MINISTRY OF HEALTH
MALAYSIA

EARLY DETECTION OF COMMON CANCERS AND REFERRAL PATHWAYS :

MODULE FOR HEALTH CARE PROVIDERS

Published by :

Non-Communicable Disease Section (NCD)
Disease Control Division
Ministry of Health, Malaysia
Level 2, Block E3, Complex E
Federal Government Administrative Centre
62590, Putrajaya

http://www.moh.gov.my

First Edition 2017
ISBN 978-967-0769-94-3

CONTENTS

PREFACE

Cancer is a disease feared by most people. It is the second leading cause of death worldwide and was responsible for 8.8 million deaths in 2015. Worldwide, nearly 1 in 6 deaths is due to cancer. It is a fact that around one third of cancer mortality are due to the 5 leading behavioural and dietary risks: high body mass index, low fruit and vegetable intake, lack of physical activity, tobacco use, and alcohol use.

In Malaysia, cancer has been one of the five most important causes of death in the Ministry of Health Hospital for the past two decades and contributed to 13.6% of all deaths occurred in 2015. Most of the cancers in Malaysia are diagnosed at late stages and lead to reduce chances for effective treatment and cure. According to the Malaysia National Cancer Registry Report 2007-2011 Report, around 60% of cancer were diagnosed at stage 3 and 4. This can be due to lack of awareness on the sign and symptoms as well as lack in health seeking behaviour among public. The statistic must be improved where more cancer should be diagnosed at an earlier stage.

The health care providers, as the front liner plays an important role in educating the public on cancer especially the risk factors and sign and symptoms, and thus, should be equipped with sufficient knowledge and information. With this in mind, the Ministry of Health, together with other related agencies, had developed this training module that will help refresh the knowledge on cancers among health care providers, aware of the early presentation of common cancers in Malaysia and able to recommend referral pathways to appropriate centres. This module is aimed to be used by the front-liners in public, private and NGOs in the country so that the message and information given to all health care providers is uniformed.

I hope, by taking active part in educating the public, recognising the signs and symptoms and aware of the referral pathway, all health care providers will be able to advise the public / patients to take the correct steps and presented them self for further examination or procedure when necessary and to be managed promptly and accordingly.

DATO' DR. CHONG CHEE KHEONG
Director Disease Control Division
Ministry of Health Malaysia

LIST OF **AUTHORS**

Module 1 : Breast Cancer

1. Ms Hajah Mariyana Abu Bakar
   Executive
   Community Services
   Breast Cancer Welfare Association

2. Ms Nabihah Haron
   Outreach Community Executive
   Cancer Research Malaysia

3. Ms Rafizah Amran
   Head of Communications
   Cancer Research Malaysia

Module 2 : Colorectal Cancer

1. Dr Maimunah Mahmud
   Family Medicine Specialist
   Klinik Kesihatan Sungai Buloh

2. Dr Nor Saleha Ibrahim Tamin
   Public Health Physician
   Cancer Unit (Head)
   NCD Section
   Disease Control Division, Ministry of Health Malaysia

3. Dr Zaleha Abdul Hamid
   Public Health Physician
   Adult Health Section (Head)
   Family Health Development Division
   Ministry of Health Malaysia

4. Dr Ozrinalifah Omar
   Assistant Director
   Selangor State Health Department

Module 3 : Cervical Cancer

1. Dr Dalilah Kamaruddin
   Head Cancer and Health Screening Clinic (Head)
   National Cancer Society of Malaysia

2. Dr Wan Hilya Munira Mustapha
   Medical Officer
   Management Unit
   Clinic Nur Sejahtera Clinic
   National Population and Family Development Board (LPPKN)
   Ministry of Women, Family and Community Development

3. Ms Imelda Suhanti Ishak
   Head of Division Services
   National Cancer Council
   (MAKNA)

Module 4 : Nasopharygeal Cancer

1. Dr Maimunah Mahmud
   Family Medicine Specialist
   Klinik Kesihatan Sungai Buloh
   Gombak, Selangor

2. Dr Nor Saleha Ibrahim Tamin
   Public Health Physician
   Cancer Unit (Head)
   NCD Section
   Disease Control Division,
   Ministry of Health Malaysia

3. Dr Zaleha Abdul Hamid
   Public Health Physician
   Adult Health Unit (Head)
   Family Health Development Division
   Ministry of Health Malaysia

Module 5 : Lung Cancer

1. Dr Fuziah Paimin
   Family Medicine Specialist
   Klinik Kesihatan Kajang
   Hulu Langat, Selangor

2. Dr Ruziaton Hashim
   Family Medicine Specialist
   Klinik Kesihatan Pandamaran
   Pelabuhan Klang, Selangor

3. Dr Zil Azwan Abdullah
   Family Medicine Specialist
   Klinik Kesihatan Petaling Bahagia
   Jalan Puchong, Kuala Lumpur

4. Nisha Sanita Mohd Norha
   Assistant Head of Division
   National Society of Malaysia

Module 6 : Oral Cancer

1. Dr Mazura Mahat
Senior Principal Assistant Director
Branch of the Public Dental Health Care
Oral Health Division
Ministry of Health Malaysia

2. Puan Hajah Mariyana Abu Bakar
Community Services Executive
Breast Cancer Welfare Association

3. Nabihah Haron
Outreach Community Executive
Cancer Research Malaysia

OTHER CONTRIBUTORS

1. Prof Dr Nur Aishah Mohd Taib
Surgical Department
Medical Faculty
Universiti Malaya

2. Prof Dr Tong Seng Fah
Family Medicine Specialist
Medical Center, UKM

3. Dr Mazlina Mat Desa
Deputy Director
Branch of the Public Dental Health Care
Oral Health Division

4. Puan Farahida Mohd Farid
National Society of Malaysia

5. Teresa Mansai
Nursing Supervisor
Family Health Development Division

6. Inin Roslyza Rosli
Senior Assistant Director Health Education Divison

7. Khursiah Ahmad Razalli
Chief Nurse
Disease Control Division

8. Puan Arfah Mahani Hj Amran
Director
Malaysian Health Promotion Board

9. Dr Saunthari Somasundaram
President
National Society of Malaysia

EDITORS

1. Dr Nor Saleha Ibrahim Tamin
Public Health Physician
Cancer Unit (Head)
NCD Section
Disease Control Division, Ministry of Health Malaysia

2. Dr Nazrila Hairizal Nasir
Family Medicine Specialist
Klinik Kesihatan Putrajaya, Presint 9

3. Dr Ismawati Ismail
Senior Assistant Director
Disease Control Division

EARLY DETECTION OF COMMON CANCERS AND REFERRAL PATHWAYS FOR HEALTH CARE PROVIDERS

1. BACKGROUND

Cancer has become one of the most devastating diseases with more than 14 million new cases each year and is expected to continue rising. Like the other non- communicable diseases, the expected increase is mainly due to the adoption of unhealthy lifestyles and increased in elderly population. The burden of cancer does not only affect the patients, but their families and the societies too.

1.1 Cancer Situation Worldwide

Globocan 2012, published by the World Health Organization (WHO) estimated that globally in 2012 there were 14.1 million new cases, 8.2 million cancer deaths and
32.6 million people living with cancer within 5 years after diagnosis. It was reported that 65% (8 million) of cancer deaths and 48% (15.6 million) of 5-year cancer prevalent occurred in the less developed regions.

1.2 Cancer Situation in Malaysia

Cancer persisted as one of the five principal causes of national mortality for the past 20 years and its trend, in terms of absolute numbers, has escalated. In 2014, cancer contributed 13.02 % of all deaths in the Ministry of Health (MoH) hospitals compared to 9.23% in 1994.

The ten most frequent cancers in general population, males and females in Malaysia for the period of 2007 – 2011 are as tabulated.

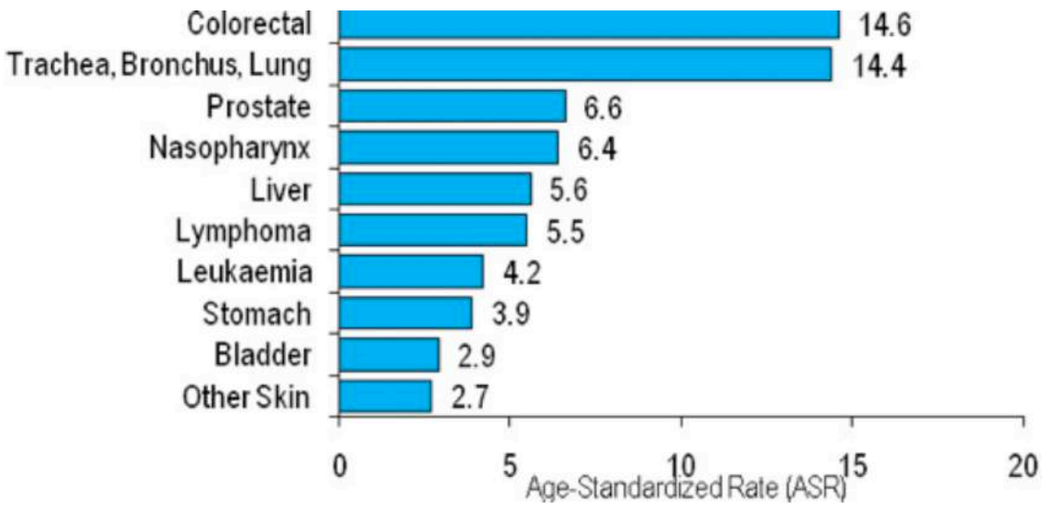


Figure 1: Ten most frequent cancers in males, Malaysia 2007-2011

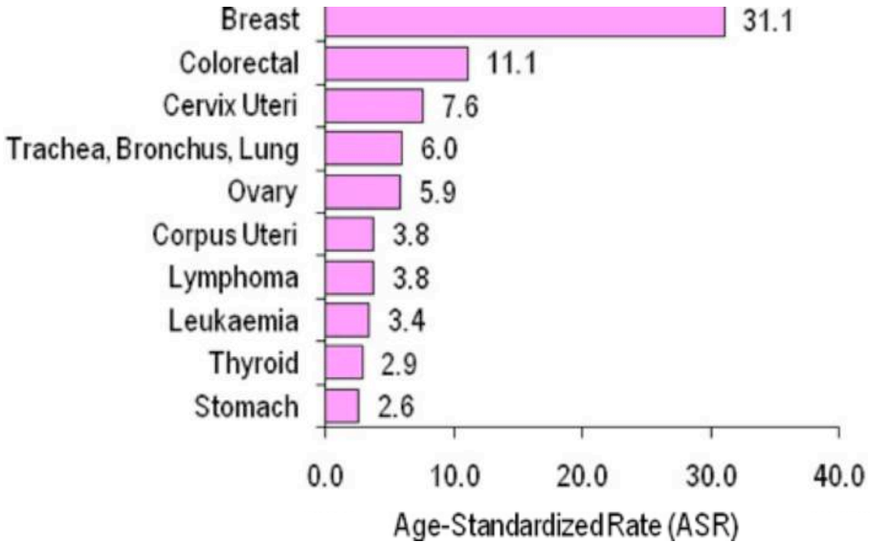


Figure 2: Ten most frequent cancers in females, Malaysia 2007-2011

2. HEALTH FACILITIES IN MALAYSIA

Table 1: Health Care Facilities and Human Resources, 2017

GOVERNMENT	**NO.**	**OFFICIAL BEDS**
Ministry of Health		
Hospitals	135	37,470
Special Medical Institutions	9	4,832
Total	144	42,302
Health Clinics	**No.**	**Teams**
	1,085	-
Community Clinics (Klinik Desa)	1,796	-
Mobile Health Team	-	217
Flying Doctor Services	6 (helicopters)	12
Dental Clinics	**No.**	**Dental chairs**
Standalone Dental Clinics	54	492
Dental Clinics in health clinics	586	1,442
Dental Clinics in hospitals	69	407
Dental Clinics in other Institutes	20	17
School Dental Clinics*	923	832
Mobile Dental Clinics**	35	53
Dental Mobile Teams		
Pre-school	137	1,747
Primary and secondary school	461	1,747
Elderly / special children	5	1,747
1 Malaysia Clinics	27	41
Non-Ministry of Health	**No.**	**Bed**
Hospitals	10	3,892
Private		

Licenced	No.	Official Beds
Hospitals	200	14,799
Medical clinics	7,571	-

Human Resource					
	MoH	**Non-MoH**	**Private**	**Total**	**Profession : Population**
Doctors	40,230	3,118	14,483	57,831	1:554
Dentist	5,097	639	2,862	8,589	1:3,728
Assistant Medical Officers	13,904	523	2,847	17,274	1:1,855
Nurses	65,709	5,771	34,809	106,289	1:302
Dental Nurses	2,860	55	-	2,915	1:3,433
Community Nurses	23,495	276	742	24,513	-1:1,307
T&CM Practitioner	-	-	-	16,050	1:1,997

3. AIM

This training module is aimed to be used by trainers, in public and private organisations in the country as the front-liners; so the message and information given to all Health Care Providers is uniformed.

4. OBJECTIVES

The objective of the training is to refresh the knowledge on cancers among health care providers, and hence, to be aware of the:

i. early presentation of common cancers in Malaysia
ii. recommended referral pathways to appropriate centres (primary/secondary/tertiary and/or private/public facilities)

5. TARGET GROUPS (First contact health care providers)

i. Medical Officers and paramedics at Health Clinics (all Ministries e.g. MoH, LPPKN, Army)
ii. General Practitioners
iii. NGO's

6. TARGET

i. To conduct at least one day training or seminar per state per year.
ii. To distribute the training module to professional bodies
(e.g MMA, associations)
iii. To train:
a) General Practitioners
b) Medical Officers
c) Paramedics
d) Dentist

7. MODULE CONTENT

This module describes the risk factors, sign and symptoms of the most common cancers in Malaysia, namely, cancers of the breast, cervix, lung, colorectum, nasopharynx and oral. It also describes the possible refer pathways upon detecting the common signs and symptoms of the cancers.

7.1 MODUL 1 : BREAST CANCER

7.1.1 Content Summary for Breast Cancer Module

Target Audience • *Healthcare practitioner* ***Contents of Learning Module*** • *Instructor's Guide with Pre/Post Self-Assessment* • *PowerPoint presentation*	***Goals*** *In this session, participants will gain an understanding on breast cancer, risk factors and signs and symptoms of breast cancer* ***Objective*** *At the completion of Learning Module 1, participants will understand:* 1. *Epidemiology of breast cancer* 2. *Anatomy of the breast* 3. *Types of Breast Cancer* 4. *Signs and symptoms of breast cancer* 5. *Risk factors for breast cancer* 6. *Challenges to early detection of breast cancer* 7. *Screening* 8. *Treatment* 9. *Myths of breast cancer* 10. *Referral pathways* 11. *Patient navigation* ***Measures of Objective Accomplishment*** *The presenter will administer a pre self-assessment and a post self- assessment to measure participants' knowledge of the module's objectives. The pre self-assessment measures existing knowledge and the post self-assessment measures what was gained through the learning module.*

7.1.2 Pre/Post Self-Assessment on Breast Cancer Module

No.	Questions	True	False
1	Below are the statements on the breast cancer risk factors. Please circle the correct answer		
	a. The non-modifiable risk factors for breast cancer are gender and age: the younger the woman, the higher her risk.	T	F
	b. Early age at menarche has been associated with decreased risk of breast cancer.	T	F
	c. The older the woman is when she begins childbearing, the lower her risk of breasts cancer.	T	F
	d. Woman who breastfeed reduces their risk compared with women who do not breastfeeding.	T	F
	e. The use of oral contraceptives increases the risk of the breast cancer in current and recent users.	T	F
	f. Women currently taking HRT increases the risk of breast cancer compared to non-users.	T	F
	g. Detection of breast cancer in younger woman with denser breast is more difficult.	T	F
	h. A previous diagnosis of breast cancer raises the risk of developing another breast cancer or recurrence.	T	F
	i. A woman with more than one first degree relative (mother or sister) affected with breast cancer has higher risk compared to having one relative affected.	T	F
	j. The risk increase for women who smoke compared to non-smokers.	T	F
2	Which are the symptoms of breast cancer? Please circle or underline the best answer a. Change in the size or shape of the breast b. Nipple discharge or tenderness c. Ridges or pitting of the breast d. All of the above		
3	The commonest symptom of the breast cancer is:-Please circle or underline the correct answer a. Nipple discharge b. Painless breast lump c. Ulcer in the nipple d. Breast Pain e. Eczema		

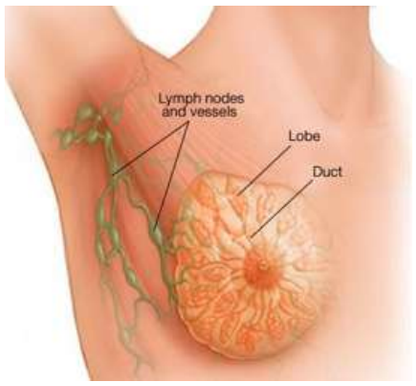
No.	Questions	True	False
4	What is an example of the benign breast condition? Please circle or underline the best answer a. Cyst b. Calcification c. Fibroadenoma d. Intraductal Papillomas e. All of the above		

7.1.3 Pre/Post Self-Assessment Answer Key

No.	Questions	True	False
1	Below are the statements on the breast cancer risk factors. Please circle the correct answer		
	a. The non-modifiable risk factors for breast cancer are gender and age: the younger the woman, the higher her risk.	T	F
	b. Early age at menarche has been associated with decreased risk of breast cancer.	T	F
	c. The older the woman is when she begins childbearing, the lower her risk of breasts cancer.	T	F
	d. Woman who breastfeed reduces their risk compared with women who do not breastfeeding.	T	F
	e. The use of oral contraceptives increases the risk of the breast cancer in current and recent users.	T	F
	f. Women currently taking HRT increases the risk of breast cancer compared to non-users.	T	F
	g. Detection of breast cancer in younger woman with denser breast is more difficult.	T	F
	h. A previous diagnosis of breast cancer raises the risk of developing another breast cancer or recurrence.	T	F
	i. A woman with more than one first degree relative (mother or sister) affected with breast cancer has higher risk compared to having one relative affected.	T	F
	j. The risk increase for women who smoke compared to non-smokers.	T	F
2	Which are the symptoms of breast cancer? Please circle or underline the best answer a. Change in the size or shape of the breast b. Nipple discharge or tenderness c. Ridges or pitting of the breast d. All of the above		

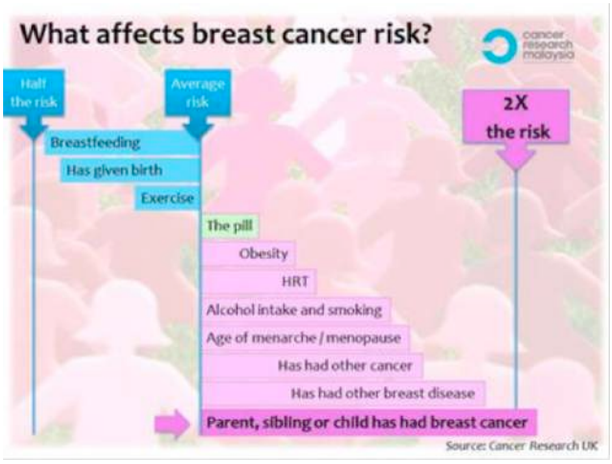
No.	Questions	True	False
3	The commonest symptom of the breast cancer is:-Please circle or underline the correct answer a. Nipple discharge b. Painless breast lump c. Ulcer in the nipple d. Breast Pain e. Eczema		
4	What is an example of the benign breast condition? Please circle or underline the best answer a. Cyst b. Calcification c. Fibroadenoma d. Intraductal Papillomas e. All of the above		

7.1.4. Breast Cancer : The Module

No.	Topics	Remarks
1	**EPIDEMIOLOGY OF BREAST CANCER** Breast cancer is the most common form of cancer affecting women in Malaysia accounted for 32.1% from all cancers. The incidence of breast cancer was highest among Chinese, followed by Indian and Malays. Risk for Chinese female is 1:22, Indian female is 1:24 and Malay female is 1:35. Percentage of breast cancer detected at stage I and II was 56.9%. About one in 30 women in this country are at risk, compared to one in eight in Europe and the United States.	
2	**ANATOMY OF THE BREAST**  Woman's breast is made up of glands that make breast milk (lobules), ducts (small tubes that carry milk from lobules to the nipple), fatty and connective tissue, blood vessels, and lymph vessels. Most breast cancers begin in the cells that line the ducts (ductal cancer), some begin in the lobules (lobular cancer) and the rest in other tissues.	

No.	Topics	Remarks
3	**TYPES OF BREAST CANCER** i. **Carcinoma in situ** This term is used for early stage cancer, when it is confined to the place where it started. In breast cancer, it means that the cancer is confined to the ducts or the lobules ii. **Ductal carcinoma in situ (DCIS)** This is the most common type of non-invasive breast cancer. DCIS means that the cancer is confined in the ducts. iii. **Lobular carcinoma in situ (LCIS)** This condition begins in the milk-making glands but does not go through the wall of the lobules. iv. **Invasive (infiltrating) ductal carcinoma (IDC)** This is the most common breast cancer. It starts in a milk passage or duct, breaks through the wall of the duct, and invades the tissue of the breast. v. **Invasive (infiltrating) lobular carcinoma (ILC)** This cancer starts in the milk glands or lobules. It can spread to other parts of the body.	
4	**SIGN AND SYMPTOMS OF BREAST CANCER** The signs and symptoms may vary from person to person. However, having any of the abnormal findings in the list below should lead to a suspicion of breast cancer: a. A **lump** which is hard, fixed or irregular. Sometimes, it appears as a thickening mass in the breast or axilla. b. **Enlargement** of lymph nodes in the axilla. c. **Nipple** i. Discharge: which can be persistent and is of bloody or watery nature; OR ii. Retraction of nipple – This is due to the contraction of fibrotic iii. Scaly skin around the nipple area. d. **Skin** i. Dimpling of the skin ii. Has become like the skin of an orange. This is known as Peau d' orange e. Change in size and shape of breast.	

No.	Topics	Remarks
5	**BREAST CANCER RISK/ CONTRIBUTING FACTOR**	



There are different kinds of risk factors which can be divided into non- modifiable and modifiable risk factors.

<u>Non modifiable risk factors</u>

i. **Gender**

Being a woman is the main risk factor for developing breast cancer. Men can develop breast cancer, but this disease is about 100 times more common among women than men. This is likely because men have less of the female hormones estrogen and progesterone, which can promote breast cancer cell growth

ii. **Aging**

Risk of developing breast cancer increases with age. In Malaysia, breast cancer was detected as early as in the twenties, and peaks at 55 years old.

iii. **Genetic risk factors**

About 5% to 10% of breast cancer cases are thought to be hereditary, resulting directly from gene defects (called mutations) inherited from a parent.

