), and Topamax (an antiseizure medication, used to level mood and sometimes to reduce migraine onset).

For head pain, she used Imitrex (a 5-HT agonist, often prescribed for migraine), Methergine (a vasoconstrictor), Ultram (an analgesic), and Migranal (a headache abortive). For anxiety, Mary Anne used Klonopin (benzodiazepine) several times a day. For cholesterol, she used Zocor (a statin), and for hypertension, she used captopril (an angiotensin-converting enzyme inhibitor). For GI distress, she used Prilosec; for overactive bladder, she used Ditropan; and for sleep, she used Lunesta (a hypnotic) and Pamol.

Each of Mary Anne’s medications was appropriate and credible for the symptom it targeted. But when any patient takes more than 20 medications, the risk of adverse affects and drug interactions increases. Mary Anne kept regular appointments with her primary care doctor and nine medical specialists and occasionally sought additional prescriptions from physicians in her workplace. Each of the physicians drew on specialist knowledge to select her medications, yet the total effect was one of Mary Anne developing a helpless passivity toward her health and health care. She was waiting for her caregivers and prescriptions to reduce her suffering, yet her primary care physician now demanded that she begin to take an active role in her health by lifestyle change.

Assessment
Initially, Mary Anne was assessed for her “readiness for change”, using the Prochaska scale developed by James O. Prochaska (Prochaska, Norcross, & DiClimete, 1994). On the Prochaska scale, Mary Anne seemed somewhere between the “precontemplation” and “contemplation” stages. She expressed anger at the referral to behavioral health and demanded to know why her request for a stronger analgesic had not been honored. She agreed to participate in behavioral health sessions because her headache specialist refused to continue her migraine and pain medications unless she attended behavioral health appointments three to four times each month, as documented by phone calls by her nurse to our office.

Mary Anne and the Pathways Model
The interventions for Mary Anne were organized into the three levels of the pathways model, developed by McGrady and Moss (2013). The pathways model proceeds to professional interventions only when the patient has already engaged in a number of self-directed lifestyle and behavior changes (Pathways Level 1) and engaged in skill acquisition for improved coping and self-regulation (Level 2). The Pathways Level 3 plan consists of interventions delivered by trained health care professionals, including both mainstream and complementary medicine practitioners.

Mary Anne initially exhibited an antagonistic approach of “going through the motions,” keeping appointments but sitting sullenly during individual and group appointments.
She cooperated with several activities only when offered progress notes on activities for her primary care physician and rheumatologist. Given the number and chronicity of Mary Anne’s symptoms and her pathogenic lifestyle, a variety of interventions was included in each of her pathways level plans. Her progression from Level 1 to 3 was slow, continuing over 5 months. She acknowledged many basic lifestyle, behaviors, and attitudes undermining her health and wellness. We scheduled weekly health coaching and supportive psychotherapy sessions from the beginning, until she showed solid progress in Level 3. Her time in Level 3 has now been 3 years, with intermittent contact and multiple interventions continuing in all three levels.

Lifestyle assessment. Mary Anne reported almost no physical exercise. Her nutrition was heavily weighted with fast food and salty snacks, supplemented with occasional microwaved portions of Lean Cuisine™ and similar products. Her sleep was poor, disrupted by rotating shifts, and daytime use of Red Bull™. She achieved sleep onset only with Pamelon and Lunesta and then reported nighttime restlessness and nightmares. She qualified for a descriptive diagnosis of metabolic syndrome, along with SLE and migraine. She lived alone with a Dachshund and reported few social supports outside of work.

Pathways Intervention Plan

Level 1 Plan

In the pathways model, Level 1 consists of self-directed lifestyle and behavior changes, with the overall goal of restoring more optimal biological rhythms. Choice of Level 1 activities is collaborative. The professional involved in the goal setting uses a health-coaching approach, searching with the patient for areas in lifestyle and behavior in which the patient himself or herself is dissatisfied and wants change. Specific goals then are graduated and realistic: For example, for most patients with chronic illness, minimal increases in movement around the home are realistic and practical, 60 minutes of aerobic exercise are not. No Level 1 goal is set until the patient expresses belief that he or she is ready to implement it and is determined to do so.

