Tobacco Use Affects Surgical Outcomes – I Didn’t Know!
New Findings and Approaches from the Stop Smoking Before Surgery Initiative

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The Harmonization Partners

BC Cancer Agency
CARE + RESEARCH
An agency of the Provincial Health Services Authority

Canadian Cancer Society
BRITISH COLUMBIA AND YUKON

UBC
a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

northern health
the northern way of caring
Working Together

Partners

- Canadian Cancer Society
- BC Cancer Agency
- Northern Health

Collection Action = Collective Impact
Northern Communities

Prince George

Prince Rupert
Standardized Mortality Ratio Due to Lung Cancer (2007–2011) in BC by Health Authority

Northern BC

- Smoking rate 24% (13% in BC)
- 70% of tobacco users do want to quit in the next 6 months

Surgery provides incentive and a timeline to quit

Smoking cessation before any type of surgery:
- reduces the risk of complications
- decreases health care costs

Stop Smoking Before Surgery (SSBS)
Baseline Patient Data Collection

Objectives

◦ Describe the proportion of patients who report quitting before surgery.

◦ Describe patients’ baseline knowledge and use of programs available to support smoking cessation in northern BC

◦ Use findings to guide efforts to support patients in stopping smoking before surgery
Had surgery during a 4 month period from Dec 1, 2012 to March 31, 2013

Were contacted by NH employee

Reported smoking and agreed to have their contact information released

Were sent a letter with information about the project (UBC letterhead)

Received a follow-up phone call by UNBC Survey Research Centre

Agreed to participate in survey

Completed telephone survey

Non-smoker OR did not give permission to contact

Did not agree to participate in survey
SSBS Data Collection Process

2178 patients

- 1349 nonsmokers (77.1%)
- 400 smokers (22.9%)
- 429 unknown

306 agreed to be contacted

- 39 excluded
- 73 not reached
- 33 refused

159 completed survey
Telephone Survey

Data collection included:

- demographic information
- surgery and health information
- tobacco use
- resources/aids used to reduce or quit smoking
## Characteristics of the SSBS patient sample (N = 159)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Proportion of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>40%</td>
</tr>
<tr>
<td>Female</td>
<td>60%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Proportion of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 – 35 years</td>
<td>15%</td>
</tr>
<tr>
<td>36 – 50 years</td>
<td>27%</td>
</tr>
<tr>
<td>51 – 65 years</td>
<td>39%</td>
</tr>
<tr>
<td>66 – 78 years</td>
<td>19%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Proportion of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>First nation/Metis</td>
<td>20%</td>
</tr>
<tr>
<td>Caucasian</td>
<td>77%</td>
</tr>
<tr>
<td>Asian</td>
<td>1%</td>
</tr>
<tr>
<td>Other</td>
<td>2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Proportion of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>18%</td>
</tr>
<tr>
<td>Married or common-law</td>
<td>58%</td>
</tr>
<tr>
<td>Separated/divorced</td>
<td>18%</td>
</tr>
<tr>
<td>Widowed</td>
<td>6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Highest level of education</th>
<th>Proportion of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some high school or less</td>
<td>26%</td>
</tr>
<tr>
<td>High school</td>
<td>25%</td>
</tr>
<tr>
<td>Trades certification/some college</td>
<td>29%</td>
</tr>
<tr>
<td>Community college degree</td>
<td>7%</td>
</tr>
<tr>
<td>Some University</td>
<td>5%</td>
</tr>
<tr>
<td>University undergraduate degree</td>
<td>7%</td>
</tr>
<tr>
<td>University Graduate degree</td>
<td>1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Proportion of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>47%</td>
</tr>
<tr>
<td>Part-time</td>
<td>11%</td>
</tr>
<tr>
<td>Not employed</td>
<td>21%</td>
</tr>
<tr>
<td>Retired</td>
<td>21%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annual Household Income</th>
<th>Proportion of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>$20K or less</td>
<td>18%</td>
</tr>
<tr>
<td>$20–40K</td>
<td>24%</td>
</tr>
<tr>
<td>$40–60K</td>
<td>13%</td>
</tr>
<tr>
<td>$60–80K</td>
<td>16%</td>
</tr>
<tr>
<td>$80–100K</td>
<td>13%</td>
</tr>
<tr>
<td>More than $100K</td>
<td>16%</td>
</tr>
</tbody>
</table>
In the 8 weeks prior to surgery:

Proportion of pre-op patients who:

- Did not smoke at all: 8.2%
- Reduced smoking: 38.4%
- Smoked the same amount: 53.5%
What these patients told us:

- 53% of patients were advised to quit in the two months prior to their surgery by a health care provider
  - 33% were given specific resources

- When they were in the Hospital:
  - 48% were asked about their smoking
  - 16% were given specific help or information to quit smoking or stay smoke free
Patient awareness of the surgical complications associated with smoking

- Slower healing of wounds after surgery
- Increased risk of infection after surgery
- Increased complications with anaesthetic
### Patient use of SC Resources

- **QuitNow**
  - Offers cessation support by phone, text, or web.

<table>
<thead>
<tr>
<th>Accessed QuitNow:</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website</td>
<td>8</td>
<td>5%</td>
</tr>
<tr>
<td>Phone</td>
<td>10</td>
<td>6%</td>
</tr>
<tr>
<td>Text</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>
At the time of the survey:

The proportion of post-op patients who were:

- **Not smoking**: 18.1%
- **Thinking about quitting in the next 30 days**: 25.6%
- **Thinking about quitting in the next 6 months**: 37.5%
- **Not thinking about quitting**: 18.8%
Current awareness of SC aids

- HealthLink BC
  - Residents can receive 12 weeks of NRT (gum or patch) **free** through the BC government’s smoking cessation program (smoking cessation medications are partially covered).

<table>
<thead>
<tr>
<th>HealthLink BC</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aware of program</td>
<td>96</td>
<td>60</td>
</tr>
<tr>
<td>Received SC aids through program</td>
<td>36</td>
<td>23</td>
</tr>
</tbody>
</table>
I smoked for 50 years and was smoking up to three packs a day before I finally quit. I don’t know what it was about my surgery that led me to quit. Two weeks before I remember hearing a radio announcer say that nicotine was so addictive and difficult to quit that even hospitalized smokers would hang on their IVs outside in the blistering cold to have a cigarette. I wondered how I would be able to go without smoking for a whole day in the hospital. I was offered a nicotine patch the day after my surgery and I accepted it. My one day in the hospital ended up being 2 days and I did not smoke at all. After I left the hospital I stayed on the patch for 10 weeks and then switched to the gum. The gum has worked well for me because it replaces the habit of smoking.

I would encourage others to quit sooner rather than later. Don’t wait to quit. Find what works for you and just do it.

– Northern BC resident
Key points to guide SSBS initiative

- Overall, about 1/2 of the patients surveyed reported that they were advised to quit

- 2/3 of patients were thinking about quitting smoking

- Relatively few patients were using provincial smoking cessation resources

- As many as 1/2 of the patients were not aware of the perioperative complications associated with smoking
SSBS: Aims

- Enable all HCPs who see surgical patients to provide support for SC
- Increase awareness about and access to cessation resources
- Assist in the development of sustainable systems to encourage brief intervention as a standard of care
SSBS: Sharing the idea.....
Stop Smoking Before Surgery Program Components

1. Clinic resources for quitting smoking
2. New QuitNow resources and promoting QuitNow
3. Hospital–based cessation support
4. Raising public awareness
Clinic Resources

- SSBS rack card/posters
- BC Ministry rack card
- QuitNow smart steps booklet
- QuitNow smart steps booklet for aboriginal populations
- QuitNow fax referral form
- NRT samples
Stop Smoking Before Surgery

Get in shape and butt out before your surgery!

If you use tobacco and will be facing surgery in the next 6 – 8 weeks, your best chance at a speedy recovery depends on you quitting smoking.

If you quit now, you will:

- Heal faster
- Face fewer complications
- Improve your breathing
- Reduce your risk of infection
- Improve blood flow to your heart and other areas of the body
- Reduce stress on your heart
- Speed up bone fusion (healing) time
- Shorten your hospital stay

Turn your back on tobacco!

Quitting before surgery could increase your chances of quitting for good.
“Preparing for surgery takes careful thought, planning, support and courage... a perfect time to stop smoking.

Dr Nadine Caron. Academic Surgeon. University Hospital of Northern BC.