BRCA1 and BRCA2: The most common cause of hereditary breast cancer is an inherited mutation in the BRCA1 and BRCA2 genes. In normal cells, these genes help prevent cancer by making proteins that keep the cells from growing abnormally. For families with BRCA mutation the risk may be as high as 80%. These cancers tend to occur in younger women and affecting both breasts and they also have higher risk of developing ovarian cancer.

No.	Topics	Remarks
	Changes in other genes: Other gene mutations can also lead to inherited breast cancers. They are not frequent causes of inherited breast cancer. These genes are: • **Ataxia-Telangiectasia Mutation (ATM)**: The ATM gene normally helps repair damaged DNA. Inheriting 2 abnormal copies of this gene causes the disease ataxia-telangiectasia. Inheriting 1 mutated copy of this gene has been linked to a high rate of breast cancer in some families. • **Tumour Protein p53 (TP53)**: The TP53 gene gives instructions for making a protein called p53 that helps stop the growth of abnormal cells. Inherited mutations of this gene cause Li-Fraumeni syndrome. People with this syndrome have an increased risk of developing breast cancer, as well as several other cancers such as leukemia, brain tumors, and sarcomas. • **Checkpoint Kinase 2 (CHEK2)**: The Li-Fraumeni syndrome can also be caused by inherited mutations in the CHEK2 gene. Even when it does not cause this syndrome, it can increase breast cancer risk about twofold when it is mutated • **Phosphatase and Tensin Homolog (PTEN)**: The PTEN gene normally helps regulate cell growth. Inherited mutations in this gene can cause Cowden syndrome, a rare disorder in which people are at increased risk for both benign and malignant breast tumors, as well as growths in the digestive tract, thyroid, uterus, and ovaries. • **Cadherin 1 (CDH1)**: Inherited mutations in this gene cause hereditary diffuse gastric cancer, a syndrome in which people develop a rare type of stomach cancer at an early age. Women with mutations in this gene also have an increased risk of invasive lobular breast cancer. • **Serine/Threonine Kinase 11 (STK11)**: Defects in this gene can lead to Peutz-Jeghers syndrome. People with this disorder develop pigmented spots on their lips and in their mouths, polyps in the urinary and gastrointestinal tracts, and have an increased risk of many types of cancer, including breast cancer.	

No.	Topics	Remarks
	Genetic testing: Genetic tests can be done to look for mutations in the BRCA1 and BRCA2 genes or some other genes linked to breast cancer risk. Although testing may be helpful in some situations, the pros and cons need to be considered carefully. **iv. Family history of breast cancer** Breast cancer risk is higher among women whose close blood relatives have this disease. A woman with more than one first degree relative (mother or sister) affected with breast cancer has higher risk compared to having one relative affected. The exact risk is not known, but women with a family history of breast cancer in a father or brother also have an increased risk of breast cancer. **v. Personal history of breast cancer** A woman with cancer in one breast has increased risk of developing a new cancer in the other breast or in another part of the same breast. This is different from a recurrence of the first cancer **vi. Certain benign breast conditions** Women diagnosed with certain benign breast conditions might have an increased risk of breast cancer. Some of these conditions are more closely linked to breast cancer risk than others. There are 3 general groups, depending on how they affect this risk **Non-proliferative lesions:** These conditions are not associated with overgrowth of breast tissue. They do not seem to affect breast cancer risk, or if they do, it is to a very small extent. They include: • Fibrosis and/or simple cysts (used to be known as fibrocystic disease) • Mild hyperplasia • Adenosis (non-sclerosing) • Ductal ectasia • Phyllodestumor (benign) • A single papilloma • Fat necrosis • Periductal fibrosis • Squamous and apocrine metaplasia • Epithelial-related calcifications • Mastitis (infection of the breast) • Other benign tumors (lipoma, hamartoma, hemangioma, neurofibroma, adenomyoepthelioma)	

No.	Topics	Remarks
	<u>Proliferative lesions without Atypia:</u> These conditions show excessive growth of cells in the ducts or lobules of the breast tissue. They seem to raise a woman's risk of breast cancer slightly. They include: • Usual ductal hyperplasia (without atypia) • Fibroadenoma • Sclerosingadenosis •Several papillomas (called papillomatosis) • Radial scar **<u>Proliferative lesions with atypia:</u>** In these conditions, there is an overgrowth of cells in the ducts or lobules of the breast tissue, with some of the cells no longer appearing normal. They have a stronger effect on breast cancer risk, higher compared to without atypia. These types of lesions include: • Atypical ductal hyperplasia (ADH) • Atypical lobular hyperplasia (ALH) Women with a family history of breast cancer and either hyperplasia or atypical hyperplasia have an even higher risk of developing a breast cancer. **vii. Menstrual periods** Early menarche (before age 12) and/or late menopause (after age 55) have a slightly higher risk of breast cancer. The increase in risk may be due to a longer lifetime exposure to the hormones estrogen and progesterone **viii. Nulliparous** Nulliparous or who had their first child after age 30 have a slightly higher breast cancer risk. Having many pregnancies and becoming pregnant at a young age reduce breast cancer risk. Pregnancy reduces a woman's total number of lifetime menstrual cycles, which may be the reason for this effect.	

No.	Topics	Remarks
	<u>Modifiable risk factors</u> **i. Alcohol** Excessive alcohol use is known to increase the risk of developing breast cancer and other types of cancer. The risk increases with the amount of alcohol consumed. According to America Cancer Society, those who have 2 to 5 drinks daily have about 1½ times the risk of women who don't drink alcohol **ii. Overweight or obese** Overweight or obese after menopause increases breast cancer risk. Obesity increases estrogen and blood insulin levels which have been linked to some cancers, including breast cancer. **iii. Tobacco smoke** Long-term heavy smoking is linked to a higher risk of breast cancer. **iv. Physical inactivity** Evidence is growing that physical inactivity increases breast cancer risk. **v. Breastfeeding** Breastfeeding may slightly lower breast cancer risk, especially if breastfeeding is continued for 1½ to 2 years. One explanation for this possible effect may be that breastfeeding reduces a woman's total number of lifetime menstrual cycles (similar to starting menstrual periods at a later age or going through early menopause). **vi. Hormone replacement therapy (HRT)** Long term use of HRT (more than 10 years) increases the risk of developing breast cancer.	
6	**CHALLENGES FOR EARLY DETECTION** • Poor uptake – people not coming for screening • Poor awareness – low education level and literacy leads to poor awareness in available screening. • Ignorance – Fear of the disease and facing the reality leads to late screening. • Culture & social barriers – shy, myths and society perceptions, poor family support hinder woman from coming forward for screening • Logistic limitation – Limited resources and infrastructure (rural areas eg: Sabah & Sarawak where the health facilities are far away)	

No.	Topics	Remarks
7	**SCREENING:**	

Kumpulan kriteria dan kekerapan pemeriksaan mamogram adalah seperti berikut:

KRITERIA	KEKERAPAN PEMERIKSAAN MAMOGRAM
Kriteria A : Sekurang-kurangnya mempunyai salah satu (1) faktor berikut	perlu menjalani saringan mamogram **pada SETIAP TAHUN**
- Mempunyai sejarah keluarga menghidap kanser payu dara - ibu, kakak, adik perempuan atau anak perempuan menghidap kanser payu dara;	
- Pembawa mutasi genetik BRCA 1 dan BRCA 2;	
- Pernah mempunyai atypia pada biopsi payu dara.	
Kriteria B : Sekurang-kurangnya mempunyai salah dua (2) faktor berikut	perlu menjalani saringan mamogram **pada SETIAP DUA (2) TAHUN**
- Tidak pernah melahirkan anak atau melahirkan anak pertama selepas usia 30 tahun	
- Haid pertama pada usia kurang dari 12 tahun	
- Menopaus pada usia lebih 55 tahun	
- Menerima rawatan terapi hormon gantian (HRT)	
- Obes iaitu Body Mass Index (BMI) ≥ 27.5	

Nota (*): wanita berisiko tinggi termasuk mereka dalam golongan low risk (RR 1.0 - 1.4), moderate risk (RR 1.5 - 2.0) high risk (RR > 2.0) dalam *Clinical Practice Guidelines, Management of Breast Cancer (2nd edition)*.

To identify asymptomatic individuals who may have the disease. Screening recommendation recommendation are as follows:-

1. Clinical Breast Examination
2. Mammogram

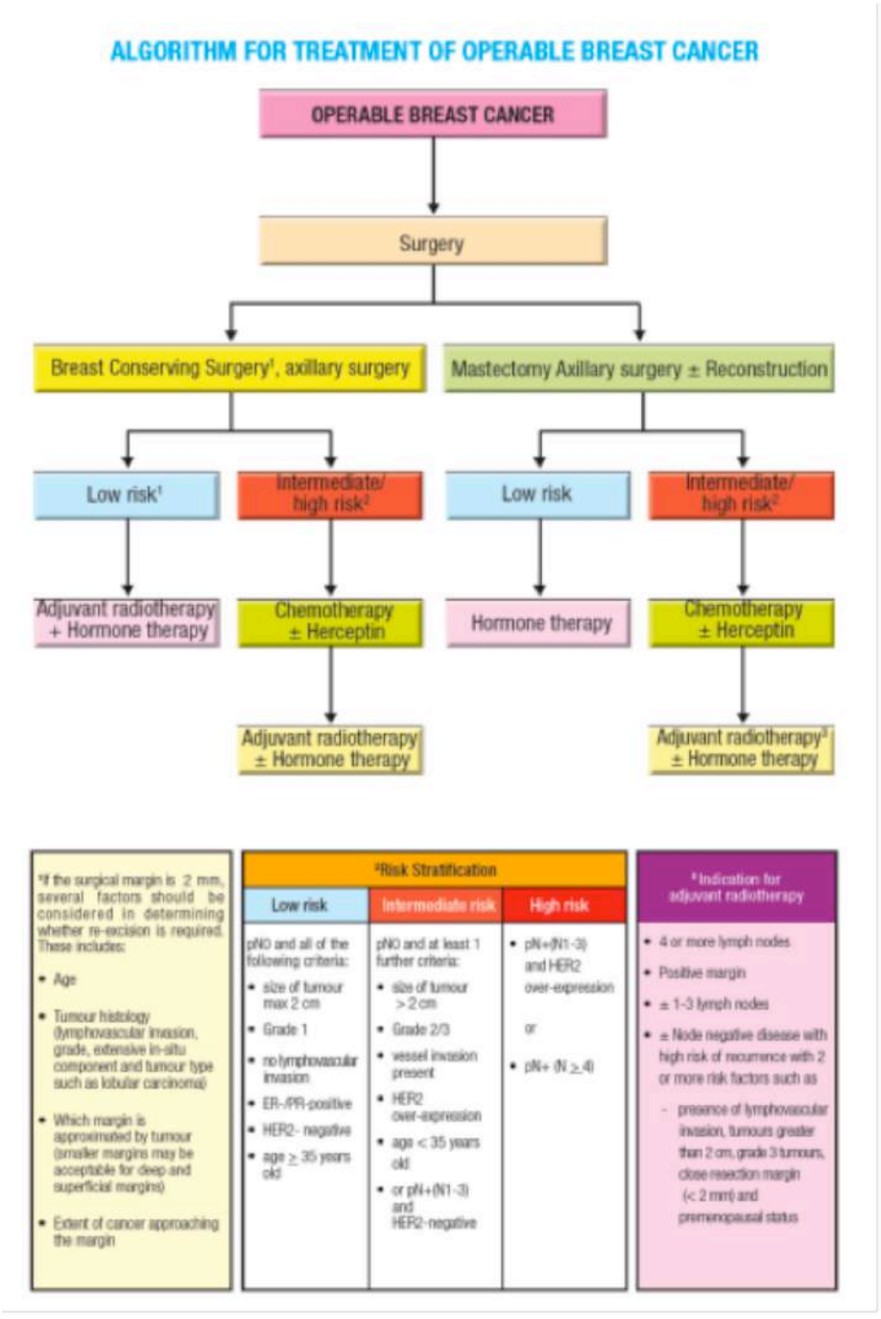
Breast-self Examination (BSE)
BSE is not a screening modality, however women are encourage to do BSE monthly to detect any abnormalities in their breast.

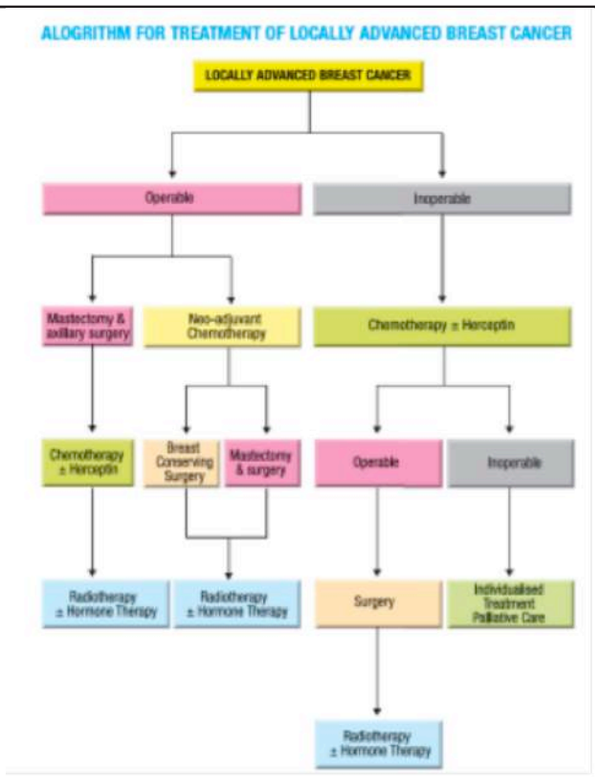
Assessment of breast lump

If lump is suspected through BSE/CBE, radiological assessment is required.

- The triple assessment
  - o clinical examination
  - o radiological assessment (mammogram or ultrasound)
    - Mammogram: Is done before fine needle biopsy to avoid interpretation difficulties should a haematoma result from the biopsy. A normal mammogram does not exclude a diagnosis of cancer.
    - Ultrasound: If an abnormality is seen on mammogram or felt by physical examination, ultrasound is used to find out if the abnormality is solid or fluid filled. It cannot determine whether the lump is cancerous or not
  - o Fine needle aspiration cytology and core needle biopsy are the commonest methods of biopsy. Excision biopsy is when the whole lump is removed and sent to the pathology lab.
- If all three are indicative of a benign lesion, it is highly probable that it is benign

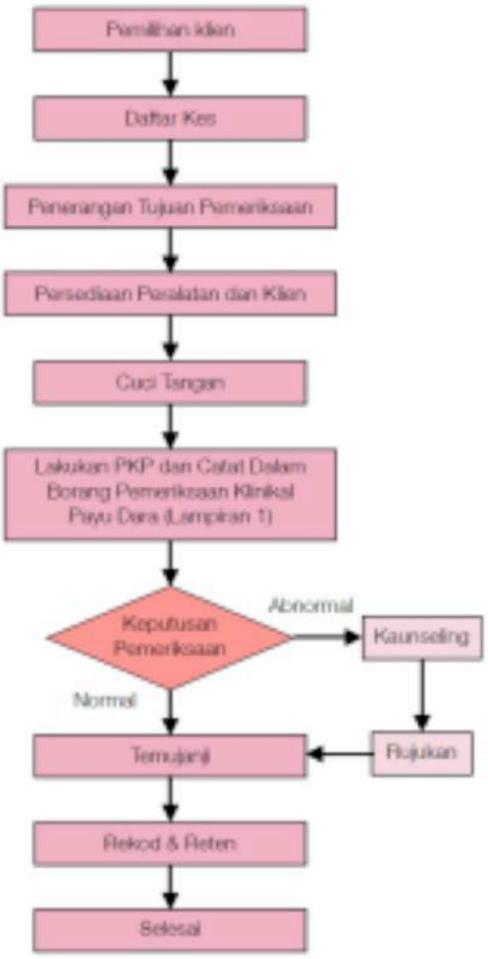
No.	Topics	Remarks
8	**TREATMENT**	



No.	Topics	Remarks
	 Source: Clinical Practice Guideline, MOH, 2010	
9	**MYTHS OF BREAST CANCER** **1) Antiperspirants cause breast cancer** There is no scientific evidence to support the claim that antiperspirants cause breast cancer, either because of toxin build-up or aluminium exposure. **2) Bras** Underwire bras do not cause breast cancer. **3) Breast implants increases risk of getting breast cancer** Women with breast implants are at no greater risk of getting breast cancer **4) A mammogram can cause breast cancer to spread.** A mammogram, or x-ray of the breast, currently remains the gold standard for the early detection of breast cancer. Breast compression while getting a mammogram cannot cause cancer to spread.	

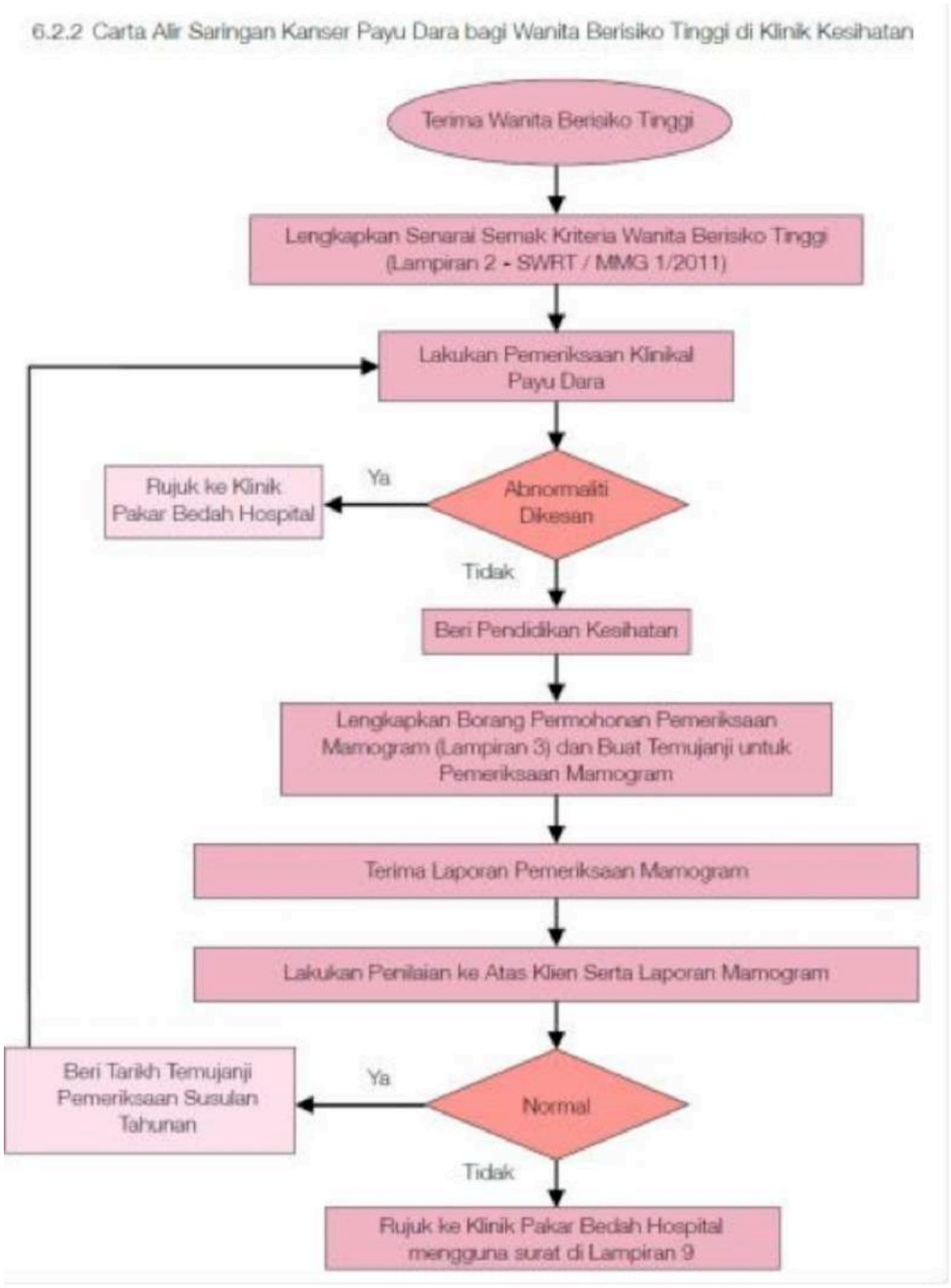
No.	Topics	Remarks
10.	**REFERRAL PATHWAY** a) **Screening**	

6.1.2 Carta Alir Pemeriksaan Klinikal Payu Dara di Klinik Kesihatan (*)



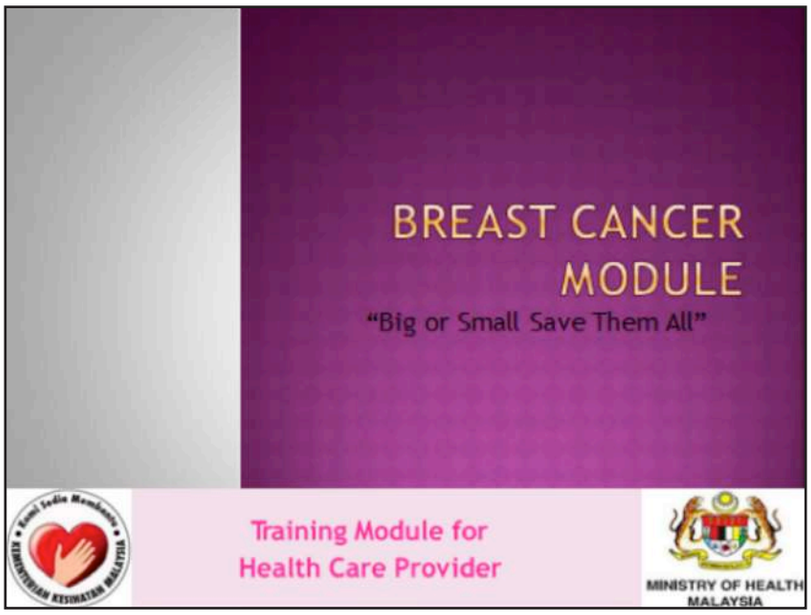
(*) Sumber: *Modul Pengajar Pemeriksaan Klinikal Payu Dara (PKP) 2009 dan Manual Pemeriksaan Klinikal Payu Dara 2010.*

