

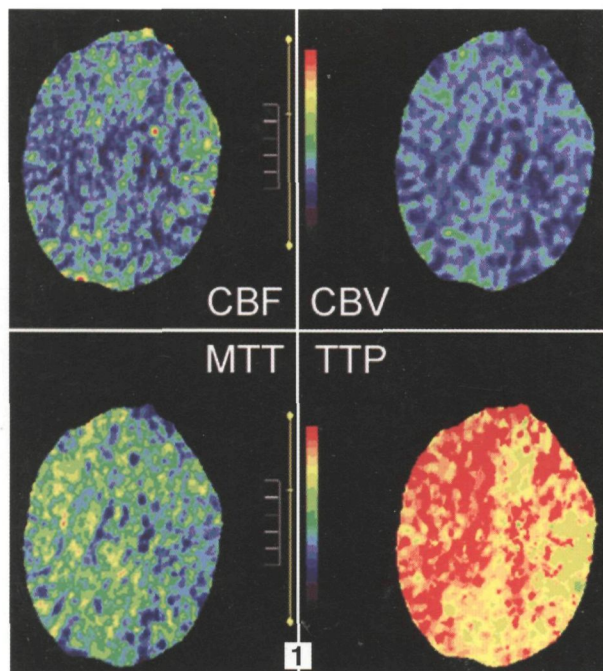


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Whole Brain CT Perfusion after Cerebral Air Embolism *pages 522-525*

Amanda Murphy, Carlos Torres, Cheemun Lum,
Mathew Hogan, Miguel Bussière

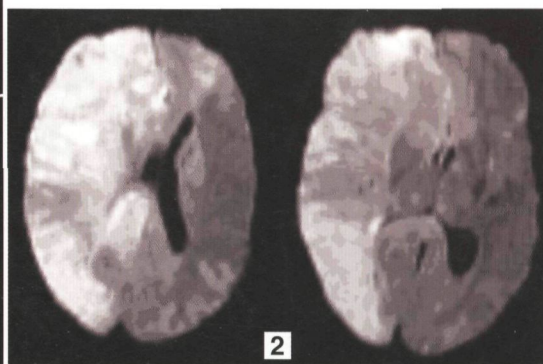


Figure 1: Case #1 Whole brain CT perfusion. Prolonged mean-transit time (MTT) and time-to-peak (TTP) is evident in the majority of the right hemisphere, as well as in the left frontal and parietal lobes. Slight reduction in cerebral blood flow is also evident in these locations.

Figure 2: Case #1 Axial diffusion-weighted MRI at 48 hours shows extensive restricted diffusion in the right cerebral hemisphere and in the left frontal and parietal lobes consistent with acute infarction. Significant mass effect has developed with right-to-left midline shift.

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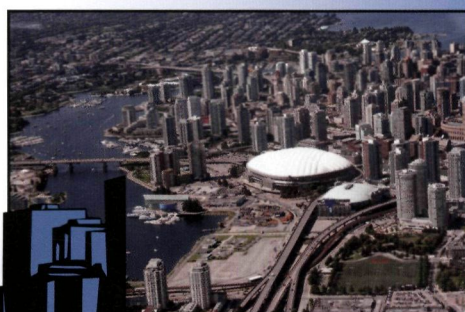
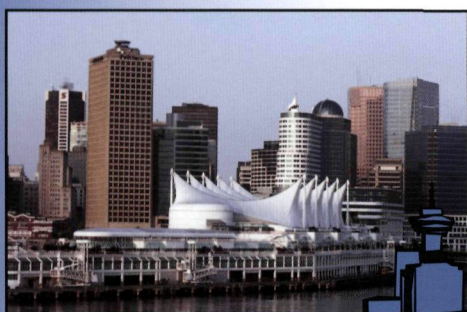


