

**EFFECT OF ALLODYNIA
ON FINE MOTOR
FUNCTION IN MIGRAINEURS**

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BACKGROUND RESEARCH

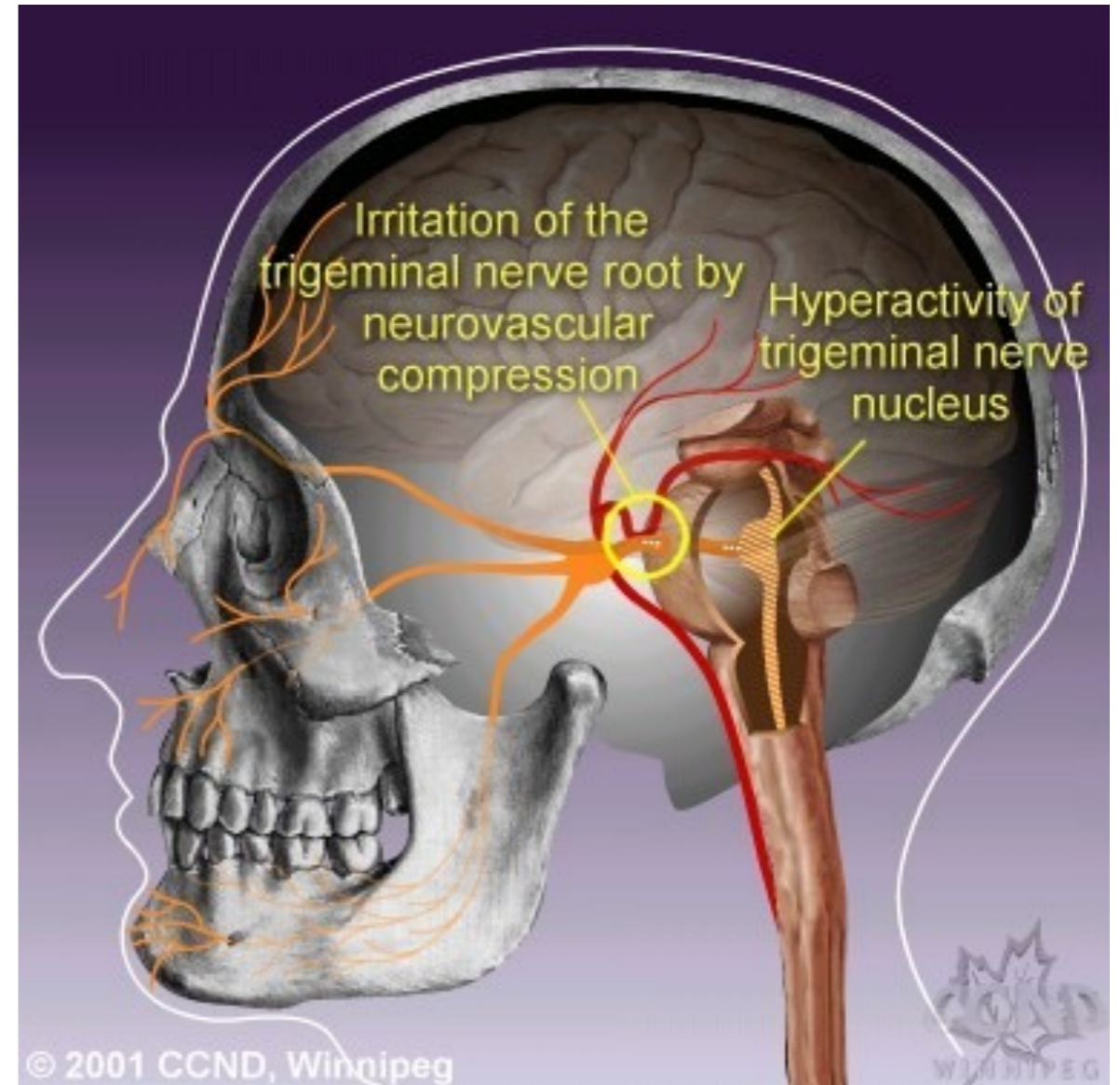
- **Migraines** — neurovascular disorder
 - Recurrent, one-sided throbbing pain.
 - Last 4 - 72 hours.
 - With/without typical aura symptoms.
- **Allodynia** — the experience of pain from a non-painful stimulation.



GIF. Migraine Visual Aura. [Online Image]. Retrieved February 28, 2016.