Level 1 activities: Movement. Mary Anne acknowledged inactivity was a problem, but she perceived herself as unable to make changes in activity because of joint and head pain. We compromised with an initial goal to walk for 5 minutes on the Grand River boardwalk and pier one block from her home and then walk back to her home each day. She also agreed to walk her dog, instead of paying a neighbor boy to walk her. She agreed to keep an activity log, listing activity on a daily calendar.

Level 1: Sleep hygiene. Mary Anne began with a sleep diary, and the diary showed chaotic times of retiring, long sleep-onset latencies, frequent awakening, and multiple noncalming activities in the bedroom. She made a commitment to improving sleep-relevant behaviors, because the poor quality of her sleep was upsetting her. Mary Anne agreed to negotiate with her director to stabilize her work shifts as much as possible. She agreed to limit her Red Bull to one per day, with the long-term goal to eliminate Red Bull and any caffeinated drinks. Her diurnal rhythms and behavior were highly disorganized as she ate, watched television, played with her dog, and ran a small cosmetics business from her bed.

Stimulus control. We oriented Mary Anne to optimal sleep environments and the impact that stimulation in the bedroom has on sleep. She reluctantly agreed to move her television and her cosmetics business out of the bedroom for 60 days to see if it made any difference.

Level 1: Mindful eating. Mary Anne discussed weight loss as a possible goal for Level 1 activity. We discouraged her from setting specific dieting and weight loss goals at this time, because of her agitated anger about food, diets, physicians, and pain. Because dysregulated emotions are a major trigger for poor eating patterns, there seemed too much risk of Mary Anne setting herself up for failure.

We instructed her in mindful eating and experimented in the office with mindfully eating a grape. Mary Anne agreed to the goal to practice mindful eating—eating slowly, with attention to savoring each sensory aspect of each food item, each bite, each taste, as well as each color perception of food. On her own, she discovered and benefited from an educational YouTube workshop on “mindful eating” by Jan Chozen Bays (2011). Bays (2014) also later published an educational CD on mindful eating.

Level 1 Progress

Progress: Movement. Mary Anne reported being surprised at moments of enjoyment walking on the nearby boardwalk, walking her dog, and being outdoors in nature in daylight. She extended her walks to 15 minutes, which allowed her to reach the Lake Michigan pier and return to her home. She reported some smiling and laughter when outdoors and with her dog. She initiated an effort to list more of her activities on a calendar.

Progress: Mindful eating. Mary Anne spontaneously started a diary of mindful eating experiences. She reported that she
had not intended to cooperate so much with our plan. She discovered pleasure in slowly eating and tasting simple foods at home. She wrote one hilarious narrative on mindfully eating a double Whopper™ with French fries and insisted on reading it to her pathways team and her physician. She set a new goal to have more rainbow colors on her plate based on a comment by a nutritionally minded coworker.

**Progress: Sleep.** The area of sleep was much more challenging for Mary Anne. Without Red Bull she was less attentive and drowsy on shifts at the hospital. She reported staying out of the bed and bedroom until time for sleep, but she felt more lonely. Her sleep-onset latency was slightly improved with reduced caffeine. She agreed to reduce the dosage of her Lunesta very gradually, in consultation with her physician, and found it made no difference in her sleep onset. The Lunesta was apparently contributing almost nothing to her sleep onset. However, her workplace resisted her request to stabilize her nursing shifts and labeled her as “demanding” for this request. She continued to experience delay in sleep onset and fragmented sleep, with these problems more severe after shift changes. We promised a referral to a cognitive behavioral therapy sleep specialist after Mary Anne completed adequate Level 1 and 2 activities.

**Level 1 Summary**
After engaging in Level 1 activities for 6 weeks, Mary Anne exhibited several significant lifestyle and behavioral changes. Her activity level was consistently higher with daily walks. Her sleep habits were improved, and she had nearly eliminated high-caffeine drinks, yet her sleep onset was still sometimes delayed and she reported frequent midsleep awakening. She expressed enthusiasm for mindful eating and reported a number of more positive food choices. She still showed some mixed motivation about her health, cooperating consistently in her Level 1 activities yet asking intermittently how much longer before she could have more opiate analgesics.

**Level 2 Plan**
In the pathways model, Level 2 activities involve the acquisition of self-regulation skills, coping skills, and self-care strategies, often with guidance from educational resources and community-based programs. The choice of Level 2 activities is again collaborative and again follows a coaching model. The professional engages the patient in exploring relevant self-regulation skills and self-care strategies, especially those that research evidence has shown to be efficacious for the patient’s symptoms and conditions. The professional also identifies relevant community-based resources but defers to the patient to narrow the options and select specific resources and goals. The professional remains open to options from the patient that might seem “out of left field,” which nevertheless seem relevant and health supportive for this human being with his or her condition.

