

INFORMATION PAPER ON LUNG CANCER

What you need to know

- Lung cancer is the second most common cancer among males and third most common cancer among females in Singapore¹.
- Smoking is a major risk factor for lung cancer. A smoker has 15 to 25 times the risk of getting lung cancer compared to a non-smoker².
- The risk of developing lung cancer can be reduced by avoiding and quitting smoking.

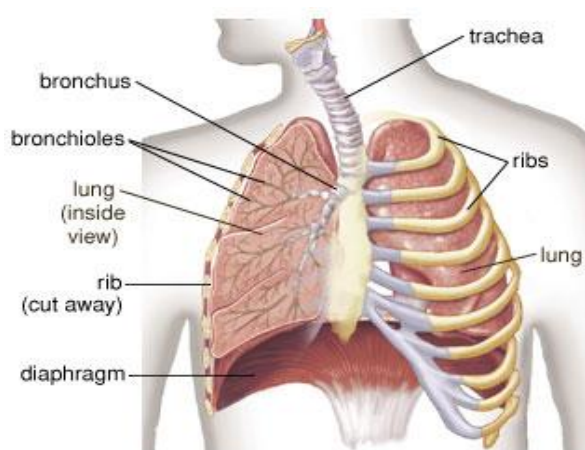
OBJECTIVES

This paper provides an overview of the trends of lung cancer in Singapore, its associated risk factors and preventive measures which can reduce the risk of developing lung cancer. Smoking control measures in Singapore will also be discussed.

INTRODUCTION

The lungs are located in the chest cavity (Figure 1). Lung cancer involves an abnormal growth of cells (tumour) lining the airways. As these growths enlarge, they can spread to the chest wall and the neighbouring lymph nodes. When the tumours spread to other parts of the body, lung cancer is said to have metastasised.

Figure 1 Anatomy of the lung³



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¹ Singapore Cancer Registry, National Registry of Diseases Office.

² Hsieh Wen-son (2008, May). Lung Cancer – Cleaning the air. Cancer Focus vol 8, no 1, pg 3. Singapore Cancer Society.

³ <http://media-2.web.britannica.com/eb-media/88/91188-034-20906818.jpg>

Lung cancer is the second most common cancer among males (Chart 1) and the third among females (Chart 2) for the period 2005-2009³.

