**GCMAS 2017 Pre-Conference Workshop**

**“Fine-Wire EMG”**

##### **Date: Monday, May 22nd, 2017**

##### **Time: 8 AM – 7 PM**

**Course Description:**

This hands-on workshop will provide clinicians with the opportunity to learn and perform fine-wire EMG insertions. Course content will include didactic material covering the following topics: 1) gross anatomy, neuroanatomy, nerve and muscle physiology foundational concepts; 2) Electromyography – concepts; 3)pertinent anatomy and physiology fine-wire EMG general guidelines (indications, contraindication, consent, and techniques); 4) EMG instrumentation, choice of equipment, data processing and process quality assessment; 5) Hazards and complications, instrumentation and troubleshooting; and 6) Preparation, patient informed consent for procedure, and post-test care, and 7) clinical interpretation. Each participant will have the opportunity to practice fine-wire insertions for 3 – 4 muscles in small groups under the guidance of experienced kinesiological fine-wire EMG instructors.

Please Note:

* *Course participants must be willing to partake in the lab sessions both as subject and examiner.*
* *Course participants should bring appropriate clothing for lab sessions (shorts, halter tops, tank tops, sports bras, etc.).*
* *Course participants are responsible to investigate their individual state licensure requirement and practice within the scope of their state licensing board.*

**Call for Alumni**

We would to like to invite past attendees (FineWire Course Alumni) to join us and share your experiences, successes, and challenges as you incorporated finewire techniques into your clinical and research practice.

**Course Faculty:**

**Sara Mulroy PT, PhD**

Director, Pathokinesiology Laboratory, Rancho Los Amigos National Rehabilitation Center

**Sylvia Öunpuu, MSc**

Director of Research and Education, Center for Motion Analysis, Connecticut Children's Medical Center

**Jean Stout, PT, MS**

Research Physical Therapist, Gillette Children’s Specialty Healthcare

**Marilynn Wyatt, PT, MA**

Director, Gait Analysis Laboratory, Naval Medical Center San Diego

**Sherry Backus, PT, DPT, MA**

Course Co-Director - sherry.backus@gcmas.org

Clinical Supervisor, Motion Analysis Laboratory, Hospital for Special Surgery

**Carole Tucker, PT, PhD**

Course Co-Director – carole.tucker@gcmas.org

Associate Professor of Physical Therapy & Electrical Engineering, Temple University

**Course Objectives**

Upon completion of this training program, participants will:

* Demonstrate understanding of the indications, precautions and contraindications, risks, post-test care involved in performing kinesiological fine-wire electromyographic studies.
* Demonstrate understanding of gross anatomy and neuroanatomy, muscle and nerve physiology,
* Demonstrate an understanding of the instrumentation, choice of instruments, hazards and complications, troubleshooting used for kinesiological EMG,
* Perform fine-wire EMG insertion techniques safely and effectively for selected muscles.

**Agenda (Tentative)**

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| **Time** | **Topic & Activity** | **Instructor(s)** |
| **8:00 – 8:30** | Course Introduction & Logistics and Course Pre-test | Carole & Sherry |
| **8:30 – 9:00** | General Guidelines and Techniques for Kinesiological Fine-Wire EMG | Sylvia |
| **9:00 – 9:15** | Fine-wire Insertion Techniques & Demonstration: EDL/TA\* | Marilynn |
| **9:15 – 12:00** | Anatomy Lab | TBA (Bo Foreman) |
| **12:15 – 12:45** | Lecture/Discussion: Data Interpretation with Boxed Lunch | Sylvia |
| **12:45 – 1:45** | Practice Session 1: EDL/TA\* | Sherry, Sara, Jean & Marilynn |
| **1:45 – 2:15** | Lecture/Discussion: Instrumentation & Quality Assessment | Sylvia & Carole |
| **2:15– 3:30** | Practice Session 2: Fine-Wire Insertion Technique: Tib Post/ FHL \* | Sherry, **Sara,** Jean & Marilynn |
| **3:30 - 3:45** | Break |  |
| **3:45 – 4:45** | Practice Session 3: Fine-Wire Insertion Technique: Thigh (Rectus/VL/TFL/Glut Medius) | Sherry, Sara, Jean & Marilynn |
| **4:45 – 5:15** | Lecture/Discussion: Basic Interpretation | Sylvia |
| **5:15 – 5:45** | Fine-wire Insertion Techniques & Demonstration: Shoulder & Scapula, Proximal Hip (Hip Flexors) | **Sherry, Marilynn** |
| **5:45 – 6:45** | Practice Session 4: Fine-Wire Insertion Muscles TBD | Sherry, Sara, Jean & Marilynn |
| **6:45 – 7:00** | Final Discussion & Questions and Course Post-test | Carole & Sherry |

