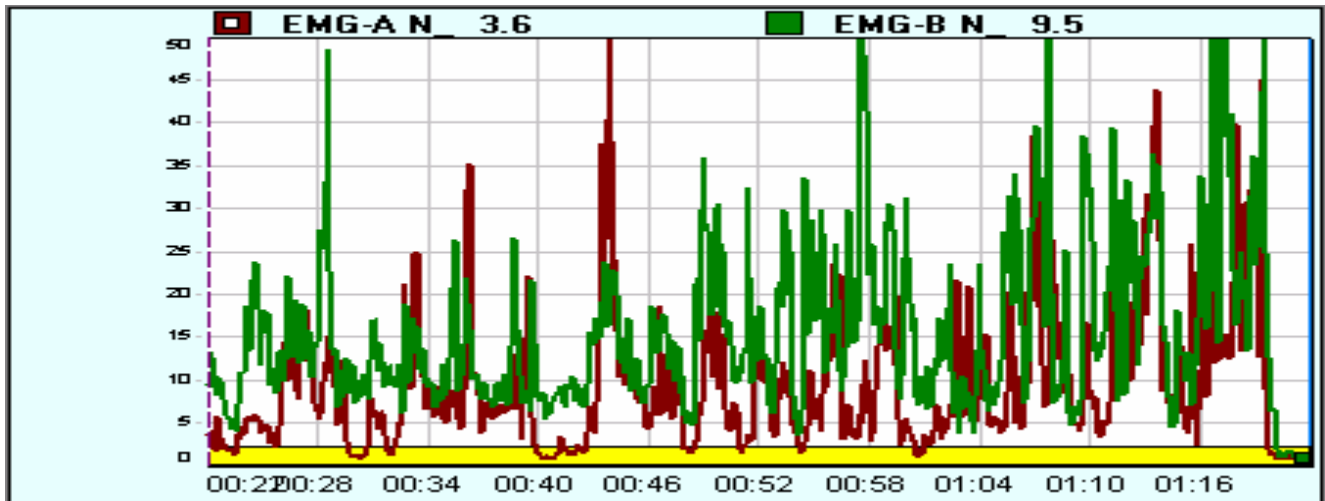


**EMG Hand Muscle Firing Patterns In Food Preparation**  
**Taco Del Mar Restaurant – Surrey, Canada**      **May 24, 2006**

**FIG. 1 Building a Sandwich (Burrito)** • Finger extensor muscle activity in green  
• Finger flexor muscle activity in red

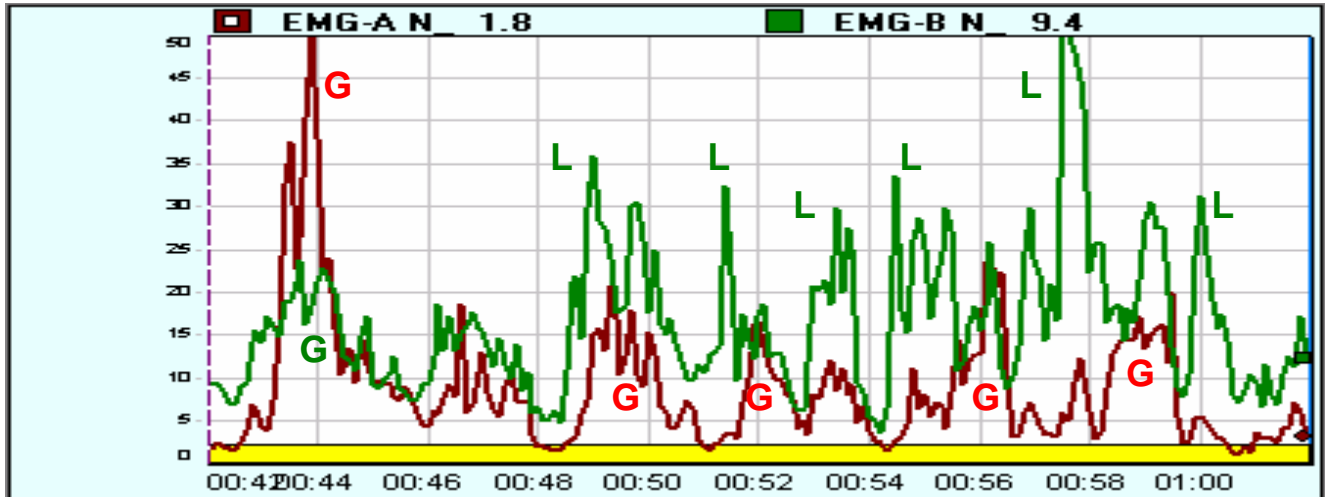


Notice in **FIG. 1** the constant activity of the finger extensor muscles (**green**). These muscles are constantly working against gravity while the worker is building the sandwich (burrito). The finger extensor muscles are commonly over-used and yet under-prepared for the workplace, resulting in RSI's (Repetitive Stress Injuries) to the hand, wrist, forearm and elbow.

Notice also in **FIG. 1** that whenever the worker grips an item using the finger flexor muscles (**high red peak**) that the finger extensor muscles (**green**) remain very active to support the grip action. This clear fact opposes traditional thinking, which says that finger extensor muscles relax during the action of finger flexion (reciprocal muscle group theory).

**FIG. 2** Close Up Of Worker  
Building A Sandwich (Burrito)

- Finger extensor muscle activity in green
- Finger flexor muscle activity in red



Notice in the close-up view (**FIG 2**) that there are different intensities of finger gripping (**G,G**) and lifting (**L**) during the building of the sandwich. Throughout the process the finger extensor muscles (**green**) are always active, as they are positioned against gravity. The finger flexor muscles (**red**) in contrast are positioned with gravity and thus, are allowed to rest occasionally (**yellow zone**). The constant activity of the hand muscles through small ranges of motion, without proper exercise and preparation, is perfect breeding ground for RSI's at the hand, wrist, forearm and elbow.

**The Handmaster Plus** a complete, convenient and cost-effective solution to hand muscle training and preparation for workers who deal with daily repetitive hand actions through small ranges of motion. It strengthens the 9 muscles that close the hand as well as the 9 muscles that open the hand, all in one easy, continuous motion. The result is strength, balance and maximum blood flow and thus a reduction in the risk of injury to the hand, wrist, forearm and elbow. Handmaster Plus is the #1 rated hand exercise product on the market today.

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