Chart 1: Ten Most Frequent Cancers in Males, 2005-2009

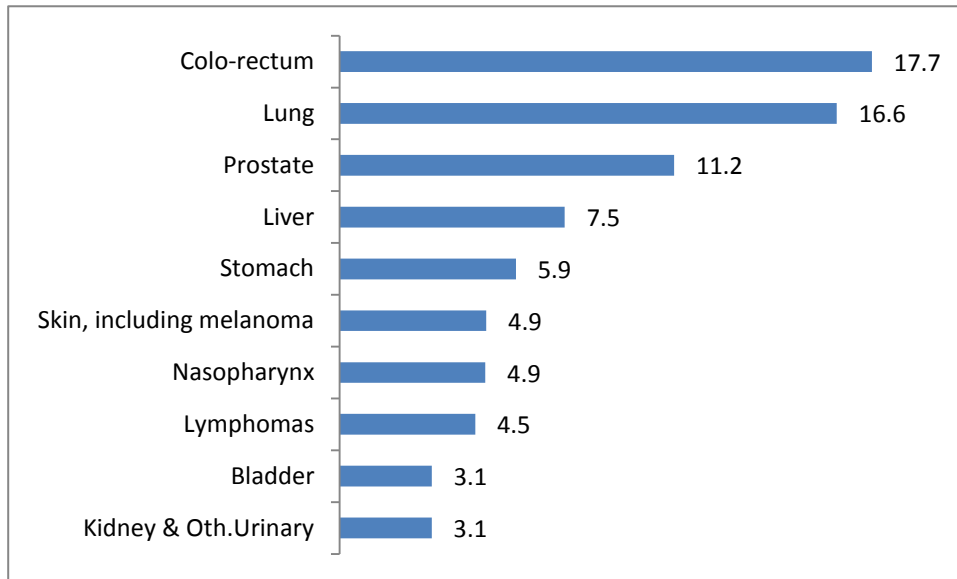
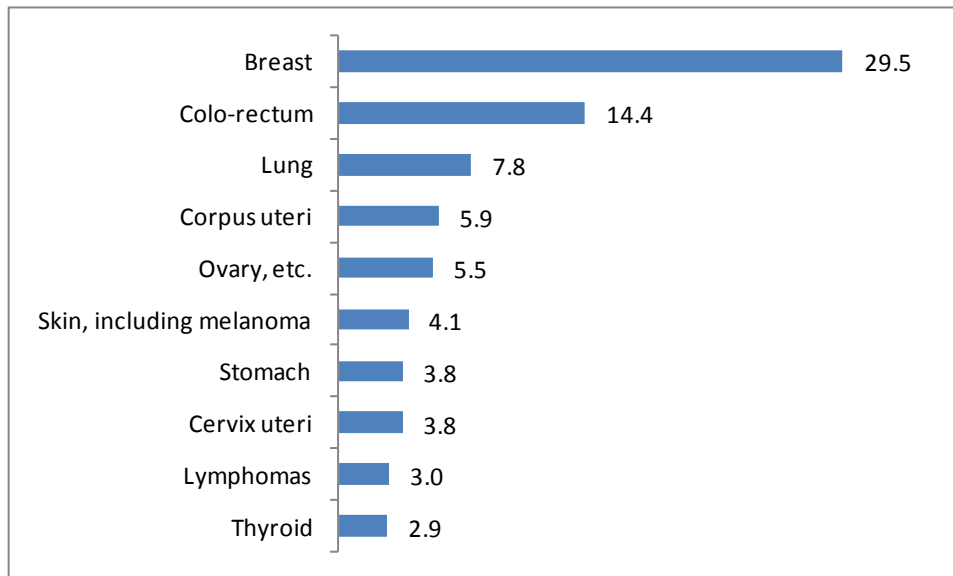


Chart 2: Ten Most Frequent Cancers in Females, 2005-2009



Among the ethnic groups, the Chinese have the highest incidence rates of lung cancer, followed by Malays and Indians for both genders (Table 1).

Table 1: Crude and Age-Standardised Incidence Rates for Lung Cancer by Gender and Ethnic Group, 2005-2009

Gender	Ethnic Group	CR (95% CI)*	ASR (95% CI)**
Male	Chinese	52.0 (50.2-53.7)	41.4 (40.0-42.8)
	Malay	31.0 (27.8-34.1)	35.1 (31.4-38.7)
	Indian	15.5 (12.8-18.2)	16.4 (13.4-19.4)
Female	Chinese	25.8 (24.6-27.0)	16.5 (15.7-17.3)
	Malay	13.8 (11.7-15.8)	13.3 (11.2-15.3)
	Indian	3.9 (2.5-5.3)	4.0 (2.5-5.5)

*CR: crude rate (per 100 000 per year)

**ASR: age standardised rate (per 100 000 per year)

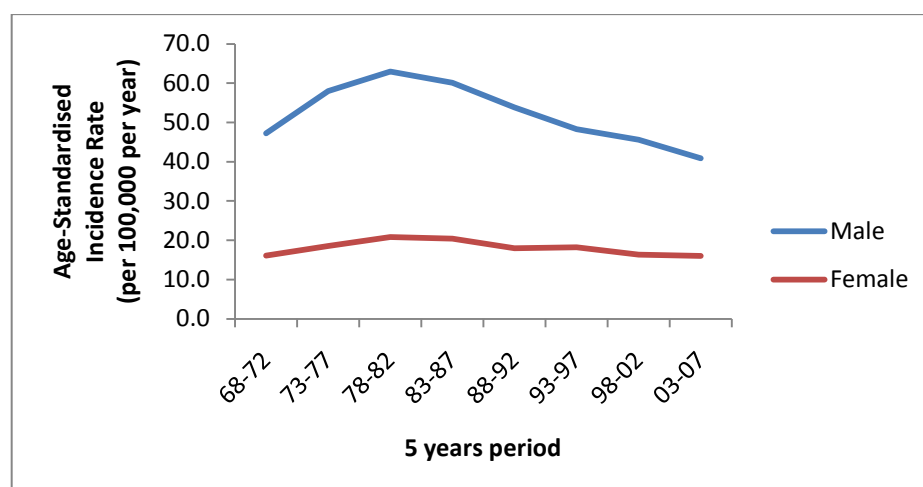
WHAT IS THE TREND OF LUNG CANCER IN SINGAPORE?