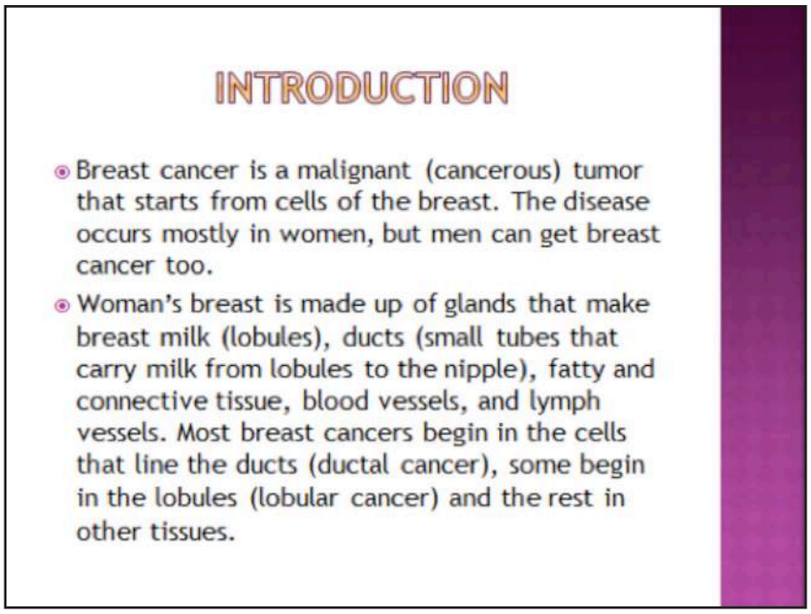
Source: Garispanduan program pengesanan awal kanser payudara kebangsaan KKM, 2011

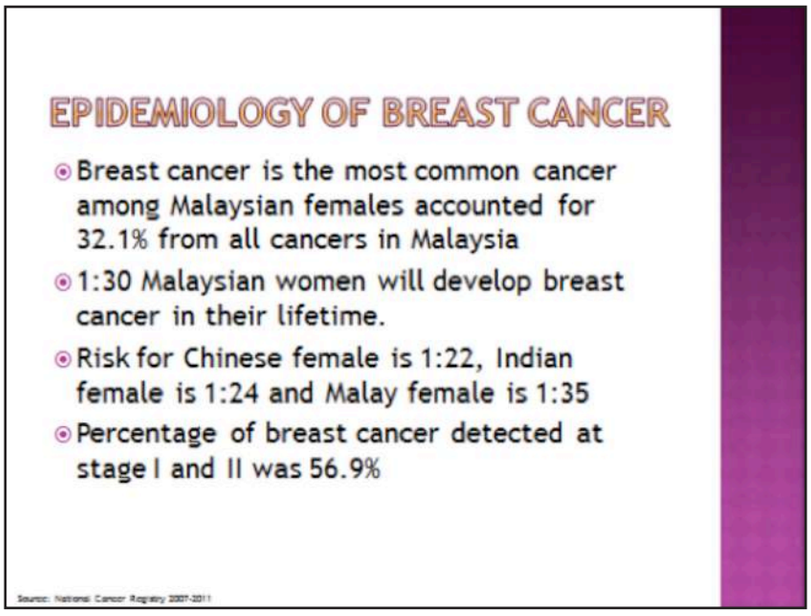
No.	Topics	Remarks
	b) **Diagnosis**  Source : Garispanduan program pengesanan awal kanser payudara kebangsaan	
11	**PATIENT NAVIGATION** • **GP** - To identify the symptoms, explain that they need further evaluation and refer the patients to hospital. - Best to alert the referring hospital (Breast Clinic or Surgical Outpatient Clinic – SOPD) about the patient particulars. - Education material shall be passed to the patients - For counseling and support, patient should be referred to nearby NGO, if any (eg. MAKNA, NCSM, Cancer Research Malaysia, etc)	

No.	Topics	Remarks
	• **From Health Clinics** - To identify the symptoms, explain that they need further evaluation and refer to FMS/Breast Clinic/SOPD - Education material shall be passed to the patients - Health Clinics to follow-up on further management - For counseling and support, patient should be referred to nearby NGO (eg. MAKNA, NCSM, Cancer Research Malaysia, etc	

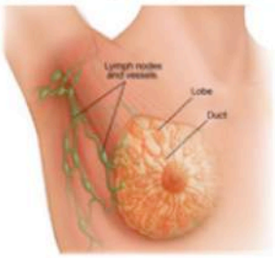
7.1.5 Power Point Presentation for Breast Cancer Module







ANATOMY OF THE BREAST



Woman's breast is made up of:

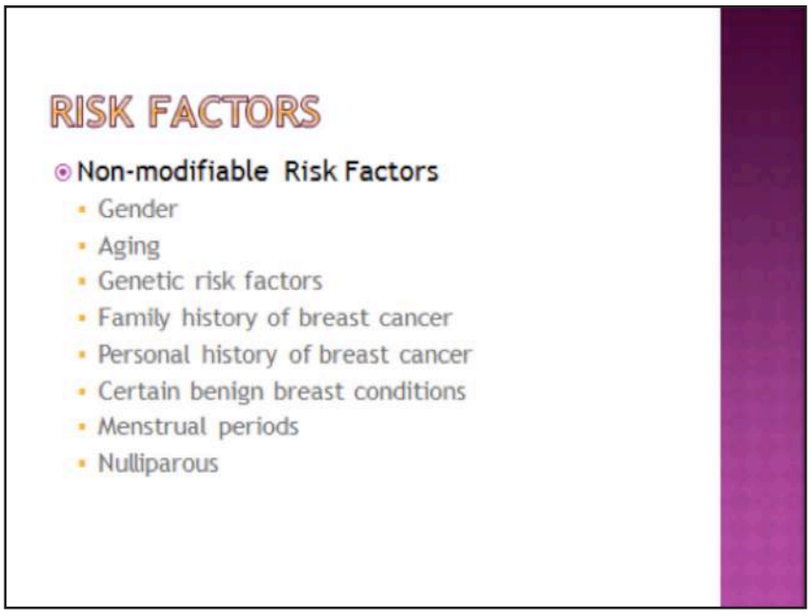
- Lobules (glands that make breast milk)
- ducts (small tubes that carry milk from lobules to the nipple)
- fatty and connective tissue
- blood vessels
- lymph vessels

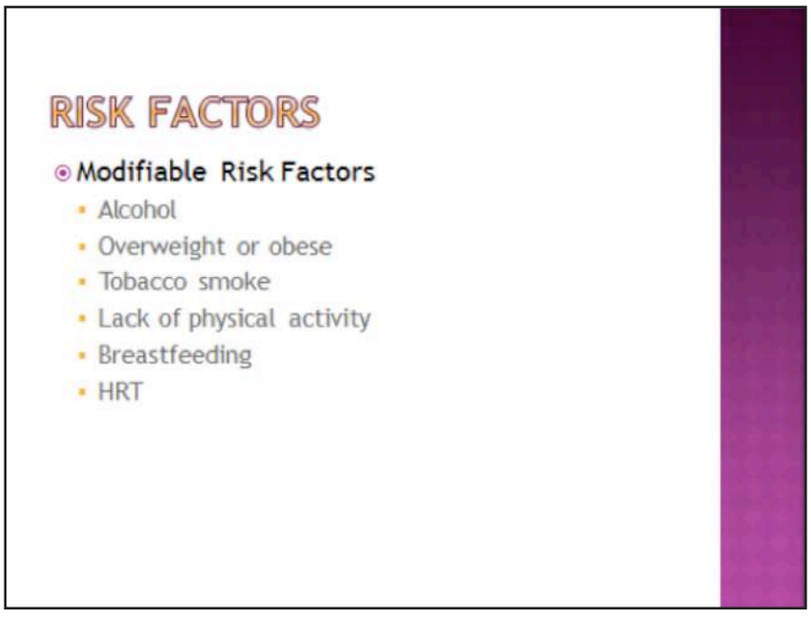
TYPES OF BREAST CANCER

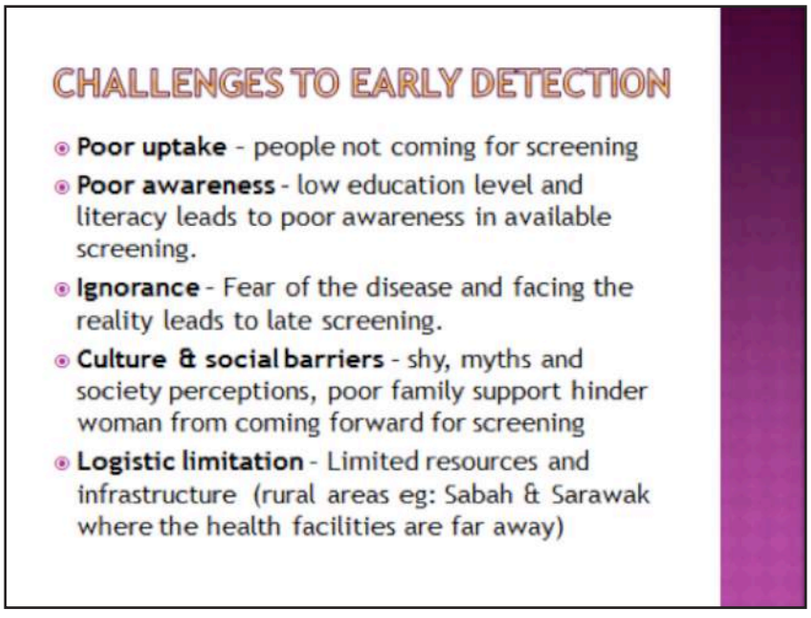
- Carcinoma in situ
- Ductal carcinoma in situ (DCIS)
- Lobular carcinoma in situ (LCIS)
- Invasive (infiltrating) ductal carcinoma (IDC)
- Invasive (infiltrating) lobular carcinoma (ILC)

SIGN AND SYMPTOMS

- A **lump** which is hard, fixed or irregular. Sometimes, it appears as a thickening mass in the breast or axilla.
- **Enlargement** of lymph nodes in the axilla.
- **Nipple**
  - Discharge: which can be persistent and is of bloody or watery nature; OR
  - Retraction of nipple - This is due to the contraction of fibrotic
  - Scaly skin around the nipple area.
- **Skin**
  - Dimpling of the skin
  - Has become like the skin of an orange. This is known as Peau d' orange
- Change in size and shape of breast.


RISK FACTORS
Non-modifiable Risk Factors
Gender
Aging
Genetic risk factors
Family history of breast cancer
Personal history of breast cancer
Certain benign breast conditions
Menstrual periods
Nulliparous


RISK FACTORS
Modifiable Risk Factors
Alcohol
Overweight or obese
Tobacco smoke
Lack of physical activity
Breastfeeding
HRT


CHALLENGES TO EARLY DETECTION
Poor uptake - people not coming for screening
Poor awareness - low education level and literacy leads to poor awareness in available screening.
Ignorance - Fear of the disease and facing the reality leads to late screening.
Culture & social barriers - shy, myths and society perceptions, poor family support hinder woman from coming forward for screening
Logistic limitation - Limited resources and infrastructure (rural areas eg: Sabah & Sarawak where the health facilities are far away)

SCREENING

- To identify asymptomatic individuals who may have the disease.
- Screening recommendation are as follows:-
  1. Clinical Breast Examination
  2. Mammogram

Breast-self Examination (BSE)

- BSE is not a screening modality, however women are encourage to do BSE monthly to detect any abnormalities in their breast.

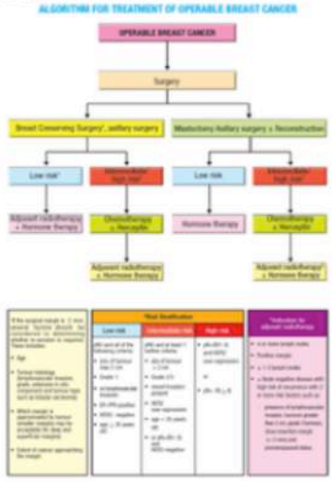
Assessment of breast lump

- If lump is suspected through BSE/CBE, radiological assessment is required.

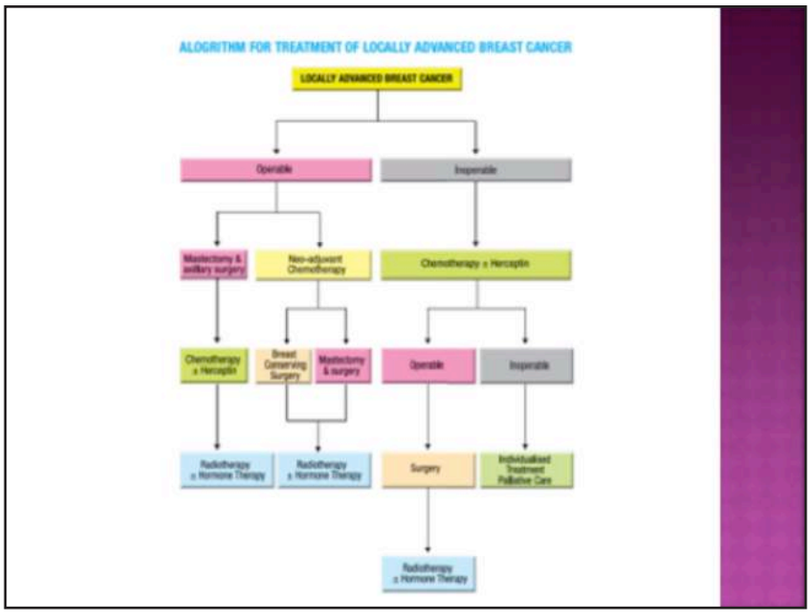
- The Triple Assessment
  - Clinical examination
  - Radiological assessment (mammogram or ultrasound)
    - Mammogram: Is done before fine needle biopsy to avoid interpretation difficulties should a haematoma result from the biopsy. A normal mammogram does not exclude a diagnosis of cancer.
    - Ultrasound: If an abnormality is seen on mammogram or felt by physical examination, ultrasound is used to find out if the abnormality is solid or fluid filled. It cannot determine whether the lump is cancerous or not
  - Fine needle aspiration cytology and core needle biopsy are the commonest methods of biopsy. Excision biopsy is when the whole lump is removed and sent to the pathology lab.

- If all three are indicative of a benign lesion, it is highly probable that it is benign.

TREATMENT



Source : Clinical Practice Guideline, MOH, 2010



MYTHS

1) Antiperspirants cause breast cancer
- There is no scientific evidence to support the claim that antiperspirants cause breast cancer, either because of toxin buildup or aluminum exposure.

2) Bras
- Underwire bras do not cause breast cancer.

3) Breast implants increases risk of getting breast cancer
- Women with breast implants are at no greater risk of getting breast cancer

4) A mammogram can cause breast cancer to spread.
- A mammogram, or x-ray of the breast, currently remains the gold standard for the early detection of breast cancer. Breast compression while getting a mammogram cannot cause cancer to spread.

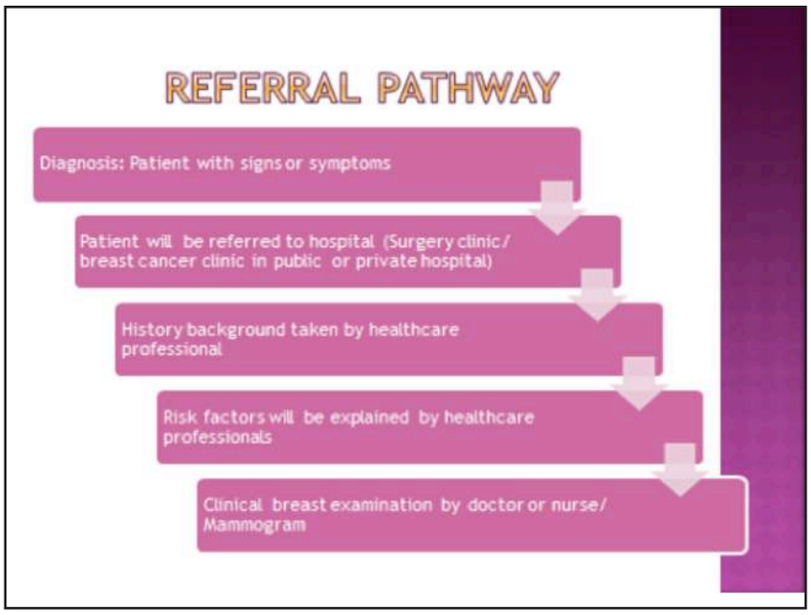
REFERRAL PATHWAY

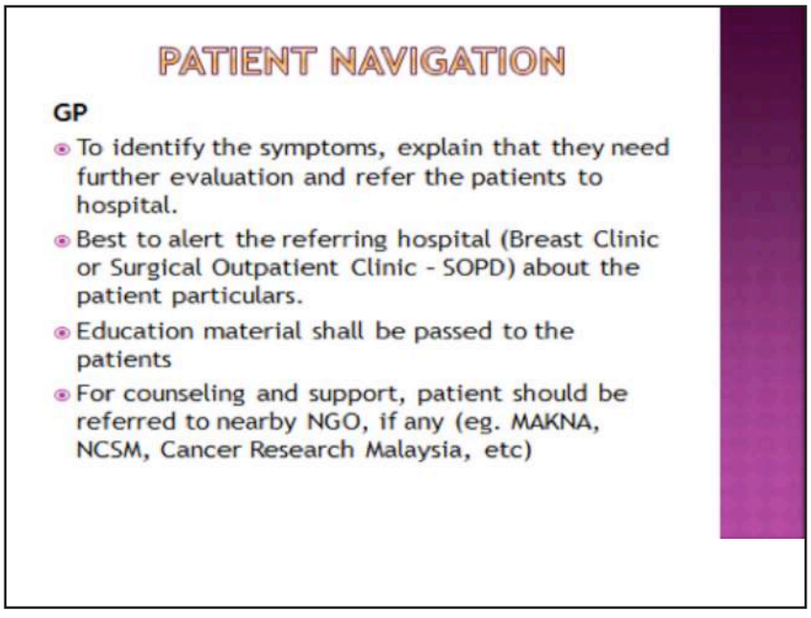
Screening: Patient without any signs or symptoms

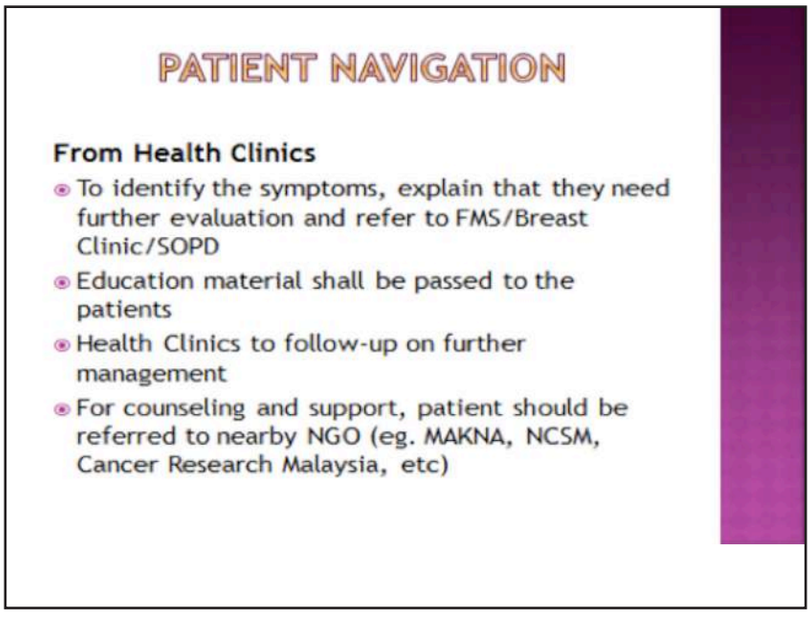
Self breast examination by patient/ Clinical breast examination (CBE) by doctor or nurse/ Mammogram

CBE can be done in any government clinics, GP, field trip or health screening center

Mammogram can be done in public or private hospital


REFERRAL PATHWAY
Diagnosis: Patient with signs or symptoms
Patient will be referred to hospital (Surgery clinic / breast cancer clinic in public or private hospital)
History background taken by healthcare professional
Risk factors will be explained by healthcare professionals
Clinical breast examination by doctor or nurse/ Mammogram


PATIENT NAVIGATION
GP
To identify the symptoms, explain that they need further evaluation and refer the patients to hospital.
Best to alert the referring hospital (Breast Clinic or Surgical Outpatient Clinic - SOPD) about the patient particulars.
Education material shall be passed to the patients
For counseling and support, patient should be referred to nearby NGO, if any (eg. MAKNA, NCSM, Cancer Research Malaysia, etc)


PATIENT NAVIGATION
From Health Clinics
To identify the symptoms, explain that they need further evaluation and refer to FMS/Breast Clinic/SOPD
Education material shall be passed to the patients
Health Clinics to follow-up on further management
For counseling and support, patient should be referred to nearby NGO (eg. MAKNA, NCSM, Cancer Research Malaysia, etc)

7.2 MODULE 2: COLORECTAL CANCER

7.2.1 Content Summary for Colorectal Cancer Module

Target Audience • *Healthcare practitioner (Doctors and paramedics)* ***Contents of Learning Module*** • *Instructor's Guide with Pre/Post Self-Assessment* • *PowerPoint presentation*	***Goals*** *At the end of this session, participants knowledge on risk factors and sign and symptoms of colorectal cancer will be refreshed and with better understanding of the referral pathway.* ***Objective*** *At the completion of Learning Module 2, participants will understand:* *1. Epidemiology of colorectal cancer* *2. Anatomy of the colon and rectum* *3. Types of colorectal cancer* *4. Signs and symptoms of colorectal cancer* *5. Risk factors for colorectal cancer* *6. Challenges to early detection of colorectal cancer* *7. Screening programme – for asymptomatic individuals* *8. Referral pathways* *9. Patient navigation* ***Measures of Objective Accomplishment*** *The presenter will administer a pre self-assessment and a post self- assessment to measure participants' knowledge of the module's objectives. The pre self-assessment measures existing knowledge and the post self-assessment measures what was gained through the learning module.*

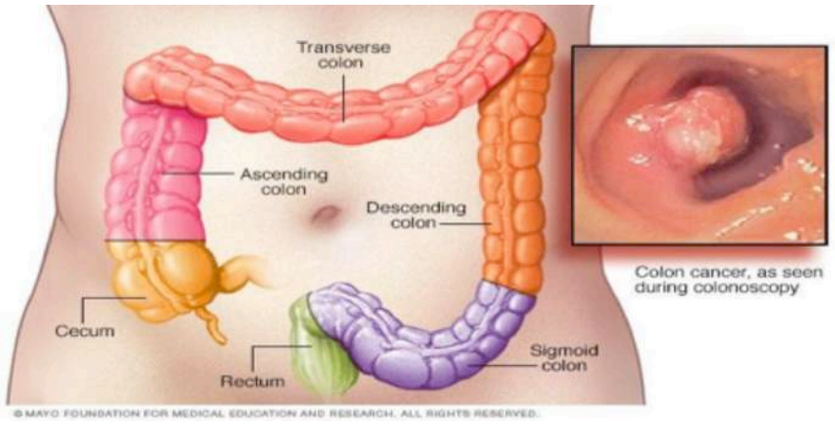
7.2.2 Pre/Post Self-Assessment for Colorectal Cancer Module