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Vancouver, British Columbia

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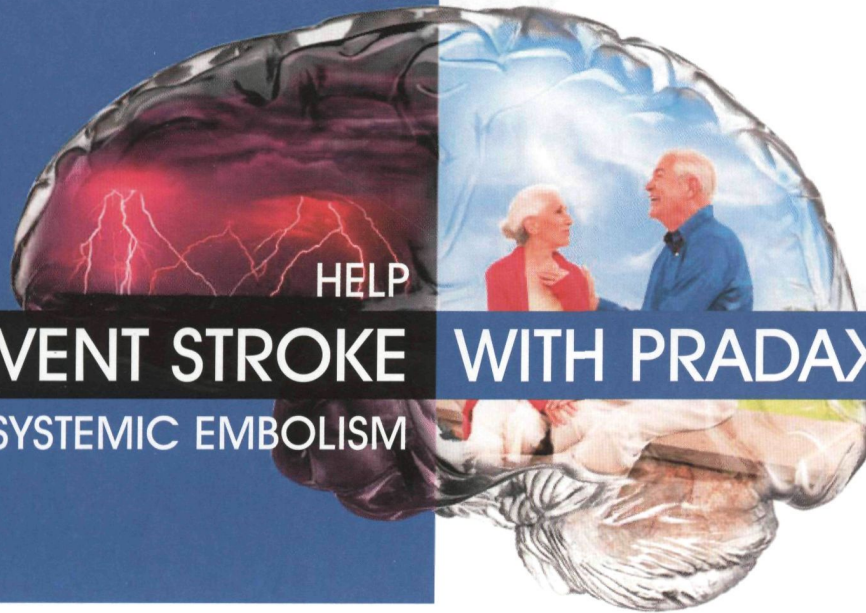
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The Editor-in-Chief, Associate Editors, and Journal Staff would like to acknowledge the generous contributions of the many reviewers for the 2010 Journal. Refer to page 536.

NEW Pr PRADAX™ 150 mg BID

NOW INDICATED FOR THE PREVENTION OF STROKE AND SYSTEMIC EMBOLISM IN PATIENTS WITH ATRIAL FIBRILLATION, IN WHOM ANTICOAGULATION IS APPROPRIATE.¹



PREVENT STROKE AND SYSTEMIC EMBOLISM WITH PRADAX

For patients with atrial fibrillation, PRADAX demonstrated:

35% reduced risk of stroke or systemic embolism vs. warfarin^{1-3*†}

Dabigatran 150 mg BID (1.1%/yr) vs. warfarin (1.7%/yr), $p=0.0001$.

59% reduced risk of intracranial bleeding[‡] vs. warfarin^{1-3*§}

Dabigatran 150 mg BID (0.3%/yr) vs. warfarin (0.8%/yr), $p<0.0001$.

No INR monitoring or dose titration¹

PRADAX (dabigatran etexilate) is indicated for the prevention of stroke and systemic embolism in patients with atrial fibrillation, in whom anticoagulation is appropriate.

PRADAX is contraindicated in patients with: severe renal impairment (CrCl <30 mL/min); hemorrhagic manifestations, bleeding diathesis, or patients with spontaneous or pharmacological impairment of hemostasis; lesions at risk of clinically significant bleeding, e.g. extensive cerebral infarction (hemorrhagic or ischemic) within the last 6 months, active peptic ulcer disease with recent bleeding; concomitant treatment with the strong P-glycoprotein (P-gp) inhibitors, i.e. oral ketoconazole, and with known hypersensitivity to dabigatran, dabigatran etexilate or to any ingredient in the formulation or component of the container.