**Frequently Asked Questions**

**Will this course credential or certify me in fine –wire EMG?**

There currently is not a national body that credentials kinesiological EMG; however the Physical Therapy Board of California does Kinesiological Electromyography Certification. The requirements are rigorous and detailed at [www.ptbc.**ca**.gov/forms/139963\_k**emg**.pdf](http://www.ptbc.ca.gov/forms/139963_kemg.pdf) The certification requirements cannot be addressed in a single-day course as they require extensive clock hours (200) or kinesiological examinations (50) to be eligible to be examined by the board. Our course faculty includes instructors with California Certification and will supervise those course participants from California.

This course will specifically address the following requirements listed for certification in California;

1399.63 Training in Tissue Penetration under supervision by a licensed physician or physical therapist certified to perform electromyography:

Pertinent anatomy and physiology, choice of equipment, proper technique, hazards and complications, post-test care and satisfactory training in technical skills of tissue penetration

This course will review the relevant gross anatomy, neuroanatomy, nerve and muscle physiology.

**How many “sticks” will I actually get to do?**

In large part this will depend on you learning rate. We are planning on providing opportunity for participants to perform 3 – 8 insertions in lower extremity muscles as part of the course.

**Can I insert in someone else, but not have anyone practice on me?**

No, its equal exchange for this course. We also think it’s a good idea to understand the sensations involved from the patient perspective.

**Can I just register or come to the lecture parts only of the day long course?**

Please contact Sherry or Carole to discuss

**Can I just sit in on the laboratory sessions?**

No – the didactic material and the laboratory content is inter-woven. You cannot really do one without the other, it is a complete package.

**Will I get continuing education credit?**

Yes, this course, as will the GCMAS conference, is expected to have CME/CEUs approved.

**Will I be tested on the course material?**

Yes, you will take short pre- and post course exams that cover each of the course content areas. Your insertions skills will also be supervised and observed by a faculty member. Rest easy, this is not really at all like your “lab practicals” in college, but tend to be enhanced learning opportunities – think warmer and fuzzier ☺ We will also ask you for course feedback and evaluations so we can improve this offering.

**Why is it such a long day? Will I have breaks?**

We wanted to maximize our time without making people stay an extra night. We do have food and bio breaks of course, we may choose to have “working” lunches and breaks to discuss concepts, or provide you didactic content. So the participants certainly get breaks, though the instructors may not!

**Do I have to be a licensed PT or MD? I do not have an entry-level PT degree, but I am student or new graduate of a PT Program… Can I register? I am a non-US licensed clinician… Can I register? I am a non-PT, PhD student who uses FWEMG for research purposes only. Can I register?**

Most individuals that do clinical kinesiological EMG are PTs or MDs. In the State of California you must be a PT (or MD). As noted in the course description, each participant must decide if the course content is within and allowed by their specific practice act. If you are not a PT, we recommend that you are a graduate of a 4 year program, and have extensive motion analysis laboratory experience (or similar setting). Graduates of technology or professional 2 year programs (non BS degree) are discouraged.

If you are not a licensed PT, MD or other clinician who is governed by a practice act that allows your profession to perform kinesiologic FWEMG, please contact the Course Leaders who can help determine if you are eligible to participate in the course:

Carole A Tucker - tuckerc@temple.edu

Sherry Backus – backuss@hss.edu

**What other pre-requisites are needed?**

You will get the most out of this course if you have had the following college-level course content and a working knowledge of: gross anatomy with a laboratory component, neuroanatomy, physiology (muscle and nerve), and basic electrophysiological and instrumentation principles. We will share a reading list prior to the start of the course and you again will maximize your experience if you complete the suggested pre-workshop activities.