No.	Questions	True	False
1	Below are the statements on the colorectal cancer risk factors. Please circle or underline the correct answer		
	a. A personal history of colorectal cancer or polyps	T	F
	b. Inflammatory intestinal conditions.	T	F
	c. Inherited syndromes that increase colon cancer risk.	T	F
	d. Family history of colon cancer.	T	F
	e. Colorectal cancer is the second most common cancer after breast among females in Malaysia.	T	F
	f. Colorectal cancer is the most common cancer among males in Malaysia.	T	F
2	What are the contributing risk factors for developing colorectal cancer?		
	a. Smoking	T	F
	b. Alcohol intake	T	F
	c. High protein diet, high fiber diet	T	F
	d. A sedentary lifestyle (Physical inactivity)	T	F
	e. Diabetes	T	F
	f. Obesity	T	F
	g. Hypertension	T	F
3	Which are the symptoms of colorectal cancer? Please circle or underline the best answer		
	a. A change in bowel habits, including diarrhoea or constipation or a change in the consistency of stool.		
	b. Persistent abdominal discomfort, such as cramps, gas or pain.		
	c. Rectal bleeding or blood in stool.		
	d. A feeling that bowel doesn't empty completely.		
	e. All of the above		
4	What is the test to detect the presence of blood in stool? Please circle or underline the correct answer		
	a. Immunological Fecal Occult Blood Test		
	b. Stool Ova and Cyst		
	c. Stool FEME		
	d. Stool for C&S		
	e. Rectal swab for C&S		

7.2.3 Pre/Post Self-Assessment Answer Key for Colorectal Cancer Module

No.	Questions	True	False
1	Below are the statements on the colorectal cancer risk factors. Please circle or underline the correct answer.		
	a. A personal history of colorectal cancer or polyps	T	F
	b. Inflammatory intestinal conditions.	T	F
	c. Inherited syndromes that increase colon cancer risk.	T	F
	d. Family history of colon cancer.	T	F
	e. What are the contributing risk factors for developing colorectal cancer?	T	F
	i. Unhealthy diet - low fibre, high fat diet. ii. Smoking	T	F
	iii. Alcohol intake	T	F
	iv. High protein diet, high fibre diet	T	F
	v. A sedentary lifestyle (Physical inactivity)	T	F
	vi. Older age (age more than 50)	T	F
	vii. Diabetes	T	F
	viii. Obesity	T	F
	ix. Hypertension	T	F
	f. Colorectal cancer was the second most common cancer after breast among females in Malaysia.	T	F
	g. Colorectal cancer was the most common cancer among males in Malaysia.	T	F
2	Which are the symptoms of colorectal cancer? Please circle or underline the best answer		
	a. A change in bowel habits, including diarrhoea or constipation or a change in the consistency of stool. b. Persistent abdominal discomfort, such as cramps, gas or pain. c. Rectal bleeding or blood in stool. d. A feeling that bowel doesn't empty completely. e. All of the above		
3	What is the test to detect the presence of blood in stool? Please circle or underline the correct answer		
	a. Immunological Fecal Occult Blood Test b. Stool Ova and Cyst c. Stool FEME d. Stool for C&S		

7.2.4 Colorectal Cancer : The Module

No.	Topics	Remarks
1	**EPIDEMIOLOGY OF COLORECTAL CANCER** **World** The World Health Organisation in their Globocan 2012 reported that worldwide, colorectal cancer was the third most common cancer in men and contributed to 10.0% of the total all men cancer. In women, it was the second in women (9.4%). Almost 60% of the cases occur in developed regions. Incidence rates vary 10-fold in both sexes worldwide, the highest rates being estimated in Australia/New Zealand and Western Europe, the lowest in Africa (except Southern Africa) and South-Central Asia, and are intermediate in Latin America. Incidence rates are substantially higher in men than in women (overall sex ratio of the ASR 1.4:1). **Malaysia** Colorectal cancer is the second most common cancer after breast and the first among males and second among females in Malaysia (NCR 2007-2011). The incidence increased with age and is slightly higher in males compared to females. The standardised incidence rate (ASR) for male is 14.6 per 100,000 and for female is 11.1 per 100,000. The incidence seems to be highest among Chinese compared to Malay and Indian. Colorectal cancer is one of the cancers which can be detected early through screening. According to NCR 2007-2011 report, only 35% of colorectal cancer diagnosed at stage I and II.	
2	**ANATOMY**  The parts of the colon are the • Ascending colon – runs up the right side of the abdomen. It is connected to the small intestine by a section of bowel called the caecum • Transverse colon – runs across the body from right to left, under the stomach • Descending colon – runs down the left side of the abdomen • Sigmoid colon – an 'S' shaped bend that joins the descending colon to the back passage	

No.	Topics	Remarks
3	**1. Adenocarcinoma** Adenocarcinomas represent more than 95 percent of colon and rectal cancers. "Adeno" is the prefix for gland, and adenocarcinomas typically start within the intestinal gland cells that line the inside of the colon and/or rectum. They tend to start in the inner layer and then spread deeper to other layers. There are two main subtypes of adenocarcinoma: • **Mucinous adenocarcinoma** is made up of approximately 60 percent mucus. The mucus can cause cancer cells to spread faster and become more aggressive than typical adenocarcinomas. Mucinous adenocarcinomas account for 10 to 15 percent of all colon and rectal adenocarcinomas. • **Signet ring cell adenocarcinoma** accounts for less than one percent of adenocarcinomas. Named for its appearance under a microscope, signet ring cell adenocarcinoma is typically aggressive and may be more difficult to treat. **Other types of colorectal cancer** : There are many other types of rare colorectal cancers, and combined these types account for just 5 percent of all cases. Below are examples of other colorectal types: **2. Gastrointestinal stromal tumors:** Also known as GISTs, this is a rare type of colorectal cancer that starts in a special cell found in the lining of the gastrointestinal (GI) tract called interstitial cells of Cajal (ICCs). More than 50 percent of GISTs start in the stomach. While most of the others start in the small intestine, the rectum is the third most common location. GISTs are classified as sarcomas, cancers that begin in the connective tissues, which include fat, muscle, blood vessels, deep skin tissues, nerves, bones and cartilage. **3. Squamous cell carcinomas:** Some parts of the GI tract, like the upper part of the esophagus and the end of the anus, are lined with flat cells called squamous cells. These are the same type of cells that are found on the surface of the skin. Cancers starting in these cells are called squamous cell carcinoma.	

No.	Topics	Remarks
	4. Small cell carcinomas: Small-cell carcinoma is a type of highly malignant cancer that most commonly arises within the lung, although it can occasionally arise in other body sites, such as the cervix, prostate, and gastrointestinal tract. Compared to non- small cell carcinoma, small cell carcinoma has a shorter doubling time, higher growth fraction, and earlier development of metastases. **5. Carcinoid Tumour** Carcinoids are rare tumours which tend to be slow growing. They may not cause any symptoms for several years. Most of these tumours occur in people over the age of 60. Carcinoid tumours are also sometimes just called carcinoid. They are one type of tumour of the neuroendocrine system	
4	**SIGNS & SYMPTOMS** Get thorough history if a patient complaints of the following : • A change in bowel habits, including diarrhoea or constipation or a change in the consistency of stool. • Rectal bleeding or blood in stool. • Persistent abdominal discomfort, such as cramps, gas or pain. • A feeling that bowel doesn't empty completely. • Weakness or fatigue. • Unexplained weight loss.	
5	**RISK FACTORS FOR COLORECTAL CANCER** **High Risk individuals for colorectal Cancer:** • **A personal history of colorectal cancer or polyps.** If a patient already had colon cancer or adenomatous polyps, they have a greater risk of colon cancer in the future. • **Inflammatory intestinal conditions.** Chronic inflammatory diseases of the colon, such as ulcerative colitis and Crohn's disease, can increase the risk of colon cancer.	

No.	Topics	Remarks
	• **Inherited syndromes that increase colon cancer risk.** Genetic syndromes passed through generations of the family .These syndromes include familial adeno matous polyposis and hereditary nonpolyposis colorectal cancer, which is also known as Lynch syndrome. • **Family history of colon cancer.** If more than one family member has colon cancer or rectal cancer, the risk is even greater. Among general population, risk of getting colorectal cancer is increase by: • **Older age.** Majority of people diagnosed with colon cancer are older than 50. Colon cancer can occur in younger people, but it occurs much less frequently. • **Low-fiber, high-fat diet.** Colon cancer and rectal cancer may be associated with a diet low in fiber and high in fat and calories. Some studies have found an in creased risk of colon cancer in people who eat diets high in red meat and pro cessed meat. • **A sedentary lifestyle.** If someone is inactive, they are more likely to develop colon cancer. Getting regular physical activity may reduce the risk of colon cancer. • **Diabetes.** People with diabetes and insulin resistance may have an increased risk of colon cancer. • **Obesity.** People who are obese have an increased risk of colon cancer and an increased risk of dying of colon cancer when compared with people considered normal weight. • **Smoking.** People who smoke may have an increased risk of colon cancer. • **Alcohol**. Heavy use of alcohol may increase your risk of colon cancer. • **Radiation therapy for cancer.** Radiation therapy directed at the abdomen to treat previous cancers may increase the risk of colon cancer.	

No.	Topics	Remarks
6	**CHALLENGES IN EARLY DETECTION** There are many challenges in early detection for colorectal cancer. • Poor awareness of signs and symptoms regarding colorectal by publics and healthcare providers. • Lack of promotion among healthcare providers and public are part of the contributing factors which leads to increasing number of colorectal cancers cases. • Poor screening uptake among clients. • Late detection leads to poor prognosis in management of the patient. • Logistic limitation – Limited resources and infrastructure (rural areas eg: Sabah & Sarawak where the health facilities are far away)	
7	**SCREENING PROGRAMME – for asymptomatic individuals** • Screening for nation-wide has been initiated in 2014. Screening done at health clinics using opportunistic approach. • The colorectal cancer screening offered to every male and female aged 50-70 years, asymptomatic attended the selected health clinics and interested to be screened for colorectal cancer. • Immunological Faecal Occult Blood Test, the qualitative test, is used as a tool to detect the presence of blood in stool. • The test kit consists of a small bottle (buffer) with sampling stick or cassette. It is to be given to men and women identified as clients for the screening for colorectal cancer. Those who are positive iFOBT are referred to hospital for colonoscopy. • For further information, refer to Buku Panduan Untuk Program Saringan Kanser Kolorektal from Ministry Of Health.	
8	**REFERRAL PATHWAY** 1. High Risk Patients 2. Symptomatic Patients Identify High Risk Patients / Symptomatic Patients ⮟ Register Patients ⮟ Complete History Taking and Physical Examinations ⮟ Refer Gastroenterology/ Surgical Outpatient Department ⮟ Give Follow up to Review Outcome in 3 months	

No.	Topics	Remarks
9	**PATIENT NAVIGATION** • GP - To identify the symptoms, explain that they need further evaluation and refer the patients to hospital. - Best to alert the referring hospital (Surgical Outpatient Clinic – SOPD / Gastro Clinic) about the patient particulars. - Education material shall be passed to the patients - For counseling and support, patient should be referred to nearby NGO, if any (eg. MAKNA, NCSM, Cancer Research Malaysia, etc) • From Health Clinics - To identify the symptoms, explain that they need further evaluation and refer to FMS/SOPD/Gastro clinic - Education material shall be passed to the patients - Health Clinics to follow-up on further management - For counseling and support, patient should be referred to nearby NGO (eg. MAKNA, NCSM, Cancer Research Malaysia, etc)	

7.2.5 Power Point Presentation for Colorectal Cancer Module

COLORECTAL CANCER

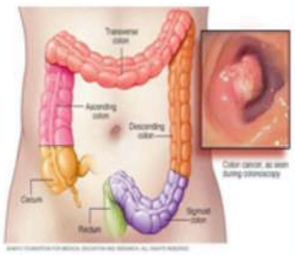
Training Module for
Health Care Provider

MINISTRY OF HEALTH
MALAYSIA

EPIDEMIOLOGY

- Colorectal cancer was the second most common cancer after breast and the second among males and females in Malaysia (NCR 2007-2011).
- The incidence increased with age and is slightly higher in males compared to females.
- The incidence seems to be highest among Chinese compared to Malay and Indian.
- Colorectal cancer is one of the cancers which can be detected early through screening.
- According to NCR 2007-2011 data report, only 35% of colorectal cancer diagnosed at stage I and II.

ANATOMY



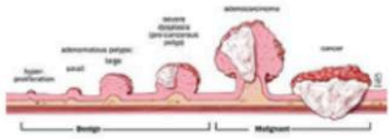
The colon is the first part of the large bowel. It absorbs water as the digested food passes through it, and the waste matter left behind forms into stool. The large bowel is about 5 feet long and has 4 sections. Cancer can develop in any of these.

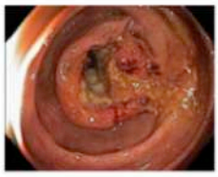
The parts of the colon are the :

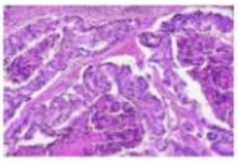
- **Ascending colon** – runs up the right side of the abdomen. It is connected to the small intestine by a section of bowel called the caecum
- **Transverse colon** – runs across the body from right to left, under the stomach
- **Descending colon** – runs down the left side of the abdomen
- **Sigmoid colon** – an 'S' shaped bend that joins the descending colon to the back passage

TYPES OF COLORECTAL CANCER

- Adenocarcinoma -> commonest

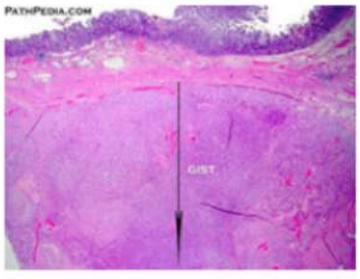




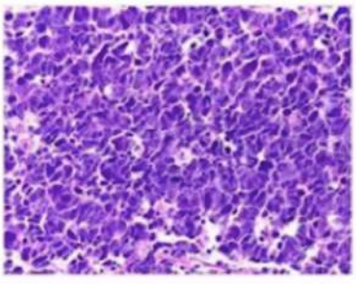


TYPES OF COLORECTAL CANCER

Gastrointestinal stromal tumour (GIST)

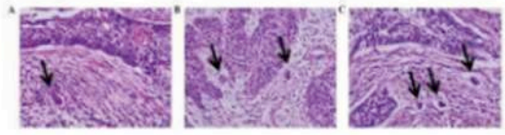


Small cell carcinoma

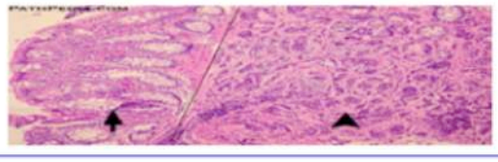


TYPES OF COLORECTAL CANCER

- Squamous cell carcinoma



- Carcinoid tumour



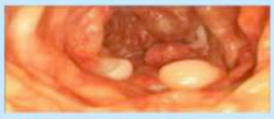
CHALLENGES IN EARLY DETECTION

- Poor awareness of signs and symptoms
- Lack of promotion among healthcare providers and public
- Poor screening uptake
- Late detection

RISK FACTORS

High Risk individuals for colorectal Cancer:

- **A personal history of colorectal cancer or polyps.**



- **Inflammatory intestinal conditions.**
- **Inherited syndromes that increase colon cancer risk.**
- **Family history of colon cancer.**

RISK FACTORS

Among general population, the risk of getting colorectal cancer increases with:

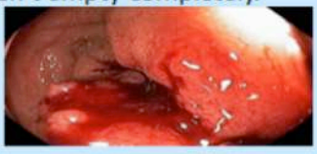
- **Older age:** The great majority of people diagnosed with colon cancer are older than 50
- **Low-fiber, high-fat diet:** Some studies have found an increased risk of colon cancer in people who eat diets high in red meat and processed meat.
- **A sedentary lifestyle:** If someone is inactive, they are more likely to develop colon cancer. Getting regular physical activity may reduce the risk of colon cancer.
- **Diabetes:** People with diabetes and insulin resistance may have an increased risk of colon cancer

RISK FACTORS

- **Obesity:** People who are obese have an increased risk of colon cancer and an increased risk of dying of colon cancer when compared with people considered normal weight.
- **Smoking**
- **Alcohol:** Heavy use of alcohol may increase your risk of colon cancer
- **Radiation therapy for cancer:** Radiation therapy directed at the abdomen to treat previous cancers may increase the risk of colon cancer

SIGNS & SYMPTOMS

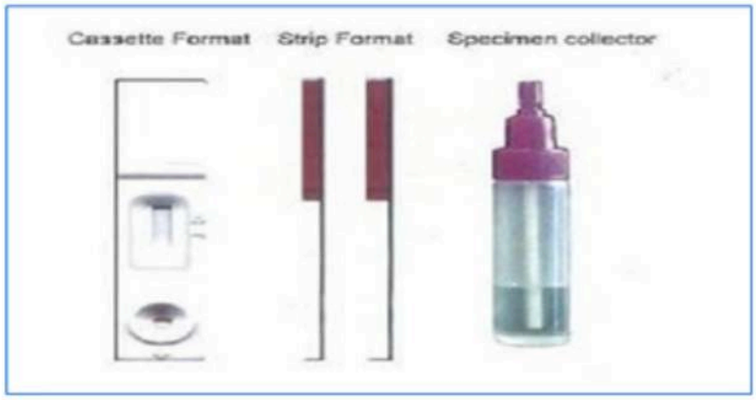
- A change in bowel habits, including diarrhea or constipation or a change in the consistency of stool.
- Rectal bleeding or blood in stool.
- Persistent abdominal discomfort, such as cramps, gas or pain.
- A feeling that your bowel doesn't empty completely.
- Weakness or fatigue.
- Unexplained weight loss.



SCREENING

- Screening for nation wide has been initiated in 2014. Screening done in Klinik Kesihatan with Family Medicine Specialist in residents
- The colorectal cancer screening offered to every male and female aged 50-70 years, asymptomatic attended the selected health clinics and interested to be screened for colorectal cancer.
- Immunological Fecal Occult Blood Test is used as a tool to detect the presence of blood in stool.
- The test kit consist of a small bottle (buffer) with sampling sticks or cassette. It is given to men and women identified as clients for the screening for colorectal cancer. Those who are positive iFOBT will be referred for colonoscopy.
- For further information, refer to "Buku Panduan Untuk Program Saringan Kanser Kolorektal" from Ministry Of Health.

SAMPLES OF iFOBT KIT



REFERRAL PATHWAY

PATIENT NAVIGATION

From GP

- To identify the symptoms, explain that they need further evaluation and refer the patients to hospital.
- Best to alert the referring hospital (Surgical Outpatient Clinic – SOPD / Gastro Clinic) about the patient particulars.
- Education material shall be passed to the patients
- For counseling and support, patient should be referred to nearby NGO, if any (eg. MAKNA, NCSM, Cancer Research Malaysia, etc)

From Health Clinics

- To identify the symptoms, explain that they need further evaluation and refer to FMS/SOPD/Gastro clinic
- Education material shall be passed to the patients
- For counseling and support, patient should be referred to nearby NGO (eg. MAKNA, NCSM, Cancer Research Malaysia, etc)

7.3 MODUL 3 : CERVICAL CANCER

7.3.1 Content summary for cervical cancer module

Target Audience • *Healthcare practitioner (Doctors and paramedics)* ***Contents of Learning Module*** • *Instructor's Guide with Pre/Post Self-Assessment* • *Power Point presentation*	***Goals*** *At the end of this session, participants knowledge on risk factors and sign and symptoms of cervical cancer will be refreshed and with better understanding of the referral pathway.* ***Objective*** *At the completion of Learning Module 3, participants will understand:* *1. Epidemiology of cervical cancer* *2. Anatomy of the cervix* *3. Types of cervical cancer* *4. Signs and symptoms* *5. Risk factors* *6. Challenges in early detection* *7. Screening* *8. Primary prevention – HPV immunisation* *9. Myths of Cervical Cancer* *10. Referral pathways* *11. Patient navigation* ***Measures of Objective Accomplishment*** *The presenter will administer a pre self-assessment and a post self- assessment to measure participants' knowledge of the module's objectives. The pre self-assessment measures existing knowledge and the post self-assessment measures what was gained through the learning module.*

7.3.2 Pre/Post Self-Assessment for Cervical Cancer Module

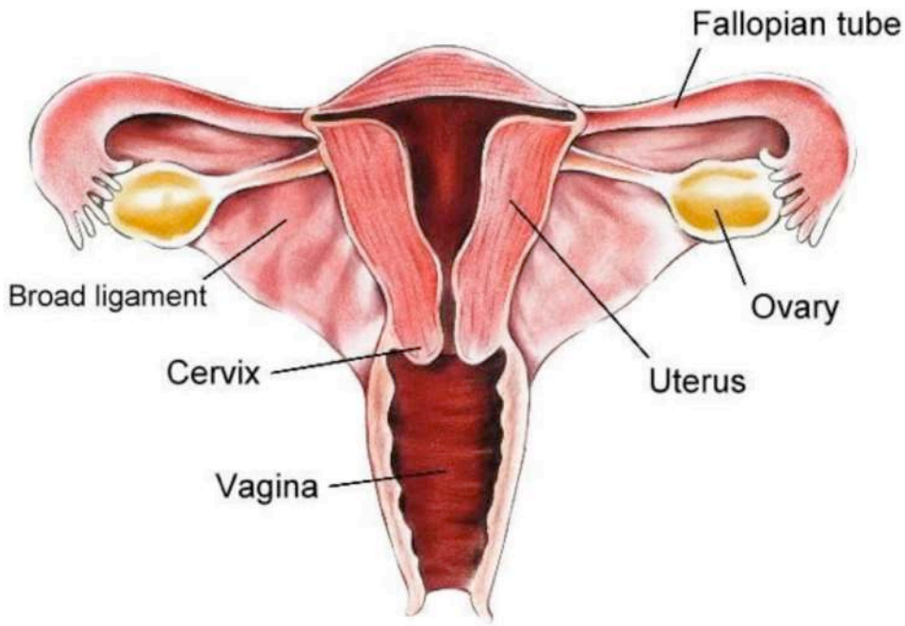
No.	Questions	True	False
1	Below are the statements on the cervical cancer risk factors. Please circle or underline the correct answer		
	a. Major risk factor for cervical cancer is promiscuous women.	T	F
	b. Persistence HPV infection has been associated with decreased risk of cervical cancer.	T	F
	c. Multiparous women have higher risk of cervical cancer.	T	F
	d. Cervical cancer is the most common cancer among women in Malaysia	T	F
	e. HPV vaccination is to prevent cervical cancer.	T	F
2	Which are the symptoms of cervical cancer? Please circle T/F or underline the correct answer		
	a. Abnormal vaginal bleeding in between menstrual cycle	T	F
	a. Abnormal vaginal bleeding after menopause	T	F
	b. Pain during menstruation	T	F
	c. Bleeding during intercourse	T	F
	d. Foul smelling vaginal discharge	T	F
	e. Lower abdominal pain.	T	F
	f. Pelvic pain.	T	F
3	Below are the statements on the HPV Vaccination. Please circle or underline the correct answer		
	a. HPV type 16 & 18 are the commonest HPV type that causes cervical cancer.	T	F
	b. HPV Vaccination is recommended for girls only.	T	F
	c. Only 1 dose of HPV vaccination is needed for optimum protection.	T	F
	d. For the National HPV Immunisation Programme in Malaysia, the HPV immunisation is given to adolescent aged 13 years through School Health Programme.	T	F