Bleeding is the most relevant side effect of PRADAX; bleeding of any type or severity occurred in long-term treatment in 16.5% of patients with atrial fibrillation treated for the prevention of stroke and systemic embolism. As with all anticoagulants, PRADAX should be used with caution in circumstances associated with an increased risk of bleeding. Bleeding can occur at any site during therapy with PRADAX. An unexplained fall in hemoglobin and/or hematocrit or blood pressure should lead to a search for a bleeding site. Patients at high risk of bleeding should not be prescribed PRADAX. Close clinical surveillance (looking for signs of bleeding or anemia) is recommended throughout the treatment period, especially if risk factors are combined. **Should severe bleeding occur, treatment with PRADAX must be discontinued and the source of bleeding investigated promptly.** Patients who develop acute renal failure must discontinue PRADAX. In patients who are bleeding, an aPTT test may be useful to assist in determining an excess of anticoagulant activity, despite its limited sensitivity. An aPTT >80 sec at trough, i.e. when the next dose is due, is associated with a higher risk of bleeding.

Agents that may enhance the risk of hemorrhage should not be administered concomitantly with PRADAX, or, if necessary, should only be administered with caution. **Treatments that should NOT be administered concomitantly with PRADAX due to increase in bleeding risk include: unfractionated heparin and heparin derivatives, low molecular weight heparins (LMWH), fondaparinux, bivalirudin, thrombolytic agents, GPIIb/IIIa receptor antagonists, ticlopidine, sulfapyrazone and vitamin K antagonists such as warfarin.** The concomitant use of PRADAX with the following treatments has not been studied and may increase the risk of bleeding: rivaroxaban, prasugrel and the strong P-gp inhibitors itraconazole, tacrolimus, cyclosporine, ritonavir, tipranavir, nelfinavir and saquinavir. Unfractionated heparin may be administered at doses necessary to maintain a patent central venous or arterial catheter. In patients with atrial fibrillation treated for the prevention of stroke and systemic embolism, the co-administration of oral anti-platelet (including ASA and clopidogrel) and NSAID therapies increases the risk of bleeding by about two-fold (see ACTION and CLINICAL PHARMACOLOGY,

Special Populations, Pharmacokinetic Interactions). If necessary, co-administration of low-dose ASA, i.e. ≤ 100 mg daily with PRADAX may be considered for other indications than stroke prevention in atrial fibrillation. The concomitant use of PRADAX with the strong P-gp inducer, rifampicin, reduces dabigatran plasma concentrations. Other P-gp inducers such as St. John's Wort or carbamazepine are also expected to reduce dabigatran plasma concentrations and should be co-administered with caution.

The most common adverse events observed in $\geq 1\%$ of PRADAX 150 mg BID patients and 110 mg BID patients was anemia (1.6%, 1.2%), epistaxis (1.1%, 1.1%), gastrointestinal hemorrhage (4.6%, 3.3%), urogenital hemorrhage (1.4%, 1.1%), abdominal pain (2.2%, 2.3%), diarrhea (1.2%, 1.3%), dyspepsia (3.9%, 4.2%) and nausea (1.2%, 1.0%), respectively. Gastrointestinal adverse reactions occurred more often with dabigatran etexilate than warfarin. These were related to dyspepsia (including upper abdominal pain, abdominal pain, abdominal discomfort, epigastric discomfort) or gastritis-like symptoms (including GERD, esophagitis, erosive gastritis, gastric hemorrhage, hemorrhagic gastritis, hemorrhagic erosive gastritis and gastrointestinal ulcer). Gastrointestinal hemorrhage occurred at a higher frequency with PRADAX 150 mg BID and 110 mg BID (4.6%, 3.3%, respectively) compared to warfarin (2.6%). The underlying mechanism of the increased rate of GI bleeding has not been established.

Allergic reactions or drug hypersensitivity including urticaria, bronchospasm, rash and pruritus have been reported in patients who received dabigatran etexilate. Rare cases of anaphylactic reactions have also been reported.

Patients at an increased risk of bleeding should be closely monitored clinically. A coagulation test, such as aPTT may help to identify patients with an increased bleeding risk caused by excessive dabigatran exposure.

For complete prescribing information, please refer to the Product Monograph.

