

## CASE REPORTS OF ACUPUNCTURISTS AND MASSAGE THERAPISTS AT MAYO CLINIC: NEW ALLIES IN EXPEDITING PATIENT DIAGNOSES

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Acupuncturists and massage therapists practicing within hospital and clinic settings is a relatively new, but growing phenomenon. Many clinical trials have documented the therapeutic roles these professionals can play in caring for patients. However, to our knowledge, little emphasis has been placed on their ability to aid in the diagnostic process. We report here our experience with these providers playing a critical role in contributing novel diagnostic information, both in the outpatient and inpatient settings. These observations

suggest that acupuncturists and massage therapists can play a strategic role in helping achieve timely diagnoses for many patients. Strategies on how to incorporate these professionals into the care flow in the clinic and hospital are discussed.

**Key words:** acupuncture, massage, diagnoses

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### INTRODUCTION

Massage and acupuncture have become well incorporated into conventional medical care in the United States. For example, a recent survey discovered that the percentage of hospitals in the United States using complementary and alternative medicine (CAM) had grown from 37 percent in 2007 to 42 percent by 2010.<sup>1</sup> The increase has been driven by both patient demand and clinical effectiveness, the latter being demonstrated in a growing body of research that supports the efficacy and safety of both professions as adjuncts to conventional care. Given recent documentation of the important role both of these professions will play in the strategic management of pain,<sup>2</sup> one can anticipate a rapidly expanding presence of both types of providers in academic medical centers in the coming years.

At Mayo Clinic, one unanticipated benefit of the presence of licensed acupuncturists and massage therapists in the clinic and hospital settings has been the contribution of novel diagnostic insights. Massage therapists at Mayo Clinic typically have patients fully undress and then spend an average of 45 minutes with hands-on contact with the patients. Likewise, acupuncturists at Mayo Clinic typically conduct a comprehensive history and physical examination of patients referred

to them. Depending on the requirements dictated by needle placement, they also have extended opportunities to visualize much of the body of each person under their care. Further enhancing their opportunities to detect new or novel clinical findings is the fact that they often see the same patient (under similar revealing conditions) multiple times over the course of a treatment. Thus, these providers often have substantially more one-on-one, and hands-on, time with the patient than the rest of the care team combined. As a result, we have found that massage therapists and acupuncturists at Mayo Clinic are increasingly contributing novel and critical diagnostic information to the care teams. The following examples are illustrative.

### CASE 1

A 43-year-old female, who underwent partial small bowel resection two days earlier, complained of back pain from prolonged time in the hospital bed. The surgical team requested massage therapy to help improve patient comfort. As part of the initial assessment, the massage therapist noted localized warmth over the anterior left lower quadrant which the patient verbalized was tender to palpation. The therapist immediately stopped the massage and notified the nursing staff and surgical service of the patient's symptoms. The patient was found to have an intestinal leak and infection in the abdominal cavity and was taken to surgery the same day.

### CASE 2

A 31-year-old female was referred for acupuncture therapy to help manage left upper trapezius pain that had been present for one year. During the initial consultation, the acupuncturist palpated a mass measuring approximately 1 × 5 × 4 cm

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within the trapezius and rhomboid region; it was warm to the touch and painful upon palpation. The acupuncturist contacted the referring physician and made her aware of the new finding. An ultrasound was ordered, and it revealed a hypoechoic solid mass with significant blood flow. An ultra-sound-guided biopsy was later performed with the results coming back positive for spindle cell sarcoma.

### CASE 3

A surgical service requested massage therapy for a 68-year-old female hospital patient who had undergone recent breast surgery and now complained of low back pain and anxiety. As part of the assessment, the therapist noted swelling and warmth in the patient's right lower leg. The patient was asymptomatic. The therapist notified nursing staff who contacted the surgical service. Ultrasound confirmed the presence of deep venous thrombosis.

### CASE 4

A 57-year-old female with breast cancer initially was referred to acupuncture services to address side effects associated with chemotherapy and radiotherapy. She responded well to acupuncture and was seen intermittently for periodic muscle pains and osteoarthritis symptoms. Approximately two years after her initial course of acupuncture treatment, she was again referred for acupuncture therapy, this time to treat left shoulder pain, which had been preliminarily diagnosed as a rotator cuff tendinitis. The pain did not respond to acupuncture, in contradistinction to her previous successes with treatment. The acupuncturist notified the referring oncologist about the atypical results. The oncologists investigated further, ultimately obtaining magnetic resonance imaging which revealed multifocal appearing lesions on the left scapula. A positron emission tomography scan revealed three lesions in the left scapula as well as metastatic lesions in the T2 and T9 vertebrae. Biopsy was positive for metastatic breast cancer.

### DISCUSSION

As the foregoing cases demonstrate, acupuncturists and massage therapists in clinical settings can provide valuable input into clinical diagnoses in patients. This is due to a number of factors. As mentioned earlier, both acupuncturists and massage therapists spend a significant amount of time with patients, often over many visits. In our practice at Mayo Clinic many patients might see an acupuncturist or massage therapist multiple times over several months, in between their visits to their conventional providers. Thus, it is not surprising that a new finding (e.g., the trapezius mass in the second case) might be detected first by one of these allied health team members.