“Quitting smoking before surgery is an important part of cancer prevention and plays a key role in health outcomes.

Margaret Jones Brickier. Regional Director. Northern Region. Canadian Cancer Society.

“Guys – want to speed up your recovery and get your strength back sooner? Quitting before surgery is the right time.

Brandon Grant. Men’s Health Coordinator. Northern Health

“Are you looking for a reason to quit? Here’s a good one - you’ll decrease your risks during and after surgery.


quitnow.ca
# QuitNow resources

## Patient Resources

<table>
<thead>
<tr>
<th>Resource</th>
<th>File Size</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop Smoking Before Surgery FAQ</td>
<td>2773KB</td>
<td>Canadian Cancer Society Guide</td>
</tr>
<tr>
<td>One Step at a Time - For Smokers Who Want to Quit [PDF]</td>
<td>1131KB</td>
<td>Canadian Cancer Society Guide</td>
</tr>
<tr>
<td>One Step at a Time - For Smokers Who Don’t Want to Quit [PDF]</td>
<td>1039KB</td>
<td>Canadian Cancer Society Guide</td>
</tr>
<tr>
<td>One Step at a Time - Help a Smoker Quit [PDF]</td>
<td>1006KB</td>
<td>Stop Smoking Before Surgery Northern Health Rack Card</td>
</tr>
<tr>
<td>Discharge Brochure - Staying Smokefree for Recovery [PDF]</td>
<td>1893KB</td>
<td></td>
</tr>
</tbody>
</table>

“I see patients recover from surgery faster when they are smoke-free. They say it’s not easy to stop - but worth it.”

Ryan Dirnback RN, Northern Health.
### Tips for Men

- Ask for directions!
- Working it out!
- Now I can do it!
- I'm the boss
- Family matters!
- Quitting is tough...

### Tips for Women

- One step at a time!
- Dress for success!
- Stressbusters!
- Family counts!
- A recipe for recovery!
- Clear the air!
- Woman to woman!
## Stop Smoking Before Surgery

Resources related to the Stop Smoking Before Surgery Program

<table>
<thead>
<tr>
<th>Resource</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generalist Clinical Tobacco Intervention Program [PDF] - 841KB</td>
<td>BC Cancer Agency Training Document</td>
</tr>
<tr>
<td>Butt Out Before Surgery! [PDF] - 228KB</td>
<td>Northern Health Rack Card. To order print copies of this resource, please e-mail <a href="mailto:TobaccoFree@northernhealth.ca">TobaccoFree@northernhealth.ca</a> with the name of the resource, the number of copies you would like to order and your shipping information.</td>
</tr>
<tr>
<td>Butt Out Before Surgery! [PDF] - 3050KB</td>
<td>Northern Health Poster V1. To order print copies of this resource, please e-mail <a href="mailto:TobaccoFree@northernhealth.ca">TobaccoFree@northernhealth.ca</a> with the name of the resource, the number of copies you would like to order and your shipping information.</td>
</tr>
<tr>
<td>Butt Out Before Surgery! [PDF] - 1353KB</td>
<td>Northern Health Poster V3. To order print copies of this resource, please e-mail <a href="mailto:TobaccoFree@northernhealth.ca">TobaccoFree@northernhealth.ca</a> with the name of the resource, the number of copies you would like to order and your shipping information.</td>
</tr>
<tr>
<td>Harmonization - Working Together for Cancer Prevention [PDF] - 2551KB</td>
<td>Stop Smoking Before Surgery Information Sheet</td>
</tr>
<tr>
<td>Stop Smoking for Safer Surgery website</td>
<td>Dr. Oyston. Ontario Anesthesiologist.</td>
</tr>
<tr>
<td>Discharge Brochure - Staying Smokefree for Recovery</td>
<td></td>
</tr>
</tbody>
</table>
### Tips for Men

1. Stop Smoking Before Surgery FAQ

### Tips for Women

1. One Step at a Time - For Smokers Who Want to Quit [PDF] - 2773KB
   - Canadian Cancer Society Guide
2. Butt Out Before Surgery! [PDF] - 1006KB
   - Stop Smoking Before Surgery Northern Health Rack Card
3. Discharge Brochure - Staying Smokefree for Recovery [PDF] - 1893KB
Stop Smoking Before Surgery

Studies have shown conclusively that patients who stop smoking before surgery have fewer complications and heal faster than those who continue to smoke.