*A randomized non-inferiority trial of 18,113 AF patients at risk of stroke. Patients received dabigatran 110 mg BID or 150 mg BID (blinded arm) and adjusted doses of warfarin (unblinded arm).

†Stroke or systemic embolism: dabigatran 150 mg BID ($n=6076$, no. of events=134) vs. warfarin ($n=6022$, no. of events=202).

‡Intracranial bleeding includes adjudicated hemorrhagic stroke, subarachnoid, and/or subdural bleeding.

§Intracranial bleeding: dabigatran 150 mg BID (no. of events=38) vs. warfarin (no. of events=90).

References: 1. Pradax Product Monograph. Boehringer Ingelheim (Canada) Ltd., 11/08/10. 2. Connolly SJ *et al.* Dabigatran versus Warfarin in Patients with Atrial Fibrillation. *N Engl J Med.* 2009;361:1139–1151. 3. Connolly SJ *et al.* Newly Identified Events in the RE-LY Trial. *N Engl J Med.* 2010;363:1875–1876 supp appendix.

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* Fictitious patient. May not be representative of all fibromyalgia cases.



FACED WITH PAIN*

IN HER STRUGGLE WITH FIBROMYALGIA

First treatment indicated in Canada for adults for the management of pain associated with

fibromyalgia¹

Pregabalin: first-line treatment for chronic **neuropathic pain²**

DEMONSTRATED SIGNIFICANT RELIEF IN PAIN AND PAIN-RELATED SLEEP DIFFICULTIES IN FIBROMYALGIA¹

Demonstrated powerful, rapid and sustained pain relief^{1,3-5}

In fibromyalgia:

- In a 14 week study, LYRICA demonstrated significant pain reduction as early as week 1 ($p < 0.05$ for all doses). Mean changes in pain scores at the end of the study for LYRICA-treated patients were significantly greater versus placebo (300 mg/day, $n=183$: -1.75, $p=0.0009$; 450 mg/day, $n=190$: -2.03, $p < 0.0001$; 600 mg/day, $n=188$: -2.05, $p < 0.0001$; placebo, $n=184$: -1.04)³
- In another study of 26 weeks' duration of patients who initially responded to LYRICA during a 6-week, open-label phase, 68% of those who continued on their optimized dose ($n=279$) maintained a treatment response versus 39% of those on placebo ($n=287$). The time to loss of therapeutic response was longer in the LYRICA group ($p < 0.0001$)⁴

Also in neuropathic pain (NeP):

- Sustained pain relief (starting at week 2 for LYRICA 150-600 mg/day, $n=141$; $p < 0.05$ vs placebo, $n=65$) was demonstrated throughout a 12 week study in patients with DPN or PHN⁵

Demonstrated effective in relieving pain-related sleep difficulties^{1,6}

In fibromyalgia:

- In a 13 week study, LYRICA reduced overall MOS-Sleep Scale scores significantly more at the end of the study vs. placebo (300 mg/day -19.1, $p=0.0174$; 450 mg/day: -20.41, $p=0.0026$; 600 mg/day: -19.49, $p=0.0101$; placebo: -14.29)⁶

Also in NeP:

- LYRICA reduced sleep disturbances across several studies in DPN and PHN, of 8-12 weeks duration¹

Flexible dosing across all indications^{1†}

LYRICA (pregabalin) is indicated for the management of neuropathic pain associated with diabetic peripheral neuropathy (DPN), postherpetic neuralgia (PHN) and spinal cord injury in adults. LYRICA may be useful in the management of central neuropathic pain in adults. LYRICA is indicated for the management of pain associated with fibromyalgia in adults. The efficacy of LYRICA in the management of pain associated with fibromyalgia for up to 6 months was demonstrated in a placebo-controlled trial in patients who had initially responded to LYRICA during a 6-week open-label phase.

LYRICA is contraindicated in patients who are hypersensitive to pregabalin or to any ingredient in the formulation or component of the container.