WHAT

- Dodick & Silberstein (2006) — **Central Sensitization Theory:** general hyperexcitability of pain-modulating circuits (brainstem).
- Lead to distributions of allodynia, photophobia, phonophobia.
- Berstein et al. (2000) — Change in pain thresholds associated with tactile allodynia.



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Diagram of the Trigeminal Nerve System. [Online Image]. (2001). Retrieved February 29th, 2016.

PROPOSAL

- Prevalence of allodynia in migraineurs and its effect on fine motor function.
- In the context of the Central Sensitization Theory.
- Differences between interictal period task performance and migraine period task performance.
- Pain threshold differences.

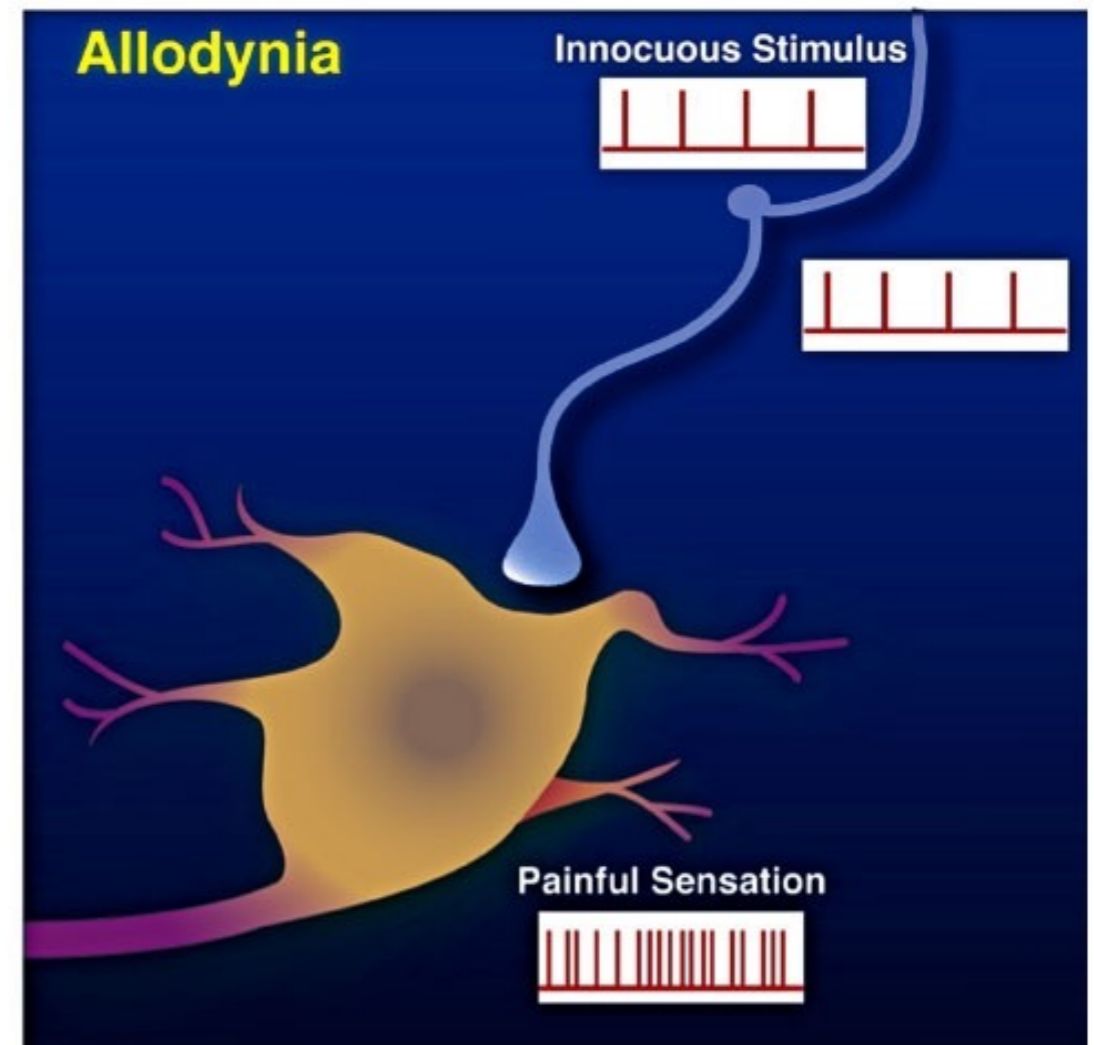
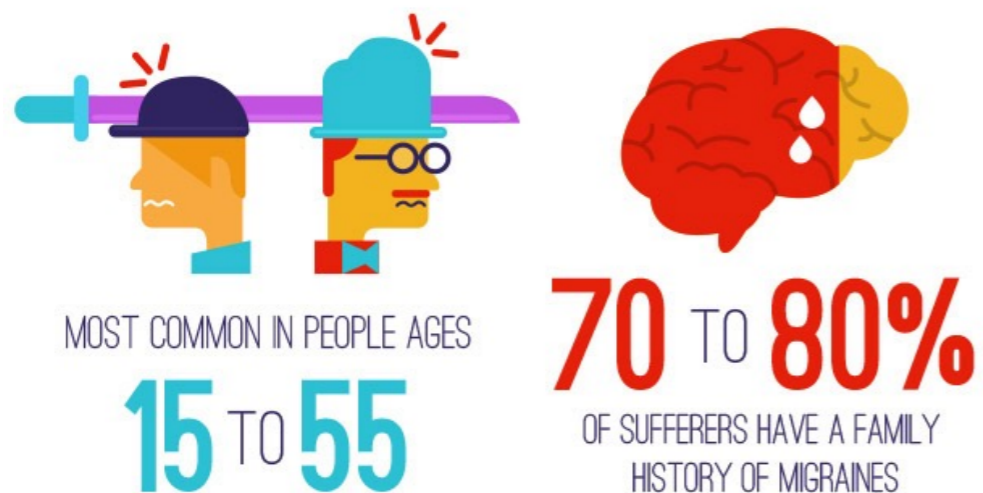