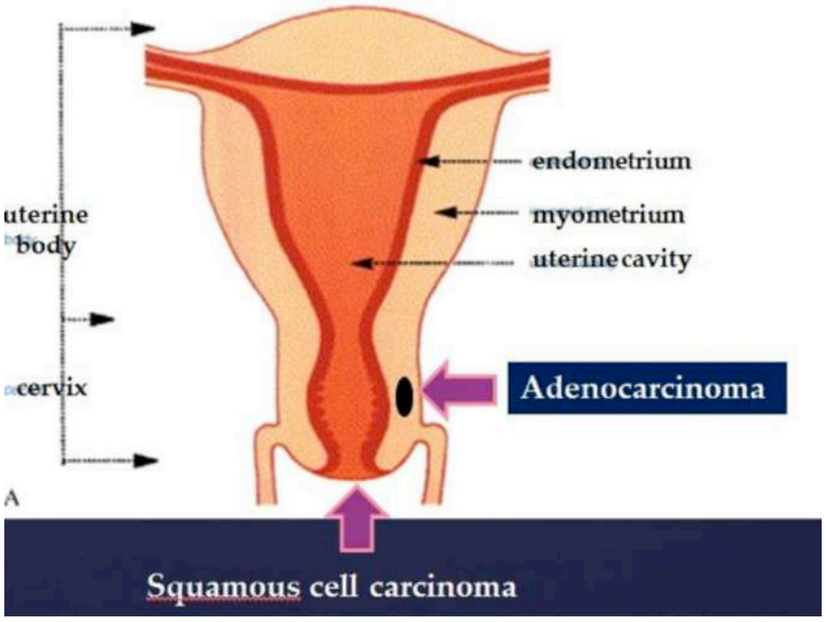
7.3.3 Pre/Post Self-Assessment for Cervical Cancer Module

The correct answer to each question, is underlined

No.	Questions	True	False
1	Below are the statements on the cervical cancer risk factors. Please circle or underline the correct answer		
	a. Major risk factor for cervical cancer is promiscuous women.	T	F
	b. Persistence HPV infection has been associated with decreased risk of cervical cancer.	T	F
	c. Multiparous women have higher risk of cervical cancer.	T	F
	d. Cervical cancer is the most common cancer among women in Malaysia	T	F
	e. HPV vaccination is to prevent cervical cancer.	T	F
2	Which are the symptoms of cervical cancer? Please circle T/F or underline the correct answer		
	a. Abnormal vaginal bleeding in between menstrual cycle	T	F
	a. Abnormal vaginal bleeding after menopause	T	F
	b. Pain during menstruation	T	F
	c. Bleeding during intercourse	T	F
	d. Foul smelling vaginal discharge	T	F
	e. Lower abdominal pain.	T	F
	f. Pelvic pain.	T	F
3	Below are the statements on the HPV Vaccination. Please circle or underline the correct answer		
	a. HPV type 16 & 18 are the commonest HPV type that causes cervical cancer.	T	F
	b. HPV Vaccination is recommended for girls only.	T	F
	c. Only 1 dose of HPV vaccination is needed for optimum protection.	T	F
	d. For the National HPV Immunisation Programme in Malaysia, the HPV immunisation is given to adolescent aged 13 years through School Health Programme.	T	F

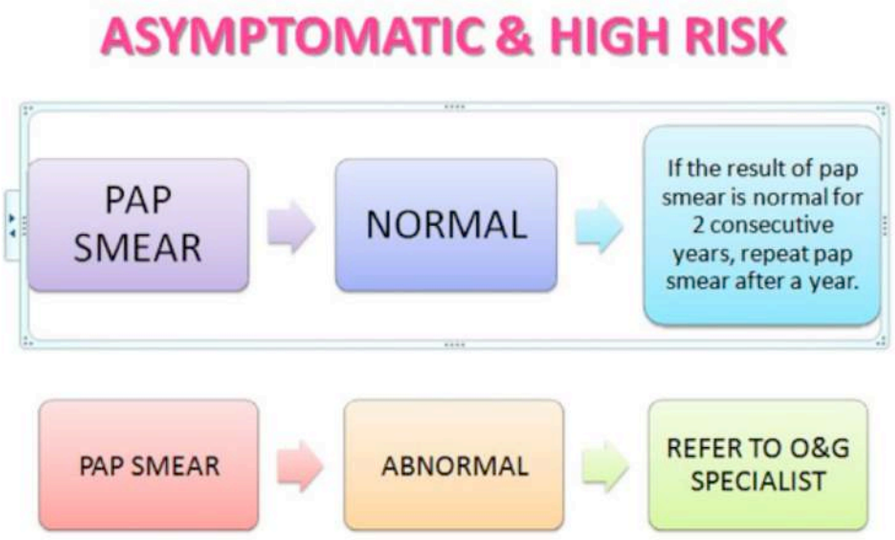
7.3.4 Cervical Cancer : The Module

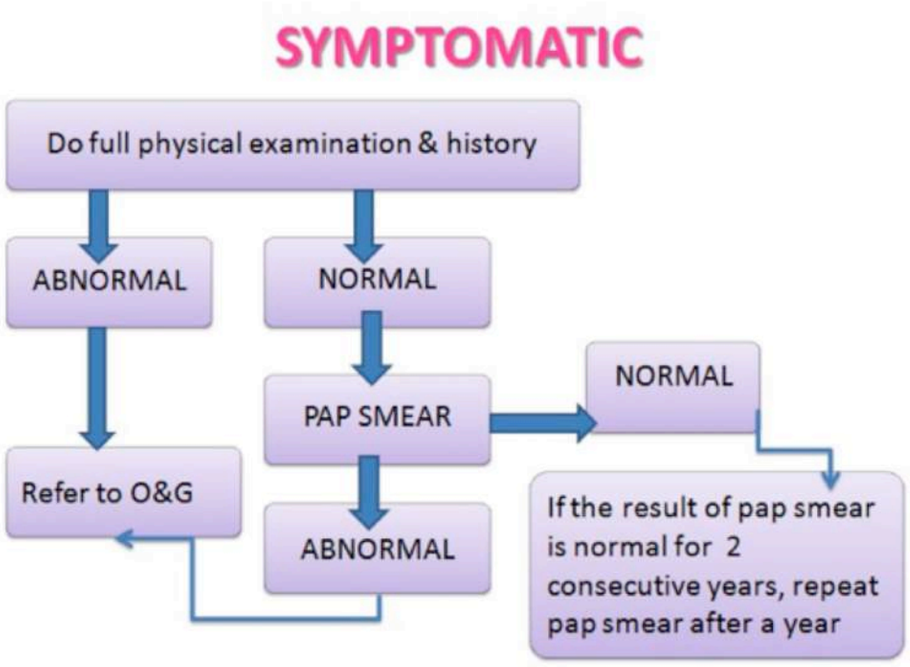
No.	Topics	Remarks
1	**EPIDEMIOLOGY OF CERVICAL CANCER** Cervical cancer is one of the deadliest but most easily preventable cancer for women. It was reported that 270,000 deaths occurred annually, with 85% occur in developing countries. In Malaysia, it is 3rd most common cancer among women In Malaysia, with an average of 870 new cases per year (National Cancer Registry, 2007-2011). The Age-Standardised Rate (ASR) was 7.6 per 100,000. Almost 60% of the cases were detected at Stage I and II. Infection of the cervix by Human Papiloma Virus is the most common causes of cervical cancer. In woman, high risk types of HPV such as type 16, 18, 31 and 45 cause abnormal changes in the cell of the cervix.	
2	**ANATOMY OF THE CERVIX**  Cervix is part of a woman's reproductive system. It is the lower, narrow part of the uterus (womb). During pregnancy, the cervix functions to “hold” the baby in the uterus. During childbirth, uterus contractions will dilate the cervix to allow the baby to pass through.	

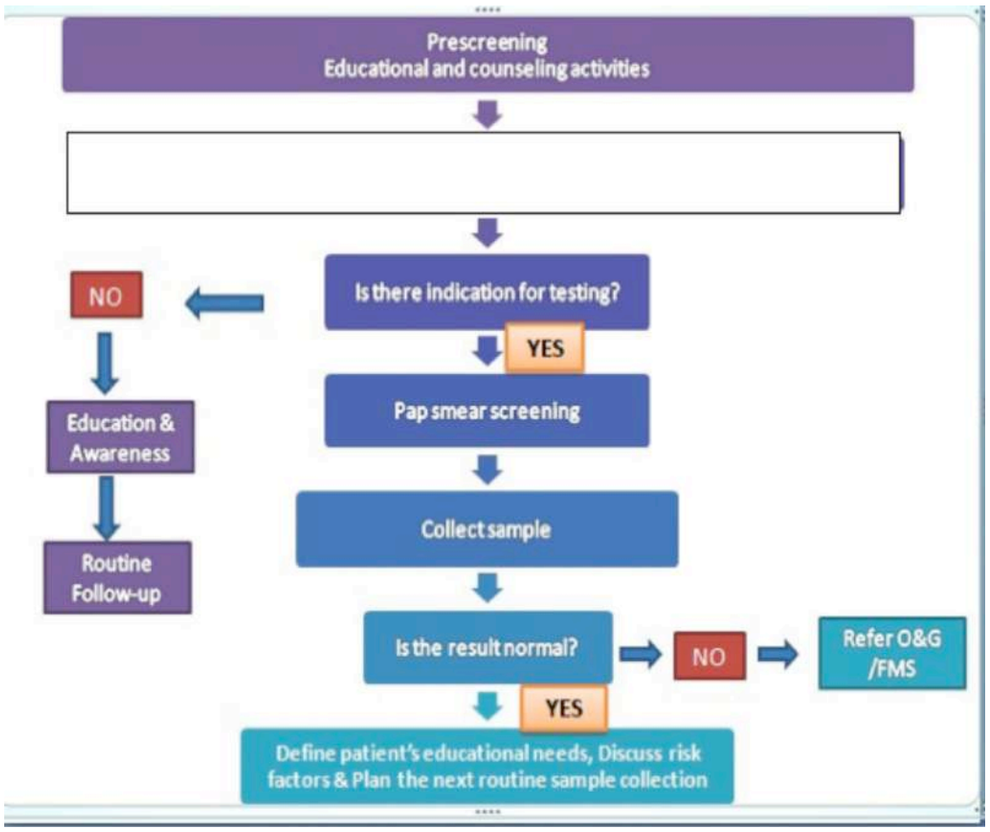
No.	Topics	Remarks
3	**TYPES OF CERVICAL CANCER**  **The main types of cervical cancers are:** i. Adenocarcinoma ii. Squamous cell carcinoma	
4	**SIGNS AND SYMPTOMS** There are rarely any symptoms in the early stages of cervical cancer. As cervical cancer progresses, symptoms begin to appear and these include: • Abnormal vaginal bleeding of discharge • Bleeding after menopause • Lower back pain • Pain during sexual intercourse • Painful urination • Foul smelling vagina discharge • Post coital bleeding • Pelvic pain	
5	**RISK FACTORS** • Any woman who has had sexually intercourse is at risk of acquiring an oncogenic HPV infection, which may cause cervical cancer. • Early sexual debut - Having sex at an early age increases your risk of HPV infection. • Multipara - Ladies who has 2 or more pregnancies increases the risk. • Multiple sexual partners – the greater the number of sexual partners the greater your chance of acquiring HPV. • Sexually Transmitted Infection (STI) – Ladies who are prone to STI such as Chlamydia, gonorrhea, syphilis and HIV/AIDS (increases your risk of HPV) • Weak immune system - more likely to develop cervical cancer if the immune system is weakened by another health condition (diabetic, renal failure, SLE & HIV). • Smoking - Smoking is associated with squamous cell cervical cancer.	

No.	Topics	Remarks
6	**CHALLENGES IN SCREENING/EARLY DETECTION** • Poor awareness – low education level and literacy leads to poor awareness in available screening. • Ignorance – Fear of the disease and facing the reality leads to late screening. • Lack of promotion among healthcare provider and public • Poor screening uptake due to limited budget & resources • Late detection – late screening • Culture & social barriers – shy, myths and society perceptions, hinder woman from coming forward for screening • Logistic limitation – Limited resources and infrastructure.	
7	**CERVICAL CANCER SCREENING** Screening is done for secondary prevention. Screening is carried out for early detection of cervical cancer and the risk factors which predispose the individual to an above-average likelihood of developing the respective disease. Screening:- • Does not prevent HPV from infecting the cervix • Detects any abnormalities in the cervix so that early treatment can be given Screening Criteria in Malaysia • Woman age 30-65 years old (changed recently from 20-65 years old) • Any woman who has had sexual intercourse The risk of developing cervical cancer is approximately 3-10 times higher in women who are not regularly screened Screening is vital but does not detect all pre-cancerous lesions or prevent all cervical cancer Types of Cervical Cancer Screening:- a) Cytology : • Conventional Pap Smears • Liquid Base Cytology b) Molecular (currently not available at MOH facilities): • HPV DNA Testing • Onco 6 Protein **Screening Programme in Malaysia became national programme in 1995 using Pap smear as a screening tool.**	Accuracy of the pap smear screening test depends on : Sensitivity - capacity of the test to show the present of the disease, when it really exists. Specificity – Capacity of the test to deny presence of the disease, when it really does not exists.

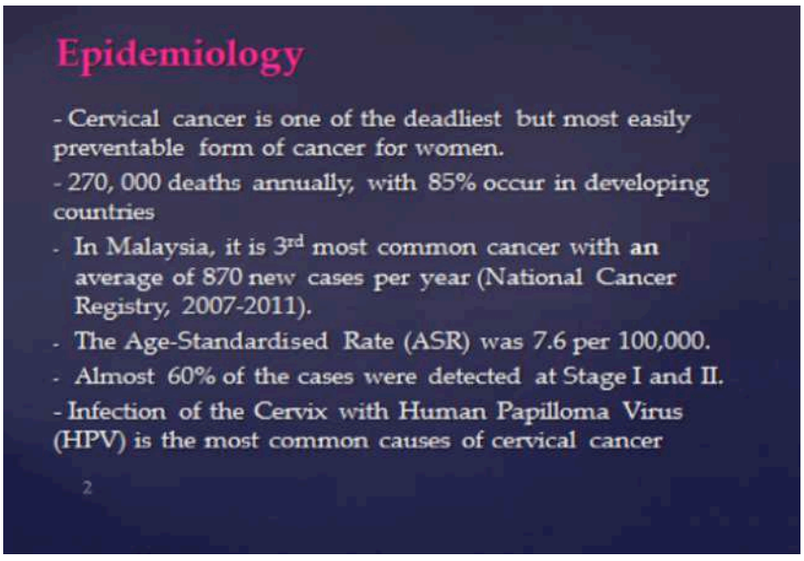
No.	Topics	Remarks
8	**PRIMARY PREVENTION : HPV IMMUNISATION / VACCINATION** • Vaccination builds up antibodies against HPV • Antibodies attack the virus, before the virus can attack the cervix • Below 15 years old Girls, 2 doses of vaccination are recommended (0 and 6 months). • Above 15 years old Girls, 3 doses of vaccination are recommended (0, 1 and 6 months). • Target group : 13 years old Malaysian girls are given free vaccination by KKM under National HPV Immunisation Program • Age between 14-45 years old ladies are encourage to have vaccination done at certain centers for optimum protection	
9	**MYTHS OF CERVICAL CANCER** **1) Using sanitary pads, panty liners and tampon causes cervical cancer.** FACT: The wearing is determined by the needs and habits of the individual women. The wearing time of more than 3 hours lead to a change of the natural flora in the vagina area and even causes cervical cancer is completely unfounded. **2) Only promiscuous women get HPV infection**. FACT: Any woman who has had sex even with just one partner could have been exposed to HPV. HPV is very common virus in fact about 8 out of 10 women will have had HPV at some point in time by the age of 50. **3) Regular pap smear is enough to protect women against cervical cancer.** FACT: A pap smear alone is not enough to protect women against cervical cancer. **4) If you HPV you will probably get cervical cancer.** FACT: HPV is very common but cervical cancer is not. Most women will be exposure to HPV at some point in their life and for most women HPV infection will go away on their own without causing any problem. But in some women the infection persists over a long period of time and causes abnormal cell to form which can then develop into cervical cancer. **5) If a woman gets HPV vaccine she no longer needs to do the pap smear.** FACT: Girls and women who get HPV vaccine will still need to be screen with Pap Smear.	
10	**REFERRAL PATHWAYS** **Asymptomatic & High risk women:** Depending on the pap smear result, patient will be managed accordingly. **For normal result**, educational information and material will be provided and follow up for repeat pap smear two yearly if the result of two Consecutive year pap smear are normal. **For abnormal result**, patient will be immediately referred to FMS/O&G.	

No.	Topics	Remarks
	 **Symptomatic women:** Depending on the pap smear result, patient will be managed accordingly. Full physical examination and history will be taken. If normal, pap smear will be taken. If the result of pap smear is normal, patient will be follow up accordingly (refer to the flowchart below). If the pap smear is abnormal, they will refer immediately to O&G.	

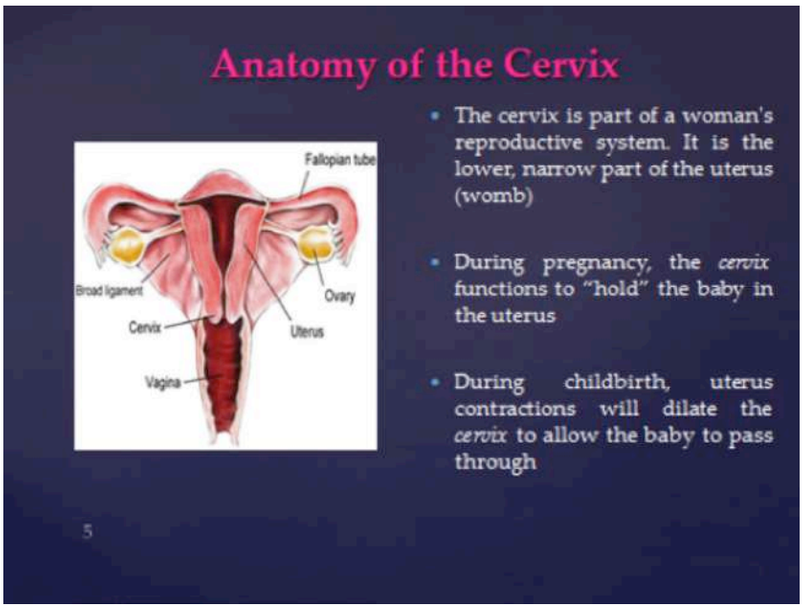
No.	Topics	Remarks
		
11	**PATIENT NAVIGATION FOR ABNORMAL RESULT OF PAP SMEAR** • GP - to identify the symptoms, console and refer the patients and to alert the referring hospital/O&G Clinic about the patient particulars - Education material shall be passed to the patients - Hospital to follow-up on further management - For counseling and support, patient should be referred to NGO (MAKNA, NCSM, Cancer Research Malaysia, etc) • From Health Clinics - To identify the symptoms, console the patients and refer to FMS/O&G clinic - Education material shall be passed to the patients - Health Clinics to follow-up on further management - For counseling and support, patient should be referred to NGO (MAKNA, NCSM, Cancer Research Malaysia, etc)	

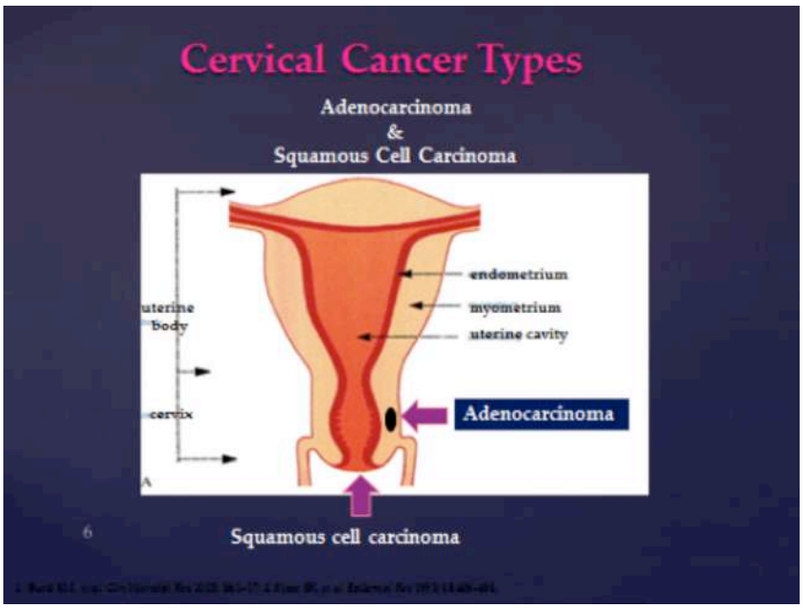
No.	Topics	Remarks
		

7.3.5 Power Point Presentation for Cervical Cancer Module




In Asia Pacific, every 4 minutes a woman dies of cervical cancer
1/2
Of the women diagnosed with cervical cancer will die from the disease
312,900
women are diagnosed with cervical cancer
159,800
will die from the disease
This accounts for >50% of all cases and deaths from the disease worldwide
4
1. Ferlay J, et al. GLOBOCAN 2008 Cancer Incidence, Mortality and Prevalence Worldwide. Lyon: IARC CancerBase, 2010.

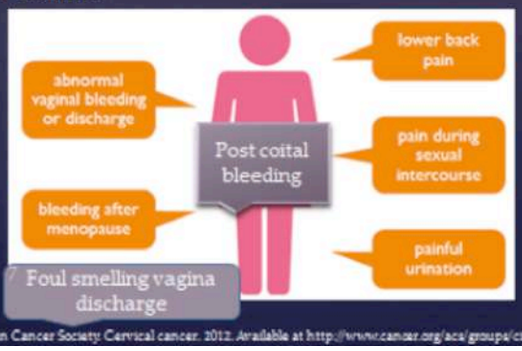

Anatomy of the Cervix
Fallopian tube
Broad ligament
Ovary
Cervix
Uterus
Vagina
The cervix is part of a woman's reproductive system. It is the lower, narrow part of the uterus (womb)
During pregnancy, the cervix functions to "hold" the baby in the uterus
During childbirth, uterus contractions will dilate the cervix to allow the baby to pass through
5


Cervical Cancer Types
Adenocarcinoma
&
Squamous Cell Carcinoma
endometrium
myometrium
uterine cavity
uterine body
cervix
Adenocarcinoma
A
6
Squamous cell carcinoma

Signs & Symptoms

•There are rarely any symptoms in the early stages of cervical cancer.