The most commonly observed adverse events ($\geq 5\%$ and twice the rate as that seen with placebo) in the recommended dose range of 150 mg/day to 600 mg/day in PHN and DPN patients were: dizziness (9.0-37.0%), somnolence (6.1-24.7%), peripheral edema (6.1-16.2%), and dry mouth (1.9-14.9%) and were dose related; in spinal cord injury patients: somnolence (41.4%), dizziness (24.3%), asthenia (15.7%), dry mouth (15.7%), edema (12.9%), constipation (12.9%), amnesia (10.0%), myasthenia (8.6%), amblyopia (8.6%), and thinking abnormal (8.6%); in fibromyalgia patients: dizziness (37.5%), somnolence (18.6%), weight gain (10.6%), dry mouth (7.9%), blurred vision (6.7%), and peripheral edema (6.1%). In LYRICA-treated fibromyalgia patients, the most commonly observed dose-related adverse events were: dizziness (22.7-46.5%), somnolence (12.9-20.7%), weight gain (7.6-13.7%), peripheral edema (5.3-10.8%). The most commonly observed adverse events in the PHN, DPN, spinal cord injury and fibromyalgia patients were usually mild to moderate in intensity. Discontinuation rates due to adverse events for LYRICA and placebo, respectively, were 9% and 4% in DPN, 14% and 7% in PHN, 21% and 13% in spinal cord injury, and 20% and 11% in fibromyalgia. There was a dose-dependent increase in rate of discontinuation due to adverse events in fibromyalgia.

There have been post-marketing reports of angioedema in patients, some without reported previous history/episodes, including life-threatening angioedema with respiratory compromise. Caution should be exercised in patients with previous history/episodes of angioedema and in patients who are taking other drugs associated with angioedema.

In clinical trials and in post-marketing experience, there have been reports of patients, with or without previous history, experiencing renal failure alone or in combination with other medications. Caution is advised when prescribing to the elderly or those with any degree of renal impairment.

There have been post-marketing reports of events related to reduced lower gastrointestinal tract function (e.g., intestinal obstruction, paralytic ileus, and constipation) in patients, some without reported previous history/episode(s), during initial/acute and chronic treatment with LYRICA, primarily in combination with other medications that have the potential to produce constipation. Some of these events were considered serious and required hospitalization. In a number of instances, patients were taking opioid analgesics including tramadol. Caution should be exercised when LYRICA and opioid analgesics are used in combination, and measures to prevent constipation may be considered, especially in female patients and elderly as they may be at increased risk of experiencing lower gastrointestinal-related events.

Dosage reduction is required in patients with renal impairment (creatinine clearance <60 mL/min) and in some elderly patients as LYRICA is primarily eliminated by renal excretion.

Please see Prescribing Information for complete Warnings and Precautions, Adverse Reactions, Dosage and Administration and patient selection criteria.

† Please consult Prescribing Information for complete Dosage and Administration Instructions.



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See prescribing information and study parameters on pages A-19, A-20