Figure 4. Normal sensations are amped up and experienced as pain.
Types of Pain and Pain Pathways. [Online Image] (2014). Retrieved February 28th, 2016.

WHY

- Migraines can last from 4 to 72 hours.
- Affects 19% of women and 11% of men worldwide.
- Allodynia is typical of a migraine attack.
- Lack of causal understanding.
- Better understanding of symptoms and brain mechanisms involved — improved treatment methods.



Pain Management and Injury Relief. [Online Image] (2014) Retrieved February 28th, 2016.

REFERENCES – THANK YOU

- Afra, J., MD, Mascia, A., MD, Gerard, P., Why, Maertens de Noordhout, A., MD, PhD, & Schoenen, J., MD, PhD. (1998). Interictal Cortical Excitability in Migraine: A Study Using Transcranial Magnetic Stimulation of Motor and Visual Cortices. *Annals of Neurology*, 44(2), 209-215. Retrieved February 27, 2016, from <http://onlinelibrary.wiley.com/doi/10.1002/ana.410440211/abstract>
- Aurora, S. K., MD, Ahmad, B. K., MD, Welch, K. M., MD, Bhardhwaj, P., MD, & Ramadan, N. M., MD. (1998). Transcranial Magnetic Stimulation Confirms Hyperexcitability of Occipital Cortex in Migraine. *Neurology*, 50(4), 1111-1114. Retrieved February 27, 2016, from <http://www.neurology.org/content/50/4/1111.short>
- Bartleson, J. D., M.D., & Cutrer, F. M., M.D. (2010). Migraine Update: Diagnosis and Treatment. *Minnesota Medicine*, 36-41. Retrieved February 27, 2016, from <http://miltonmarchioli.com.br/blog/wp-content/uploads/Migraine-Update.pdf>
- Burstein, R., PhD, Yarnitsky, D., MD, Goor-Aryeh, I., MD, Ransil, B. J., PhD, MD, & Bajwa, Z. H., MD. (2000). An Association Between Migraine and Cutaneous Allodynia. *Annals of Neurology*, 47(5), 614-624. Retrieved February 27, 2016, from <http://onlinelibrary.wiley.com/doi/10.1002/>
- Dodick, D., MD, & Silberstein, S., MD. (2006). Central Sensitization Theory of Migraine: Clinical Implications. *Headache: The Journal of Head and Face Pain*, 46(4), 182-191. Retrieved February 27, 2016, from <http://onlinelibrary.wiley.com/doi/10.1111/>
- Schwedt, T. J., MD, MSCI. (2013). Multisensory Integration in Migraine. *Curr Opin Neurology*, 26(3), 248-253. Retrieved February 26, 2016, from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4038337/>