

# Chronic cough treatment: the McGill experience

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| <b>Submission date</b><br>26/11/2014   | <b>Recruitment status</b><br>Stopped            | <input type="checkbox"/> Prospectively registered<br><input type="checkbox"/> Protocol                       |
| <b>Registration date</b><br>06/01/2015 | <b>Overall study status</b><br>Stopped          | <input type="checkbox"/> Statistical analysis plan<br><input type="checkbox"/> Results                       |
| <b>Last Edited</b><br>29/10/2019       | <b>Condition category</b><br>Signs and Symptoms | <input type="checkbox"/> Individual participant data<br><input type="checkbox"/> Record updated in last year |

## Plain English summary of protocol

### Background and study aims

Having a chronic cough can strongly impact the quality of life of patients. One possible cause is post-viral vagal neuropathy, whereby a nerve (the vagus nerve) that provides sensation to the larynx (or voicebox) and triggers the cough reflex is damaged by a virus. This makes the nerve hyper-sensitive. The patient will react more than other people to irritants, such as allergens, smoke, cold air and perfumes, all of which trigger the cough reflex. This leads to a unrelenting chronic cough that does not seem to get better with time and can go in for many months, or even years. At the moment, the treatment we give to our patients is amitriptyline (Elavil®). We have noticed a great improvement of chronic cough in our patients when treated with this medication. Amitriptyline has been used for several years for the treatment of neuropathic pain (pain caused by damaged nerves). It is therefore thought to work in the same way in treating postviral vagal neuropathy leading to chronic cough. Another medication, gabapentin (Neurontin®) is also reported as a successful treatment for chronic cough. Just like amitriptyline, it has neuromodulator effects, which are used very commonly for neuropathic pain. Here, we want to look at two drugs, both of which have been proven to help with chronic cough and find out which one acts more quickly and has fewer side effects.

### Who can participate?

Adults who have had cough symptoms for at least 3 months.

### What does the study involve?

Patients are randomly allocated into one of two groups. Those in group 1 are given amitriptyline. Those in group 2 are given gabapentin. To understand if patients are showing responses to the medication, phone interviews are conducted 10 days and then 21 days after the treatment starts. For each of these two visits, each participant completes a questionnaire asking them about their chronic cough and are asked if they are experiencing side effects. 6 weeks after the treatment has started, patients are seen in clinic by a laryngologist. The questionnaire is filled in again and questions asked about side effects. The patient also undergoes a direct laryngoscopy to see how swollen (inflamed) their vocal cords are. The reflux finding score (a way of measuring the laryngopharyngeal reflux) is also completed.

### What are the possible benefits and risks of participating?

Both amitriptyline and gabapentin have been shown to improve chronic cough. They have also both been used for many years in the treatment of other conditions, such as various

neuropathies. Both are extremely safe drugs, with few side effects. The most common side effects of amitriptyline are dry mouth and dizziness. With gabapentin, the most common side effect is low energy and muscle aches.

Where is the study run from?

1. Montreal General Hospital (Canada)
2. Royal Victoria Hospital, Montreal (Canada)

When is the study starting and how long is it expected to run for?

June 2013 to June 2016

Who is funding the study?

The Department of Otolaryngology - Head & Neck Surgery, McGill University Health Centre (Canada)

Who is the main contact?

Ms Emily Kay-Rivest  
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## Contact information

### Type(s)

Public

### Contact name

Dr Emily Kay-Rivest

### Contact details

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## Additional identifiers

### Protocol serial number

CC2014

## Study information

### Scientific Title

The McGill experience with Chronic Cough Treatment: A Phase 2 Pilot Study

### Study objectives

Although both amitriptyline and gabapentin have been proven to improve chronic cough caused by post-viral neuropathy, we hypothesize that one agent has a more rapid onset of action and a better side effect profile.

### Ethics approval required

Old ethics approval format

**Ethics approval(s)**

1. MUHC Ethics Committee, 26/06/2014, ref. 13-064 BMD
2. Health Canada, 15/01/2014, ref. 170996

**Study design**

Randomized controlled, non-inferiority trial.

