



You asked about...

Presented by *Dr. Wayne Olsheski, General Practitioner, and the University of Toronto*

Answers to your questions from University of Toronto experts



Does Botulinum Toxin Help Manage Migraines?

Botulinum toxin acts by denervating skeletal muscles. Because of this, it has been used to alleviate conditions characterized by muscle overactivity or spasm. Its current treatment indications are in strabismus, blepharospasm, torticollis and cerebral palsy. It is used in many other areas, including the eradication of wrinkles, which led to the observation that, in some patients, headaches improved after frontalis injections.

There have been studies using botulinum toxin type A to treat both migraine and tension-type headaches (TTH).^{1,2} In the migraine study, injecting patients' frontalis muscles with 25 international units (IU) of botulinum toxin type A, in divided doses, was associated with a significant reduction in headache frequency, at days 31 to 90, as compared to injections of a placebo. A 75-IU dose was also effective, but carried the penalty of more adverse events.

The TTH study measured patients' responses to injections of four equal doses of 25 IU into



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the frontal, temporal, occipital and sternomas-
toid muscles. Their headaches improved by about
50% after four weeks of treatment.

These studies are exciting, but much more has
to be done before the place of botulinum toxin
type A can be assessed in the management of
migraines and TTH headaches. At the present
time, physicians should not offer this treatment
indiscriminatively, but it could be reserved for
patients resistant to, or intolerant to, convention-
al therapy.

References

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Botox® (botulinum toxin, type A). in the prophylactic
treatment of migraine. *Headache* 1999; 39(5):361-2.
2. Schulte-Mattler WJ, Wieser T, Zierz S: Treatment of ten-
sion-type headache with botulinum toxin: a pilot study.
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*This answer was prepared by Dr. Marek Gawel,
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The screenshot displays a web browser window for www.stacommunications.com. The browser's address bar and navigation toolbar are visible at the top. The main content area features a large blue headline that reads "WE'RE ON-LINE". Below this headline, there are four thumbnail images of medical journals or brochures:

- The Canadian Journal of CME (Continuing Medical Education):** Published by Memorial University. The cover lists topics such as "Diabetes Mellitus: What's new?", "Understanding Postural Arthritis", and "Anxiety Disorders: How to manage them?".
- The Canadian Journal of Diagnosis:** The cover features a photograph of a person's hand and lists articles like "Hematuria? Symptoms following the flu", "Polyarthral Ocular Syndrome in teens", and "Diabetic eye: The best?".
- le Clinicien:** A French-language publication with a cover image of a person. The headline is "La prévention des maladies cardiovasculaires chez les jeunes" (Prevention of cardiovascular diseases in young people).
- Preventions in Cardiology:** The cover includes the text "PREVENTING PROGRESSION EVIDENCE-BASED TREATMENT FOR DIABETIC NEPHROPATHY" and features a photograph of a person's hand.

At the bottom of the browser window, the URL www.stacommunications.com is displayed in a large, stylized font. The browser's status bar at the very bottom shows various system icons.



**Can hypertensive therapy be discontinued?
Can hypertension be cured?**

Patients with hypertension secondary to renal artery stenosis or adrenal causes may be cured by intervention, but patients with essential hypertension are never cured. Their blood pressure may be controlled, but whatever factors are responsible for the hypertensive state remain present life-long.

Lifestyle changes involving increased rhythmic exercise and sodium and weight reduction sometimes will reduce blood pressure to a point that antihypertensive agents might be reduced. The trial of non-pharmacologic interventions in the elderly (TONE) study provides a good example of this in elderly patients. The study examined hypertensive patients aged 60 to 80 years

with blood pressure (BP) <145/85 mmHg, and on a single antihypertensive agent.¹ Over a median followup of 29 months, more patients were able to reduce, or stop taking, their medication if they had reduced their sodium intake. Obese patients who reduced their weight also could reduce, or stop taking, medication.

Although the author applauds the intention to reduce or eliminate drug therapy when possible, the adherence to lifestyle change is very limited, and the unknown factors that cause hypertension continue to be present, and may become more prominent with increasing age. This is particularly true of post-menopausal women, who can have a marked increase in systolic blood pres-

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References

1. Whelton PK, Appel IJ, Espeland MA, et al: Sodium reduction and weight loss in the treatment of hypertension in older patients. A randomized controlled trial of non-pharmacologic interventions in the elderly (TONE). *JAMA* 1998; 279:839-46.
2. Franklin SS, Khan SA, Wong ND, et al: Is pulse pressure useful in predicting risk for coronary heart disease? The Framingham Heart Study. *Circulation* 1999; 100:350-60.

Prepared by Dr. Richard I. Ogilvie, professor of medicine and pharmacology, hypertension unit, University of Toronto, and staff of The Toronto Hospital, Western Division, hypertension unit.

sure over the three decades following menopause. Believing that they have been cured of their hypertension, these individuals could have increased morbidity and mortality when they are without adequate treatment. There is increasing emphasis on the adverse prognosis of increased systolic pressure above 130 mmHg when diastolic pressures are low.² Future trials may demonstrate that borderline or mild increases in systolic blood pressure should be treated. Diabetic patients, or renal patients with proteinuria, are being treated already at these BP levels.

Eliminating antihypertensive drug treatment at an earlier stage in life may adversely alter prognosis. There are no long-term follow-up studies to demonstrate a benefit to stopping therapy. [CME](#)