Incidence of Lung Cancer

The number of newly diagnosed lung cancer cases has increased from 1361 cases to 3845 cases for males and 489 cases to 1894 cases for females for the period 1968-1972 to the period 2003-2007. There were 5933 newly diagnosed lung cancer cases in the period 2005-2009.

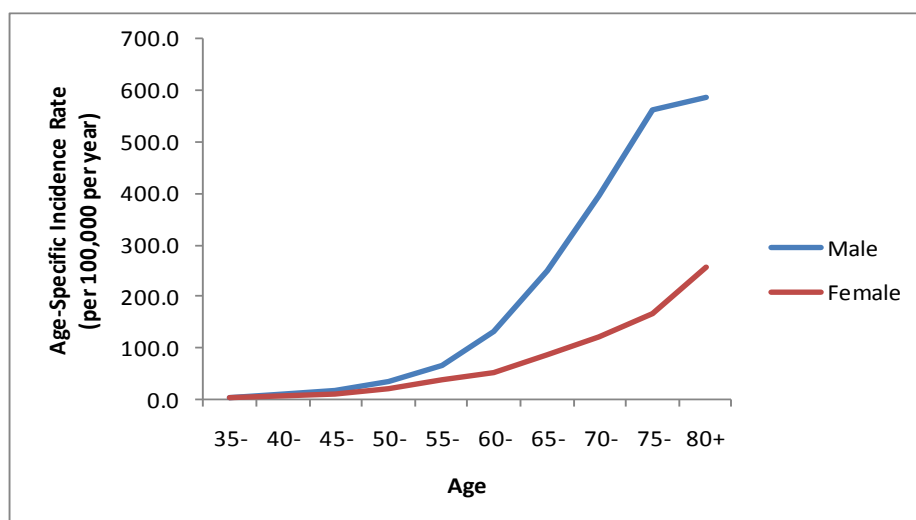
However, the age-standardised incidence rates for lung cancer among males and females have been decreasing since 1978-1982 (Chart 3).

Chart 3: Age-Standardised Incidence Rates for Lung Cancer (per 100,000 per year) by Gender, 1968-2007



The incidence of lung cancer increases rapidly after the age of 40 years; consistent with the latency period for lung cancer to develop (Chart 4).