**Primary study design**

Interventional

**Study type(s)**

Quality of life

**Health condition(s) or problem(s) studied**

Chronic cough secondary to irritable larynx and post-viral neuropathy

**Interventions**

Recruitment of patients (N=100) from our regular clinical activities, on 3 different sites: Montreal General hospital, Royal Victoria hospital, Jewish General hospital. Patients who meet the inclusion criteria will be randomized to treatment with either amitriptyline or gabapentin.

**1. Gabapentin:**

Day 1: 150 mg QHS

Day 2: 300 mg QHS

Day 3: 300 mg BID

We will conduct a phone interview after 10 days of treatment to assess for improvement and if there is none, we will increase to 300 mg TID. We will do another phone interview 3 weeks after initiation of treatment. We will also see the patient after 2 months of treatment commencement.

**2. Amytriptyline**

Starts at 10 mg qHS, followed by increases of 10 mg every 3 weeks depending on symptomatic relief, with a maximum of 50 mg qHS.

**Intervention Type**

Drug

**Phase**

Not Applicable

**Drug/device/biological/vaccine name(s)**

1. Amitriptyline
2. Gabapentin

**Primary outcome(s)**

To observe the quality of life and symptomatic outcomes of chronic cough patients when treated with amitriptyline (Elavil) vs. gabapentin (Neurontin) therapy as measured by the Leicester cough questionnaire at 10 days, 3 weeks, 6 weeks and 4 months after initiation of treatment.

**Key secondary outcome(s)**

1. To evaluate the side effect profile of this medication when used to treat chronic cough
2. To understand the time line of symptom improvement with each of these agents

To understand if patients are showing responses to the medication, we will conduct phone interviews at days 10 and 21 after treatment initiation. At this time, we will repeat the Leicester Cough Questionnaire and patients will be asked about presence of different side effects. 6 weeks after the initiation of treatment, patients will be seen in clinic by the laryngologist. At this time, the questionnaire and side effect profile will be repeated for a third time, however the patient will also undergo direct laryngoscopy to assess changes in vocal cord inflammation. The reflux finding score will also be completed.

These will allow us to evaluate onset of action of each agent, side effect profile, and improvement in quality of life.

**Completion date**

01/06/2016

**Reason abandoned (if study stopped)**

Cancelled

## Eligibility

**Key inclusion criteria**

Included patients will be patients having had cough symptoms for at least 3 months (chronic cough), and that have already been worked up by respirologists to rule out other etiologies of cough. These patients will have failed all other medical therapies: inhaled corticosteroids and single dose of antireflux medication.

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

Adult

**Sex**

All

**Key exclusion criteria**

1. Patients without cough symptoms for over 3 months
2. Patients that have not been worked up by a respirologist and who have not attempted inhaled corticosteroids or antireflux medication
3. Patients who have been taking over the counter (OTC) antitussives, or angiotensin converting enzymes inhibitors medication
4. Patients who have been taking antibiotics in the last month for a respiratory tract infection
5. Patients who are smokers (both smoking and recent respiratory tract infection could confound our results)
6. Patients who are pregnant or breast feeding
7. Patients with abnormal hepatic or kidney function tests (creatinine over 100, ALT over 36 U/L, AST over 35 U/L, total bilirubin over 26 mmol/L)
8. Patients with abnormalities on the electrocardiogram that have not been cleared by a

cardiologist

9. Patients with significant cardiac, renal, hepatic, epileptic, hematologic antecedents

10. Patients taking anticholinergic or sympathomimetic medications

11. Patients above the age of 70

**Date of first enrolment**

01/12/2014

**Date of final enrolment**

01/12/2014

## **Locations**

**Countries of recruitment**

Canada

**Study participating centre**

**Montreal General Hospital**

1650 Avenue Cedar

Montreal

Canada

H3G 1A4

**Study participating centre**

**Royal Victoria Hospital**

1001 Boulevard Décarie

Montreal

Canada

H4A 3J1

## **Sponsor information**

**Organisation**

McGill University Health Centre

**ROR**

<https://ror.org/04cpvjv19>

## **Funder(s)**

**Funder type**

University/education

**Funder Name**

The Department of Otolaryngology - Head & Neck Surgery, McGill University Health Centre (Canada)

## **Results and Publications**

**Individual participant data (IPD) sharing plan**

**IPD sharing plan summary**

Not provided at time of registration