**Level 2: Aquatherapy.** Mary Anne agreed to attend an aquatherapy class at the local high school. The aquatherapy class included gentle graded exercise, three times a week, in a therapeutic pool with water temperature in the mid-90s Fahrenheit. The class was aimed at persons with arthritis and other medical conditions hindering physical exercise. Warm water soothes and relaxes muscles during movement, and the buoyancy of the water limits impact on the joints. We recommended gradual and interval exercise, that is, increasing the level and time of exertion very slowly and taking frequent rests after fairly short periods.

**Level 2: Illness self-management support group.** Mary Anne agreed to attend a psychoeducational group focused on living with chronic illness. Members of the support group included patients with multiple sclerosis, diabetes, fibromyalgia, and one other woman with SLE. Mary Anne attended the group regularly in exchange for progress reports sent directly to her primary care physician and rheumatologist.

This Level 2 intervention was strategically targeted to her rheumatologist’s referral recommendation that Mary Anne learn and adopt an illness self-management approach to her disease, to chronic pain, and to her related symptoms and conditions. This intervention also supported the central assumption in the pathways model, that we can better enlist the coping resources of human beings when we draw them into an alliance for health-emphasizing self-directed lifestyle and behavioral changes.

Despite being a nurse, Mary Anne knew relatively little about SLE and almost nothing about illness self-management. Mary Anne’s guidebook in the group was a free National Institute of Health publication titled *Lupus: A Patient Care Guide for Nurses and Other Health Professionals* (third edition; National Institute of Arthritis and Musculoskeletal and Skin Disease, 2006). Her assignments were organized around patient information sheets in the book, such as “Preventing Fatigue due to Lupus,” “Exercise and Lupus,” “Preventing a Lupus Flare,” “Joint Function and Lupus,” and “Skin Care and Lupus.” For the first time, Mary Anne realized that her sporadic use of a tanning bed probably was producing some of her lupus flares, “times of increased symptoms.

**Concepts and skills acquisition.** In the group, Mary Anne now encountered the idea of becoming a “critical consumer
of health care services” and the concept of taking a more “active role in her own health care.” With the group, she practiced asking questions to health professionals about her illness and symptoms and about the rationale for each element in her treatment plan. Mary Anne also for the first time learned the side effects of her current medications and compared those possible adverse effects to her current symptoms. She became excited at the ideas of self-care strategies and self-regulation skills, and with the class, she selected six self-regulation skills for future mastery.

Level 2: Mindfulness class. Mary Anne enjoyed her Level 1 mindful eating exercises and asked for more mindfulness training. We referred her to a mindfulness training class at a local church, supplemented by a book and an audio CD on mindfulness for beginners (Kabat-Zinn, 1990, 2006). Mindfulness training involves bringing one’s entire attention to one’s present experience in this moment, observing events unfold from moment to moment. In mindfulness, the individual suspends judgments and evaluations, accepting whatever arises in awareness.

Level 2 Progress

Level 2: Aquatherapy. Mary Anne liked the aquatherapy class. The instructor had been Mary Anne’s friend in high school, and they enjoyed stopping for a cup of tea at Starbucks after the class. Mary Anne began to see two of the attendees outside of class. She was surprised that movement in the water evoked only intermittent discomfort. She found by Week 3 that she was able to do as much activity in the pool as most of the class members.

Level 2: Illness self-management. She complained that we had not started educating her about illness self-management class on Day 1. Her background in nursing served her well in building an understanding of her illness. She was frightened to give up any medications but equally frightened to see how many of her medicines frequently produced side effects she was complaining to her physicians about. She set the goal of reducing her total medication regimen by one medication every 2 months.

Level 2: Mindfulness. Mary Anne described herself as more thoughtful and less edgy. She practiced only basic mindfulness at first, as an experiential practice of observing whatever occurs, with acceptance and without judgment. She later began practicing mindfulness meditation as well and found this soothing and calming. She became convinced that mindfulness was some kind of magic, because when she practiced it at work, her patients and other staff members became calmer and seemingly more mindful.