Along with more frequent patient contact, these providers (massage therapists in particular) also have the advantage of often physically seeing more of the patient in an unclothed (but appropriately draped) state than do their conventional providers. One example of this is the fact that over the past decade, our massage therapists have identified a number of

suspicious skin lesions, leading ultimately to diagnoses of skin cancers, including melanomas. These were not diagnoses "missed" by the patients' doctors (who often had not seen the area of concern in recent months) but more an example of how a novel care team member can act as a second set of eyes to bring new findings to the attention of the whole care team.

Both massage therapists and acupuncturists spend a significant amount of time with hands-on contact with the patients. The fact that a massage therapist's trained fingers can detect subtle changes in skin temperature before an abdominal infection fully manifested (as in the first case) is not an implied failure of the conventional care team's diagnostic skill. It simply represents a new team member joining that established care paradigm in a way that provided a novel—and in this case, earlier—clue to an important diagnosis.

Finally, it is important to recognize the training that these new colleagues undergo prepares them to be excellent observers of their patients and their reactions to the therapy being provided. A licensed acupuncturist in Minnesota must complete a three to four year Master's degree program with a strong focus in biomedicine sciences. This training includes clinical assessment to recognize signs, symptoms, and morbidities associated with common medical conditions and a basic understanding of commonly used medical imaging studies and laboratory tests. To ensure a high quality of practice, all licensed acupuncturists are also required to be certified by the National Certification Commission for Acupuncture and Oriental Medicine. Licensed acupuncturists in Minnesota must further be licensed by the Minnesota Board of Medical Practice. Continuing education is mandatory with a minimum of sixty hours of coursework every four years.

Training requirements for massage therapy vary from state to state and are generally less rigorous than for acupuncture. In Minnesota, there is no state requirement regarding certification. However, Mayo Clinic's standards require massage therapists to have certification of at least 750 hours training, which includes didactic studies in anatomy, physiology, pathology, and kinesiology as well as at least 3 years of clinical experience. Board certification from the National Certification Board of Therapeutic Massage and Bodywork is also required and continuing education is mandatory with a minimum of 24 hours every two years.

In addition to this required training, massage therapists and acupuncturists who work at Mayo Clinic also undergo extensive orientation to the Mayo Clinic model of care and the use of the electronic medical record. They also receive additional training in optimizing communication with referring physicians and other healthcare providers. Thus, it should not be surprising that they can and do frequently bring important clinical findings to the attention of the rest of the care team.

### Take-aways for physicians and other medical providers

In each of the examples shared above, a massage therapist or acupuncturist brought a new finding to the attention of the primary care provider. In each case, the primary provider listened to the concern raised, confirmed it, and acted on it. This teamwork contributed to an expedited diagnosis. Our

aforementioned anecdotes confirm that these new colleagues in the clinic and hospital care environments can be diagnostic allies and lead to improved care of our patients. What does this mean for physicians and other conventional care team members?

First, it requires a willingness to learn more about these two professions and understand the skills and knowledge that acupuncturists and massage therapists bring to the bedside. Combined with the time they spend with patients and the scope of their examinations, these providers can be a new set of eyes and a new set of hands integrated into the wider care team. At the same time, it also requires an acknowledgment of the limitations of their training. Sometimes, a new “finding” may turn out not to be of consequence. In these cases, respectfully explaining why the finding does not rise to the level of concern can be a helpful dialog that maintains a safe environment that encourages open sharing of information related to the patient’s optimal care.

Second, it requires a proactive approach to orient these providers when they are brought into a clinic or hospital setting for the first time. Making them feel welcomed is a key part of this, but even more importantly is the need to introduce them to the care model and culture of the institution. Many of these providers are given instruction in basic medical communication as part of their training. But since each clinic and hospital has its own unique culture, thoughtfully communicating that can help them be successful. Clear expectations about lines of communication, documentation, etc. need to be clearly spelled out from day one.

Finally, successful integration of acupuncturists and massage therapists into any clinical setting requires an ongoing commitment to treat them as colleagues and collaborators in care. At Mayo Clinic, we have intentionally included our acupuncturists and massage therapists in our clinical practice management meetings, educational conferences, Continuing Medical Education meetings, and other learning activities. This has exposed them to conventional medicine in ways that are quite novel for members of their professions and increased their professionalism within the clinic settings. At the same time, it has provided numerous opportunities for them to teach physician colleagues about the work they do, and has increased physician professionalism in communicating and working with them. Recognizing our shared goal of serving the core value of Mayo Clinic—“the needs of the patient come first”—has enriched the practice for all members of the care team.

In conclusion, it is important that physicians and other conventional healthcare providers be open to dialog with their counterparts from the acupuncture and massage therapy professions. These latter clinicians obviously have a strategic role to play in mitigating symptoms and improving quality of life overall as well-demonstrated in numerous studies<sup>3–11</sup> as well as in several from Mayo Clinic.<sup>12–17</sup> However, the anecdotes we have provided also suggest that even further value may be found in the ability of these colleagues to contribute, in a

meaningful fashion, to the timely diagnosis and treatment of patients having otherwise occult medical diagnoses.

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