•As cervical cancer progresses, symptoms begin to appear and these include:

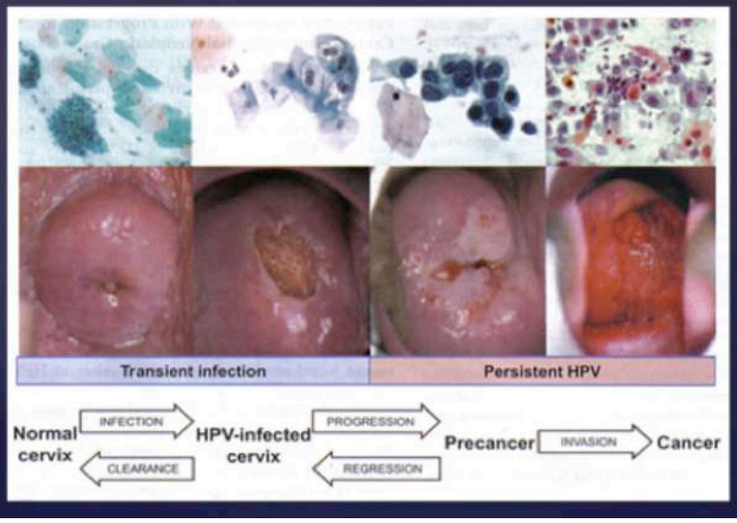


1. American Cancer Society Cervical cancer. 2012. Available at http://www.cancer.org/acs/groups/cid/documents/webcontent/003094-

Who is at Risk?

- Any woman who has had sexually intercourseis at risk of acquiring an oncogenic HPV infection, which may cause cervical cancer.
- Early sexual debut - Having sex at an early age increases your risk of HPV infection.
- Multipara - Ladies who has 2 or more pregnancies increases the risk.
- Multiple sexual partners – the greater the number of sexual partners the greater your chance of acquiring HPV.
- Sexually Transmitted Infection (STI) – Ladies who are prone to STI such as Chlamydia, gonorrhea, syphilis and HIV/AIDS (increases your risk of HPV)
- Weak immune system - more likely to develop cervical cancer if the immune system is weakened by another health condition (diabetic, renal failure, SLE & HIV).
- Smoking - Smoking is associated with squamous cell cervical cancer.

HPV INFECTION



- Other co- factors that are associated with the development of cervical cancer following oncogenic HPV infection[3,4] :

Smoking

Having multiple sexual partners

Weak immune system (diabetic patient, renal failure, patients on immunosuppressive drugs or with HIV)

1. Gravitt PE, et al. Infect Dis Clin North Am 2005; 19:419–58
2. Bosch FX, et al. J Clin Pathol 2002; 55:244–65
3. Burd EM. Clin Microbiol Rev 2003; 16:1–17
4. Baseman JG & Koutsky LA. J Clin Virol 2005; 25:S16–S24

Challenges in Screening / Early Detection

- Poor awareness
- Ignorance
- Lack of promotion among healthcare provider and public
- Poor screening uptake
- Late detection
- Culture & social barriers
- Logistic limitation

11

Cervical Cancer Screening

- Does not prevent HPV from infecting the *cervix*
- Detects any abnormalities in the *cervix* so that early treatment can be given[1]
- The risk of developing cervical cancer is approximately 3-10 times higher in women who are not regularly screened[2]
- Screening is vital but does not detect all pre-cancerous lesions or prevent all cervical cancer[3]

12

1. Sankaranarayanan R et al. Int J Gynecol Obstet 2005; 89 Suppl 2: S4–12;
2. National Cancer Institute. Screening for cervical cancer. 2005.
3.Prendville W et al. The Health Professionals HPV Handbook. 2004.

Cervical Cancer Screening

- Screening test are used only in asymptomatic patients.
- Pap Smear and other screening method are used to screen abnormalities

13

Screening Criteria

- Woman age 30-65 years old
- Any woman who has had sexually intercourse

14

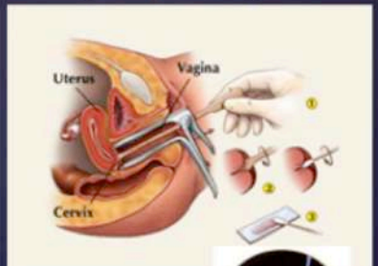
Types Of Cervical Cancer Screening

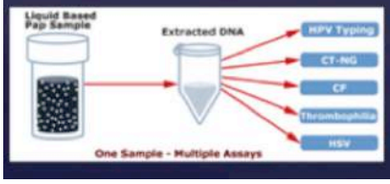
a) Cytology

- **Conventional Pap Smears (? Sensitivity & Specificity)**
- **Liquid Base Cytology (? Sensitivity & Specificity)**

b) Molecular

- **HPV DNA Testing**
- **Onco 6 Protein**





The Cervix

A **healthy** *cervix* would look smooth, shiny surface.

Healthy cervix

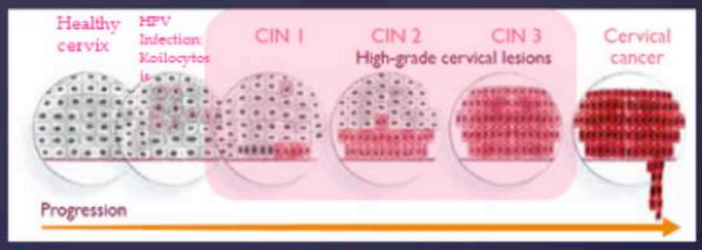
This shows how a **cancerous** *cervix* looks like.

Cancerous cervix

16

Image Source: GSK Biologicals

Cervical Cancer Disease Prevention

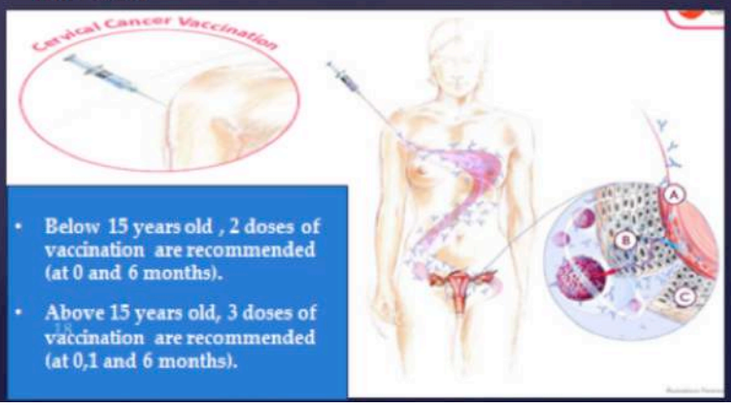


Primary Prevention:
Vaccination is given before infection of HPV occur. Antibody levels are raised to attack the virus

Secondary Prevention:
At this stage, pap smear can detect the changes in the cervix. The earlier it is detected, the better the treatment outcome would be.

Primary Prevention: HPV Vaccination

- Vaccination builds up antibodies against HPV
- Antibodies attack the virus, before the virus can attack the *cervix*



- Below 15 years old , 2 doses of vaccination are recommended (at 0 and 6 months).
- Above 15 years old, 3 doses of vaccination are recommended (at 0,1 and 6 months).

18

HPV Vaccination

- Target group : 13 years old Malaysian girls are given free vaccination by MOH under National Immunization Program
- Age between 14-45 years old ladies are encourage to have vaccination done at certain centers for optimum protection

19

Myths of Cervical Cancer

a. **Using sanitary pads, panty liners and tampon causes cervical cancer.**

FACT: The wearing is determined by the needs and habits of the individual women. The wearing time of more than 3 hours lead to a change of the natural flora in the vagina area and even causes cervical cancer is completely unfounded.

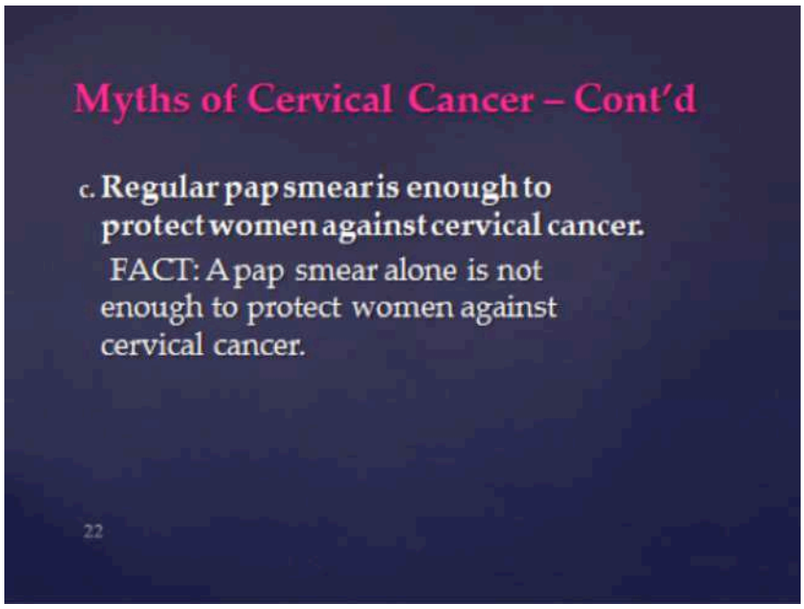
20

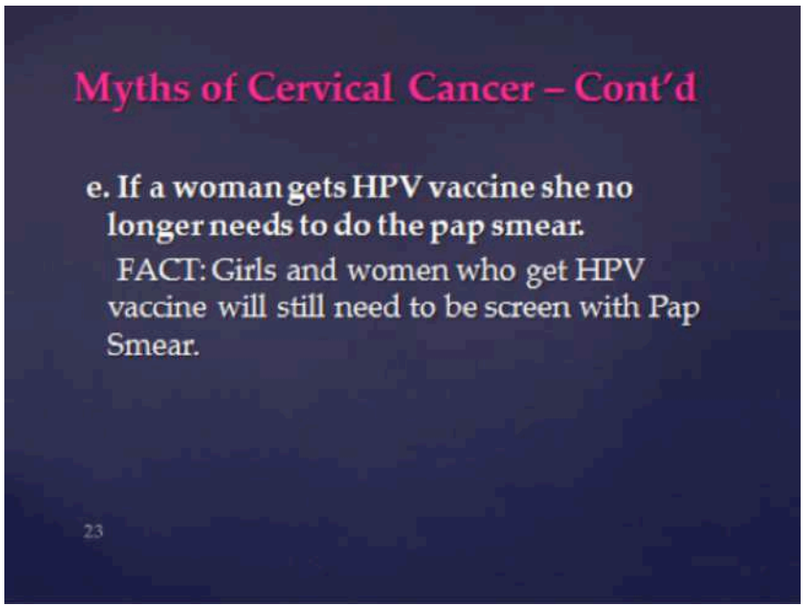
Myths of Cervical Cancer – cont'd

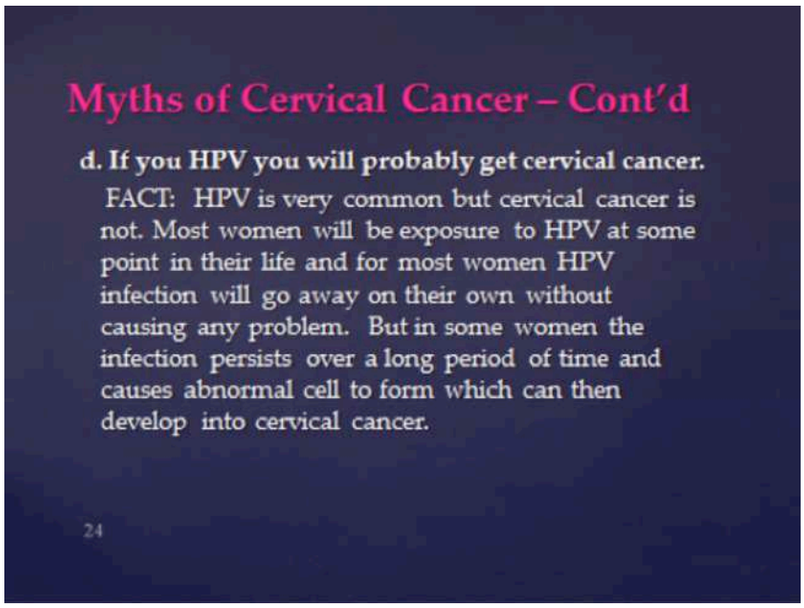
b. **Only promiscuous women get HPV infection.**

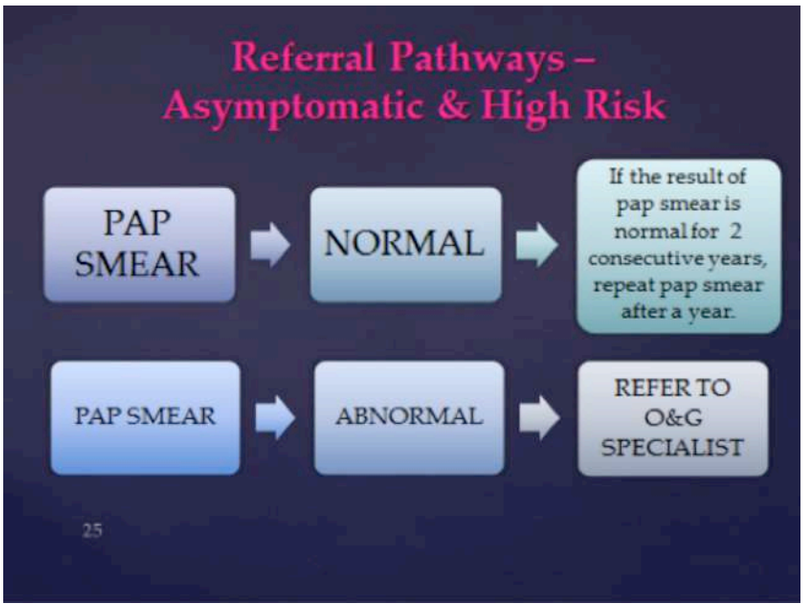
FACT: Any woman who has had sex even with just one partner could have been exposed to HPV. HPV is very common virus in fact about 8 out of 10 women will have had HPV at some point in time by the age of 50.

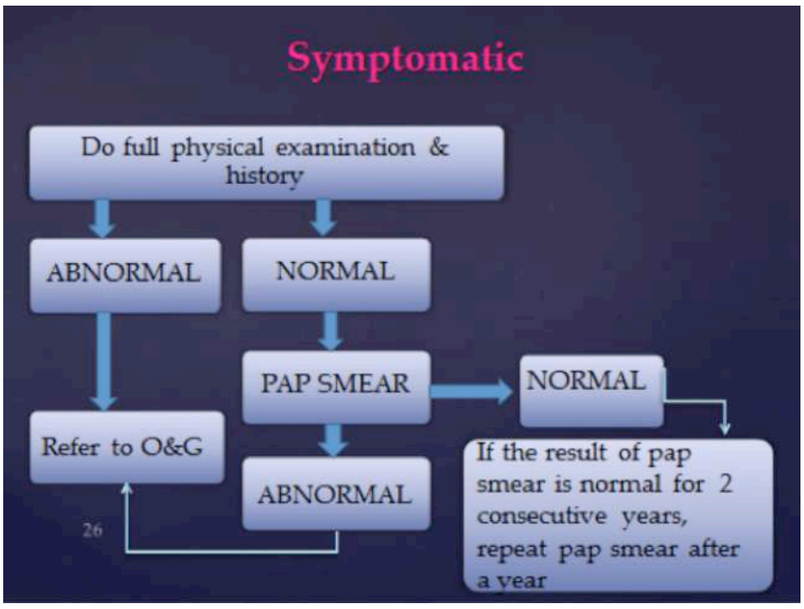
21

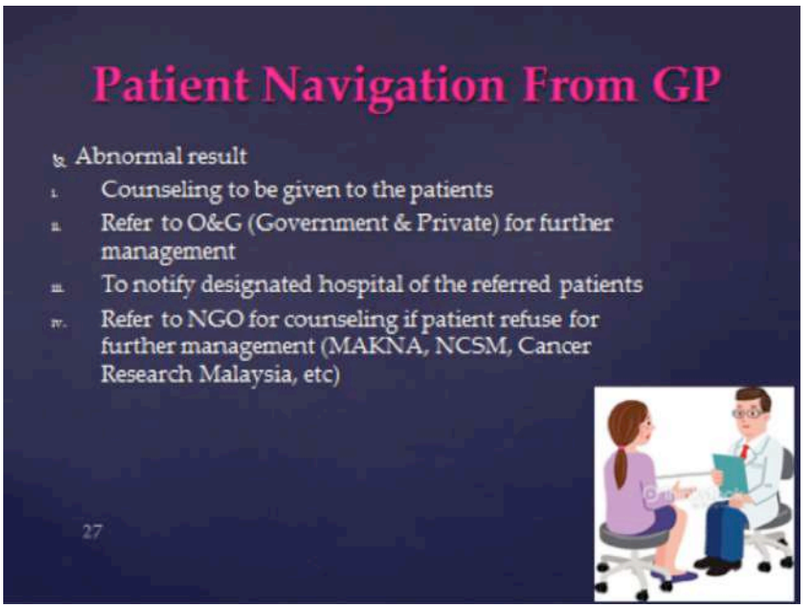

Myths of Cervical Cancer – Cont'd
c. Regular pap smear is enough to protect women against cervical cancer.
FACT: A pap smear alone is not enough to protect women against cervical cancer.
22


Myths of Cervical Cancer – Cont'd
e. If a woman gets HPV vaccine she no longer needs to do the pap smear.
FACT: Girls and women who get HPV vaccine will still need to be screen with Pap Smear.
23


Myths of Cervical Cancer – Cont'd
d. If you HPV you will probably get cervical cancer.
FACT: HPV is very common but cervical cancer is not. Most women will be exposure to HPV at some point in their life and for most women HPV infection will go away on their own without causing any problem. But in some women the infection persists over a long period of time and causes abnormal cell to form which can then develop into cervical cancer.
24


Referral Pathways – Asymptomatic & High Risk
PAP SMEAR
NORMAL
If the result of pap smear is normal for 2 consecutive years, repeat pap smear after a year.
PAP SMEAR
ABNORMAL
REFER TO O&G SPECIALIST
25

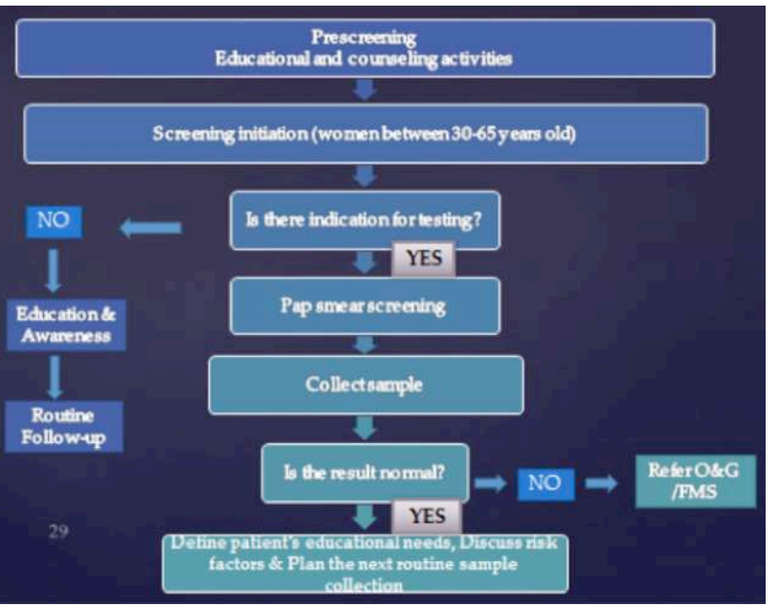

Symptomatic
Do full physical examination & history
ABNORMAL
NORMAL
PAP SMEAR
NORMAL
Refer to O&G
ABNORMAL
If the result of pap smear is normal for 2 consecutive years, repeat pap smear after a year
26


Patient Navigation From GP
Abnormal result
i. Counseling to be given to the patients
ii. Refer to O&G (Government & Private) for further management
iii. To notify designated hospital of the referred patients
iv. Refer to NGO for counseling if patient refuse for further management (MAKNA, NCSM, Cancer Research Malaysia, etc)
27

Patient Navigation From KK

- Abnormal result
  - Counseling to be given to the patients
  - Refer to FMS/O&G for further management
  - Refer to NGO for counseling if patient refuse for further management (MAKNA, NCSM, Cancer Research Malaysia, etc)

28



29

CONCLUSION

- To ensure the success of such programme, we need to:
  - Conduct and organise public education and advocacy programmes
  - Implement referral and cooperation system between various health care levels
  - Ensure quality of service

30

7.4 MODUL 4 : NASOPHARYNGEAL CANCER

7.4.1 Content Summary for Nasopharyngeal Cancer Module

Target Audience • *Healthcare practitioner (Doctors and paramedics)* ***Contents of Learning Module*** • *Instructor's Guide with Pre/Post Self-Assessment* • *Power Point presentation*	***Goals*** *At the end of this session, participants knowledge on risk factors and sign and symptoms of nasopharyngeal cancer will be refreshed and with better understanding of the referral pathway.* ***Objective*** *At the completion of Learning Module 4, participants will understand:* *1. Epidemiology of Nasopharyngeal Cancer* *2. Anatomy of the pharynx* *3. Types of nasopharynx cancer* *4. Signs and symptoms* *5. Risk factors* *6. Challenges in early detection* *7. Referral pathways* *8. Patient navigation* ***Measures of Objective Accomplishment*** *The presenter will administer a pre self-assessment and a post self-assessment to measure participants' knowledge of the module's objectives. The pre self-assessment measures existing knowledge and the post self-assessment measures what was gained through the learning module.*

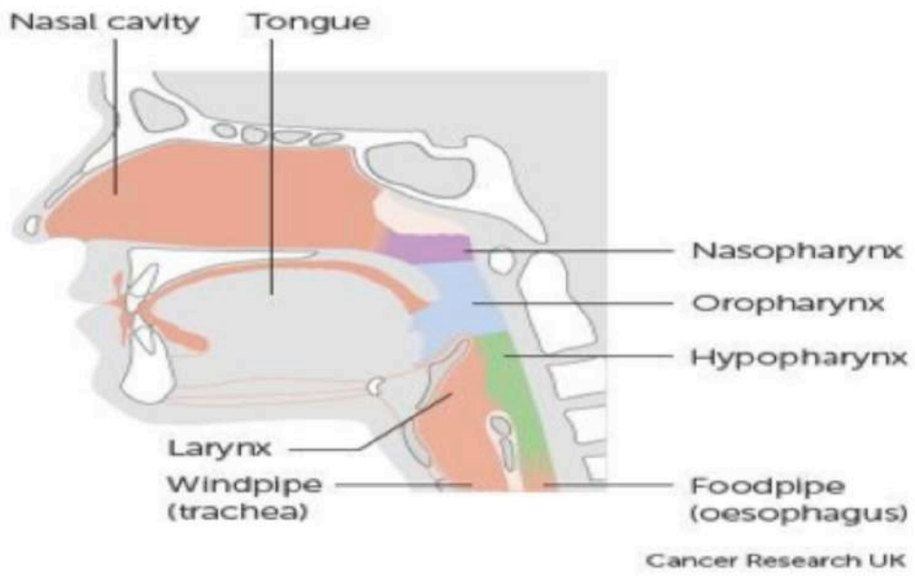
7.4.2 Pre/Post Self-Assessment for Nasopharygeal Cancer Awareness Module

