The Risks of Tobacco Use on Overall Health

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On behalf of The **A**lberta **C**oalition for Preven**TION** and Control of Vascular Disease (**ACTION**) Network

Key Modifiable Risk Factors

Risk Factor/ Chronic Disease	Cancer	Cardiovascular disease	Diabetes	COPD
Tobacco	X	X	X	X
Nutrition	X	X	X	
Physical Inactivity	X	X	X	
Alcohol	X	X	X	
Stress	X	X		
Obesity	X	X	X	

Prevalence

- The smoking rate in Alberta is declining, from 26% in 1999 to 17.7 % in 2011.
- The smoking rate in Alberta (17.7) is slightly higher than the smoking rate for Canada (17.3%).
- The smoking rate in Alberta remains highest among young adults (aged 20 to 24) at 24%. This is slightly higher than the national rate of 21.5%.

(CTUMS, 2011)

Mortality Rates/Costs

- **37,209 Canadians die annually** from tobacco-related illnesses (17% of total deaths per year)
- More than **8,000 non-smokers die annually** from tobacco smoke exposure
- More than **3,000 Albertans** die annually from tobacco-related illnesses
- Direct health care costs in Alberta $470.6 million per year
- Tobacco is responsible for 5.4 million deaths globally each year.
- Without substantial change to tobacco use rates, tobacco will have killed 1 billion people during the 21st century.

(Baliunas et al., 2007)

Financial and human benefits

- If Alberta's smoking rate dropped to B.C.'s rate of **14%** there would be **131,521 fewer Alberta smokers**
- A conservative estimate of the health care cost savings per quitter is $8,533
- 131,521 fewer smokers represent **potential cost savings of $1,122,268,693.00**
- Given that tobacco use prematurely kills 50% of long-term users there is also the enormous **human benefit of saving 65,760 lives**

Smoking Through the Lifespan

- Life span of someone who smokes

Connie

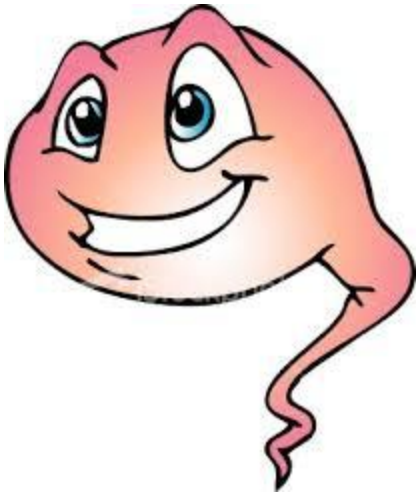
Poll

- Ideally before conception, who should quit smoking?

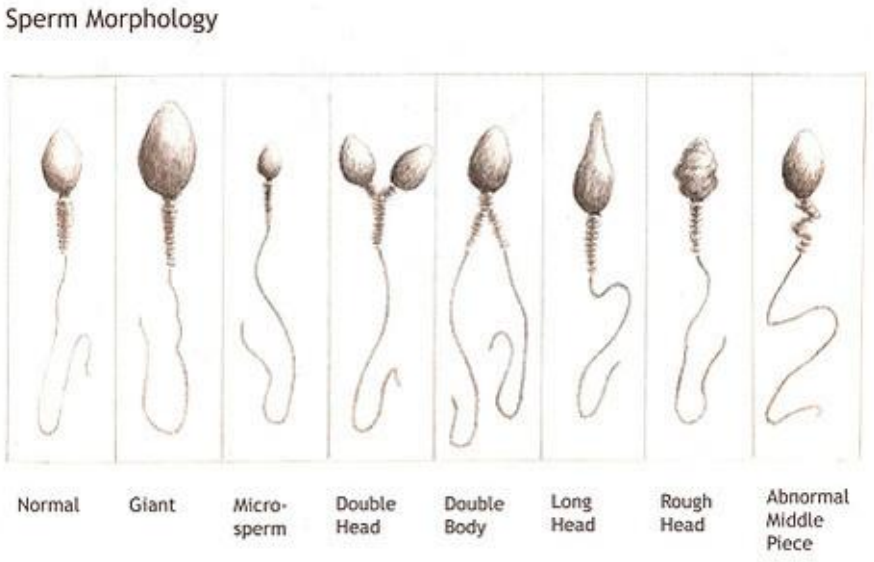
- A) Mother
- B) Father
- C)Both potential parents

