

**Music Pathways in the Brain:  
from sound to movement to learning**

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Musicians develop a strong neural connection between sound and movement called the auditory-motor loop. As sound-movement patterns are strengthened and become faster through practice, learning occurs, and the brain actually changes. These changes in the brain are called plasticity or neuroplasticity. Plasticity is positive when we are connecting the sound we want with fluid movements, resulting in tension-free performance. But sometimes our movement patterns are based on faulty body maps and do not reflect how our body is actually structured. Practicing based on mis-mappings of the body sets the stage for injury, poor technique, and limited sound palettes. Fortunately, thanks to neuroplasticity, faulty body maps can be corrected and changed to restore free movement, improve technique, and enhance musicianship.

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**Selected plasticity references:**

Blakeslee, S., and Blakeslee, M. (2007). *The body has a mind of its own*. New York: Random House.

Doidge, N. (2007). *The brain that changes itself*. New York: Viking.

Svard, L. (2010, April). The musician's guide to the brain: From perception to performance. *MTNA e-journal*, 2-11.

**Selected body mapping references:**

[www.bodymap.org](http://www.bodymap.org) Home base for locating Licensed Andover Educators®, musicians who are qualified to teach the course "What Every Musician Needs to Know About the Body" designed by Barbara Conable and illustrated by Benjamin Conable. Body Mapping publications and resources can be found at this website.

[www.allsensepress.com](http://www.allsensepress.com) Connect with Kay S. Hooper's schedule and her publication *Sensory Tune-ups: a guided journal of sensory experiences for performers of all ages*, published by AllSense Press. Check the Hartt School of Music Summerterm schedule for her Body Mapping course for music educators: <http://harttweb.hartford.edu/SummerTerm/home.aspx>