Canadian Neurological Sciences Federation



46th Annual Congress

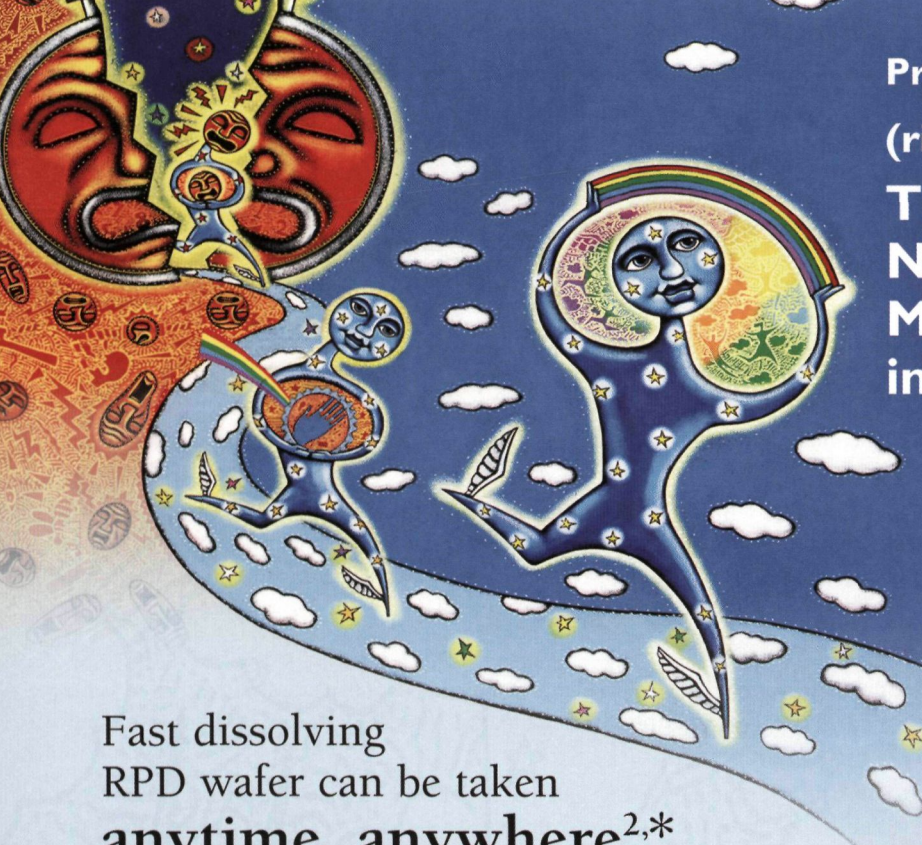
The Canadian Neurological Sciences Federation is pleased to recognize those Sponsors who are committed to supporting the 2011 Congress. These organizations partner with CNSF to determine the causes of, and develop treatment for diseases and injuries of the nervous system, and in the care of patients with these diseases and injuries.

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If you and your organization would like more information, or would like to discuss how you can partner with CNSF and meaningfully connect with our Congress delegates, please call or email Brett Windle, Corporate Development Coordinator at (403) 229-9544 or brett-windle@cnsfederation.org.

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Pr**MAXALT RPD**[®]
(rizatriptan benzoate):

**The Most Dispensed
Non-tablet Formulation
Migraine Drug
in Canada¹**

Fast dissolving
RPD wafer can be taken
anytime, anywhere^{2,*}

**ALSO AVAILABLE IN
TABLET FORMULATION.**



MAXALT[®] (rizatriptan benzoate) is indicated for the acute treatment of migraine attacks with or without aura in adults. MAXALT[®] is not intended for the prophylactic therapy of migraine or for use in the management of hemiplegic, ophthalmoplegic or basilar migraine. Safety and effectiveness of MAXALT[®] have not been established for cluster headache, which is present in an older, predominantly male population.

MAXALT[®] is contraindicated in patients with history, symptoms, or signs of ischemic cardiac, cerebrovascular or peripheral vascular syndromes, valvular heart disease or cardiac arrhythmias (especially tachycardias). In addition, patients with other significant underlying cardiovascular diseases should not receive MAXALT[®].

MAXALT[®] is also contraindicated in patients with uncontrolled or severe hypertension.

MAXALT[®] is contraindicated in co-administration with monoamine oxidase (MAO) inhibitors within 2 weeks after discontinuation of treatment, and within 24 hours of administration of 5-HT₁ agonists or ergot-type medications. For a complete list of contraindications, please consult the Product Monograph.

The recommended single adult dose is 5 mg. The maximum recommended single dose is 10 mg.

The most common adverse events during treatment with MAXALT[®] (rizatriptan benzoate) tablets 10 mg were dizziness (8.9%), somnolence (8.4%), asthenia/fatigue (6.9%), nausea (5.7%) and

pain/pressure sensation (chest, 3.1%; neck/throat/jaw, 2.5%; upper limb, 1.8%).