Chart 4 - Age-Specific Incidence Rates 2005-2009

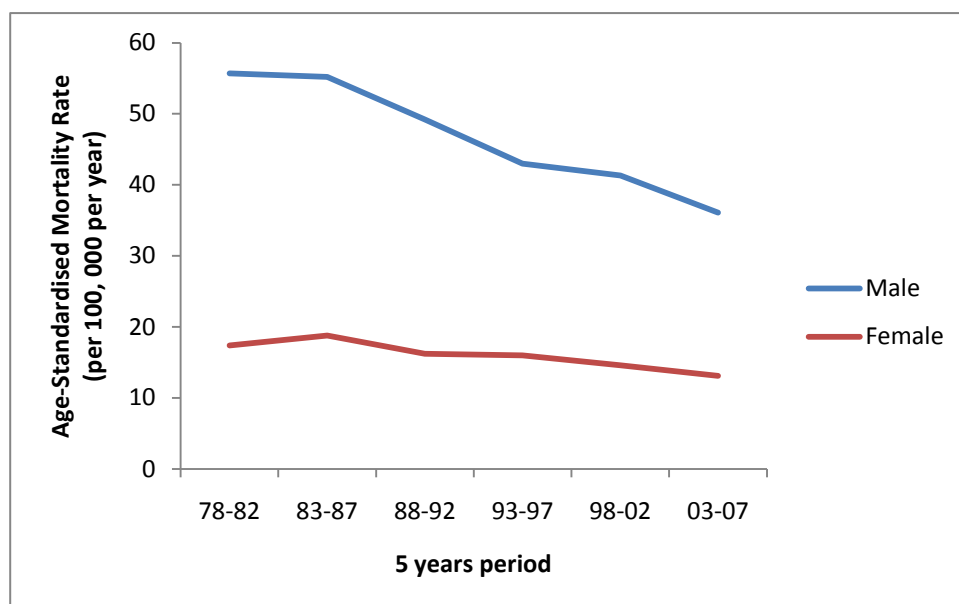


Based on recent data from the cancer registry, Singapore men have a 1 in 43 chance, while Singapore women have a 1 in 64 chance, of developing lung cancer in their lifetime.

Lung Cancer Mortality

Although the age-standardised lung cancer mortality rate has declined over time (Chart 5), lung cancer had caused the highest number of deaths among males and the second highest among females. In 2005-2009, there were 5255 deaths among lung cancer cases.

Chart 5: Age-Standardised Mortality Rates, 1978-2007



Note: ASR for years 1978-2000 are estimated figures

WHAT ARE THE RISK FACTORS FOR DEVELOPING LUNG CANCER?

Cigarette smoking is the main cause of lung cancer. Cigarette smoke contains 69 different cancer-causing, or carcinogenic substances. The longer a person smokes and the more cigarettes smoked each day, the more risk increases⁴. Exposure to second-hand smoke also contributes significantly to the lung cancer burden, raising the risk of lung cancer by 20-25%⁵.

There has been an increase in the prevalence of smokers in Singapore, from 12.6% in 2004⁶ to 14.3% in 2010⁷. The increasing smoking trend among young adults between the ages of 18-39 years is most worrisome, as this group has shown the highest increase in smoking prevalence in the same period. Additionally, the smoking prevalence among male smokers, which increased from 21.8% in 2004 to 24.7% in 2010, is of concern.

Exposure to certain chemicals such as asbestos, arsenic and tar soot could also increase the risk of lung cancer. Having a family history of lung cancer also increases an individuals' risk of developing the disease.

CAN LUNG CANCER BE PREVENTED?

The risk of developing lung cancer can be reduced by quitting smoking, and by reducing or avoiding exposure to second-hand smoke.

WHAT ARE THE CURRENT SMOKING CONTROL MEASURES IN SINGAPORE?

The Health Promotion Board (HPB) drives the National Tobacco Control Programme (NTCP) to reduce the smoking rates in Singapore. The NTCP was spearheaded by the Ministry of Health in 1986, and partners with various stakeholders for public education, provision of smoking cessation services, taxation and legislation.

The rising trend of daily smokers among young adults and males has necessitated a review of the existing tobacco control strategies so as to effectively reduce the smoking prevalence in Singapore. Notably, the Tobacco (Control of Advertisements and Sales) Act was amended in July 2010 to tighten tobacco control measures in Singapore and the I Quit movement, an initiative to motivate smokers to quit smoking by leveraging on role models such as ex-smokers, was launched in June 2011. HPB is also continuously reaching out to the youth and smokers through targeted programmes on the ground to prevent initiation of smoking as well as to encourage cessation.

⁴ Alberg AJ, Samet JM. Epidemiology of Lung Cancer. Chest 2003;123(1 Suppl):21S-49S

⁵ International Agency for Research on Cancer. Tobacco Smoke. In: Tobacco Smoke and Involuntary Smoking. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Vol. 83. Lyon, IARC, 2004b, pg 1191-1413

⁶ National Health Survey 2004, Ministry Of Health

⁷ National Health Survey 2010, Ministry Of Health

WHERE CAN I GET MORE INFORMATION?

For more information on tobacco control in Singapore, visit the Health Promotion Board's website (www.hpb.gov.sg/smokefree/).

Do call QuitLine (1800- 4382000) to talk to our Quit consultants for personalised advice on how to quit smoking. They can also provide you with self-help resources. Do also join us on our I Quit Club Facebook page at www.facebook.com/IQUITCLUB to share tips on quitting smoking.