A number of studies examining the effects of quitting before surgery have been done, and all of them have found that smokers who quit before surgery face better outcomes.

| Smoking and surgical complications | 2012 systematic review concludes smokers who quit before surgery have fewer complications |
| Smoking and wound healing | 2012 systematic review concludes smoking delays healing in surgical patients |
| Smoking cessation before surgery | 2012 systematic review demonstrates cessation interventions are effective for surgical patients |
| Smoking and surgical outcomes | 2011 study finds increased mortality among surgical patients who smoke |
| Surgery as a teachable moment | 2010 study finds surgical patients are willing to quit. |
| Fears of quitting immediately before surgery unfounded | 2011 study demonstrates that quitting shortly before surgery is safe |
Goal:
  • Advice/support for smoking cessation—standard of care for surgical patients
Hospital-based cessation support

- Presentations to medical & nursing staff
- Brief intervention online training
  - Less than 18 mins
- Clinical Tobacco Intervention Program
  www.tobaccoed.org
Hospital-based cessation support

- Lanyard Tags

![Lanyard Tags Image]

I ask about tobacco!

I promote a smoke-free recovery.

Stop smoking for surgery.

The 5A’s

- Ask - about tobacco
- Advise - tobacco users to quit
- Assess - commitment to change
- Assist - link to quitnow and HealthLinkBC 8-1-1
- Arrange - follow up with quitnow services

[quitnowca logo]
[10-425-6048 (IIndO6/13)]
Hospital-based cessation

- **Forms and documentation**
  - Is there a question about tobacco use on OR booking forms, intake forms, etc.?
  - Are smokers advised to quit and is it documented?
  - Is information about support for smoking cessation provided to surgical patients who smoke?

- **Stress balls**
Hospital-based cessation support

Discharge Brochure

Includes:

✓ Benefits of staying smoke free
✓ How to link to B.C. Smoking Cessation Program
✓ How to link to QuitNow for follow-up services
✓ Management of cravings, etc.
Raising public awareness

To promote:
- Benefits of quitting for surgery
- Provincial resources

Prince George Citizen article on SSBS Nov 25, 2013
Raising public awareness

- SSBS promotions at northern hospitals

University Hospital of Northern BC – Prince George
Raising public awareness

- On TV screens in northern hospitals

Stop Smoking Before Surgery
Did you know that if you stop smoking before surgery, you will:

- Heal faster
- Face fewer complications
- Improve your breathing
- Reduce your risk of infection
- Improve blood flow to your heart and other areas of the body
- Reduce stress on your heart
- Speed up bone fusion (healing) time
- Shorten your hospital stay

Ask your health care professional today about how you can quit.
Visit QuitNow.ca
Raising public awareness

www.harmonization.ok.ubc.ca
Evaluating SSBS

Compare # patients who report quitting for surgery before & after introduction of SSBS.

Describe health care providers’ views of the SSBS program.

Develop recommendations for strengthening implementation of the SSBS program across the north.
Building a Harmonization Model
Creating opportunities for new routes to SC for northern people

Getting everyone on board to go the distance

More miles to travel to reach our goal

Providing exceptional health care for northern residents
Acknowledgments

- The SSBS Team
  - Lucy Beck, Principal Investigator (Northern Health)
  - Sonia Lamont (BCCA)
  - Joan Bottorff (UBC, Okanagan Campus)
  - Cathy Adair (CCS – BCY)
  - Nancy Viney (Northern Health)
  - Sherri Tillotson (Northern Health)
  - Kelsey Yarmish (Northern Health)
  - Kerensa Medhurst (CCS)
  - El Taylor (BCCA)
  - Cherisse Seaton (UBC, Okanagan Campus)

- Funding
  - Canadian Cancer Society Research Institute (grant #701259–00).

- Collaborating partner
  - QuitNow

For more information: http://harmonization.ok.ubc.ca/

- Assistance from:
  - CCS volunteers, UNBC Student Nurses, Ryan Dirnback (RA, 2013)
This research is funded by the Canadian Cancer Society (grant #701259-00).