Level 2 Summary

After engaging in both Level 1 and Level 2 activities for 5 months, Mary Anne showed a substantially higher readiness for change. She no longer engaged in angry rants with the behavioral health team about why she needed to waste time on the pathways program. Her physical activity level was greatly improved with continued aquatherapy and daily walks. She exhibited enthusiasm for the illness self-management program, and was working on combining her nursing knowledge with the concept of assuming a more active role in managing her chronic SLE. She also showed a positive dedication and enthusiasm about mindfulness both as a coping skill and a meditative practice.

Level 3 Plan

In the pathways model, Level 3 involves professional interventions provided by health care and mental health care practitioners. This is the formal professionally delivered treatment phase in the pathways model. The selection of the treatments is a collaborative process, based on an evidence-based discussion of the treatment options that have proven valuable for the patient’s condition and the patient’s personal preferences.

Level 3: Heart rate variability biofeedback. Heart rate variability (HRV) biofeedback was chosen for Mary Anne because it has been shown to reduce anxiety and depression and is understood to enhance autonomic nervous system regulation (Moss & Shaffer, in press). HRV is the moment-to-moment variation in heart rate. HRV is positively correlated with health and resilience; the healthy heart is not a metronome. HRV is frequently decreased in depression, anxiety, and many medical conditions. HRV biofeedback involves using paced, relaxed breathing to enhance or restore the natural variability of heart rate.

At her initial biofeedback assessment, Mary Anne displayed a rapid and irregular breathing baseline, despite her months of mindfulness practice. Her baseline respiration rate was 22 breaths per minute. Her HRV was also low, as indicated by her basic HRV statistics. Her baseline SDNN was 43, and her baseline HR Max minus HR Min was 7.¹ Her rapid respiration rate qualified as hyperventilation, and the HRV statistics indicated lower than average HRV, which is common in individuals with chronic illness.

¹ SDNN and HR Max minus HR Min are commonly used statistics for HRV. The SDNN is the standard deviation of the normalized interbeat interval, the time between heart beats in milliseconds. The SDNN is frequently cited in medical research as an indicator of HRV and of current health status. The HR Max minus HR Min is the mean difference between the peak (maximum) heart rate and the lowest (minimum) heart rate in a breath cycle, measured in beats per minute.
Initially, Mary Anne’s biofeedback sessions reduced her mean baseline respiration rate from 22 to 8 breaths per minute. Next, her training helped her to smooth her breathing and to breathe at a fixed rate with a breath pacer on a computer display. Next, the biofeedback sessions were used to assess Mary Anne’s resonance frequency and to train her to breathe at this frequency. The resonance frequency is the breathing rate at which an individual produces the highest HRV. An individual’s resonance frequency is assessed by guiding her or him to breathe at various breath rates between 4.5 and 8 breaths per minute and measuring which breath rate produces the highest SDNN, the highest HR Max minus HR Min, and a phase synchronization between the heart rate and respiration wave forms.

We conducted a resonance frequency assessment and established that Mary Anne’s resonance frequency was seven breaths per minute. She then began in-office HRV training at seven breaths per minute and was given the assignment to breathe at home for 10 minutes one to two times daily with a breath pacer on her smartphone. She logged her practice times by adding HRV and a time to her activity calendar.

**Level 3: Hypnosis and healing imagery.** Mary Anne stated a strong interest in including some form of hypnosis in her Level 3 plan. She agreed to begin hypnosis inductions, which were focused on slow breathing, relaxation, pain reduction, and soothing her joints. She showed high hypnotic ability, which means that she was easily induced into a deep hypnotic trance. She began practicing self-hypnosis at home. She displayed high susceptibility to hypnotic imagery. She practiced visualizing a healing stream of water to cool her joints, soothe pain, and wash away inflammation, and she reported feeling a noticeable reduction in pain, burning, and discomfort during and following her self-hypnosis practice sessions.

