

FAST FACTS AND CONCEPTS #81
MANAGEMENT OF HICCUPS

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Background Hiccups (singultus) are distressing to patients and families; when chronic, they diminish quality of life. A hiccup is an involuntary reflex involving the respiratory muscles of the chest and diaphragm, mediated by the phrenic and vagus nerves and a central (brainstem) reflex center. A single episode can last for a few seconds to as long as several days. If they last longer than 48 hours hiccups are termed *persistent*; longer than one month, *intractable*. Etiologies range from stress/excitement to cancer, myocardial infarction, esophageal or gastric distension, liver disease, uremia, IV steroids, CNS lesions, chemotherapy, and idiopathic. Irritation of the vagus nerve or diaphragm is a common pathophysiologic mechanism.

Management Once hiccups have lasted beyond a time-limited annoyance, deciding on therapeutic intervention should be based on a thorough clinical assessment and, if possible, treatment directed at the underlying cause. A thorough history, review of medications, focused review of systems, and physical exam may help guide initial choice of treatment. Many drug and non-drug treatments have been used, but there is little evidence of any one superior approach to management; virtually all current data are anecdotal. The patient's prognosis, current level of function, and potential adverse effects from any proposed treatment should be considered.

Pharmacologic Therapy

- **Anti-Psychotics:** Chlorpromazine – the only FDA approved drug for hiccups. Dose: 25-50 mg PO TID or QID. Can also be given by slow IV infusion (25-50 mg in 500-1000 ml of NS over several hours). Haloperidol – a useful alternative to chlorpromazine; give a 2-5 mg (SubQ/PO) loading dose followed by 1-4 mg PO TID.
- **Anti-Convulsants:** Gabapentin – at doses of 300-400 TID has been described as effective in multiple case reports. Its dual role as an analgesic may make it an especially attractive therapeutic agent. Phenytoin – reportedly effective in patients with a CNS etiology of their hiccups. Dose: 200 mg slow IV push followed by 300 mg PO daily. Others: Valproic Acid and Carbamazepine have been reported to work for selected patients.
- **Miscellaneous:** Baclofen – the only drug studied in a double blind randomized controlled study for treatment of hiccups. 5 mg PO q8 hours did not eliminate hiccups but did provide symptomatic relief in some patients. Metoclopramide – 10 mg PO QID is an option, especially if stomach distension is the etiology. Nifedipine – 10 mg BID with gradual increase up to 20 mg TID has been suggested as a relatively safe alternative if other interventions have failed. Other drugs that have been tried with very limited success include: amitriptyline, sertraline, inhaled lidocaine, ketamine, edrophonium, methylphenidate, and amantidine.

Non-Pharmacologic Therapy There are many well known, time-honored home remedies: gargling with water, biting a lemon, swallowing sugar, or producing a fright response. Other approaches are directed at a) vagal stimulation such as carotid massage or valsalva maneuver; b) interruption of phrenic nerve transmission via rubbing over the 5th cervical vertebrae; or c) interrupting the respiratory cycle through sneezing, coughing, breath holding, hyperventilation, or breathing into a paper bag. Other interventions such as acupuncture, diaphragmatic pacing electrodes, or surgical ablation of the reflex arc can be considered when other treatments fail.

References

1. Kolodzik PW, Eilers, MA. Hiccups (singultus): review and approach to management. *Ann Emerg Med.* 1991; 20:565-573.
2. Lewis J. Hiccups: causes and cures. *J Clin Gastro.* 1985; 7:539-552.
3. Rousseau, P. Hiccups. *Southern Med J.* 1995; 2:175-181.
4. Bondi N, Bettelli, A. Treatment of hiccup by acupuncture in patients under anesthesia and in conscious patients. *Minerva Med.* 1981; 72:2231-2234.
5. Ramirez FC, Graham DY. Treatment of intractable hiccup with baclofen: results of a double-blind, randomized, controlled, cross-over study. *A J Gastro.* 1992; 87:1789-91.

6. Physicians' Desk Reference. 61st Edition. Thomson PDR; 2007. Available at <http://pdr.net>.
7. Smith HS, Busracamwongs A. Management of hiccups in the palliative care population. *Am J Hosp Pall Care*. 2003; 20:149-54.
8. Vaidya V. Sertraline in the treatment of hiccups. *Psychosomat*. 2000; 41:353-355.
9. Hernandez JL, et al. Gabapentin for intractable hiccup. *Am J Med*. 2004; 117:279-81.
10. Marinella, Mark A. "Diagnosis and management of hiccups in the patient with advanced cancer." *J support Oncol* 7.4 (2009): 122-7.
11. Wilcox SK, Garry A, Johnson MJ. Novel use of amantadine to treat hiccups. *Journal of Pain and Symptom Management* 2009; 38: 460-5. [Volume 38, Issue 3](#), September 2009, Pages 460–465.

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