Alberta Health Services

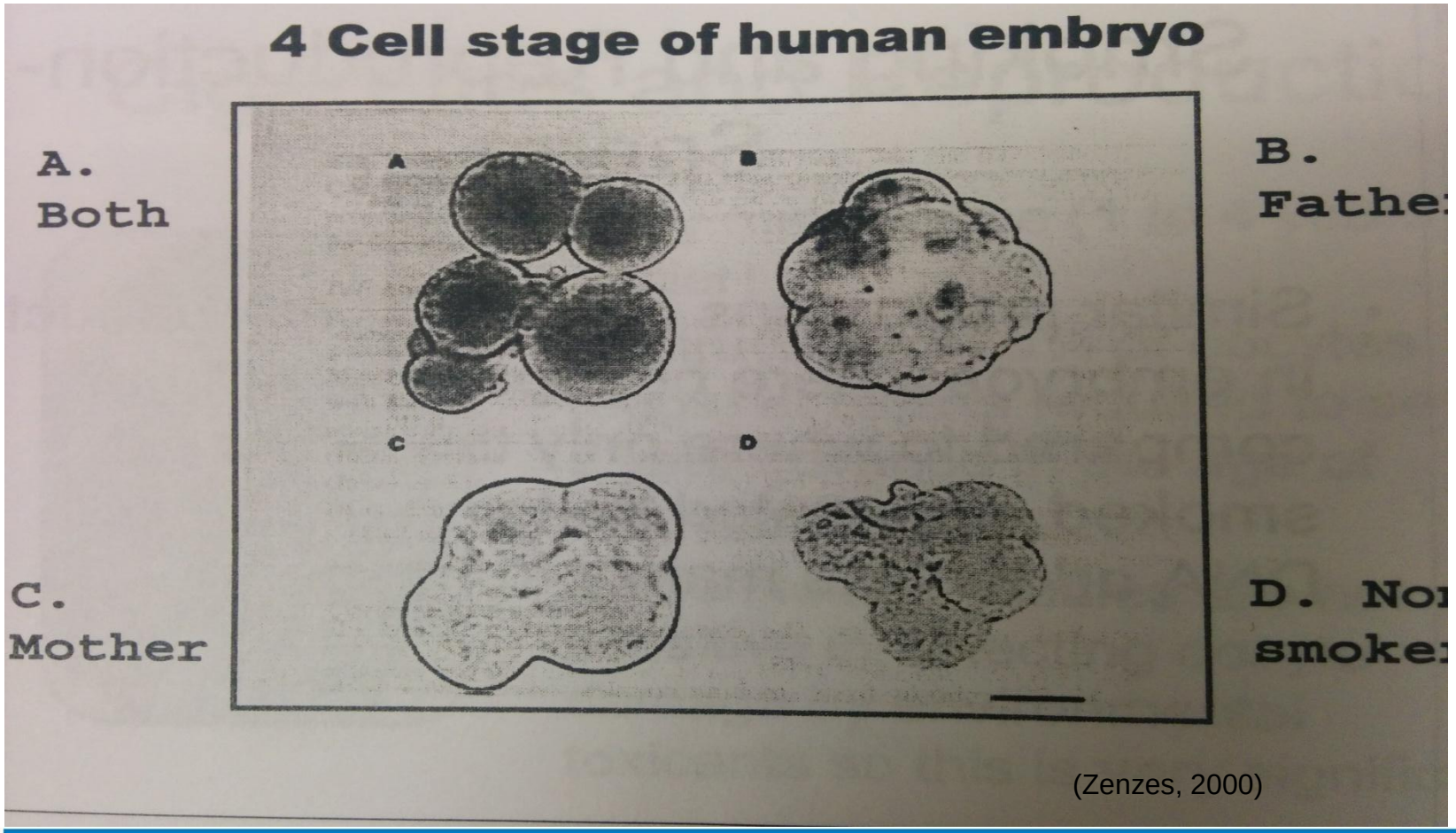
Meet Connie



Smoking and Sperm Morphology



Embryonic Stage



(Zenzes, 2000)

Connie's Poor Oocytes!!

