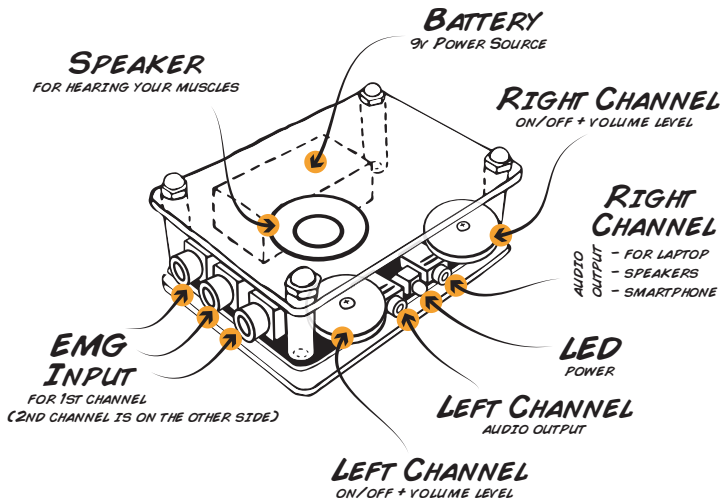


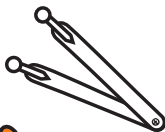
WELCOME TO THE NEURO**REVOLUTION!**

CONGRATULATIONS! YOU ARE NOW A PROUD OWNER OF THE SPIKERBOX.



SMALL MUSCLE ELECTRODES

Use for recording from small muscles. Apply gel first!



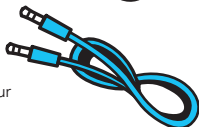
CONDUCTIVE GEL

Apply gel to get a better signal from small muscles.



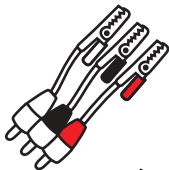
LAPTOP CABLE

Connect EMG SpikerBox to your laptop.



EMG LEADS

Connect these from the SpikerBox to your electrodes.



LARGE MUSCLE ELECTRODE PADS

Stick to your arm for recording. (see back for instructions)

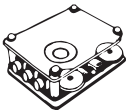


SMARTPHONE CABLE

Use to record muscles on your smartphone.



GETTING STARTED WITH YOUR



You may have heard and seen spikes from invertebrates. But what about yourself? Your body uses electricity to communicate and control parts of the body. So now let's try to record electrical impulses from muscles in humans!

LET'S GET STARTED!

In this experiment, we are going to record the group activity of 1000's of muscle fibers within the large bicep muscles and also a small number of fibers from the tiny interosseous muscle in your hand

BICEP/TRICEP RECORDING



Now hook up the EMG SpikerBox leads (the red and black alligator clips) to the surface electrodes on your bicep and tricep. Place one sticker electrode on the back of your hand and connect both reference electrodes (white) from channel 1 & channel 2.

Turn on the EMG SpikerBox and listen for changes in activity. Notice a difference when you flex your muscles?

Now try using SpikeRecorder on your computer to see and record the difference in bicep/tricep activity.

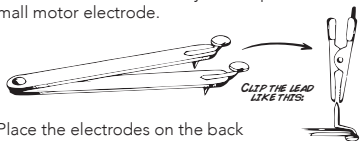
You can find more complete instructions here:

BACKYARDBRAINS.COM/EXPERIMENTS/ENG2CHSPIKERBOX

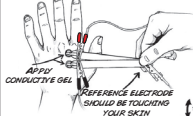
Plug in your SmartPhone (with our free Android or iPhone apps installed) or computer (using our SpikeRecorder app or Audacity program). Can you see spikes?

MUSCLE ACTION POTENTIALS

Attach both the Red and Black lead clips to brass fasteners on either side of your "Popsicle stick" small motor electrode.

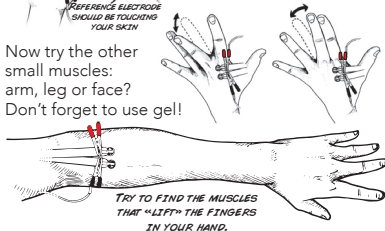


Place the electrodes on the back of your hand between the knuckles as shown:



Turn on your EMG SpikerBox and move your middle finger like this:

Now try the other small muscles: arm, leg or face? Don't forget to use gel!



**DOZENS OF OTHER EXPERIMENTS AT
BACKYARDBRAINS.COM/EXPERIMENTS**