The most common adverse events during treatment with PrMAXALT RPD[®] (rizatriptan benzoate) wafers 10 mg were dizziness (8.6%), nausea (7.0%), dry mouth (6.0%), somnolence (5.3%), asthenia/fatigue (3.6%), and pain/pressure sensation (chest, 1.7%; neck/throat/jaw, 2.0%; upper limb, 2.0%).

MAXALT RPD[®] wafers contain phenylalanine (a component of aspartame).

*The wafer will dissolve rapidly and be swallowed with saliva. No liquid is needed to take the wafer.²

RPD = Rapidly dissolving

References:

1. Brogan Inc. Geographic Prescription Monitor (GPM[®]) September 2008 to August 2009.
2. Data on file, Merck Frosst Canada Ltd.: Product Monograph, MAXALT[®], 2009.

BEFORE PRESCRIBING MAXALT[®], PLEASE CONSULT THE ENCLOSED PRESCRIBING INFORMATION.

PRODUCT MONOGRAPH AVAILABLE FOR DOWNLOAD AT www.merckfrosst.com

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MXT-08-CDN-34381016-JA



See prescribing summary on pages A-22 to A-25

Estate Planning for Professionals

An estate plan is a key to ensuring that your business ends up as you intended, whether that means leaving it to your family, chosen managers, or ensuring that you can sell it for a competitive price.

In order to pass on your business smoothly, you need to decide who will get control of your business, and have mechanisms in place to keep it operating during the transition of ownership. To achieve this you need to do three things: prepare or update your Will so that it takes into account the current state of your business, choose an executor with the skills and experience to administer your estate, and appoint someone with power of attorney to run your business if anything happens to you.

Wills

Many people delay writing a Will under an assumption that being young, healthy or without dependants means they can afford to wait. However, if your assumption is wrong, your beneficiaries will get what your province mandates. Also, the absence of a prepared Will invariably causes delays and extra expense for surviving loved ones.

Your Will should be kept up to date. It should be consistent with your business plans and any business agreements, such as partnerships or shareholder arrangements. Careful consideration should be given to the value of your business and estate and those you wish to benefit from it. You should also talk to an estate planning expert about how to structure the ownership of your company to reduce the tax consequences.

Choosing an executor

Your executor is responsible for administering your estate according to your Will. Not only should you choose a primary executor, but also an alternate (a contingent) if you are concerned whether an individual you may wish to appoint would be up to the task. You can also consider naming a corporate executor, such as Scotiastrust, to undertake this role.

The duties of an executor are many and complex, and the strain can be high, so choose this person carefully. As a business owner, consider choosing an executor with the knowledge and skills to keep your business operating until your estate is finalized. And talk to your executor about your wishes. Not only will this give you peace of mind; it will also allow them to act decisively during a potentially unsettling time.

Powers of attorney

A power of attorney (Mandate in Quebec) gives someone the authority to manage and govern your property and financial affairs while you are still living if you become incapable of doing so.

There are different roles a power of attorney can take on, over a limited period of time (e.g., during a vacation) or in more enduring situations and with broader control (e.g., if you have a stroke or heart attack). Since this person may have to run your business for an extended period of time, it is important to pick someone who:

- has extensive business experience;
- is familiar with your business or industry;
- you can trust with your business and financial security of your family.

Wills, executors and powers of attorney are cornerstones of prudent estate planning. They help ensure that your assets are properly cared for, and that the most important people in your life are properly considered at an important time. Work with your Small Business, Financial, Accounting and Legal advisors to ensure you get the right professional advice for all your estate planning decisions.

For more information on estate and transition planning, check out Scotiabank's online resources on Business Succession Planning and the Scotiabank Ownership Transition Tool. www.scotiabank.com/transition

Scotia Professional Plan



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