- Destruction of 25% of oocytes (eggs)
- Early Menopause (1 to 4 years earlier)
- Higher risk of breast cancer because most breast cancers happen post menopausal

(Zenzes, 2000)

Connie's Development

- Nicotine, acting on the adrenal glands intensifies secretions of noradrenaline, adrenaline and acetylcholine.
- This causes uterine vasoconstriction and reduces utero placental perfusion.
- The amount of oxygen and nutrients reaching Connie are decreased.
- Nicotine crosses the placenta and leads to higher fetal blood pressure, higher fetal heart rate, and lower fetal breathing movements.

(Lindland et al. 1998)

Cute Little Connie

- Connie was born today!
- She was very small- weighing only 5 pounds.
- Connie is at greater risk for SIDS (2-5 times). She does not react to levels of low oxygen like she should.
- Connie is also less sensitive to stress hormones.

Connie Starts Smoking

- Connie starts smoking as soon as she is exposed to second- hand smoke
- Connie has frequent ear infections, coughs, and gets ill easily.
- Connie is also at higher risk for asthma
- Connie is also at an even higher risk for breast cancer.

(Peck, et. al.,2010)

Connie Starts Smoking Cigarettes

- Connie is now a teen and has started smoking her own cigarettes.
- If Connie tests positive for HPV-16, she is 14.4 times more likely to get cervical cancer than those without the infection.
- Among non-smokers, those who tested positive for HPV-16 were only 6 times more likely to get cervical cancer than non-smokers without the infection

(Gunnell, et.al 2006)