No.	Questions	True	False
1	Below are the statements on the Nasopharyngeal cancer risk factors. Please circle or underlined the correct answer a. Diet high in saturated fat b. Tobacco used - People who have ever smoked are at an increased risk of nasopharyngeal cancer. c. Exposure to wood dust through their work, formaldehyde and industrial chemical increases the risk d. Alcohol intake e. Helicobacter pylori infection f. Inherited risk – with close relative getting nasopharyngeal cancer.	 T T T T T T	 F F F F F F
2	The incidence in males increased at the age of 25 years old and peaked at the age of 40 years old.	T	F
3	Nasopharyngeal cancer is a tumour that grows in the cavity behind the nose and palate of the oral cavity.	T	F
4	A lump at the neck area is a one of the commonest sign of this cancer?	T	F
5	What are types of nasopharyngeal cancer? i. Small Cell Carcinoma ii. Adenocarcinoma iii. Adenoid Cystic Carcinoma	T T T	F F F
6	Which are the symptoms of Nasopharyngeal cancer? Please circle or underline the correct answer a. A lump at the neck area b. Unilateral hearing loss c. Tinnitus (pain and ringing in the ear) d. Fluid collection in the ear e. Blocked or stuffy nose – particularly if only blocked on one side f. Numbness of the lower part of the face g. All above		
7	The contributing risk factors for developing nasopharyngeal cancer are as follows, except a. Inherited risk b. Tobacco use c. Diet d. Chemical e. Balance diet		

7.4.3 Pre/Post Self-Assessment Answer Key for Nasopharygeal Cancer Awareness Module

No.	Questions	True	False
1	Below are the statements on the Nasopharyngeal cancer risk factors. Please circle or underlined the correct answer a. Diet high in saturated fat b. Tobacco used - People who have ever smoked are at an increased risk of nasopharyngeal cancer. c. Exposure to wood dust through their work, formaldehyde and industrial chemical increases the risk d. Alcohol intake e. Helicobacter pylori infection f. Inherited risk – with close relative getting nasopharyngeal cancer.	 T T T T T T	 F F F F F F
2	The incidence in males increased at the age of 25 years old and peaked at the age of 40 years old.	T	F
3	Nasopharyngeal cancer is a tumour that grows in the cavity behind the nose and palate of the oral cavity.	T	F
4	A lump at the neck area is a one of the commonest sign of this cancer?	T	F
5	What are types of nasopharyngeal cancer? i. Small Cell Carcinoma ii. Adenocarcinoma iii. Adenoid Cystic Carcinoma	T T T	F F F
6	Which are the symptoms of Nasopharyngeal cancer? Please circle or underline the correct answer a. A lump at the neck area b. Unilateral hearing loss c. Tinnitus (pain and ringing in the ear) d. Fluid collection in the ear e. Blocked or stuffy nose – particularly if only blocked on one side f. Numbness of the lower part of the face g. All above		
7	The contributing risk factors for developing nasopharyngeal cancer are as follows, except a. Inherited risk b. Tobacco use c. Diet d. Chemical e. Balance diet		

7.4.4 Nasopharyngeal Cancer : The Module

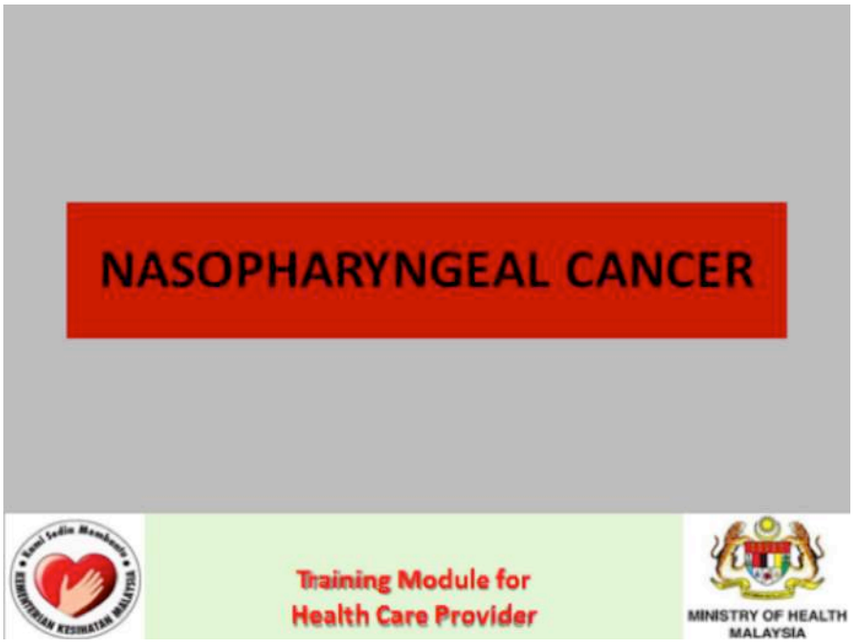
No.	Topics	Remarks
1	**EPIDEMIOLOGY OF NASOPHARYNGEAL CANCER** According to NCR 2007-2011 Report, nasopharyngeal cancer (NPC) is the fifth most frequent cancer in Malaysian population. Meanwhile, amongst males, NPC is the fourth most frequent cancer with standard incidence rate (ASR) of 6.4/100,000 population. The incidence in males increased at the age of 25 years old and peaked at the age of 65 years old. It is noted that the incidence is higher among Chinese compared to the other major ethnic groups in the country. The incidence rate for NPC among males in Malaysia were higher in Chinese population where the incidence rate was 11.0/100,000 population compared to Malay 3.3/100,000 population and Indian 1.1/100,000 population.	
2	**ANATOMY OF THE PHARYNX**  **Pharynx are divided into 3 parts:** • Oropharynx The part of the throat at the back of the mouth. Cancers that start in this area are oropharyngeal cancers. • Hypopharynx It sits behind and on either side of the larynx (voice box). Cancer can also start in the hypopharynx • Nasopharynx It is placed at the base of the skull to the upper surface of the soft palate. Cancer that develops in the nasopharynx is called nasopharyngeal cancer.	

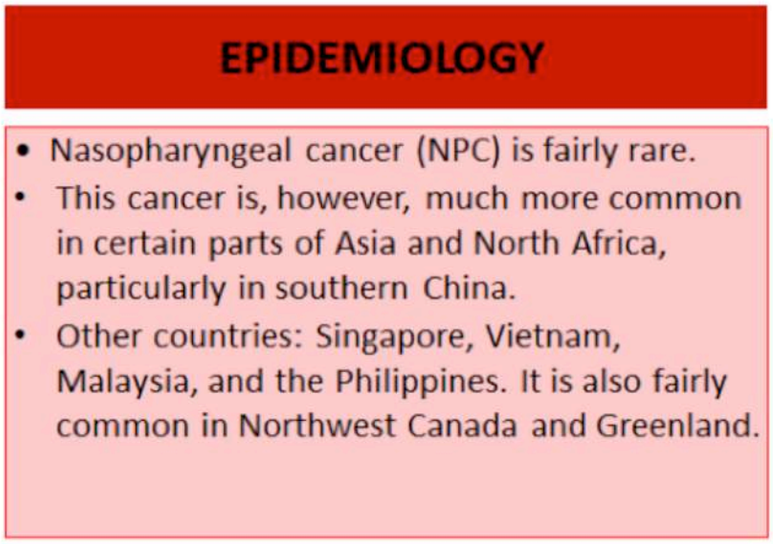
No.	Topics	Remarks
3	**TYPES OF NASOPHARYNX CANCER** Several layers of tissues make up the nasopharynx. Each layer contains many different types of cells. There are few types of nasopharynx cancer : i. **Squamous Cell Carcinoma (commonest)** Several types of cancers can develop from the tissue that makes up the nasopharynx. Most nasopharyngeal cancers are squamous cell carcinomas. Squamous cells are the flat, skin like cells that line the inside of the mouth, nose, larynx and throat. There are different types of squamous cell nasopharyngeal cancers. The 3 main types are : • Keratinising squamous cell carcinoma (type 1) • Non keratinising squamous cell carcinoma (type 2) • Undifferentiated carcinomas (type 3) ii. **Adenocarcinoma and Adenoid cystic carcinoma** Adenocarcinoma and adenoid cystic carcinomas can develop in the minor salivary glands within the nasopharynx. But these cancer types are more common in the mouth and nose.	
4	**SIGNS & SYMPTOMS** People with NPC may experience the following symptoms or signs. Hence complete history taking and physical examination should be done to such patients. There are also cases presenting without symptoms. The commonest symptoms are: i. A lump at the neck area is the commonest sign ii. Unilateral hearing loss iii. Tinnitus (pain and ringing in the ear) iv. Fluid collection in the ear v. Blocked or stuffy nose – particularly if unilateral vi. Numbness of the lower part of the face Other symptoms includes : i. Frequent nose bleeds ii. Frequent headaches iii. Blurred or double vision iv. Unexplained weight lost v. Fatigue vi. Dysphagia (difficulty in swallowing) vii. Changes in voice – such as hoarseness	

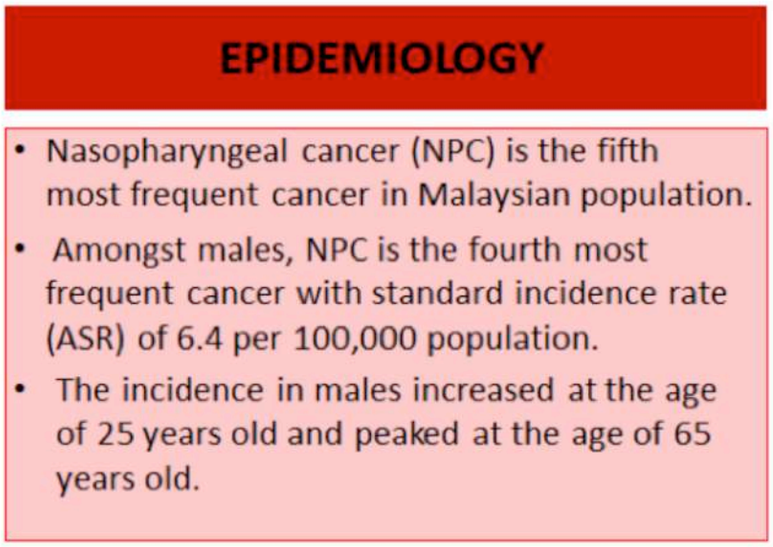
No.	Topics	Remarks
5	**RISK FACTORS** **i. Inherited risk** The risk of nasopharyngeal cancer is higher in people who have a close relative who has had it. **ii. Virus** Almost all NPC cells contain parts of the Epstein-Barr virus (EBV), and most people with NPC have evidence of infection by this virus in their blood. Infection with EBV is very common throughout the world, often occurring in childhood. There is also evidence of a link between the human papilloma virus (HPV) and certain types of nasopharyngeal cancer. **iii. Diet** People who live in parts of Asia, northern Africa, and the Arctic region where NPC is common, typically eat diets very high in salt- cured fish and meat. **iv. Tobacco used** People who have ever smoked are at an increased risk of nasopharyngeal cancer. Research has shown that the increase in risk can be up to 3 times higher in long term smokers (30 years or longer). **v. Chemicals** People exposed to wood dust through their work have an increased risk of nasopharyngeal cancer. People exposed to formaldehyde also have an increased risk of nasopharyngeal cancer. Formaldehyde is an industrial chemical used to make other chemicals and building materials. **vi. Alcohol** Alcohol increases the risk of nasopharyngeal cancer.	
6	**CHALLENGES IN EARLY DETECTION** • There is no specific screening programme available • Failure to recognize common presenting symptoms of NPC • Patient comes late to seek advice • Lack of awareness about NPC among the publics	

No.	Topics	Remarks
7	**REFERRAL PATHWAY** All patients with neck swelling and others NPC symptoms should be referred to ENT for direct examination and for further management Identify High Risk Patients / Symptomatic Patients ⮟ Register Patients ⮟ Complete History Taking and Physical Examinations ⮟ Refer ENT ⮟ Give Follow up To Review Outcome in 3 months	
8	**PATIENT NAVIGATION** • GP - To identify the symptoms, explain that they need further evaluation and refer the patients to hospital. - Best to alert the referring hospital (eg. ENT clinic) about the patient particulars. - Education material shall be passed to the patients - For counseling and support, patient should be referred to nearby NGO, if any (eg. MAKNA, NCSM, Cancer Research Malaysia, etc) • From Health Clinics - To identify the symptoms, explain that they need further evaluation and refer to FMS/ENT clinic - Education material shall be passed to the patients - Health Clinics to follow-up on further management - For counseling and support, patient should be referred to nearby NGO (eg. MAKNA, NCSM, Cancer Research Malaysia, etc)	

7.4.5 Power Point Presentation for Nasopharygeal Cancer Module







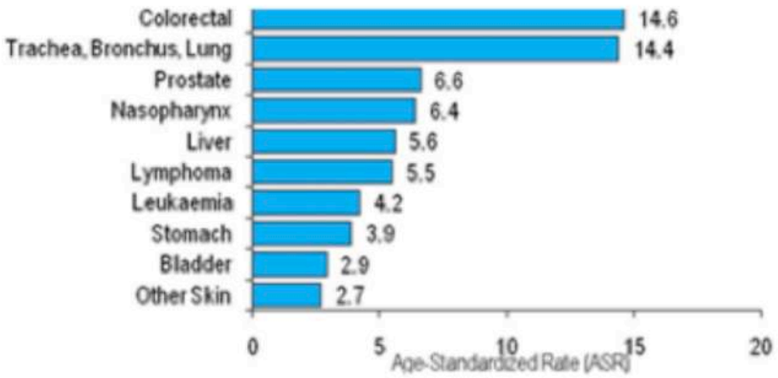
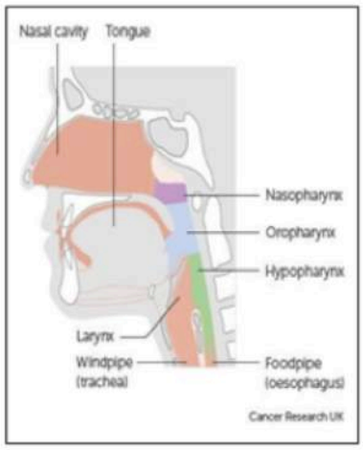


Figure 1: Ten most frequent cancers in males, Malaysia 2007-2011

EPIDEMIOLOGY

- The incidence is higher among Chinese compared to the other major ethnic groups in the country.
- The incidence rate for NPC among males in Malaysia were higher in Chinese population i.e 11.0 per 100,000 population compared to Malay 3.3 per 100,000 population and Indian 1.1 per 100,000 population.

ANATOMY



Pharynx are divided into 3 parts:

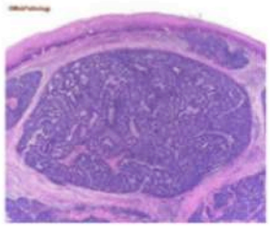
- Nasopharynx
- Oropharynx
- Hypopharynx

The nasopharynx placed at the base of the skull to the upper surface of the soft palate. Cancer that develops in the nasopharynx is called nasopharyngeal cancer.

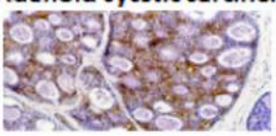
TYPES OF NASOPHARYNX CANCER

Several layers of tissues make up the nasopharynx. Each layer contains many different types of cells. There are few types of nasopharynx cancer :

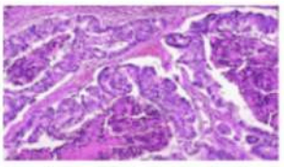
- **Squamous Cell Carcinoma (commonest)**



- **Adenoid cycstic carcinoma**



- **Adenocarcinoma**



SIGNS & SYMPTOMS

People with NPC may experience the following symptoms or signs. Hence complete history taking and physical examination should be done to such patients. There area also cases presenting without symptoms

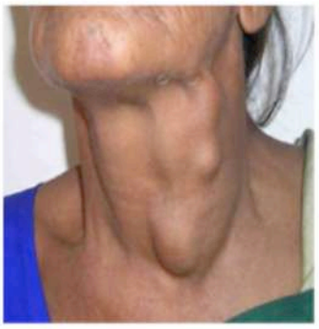
- **A lump at the neck area -> most common**
- Unilateral hearing loss
- Tinnitus (pain and ringing in the ear)
- Fluid collection in the ear
- Blocked or stuffy nose – particularly if only blocked on one side
- Numbness of the lower part of the face

- Frequent headaches
- Blurred or double vission
- Unexplained weight lost
- Fatigue
- Dysphagia
- Changes in voice – such as hoarseness
- Frequent nose bleeds

Lump At Neck

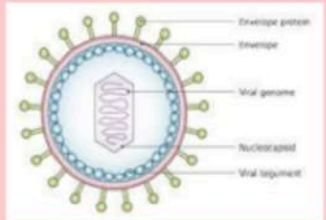
Early Stage

Late Stage



RISK FACTORS

- **Inherited risk**
- **Virus**
  - Epstein Barr virus (EBV)
- **Diet**
  - Very high in salt cured meats and fish or pickled foods
- **Tobacco used**
- **Alcohol**
- **Chemicals**
  - Formaldehyde

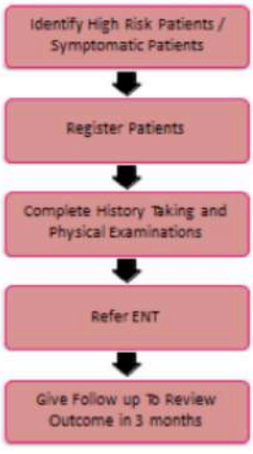


CHALLENGES IN EARLY DETECTION

- There is no specific screening programme available
- Failure to recognize common presenting symptoms of NPC
- Patient comes late to seek advice
- Lack of awareness about NPC among the publics

REFERRAL PATHWAY

- All patients with neck swelling and others NPC symptoms should be referred to ENT department for direct examination and further management



PATIENT NAVIGATION

GP

- To identify the symptoms, explain that they need further evaluation and refer the patients to hospital.
- Best to alert the referring hospital (eg. ENT clinic) about the patient particulars.
- Education material shall be passed to the patients
- For counseling and support, patient should be referred to nearby NGO, if any (eg. MAKNA, NCSM, Cancer Research Malaysia, etc)

PATIENT NAVIGATION

From Health Clinics

- To identify the symptoms, explain that they need further evaluation and refer to FMS/ENT clinic
- Education material shall be passed to the patients
- Health Clinics to follow-up on further management
- For counseling and support, patient should be referred to nearby NGO (eg. MAKNA, National Cancer Society Malaysia (NCSM), Cancer Research Malaysia, etc)

THANK YOU

7.5 MODUL 5 : LUNG CANCER

7.5.1 Content Summary for Lung Cancer Module

Target Audience • *Healthcare practitioner* ***Contents of Learning Module*** • *Instructor's Guide with Pre/Post Self-Assessment* • *Power Point presentation*	***Goals*** *In this session, participants will gain an understanding on lung cancer, risk factors and signs and symptoms of lung cancer.* ***Objective*** *At the completion of Learning Module 5, participants will understand: :* 1. *Epidemiology of lung cancer* 2. *Anatomy of the lung* 3. *Types of lung cancer* 4. *Signs and symptoms of lung cancer* 5. *Risk factors of lung cancer* 6. *Myth on lung cancer* 7. *Challenges to early detection* 8. *Screening tools* 9. *Referral pathways* 10. *Patient Navigation* ***Measures of Objective Accomplishment*** *The presenter will administer a pre self-assessment and a post self- assessment to measure participants' knowledge of the module's objectives. The pre self-assessment measures existing knowledge and the post self-assessment measures what was gained through the learning module.*

7.5.2 Pre/Post Self-Assessment for Lung Cancer Awareness Module

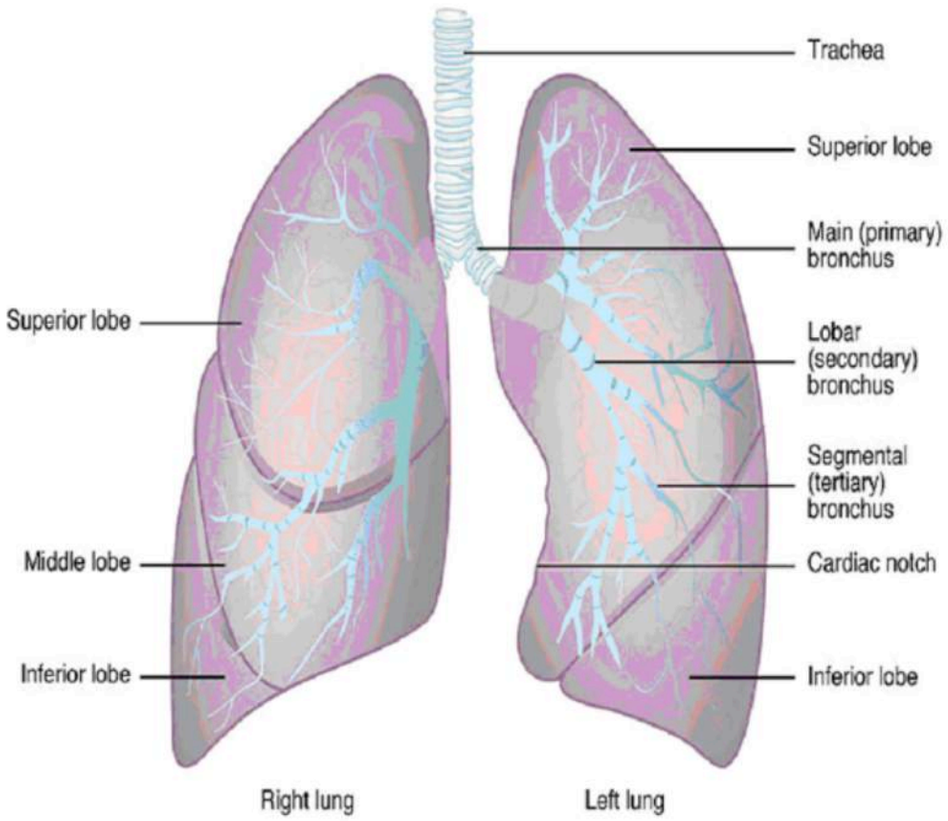
No.	Questions	True	False
1	Most of the lung cancer was detected late where 60% of the cases were detected at stage IV.	T	F
2	In recent years, adenocarcinoma of the lung was the most common cell type in both men and women.	T	F
3	The age of peak incidence of lung cancer in Malaysia is the 5th decade of life.	T	F
4	Signs and Symptoms of lung cancer: a) Coughing up blood or rust-coloured sputum (spit & phlegm) b) Infections such as bronchitis and pneumonia c) Jaundice d) Vomiting e) Chest pain	 T T T T T	 F F F F F
5	Chest X ray, generally have been found effective in reducing mortality from lung cancer.	T	F
6	Risks factors for lung cancer: a) History of chronic obstructive airway disease b) Exposure to second hand smoke c) History of Asthma d) Silicosis	 T T T T	 F F F F

