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# SMOKING AND CROHN'S DISEASE: THE FACTS

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## The biggest modifiable risk factor

Smoking increases the risk of developing Crohn's disease, and for those with Crohn's disease, smoking makes it worse:

- increases the severity
- increases the number of flares
- increases the need for steroids
- increases the number of surgeries
- increases the speed of relapse post-surgery
- increases the number of strictures, perforations, fistulas, and perianal disease
- increases the risk of extra-intestinal manifestations
- decreases the effectiveness of medications such as infliximab

Additionally, patients with longstanding, active IBD are at increased risk of cancer, and those who smoke are at even higher risk of developing cancer.

## Bad for the budget

Cost of cigarettes in Canada is steadily increasing (2015 prices):

- Cost of a pack = \$12-15 per day
- Pack per day, yearly cost = over \$5,000
- Pack per day, 10 years = over \$45,000
- If invested at 5%, that money invested would grow to \$57,000 over 10 years. That's \$13,000 in interest alone
- The difference between costs of smoking (-\$45,000 over 10 years), and savings (+\$57,000 over 10 years) is >\$100,000 in 10 years.

## Smoking cessation facts

One year abstinence rates:

- General population, no intervention — 3-6%

Effectiveness of anti-smoking medications:

- Bupropion SR (Zyban) — RR 1.69
- Varenicline (Champix) — RR 2.27

Effectiveness of counselling:

- Physician advice — RR 1.66
- Physician counselling — RR 1.86
- Telephone counselling — RR 1.37
- Individual counselling — RR 1.39
- Group counselling — RR 1.98

Effectiveness of the combination of anti-smoking medications and counselling:

- General population — RR 1.82 in meta-analysis of 40 trials; increased abstinence by 70-100%

Cessation in specific subgroups:

- Pre-operative counselling and NRT — lower rate of overall postoperative complications compared with patients in the counselling-only group (18% vs 52%)
- Pre-operative counselling and varenicline — improved one year abstinence rate (36.4% combination vs 25.2% counselling only, RR 1.45, 95% CI: 1.01-2.07)

## Which patients to discuss smoking cessation with

Every patient with Crohn's disease who smokes.

Rather than assessing readiness to quit, physicians should proactively offer treatment, more in line with the treatment of other chronic diseases.

A suggested approach is for the physician to communicate three facts:

- Stopping smoking can be difficult
- Effective treatment is available
- Here is information on anti-smoking medications and counselling

# Anti-smoking medications

## crash course

Bupropion SR (Zyban):

- Mechanism of action — Weak norepinephrine-dopamine reuptake inhibitor
- When to quit cigarettes — Treatment is started while the patient is still smoking and a "target stop date" set within the first two weeks of treatment with Zyban, preferably in week 2
- Combination with NRT — Recommended
- Dose — The initial dose is 150 mg daily for 3 days, increasing to 150 mg BID
- Most common side effects — Insomnia is a very common adverse event which is often transient. Insomnia may be reduced by avoiding dosing at bedtime or, if clinically indicated, dose reduction
- Most serious side effects — Seizure; mania; suicidal ideation; hypertension
- Contraindications — Seizure disorder or history of seizures; Cirrhosis or severe liver disease; Renal impairment; Bipolar disorder; Uncontrolled hypertension
- Monitoring — No routine lab tests required
- When to stop therapy — Patients should be treated for at least 7 weeks. Discontinuation should be considered if the patient has not made significant progress towards abstinence by the seventh week of therapy, since it is unlikely that they will stop smoking during that attempt

Varenicline (Champix):

- Mechanism of action — Partial nicotine agonist
- When to quit cigarettes — Treatment is started while the patient is still smoking and a "target stop date" set within the first two weeks of treatment with varenicline, preferably in week 2
- Combination with NRT — Not recommended
- Dose — Days 1-3: 0.5 mg daily; Days 4-7: 0.5 mg BID; Day 8-End of Treatment: 1 mg BID
- Most common side effects — Nausea; Abnormal dreams
- Most serious side effects — Case reports of seizures. Analyses of pooled clinical trial data

have not shown an increased risk of serious neuropsychiatric events compared to placebo

- Contraindications — Allergy to varenicline
- Monitoring — No routine lab tests required
- When to stop therapy — Patients should be treated for 12 weeks. For patients who have successfully stopped smoking at the end of 12 weeks, an additional course of 12 weeks at 1 mg BID is recommended to further increase the likelihood of long-term abstinence

Nicotine replacement therapy options:

- Inhaler cartridges — good for breakthrough. Rx: Cartridge inhaled PRN, m:100 cartridges
- Patch — steady nicotine delivery. Rx: Nicotine patch 7 / 14 / 21 mg, on 0800 off 2000; m:14
- Gum — causes dry mouth
- Mouth spray — causes dry mouth
- Lozenge — causes dry mouth

Smoking cessation alone:

- Most common side effects — Associated with: insomnia, irritability, frustration or anger; anxiety; difficulty concentrating; change in appetite and weight gain
- Most serious side effects — Exacerbation of underlying psychiatric illness

## Bottom line

Take home messages for physicians:

- Discuss smoking cessation (using the [Smoking Cessation Action Plan](#) and [Smoking Fact Sheet for patients](#)) with all patients with Crohn's disease who smoke.
- Recommend combination of counselling and anti-smoking medications.
- If anti-smoking medications are prescribed by the gastroenterologist, varenicline is first line. Use bupropion SR as second line, plus NRT cartridges if high nicotine dependence.