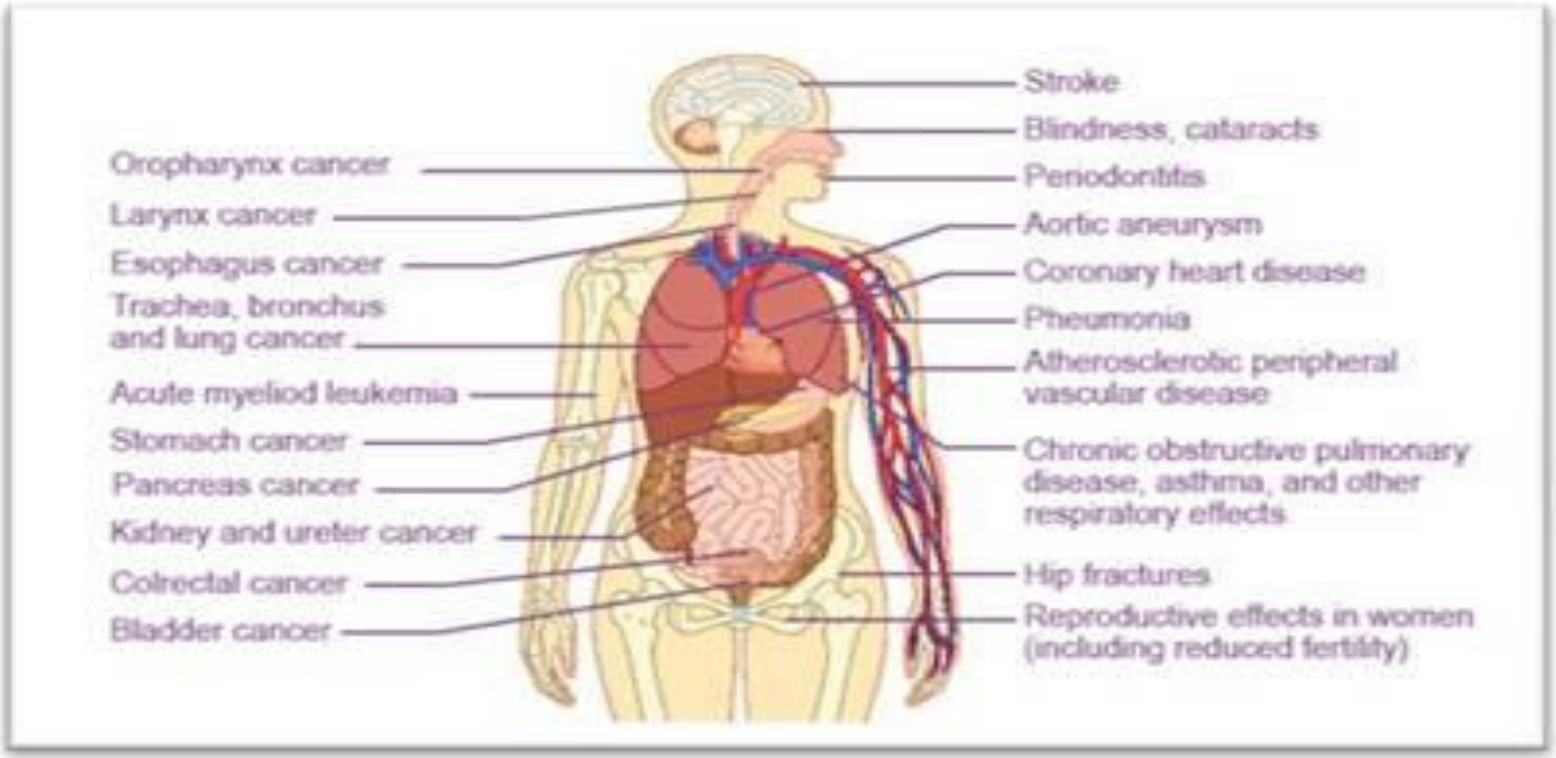
Connie is Sexually Active

- Connie decides to take oral contraceptives.
- Connie is now at a higher risk for stroke and heart disease.

Connie's Brain

- http://www.youtube.com/watch?v=797WAV3kZhQ

Connie's Body



(Tobacco Free Futures, 2012)

Connie is Pregnant

- She has a 1.6 to 2.8 times greater risk of developing abruptio placenta and placenta previa.
- 1.5 greater risk of spontaneous abortion
- 20% increase in perinatal mortality

(Lindland et al. 1998)

Connie has Post Partum Depression

- The amount a person smokes increases with severity of depression
- Schizophrenia 75-90%
- Bi-polar Disorder 60%
- Major Depressive Disorder 58%
- Obsessive Compulsive Disorder 9%
- Post Traumatic Stress Disorder 57%
- Nicotine-dependent and psychiatrically ill individuals consume 70% of all cigarettes smoked in the United States.

(Kalman, Morissette & George 2005)

Poll about Mental Health

- Are patients with mental illness interested in quitting smoking?

- A) Yes
- B) No

Addiction

- Connie's father is struggling with a cocaine addiction
- People who struggle with addiction, have a high rate of tobacco use- 75-85%

(Morisano, Bacher, et.al, 2009)

Poll

- Do people who struggle with multiple addictions want to quit smoking?

a) Yes

b) No

Poll

- Is it a good idea to do tobacco cessation at the same time as treatment for other addictions?

a) Yes

b) No

Connie is a Senior

- Connie has heart disease.
- Connie has COPD.
- She has a really low quality of life.

Tobacco use causes 85 to 90 % of Chronic Obstructive Pulmonary Disease (COPD)

- COPD accounts for the **highest rate of hospital admission** among major chronic illnesses in Canada
- COPD hospitalization average stay is 10 days with approximate cost of **$10,000 per stay**

- In 2011 **69,430** Albertans were living with COPD
- **About 50%** of people diagnosed with COPD **are expected to die within 10 years of being diagnosed**

(The Lung Association, 2010)

Tobacco use causes 30% of deaths from heart disease

- Approximately 3,700 Albertans die of ischaemic heart disease each year
- Roughly **1,233** of these deaths can be attributed to smoking

http://www.health.alberta.ca/documents/Trends-2007-chronic.pdf
http://www.statcan.gc.ca/pub/84f0209x/84f0209x2008000-eng.pdf

Adverse Impact on Surgical Outcomes

- Smokers are more likely to have problems recovering from surgery and are more likely to need repeat surgery
- In one study smokers were **38% more likely to die after surgery** than patients who had never smoked
- Smokers are 80% more likely to have a heart attack after surgery than non-smokers

Stop smoking for safer surgery http://www.stopsmokingforsafersurgery.ca/

It Doesn’t Have to be This Way

- Tobacco use is highly treatable.
- Treatment is cost effective, has a positive return on investment.
- Handout on programs and services.

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