**Level 3: HRV biofeedback progress.** After 10 weeks of daily practice of paced breathing at the resonance frequency of seven breaths per minute, Mary Anne showed improved breath control skills and improved HRV. Mary Anne could now breathe at seven breaths per minute in most sessions without using a breath pacer. In biofeedback training sessions, she showed more smooth sinusoidal breath and heart rate line graphs. Her breathing line graph and heart rate line graphs on the computer screen peaked together, and she learned to breathe with the biofeedback display, which enabled her to amplify the heart rate oscillations. Her SDNN in training sessions reached 87, and her HR Max minus HR Min reached 17. Her baselines after 10 weeks of practice were an SDNN of 66 and a HR Max minus HR Min of 11. Although an SDNN measured in a 5-minute

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2 The selection of a probiotic and dietary supplements in functional medicine is not based on the medical diagnosis. This was not a regimen based on her lupus diagnosis, and should not be applied for other lupus patients. Rather in functional medicine the choice of dietary supplements, foods to add, and foods to eliminate is largely based on laboratory testing including blood work and stool sample.
recording is not as reliable as an SDNN taken from a 24-hour Holter monitor, Mary Anne was nevertheless encouraged by these changes. Kleiger, Miller, Bigger, and Moss (1987) have published a categorization of SDNN into the following ranges:

SDNN 0–50 milliseconds: an unhealthy state
SDNN 51–100 milliseconds: compromised health
SDNN 101 and above: good health

In research on patients with a past myocardial infarction, the mortality was 5.3 times higher for the patients with an SDNN less than 50 milliseconds compared with those with an SDNN greater than 100 milliseconds (Kleiger et al., 1987).

Mary Anne felt initial success in moving from the unhealthy to the compromised health range and expressed determination to increase her variability further. Mary Anne reported that she could now often self-calm when upset and reported using less Klonopin for anxiety.

**Level 3: Hypnosis and guided imagery.** For Mary Anne, her resonance frequency breathing and self-hypnosis began to merge. She practiced breathing at seven breaths per minute but also imaged soothing springs and soft morning sunlight on her body as she practiced breathing. On days when her swelling, pain, or sick sensations increased, resonance frequency breathing and imagery often moderated discomfort and lifted her mood.

**Level 3: Behavioral sleep progress.** Mary Anne identified a number of self-defeating thought patterns that escalated agitation when sleep onset was delayed. She used a thought-stopping strategy, snapping a rubber band on her wrist whenever she noticed toxic thought trains beginning. Recognizing and redirecting her thoughts seemed to aid sleep onset; frequent awakening diminished.

Mary Anne learned to use the onset of toxic thoughts as a reminder to do her self-hypnosis and self-soothing imagery. She continued to use stimulus control to improve her sleep environment. The online sleep diaries and downloaded reports from the sleep clinic objectified her progress and reassured her when she became discouraged. The numbers assured her that she was making progress.

**Level 3: Effects of nutrition changes.** She found that taking her Mean Green Juice on mornings when she felt joint swelling was helpful. Both pain and swelling were reduced after drinking her juice. After 6 months, she informed her physician that she was reducing and then eliminating her Prednisone, Plaquenil, Celexa, and beta-blocker. Her physicians recommended against stopping these medica-

**Most Recent Assessment**
Mary Anne mastered excellent skills with self-hypnosis, paced breathing, and HRV biofeedback. She has continued to sustain more physical activity and a transformed diet. At the 3-year point, she reported less frequent and less severe Lupus flares. The past year saw only moderate flares.

Mary Anne’s mood was improved, and she was less subject to intense discouragement. Her sleep onset was faster, she awakened less frequently, and her average hours of sleep per night increased. She was still frustrated when she lay awake, but she stopped Lunesta. This individual showed substantially more interest in making changes in her own behavior than at intake.

Her primary care physician and her rheumatologist encouraged Mary Anne to continue her nutrition and lifestyle changes, but both stated that her improvement must be a placebo response. Neither could believe that her lifestyle and nutrition changes could have caused her improvements. Nevertheless, Mary Anne’s blood work improved greatly and indicated an objective improvement in the usual measures accompanying SLE. Her two most recent ANA levels were in the normal range. Her antiphospholipid numbers were only moderately elevated at her most recent assessment.

SLE is recognized to be a waxing and waning condition, with an unpredictable course. It is not unusual for patients to appear to be in remission one day and suffer extreme suffering one day later. When a medical condition is this erratic in its course, and one has a case study of one patient, it is not scientifically sound to claim that any specific interventions caused a patient’s improvement. Nevertheless, this human being demonstrated dramatic changes in emotional health, activity level, and lifestyle factors associated with higher-level wellness. She embraced a determination to become an active agent in her own health. Her suffering was greatly diminished at this time, and she was better able to function in her nursing work, with a reduction in absenteeism and much greater confidence in her ability to perform her professional work effectively.
References