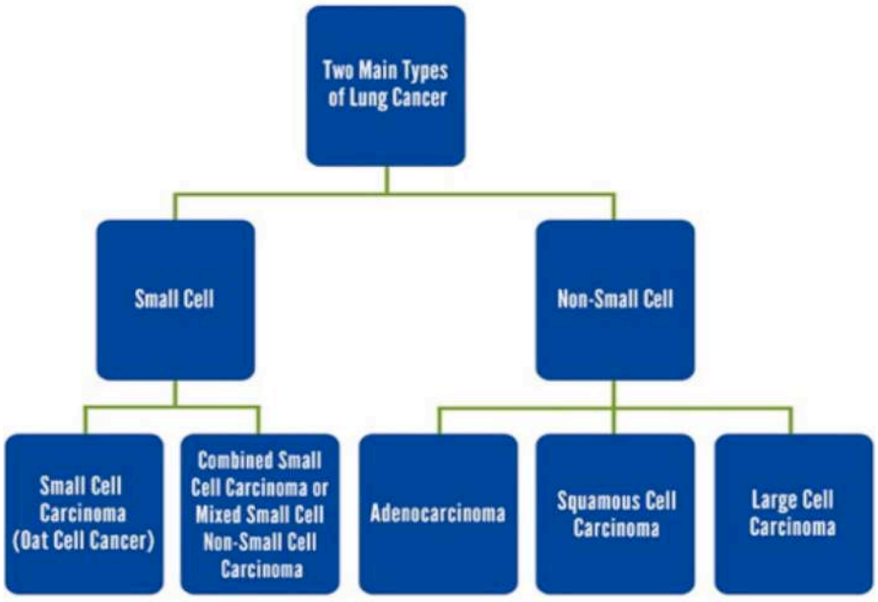
7.5.3 Pre/Post Self-Assessment for Lung Cancer Awareness Module

The correct answer to each question, is underlined

No.	Questions	True	False
1	Most of the lung cancer was detected late where 60% of the cases were detected at stage IV.	T	F
2	In recent years, adenocarcinoma of the lung was the most common cell type in both men and women.	T	F
3	The age of peak incidence of lung cancer in Malaysia is the 5th decade of life.	T	F
4	Signs and Symptoms of lung cancer: a) Coughing up blood or rust-coloured sputum (spit & phlegm) b) Infections such as bronchitis and pneumonia c) Jaundice d) Vomiting e) Chest pain	 T T T T T	 F F F F F
5	Chest X ray, generally have been found effective in reducing mortality from lung cancer.	T	F
6	Risks factors for lung cancer: a) History of chronic obstructive airway disease b) Exposure to second hand smoke c) History of Asthma d) Silicosis	 T T T T	 F F F F

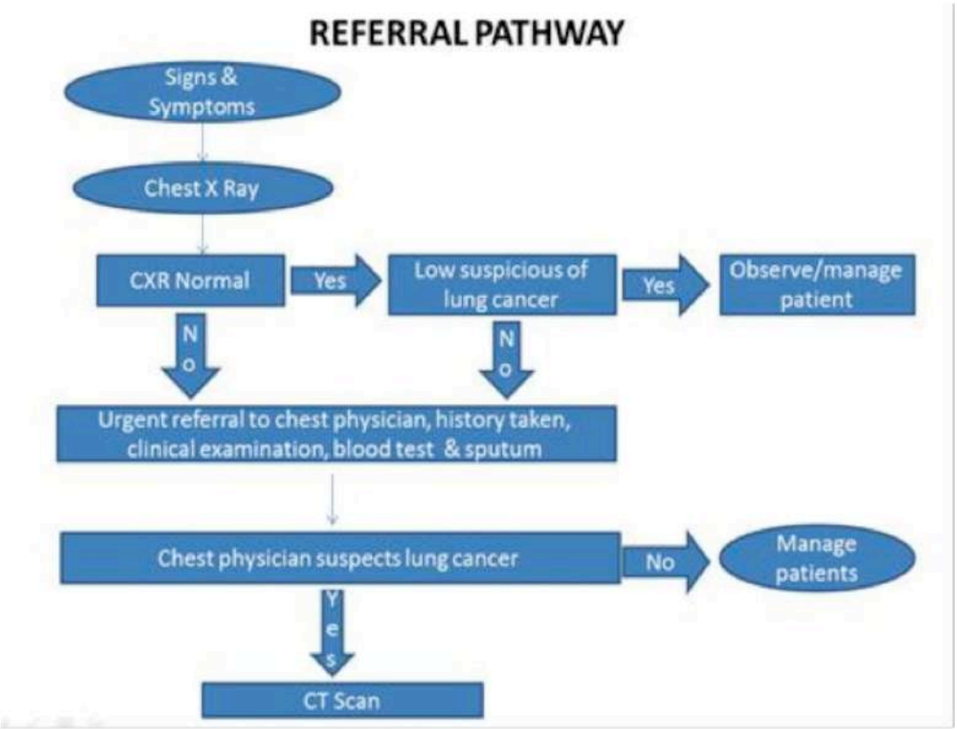
7.5.4 Lung Cancer : The Module

No.	Topics	Remarks
1	**EPIDEMIOLOGY OF LUNG CANCER** In Malaysia, lung cancer is the second most common cancer among males and third most common cancer in the general population. The ASR for male was 14.4 per 100,000 population and 6.0 per 100,000 for female. The incidence was more than 2 folds higher among males when compared to females. The Malaysian National Cancer Registry shows that for male, the age-standardised incidence rate among Chinese is higher (18.8 per 100,000) compared to Malays (12.6 per 100,000) and Indians (7.6 per 100,000). The age of peak incidence of lung cancer in Malaysia is the 7th decade of life. Most of the lung cancer was detected late where more than 60% of the cases were detected at stage IV.	
2	**ANATOMY OF THE LUNGS**  	

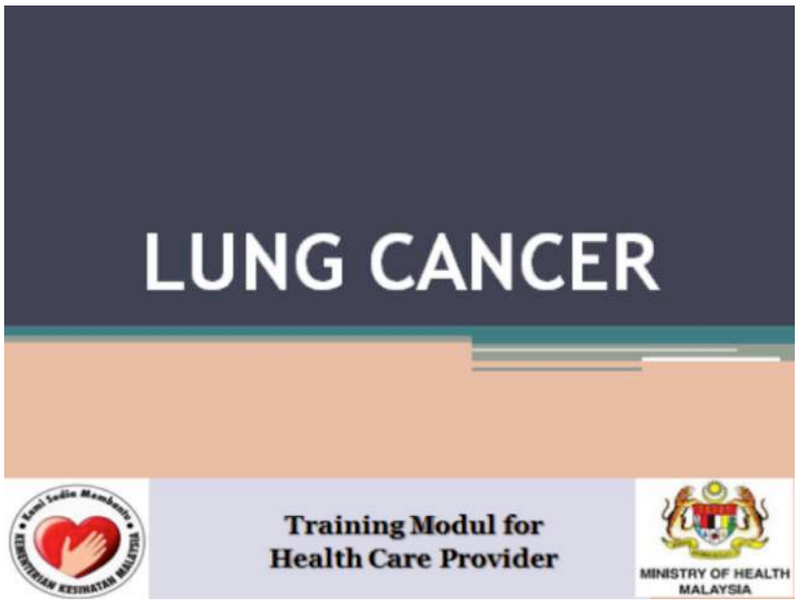
No.	Topics	Remarks
3	**TYPES OF LUNG CANCER**  In recent years, adenocarcinoma was the most common cell type in both in both men women and in smokers and never smoker	
4	**SIGNS AND SYMPTOMS** Most of the lung cancers do not cause any symptoms until they have spread, but some people with early lung cancer do have symptoms. a. A cough does not go away or gets worse b. Coughing up blood or rust-coloured sputum (spit & phlegm) c. Chest pain that is often worse with deep breathing, coughing or laughing d. Hoarseness e. Weight loss f. Loss of appetite g. Shortness of breath h. Feeling tired or weak i. Infections such as bronchitis and pneumonia j. Wheezing Late symptoms a. Bone pain (pain in the back or hips) b. Nervous system changes (headaches, weakness or numbness of an arm or leg, dizziness, balance problems or seizures) from cancer spread to brain to spinal cord. c. Yellowing to the skin and eyes (jaundice) from cancer spread to the liver d. Lumps near the surface of the body, due to cancer spreading to the skin or to lymph nodes (collections of immune system cells) such as those in the neck or above the collarbone.	

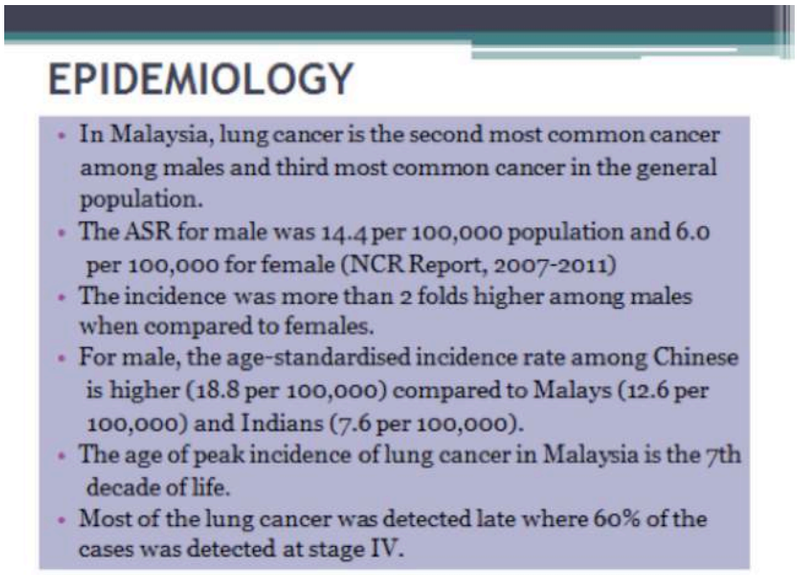
No.	Topics	Remarks
5	**RISK FACTORS** a. Smoking b. History of chronic obstructive airway disease c. Exposure to second hand smoke d. Exposure to occupational hazard e. Exposure to asbestos and other carcinogens f. Family history of lung cancers g. Silicosis (previously miner's phthisis, grinder's asthma, potter's rot and other occupation-related names) is a form of occupational lung disease caused by inhalation of crystalline silica dust, and is marked by inflammation and scarring in the form of nodular lesions in the upper lobes of the lungs. It is a type of pneumoconiosis. Silicosis (particularly the acute form) is characterized by shortness of breath, cough, fever, and cyanosis (bluish skin). It may often be misdiagnosed as pulmonary edema (fluid in the lungs), pneumonia, or tuberculosis.	
6	**MYTHS ON LUNG CANCER** **1. Myth: It's Too Late if You've Smoked for Years** **Fact:** Quitting has almost-immediate benefits. Your circulation will improve and your lungs will work better. Your lung cancer risk will start to drop over time. Ten years after you kick the habit, your odds of getting the disease will be half of what they are now. **2. Myth: Low-Tar or 'Light' Cigarettes Are Safer Than Regular** **Fact:** They're just as risky. And beware of menthol: Some research suggests that menthol cigarettes may be more dangerous and harder to quit. Their cooling sensation prompts some people to inhale more deeply. **3. Myth: Pipes and Cigars Are Not a Problem** **Fact:** Just like cigarettes, they'll put you at risk for cancers of the mouth, throat, esophagus, and lungs. Cigar smoking, in particular, makes you much more likely to get heart disease and lung disease. **4. Myth: Smoking Is the Only Risk** **Fact:** It's the biggest one, but there are others. For example, cause of lung cancer is an odorless radioactive gas called radon. Given off by rock and soil, it can seep up into homes and other buildings.	

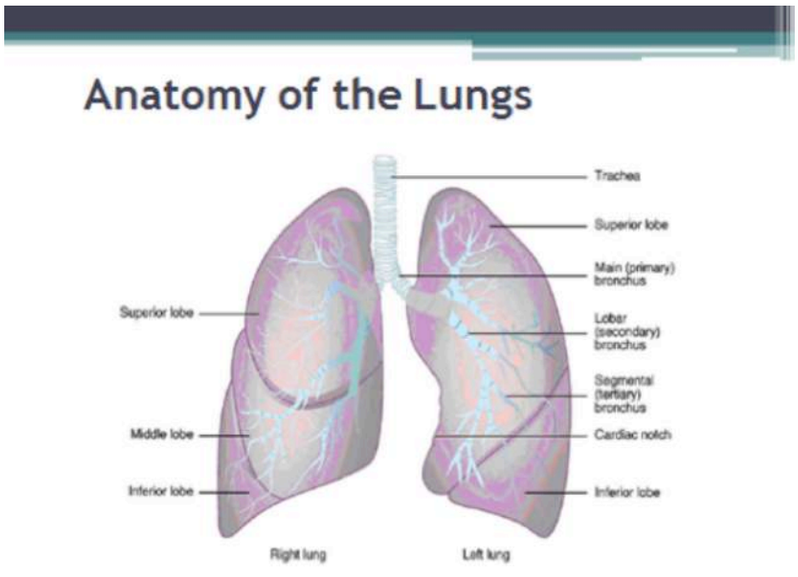
No.	Topics	Remarks
	5. Myth: Talcum Powder Is a Cause **Fact:** Research shows no clear link between lung cancer and accidentally breathing in talcum powder. People who work with other chemicals, including asbestos and vinyl chloride, are more likely to get the disease. **6. Myth: If You Have Lung Cancer, Quitting Is Pointless** **Fact:** If you stop, your treatment may work better and your side effects could be milder. And if you need surgery, ex-smokers tend to heal better than smokers. In some cases, quitting makes a second cancer less likely to start.	
7	**SCREENING** **The only recommended screening test for lung cancer is helical low-dose computed tomography (also called low-dose CT or LDCT) for persons who are at high risk for lung cancer because of their age and cigarette smoking history. However it is not yet applicable for population screening.**	
8	**CHALLENGES IN EARLY DETECTION** A. Patient's factor • Ignorance – Regular Health Medical check up Optional Sign & symptoms Changes – voice, persistent fever & cough • Fear of the disease and screening tests B. • Lung cancer typically doesn't cause signs and symptoms in its earliest stages. It typically occurs only when the disease is advanced. Only a third are detected early enough at operable stage and nearly half have progressed to advanced stage at the time of diagnosis	

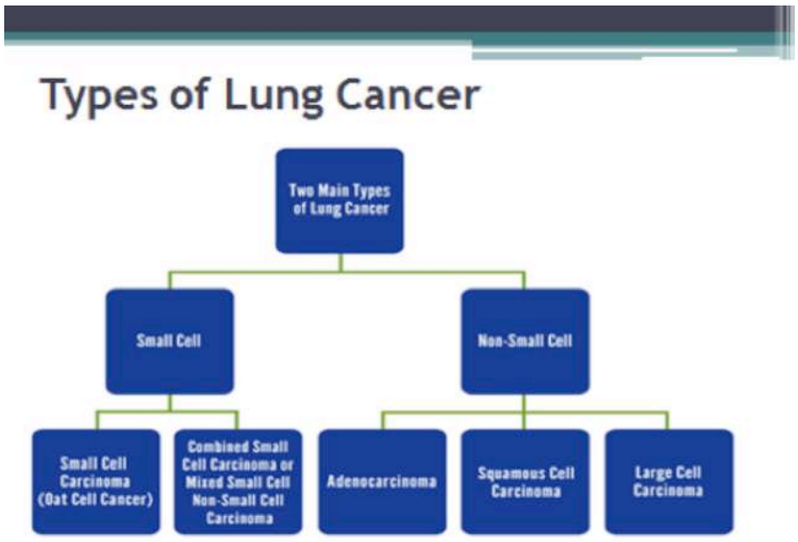
No.	Topics	Remarks
9		
10	**PATIENT NAVIGATION FOR ABNORMAL RESULT OF CHEST X RAY** • GP - To identify the symptoms, explain that they need further evaluation and refer the patients to hospital. - Best to alert the referring hospital (Chest Clinic / MOPD) about the patient particulars. - Education material shall be passed to the patients - For counseling and support, patient should be referred to nearby NGO, if any (eg. MAKNA, NCSM, Cancer Research Malaysia, etc) • From Health Clinics - To identify the symptoms, explain that they need further evaluation and refer to FMS/MOPD/Chest clinic - Education material shall be passed to the patients - Health Clinics to follow-up on further management - For counseling and support, patient should be referred to nearby NGO (eg. MAKNA, NCSM, Cancer Research Malaysia, etc)	

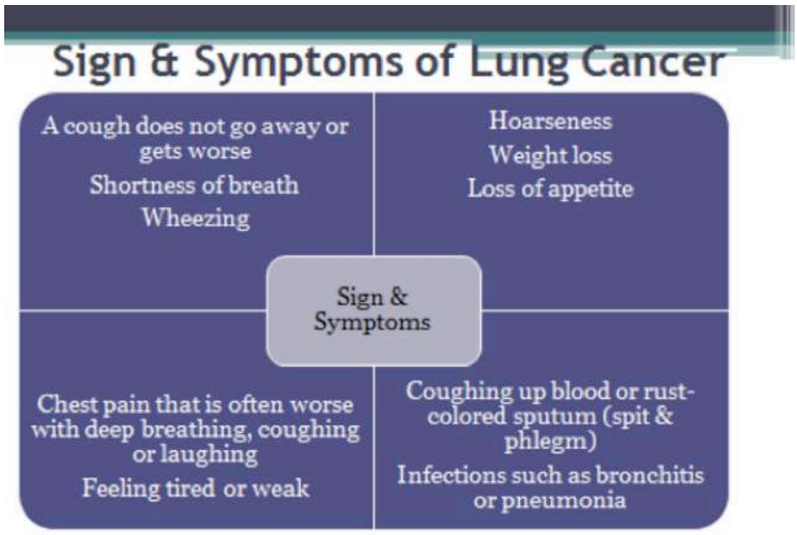
7.5.5 Power Point Presentation for Lung Cancer Module

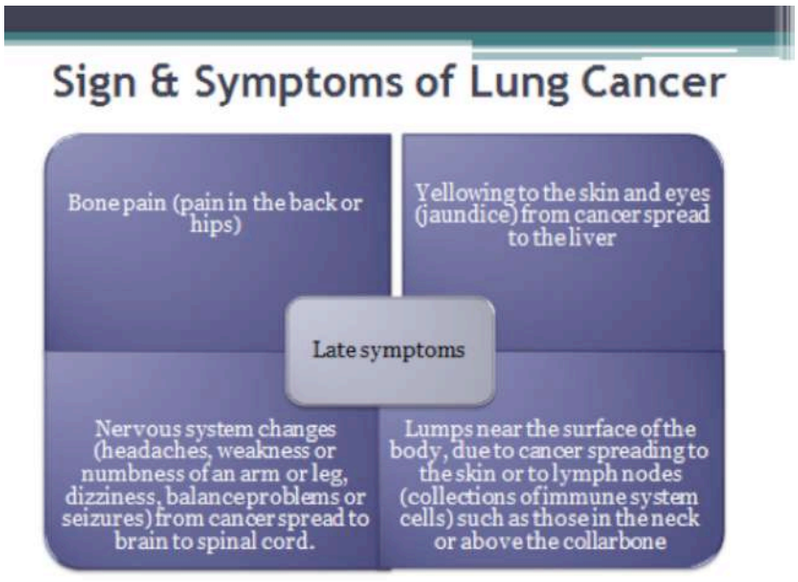







Types of Lung Cancer
Two Main Types of Lung Cancer
Small Cell
Non-Small Cell
Small Cell Carcinoma (Oat Cell Cancer)
Combined Small Cell Carcinoma or Mixed Small Cell Non-Small Cell Carcinoma
Adenocarcinoma
Squamous Cell Carcinoma
Large Cell Carcinoma


Sign & Symptoms of Lung Cancer
A cough does not go away or gets worse
Shortness of breath
Wheezing
Hoarseness
Weight loss
Loss of appetite
Sign & Symptoms
Chest pain that is often worse with deep breathing, coughing or laughing
Feeling tired or weak
Coughing up blood or rust-colored sputum (spit & phlegm)
Infections such as bronchitis or pneumonia


Sign & Symptoms of Lung Cancer
Bone pain (pain in the back or hips)
Yellowing to the skin and eyes (jaundice) from cancer spread to the liver
Late symptoms
Nervous system changes (headaches, weakness or numbness of an arm or leg, dizziness, balance problems or seizures) from cancer spread to brain to spinal cord.
Lumps near the surface of the body, due to cancer spreading to the skin or to lymph nodes (collections of immune system cells) such as those in the neck or above the collarbone

RISK FACTORS

a. Smoking
b. History of chronic obstructive airway disease
c. Exposure to second hand smoke
d. Exposure to occupational hazard
e. Exposure to asbestos and other carcinogens
f. Family history of lung cancers
g. Silicosis

Myth on Lung Cancer

1. Myth: It's Too Late if You've Smoked for Years
   Fact: Quitting has almost-immediate benefits. Your circulation will improve and your lungs will work better. Your lung cancer risk will start to drop over time. Ten years after you kick the habit, your odds of getting the disease will be half of what they are now.
2. Myth: Low-Tar or 'Light' Cigarettes Are Safer Than Regular
   Fact: They're just as risky. And beware of menthol: Some research suggests that menthol cigarettes may be more dangerous and harder to quit. Their cooling sensation prompts some people to inhale more deeply.
3. Myth: Pipes and Cigars Aren't a Problem
   Fact: Just like cigarettes, they'll put you at risk for cancers of the mouth, throat, esophagus, and lungs. Cigar smoking, in particular, makes you much more likely to get heart disease and lung disease.
4. Myth: Smoking Is the Only Risk
   Fact: It's the biggest one, but there are others. For example, cause of lung cancer is an odorless radioactive gas called radon. Given off by rock and soil, it can seep up into homes and other buildings.
5. Myth: Talcum Powder Is a Cause
   Fact: Research shows no clear link between lung cancer and accidentally breathing in talcum powder. People who work with other chemicals, including asbestos and vinyl chloride, are more likely to get the disease.
6. Myth: If You Have Lung Cancer, Quitting Is Pointless
   Fact: If you stop, your treatment may work better and your side effects could be milder. And if you need surgery, ex-smokers tend to heal better than smokers. In some cases, quitting makes a second cancer less likely to start.

Challenges in screening/early detection

a) Patient's factor

- Ignorance
  - Regular health medical check up
  - Optional
  - Sign & symptoms
  - Changes – voice, persistent fever & cough
- Fear of the disease and screening tests

Challenges in screening/early detection

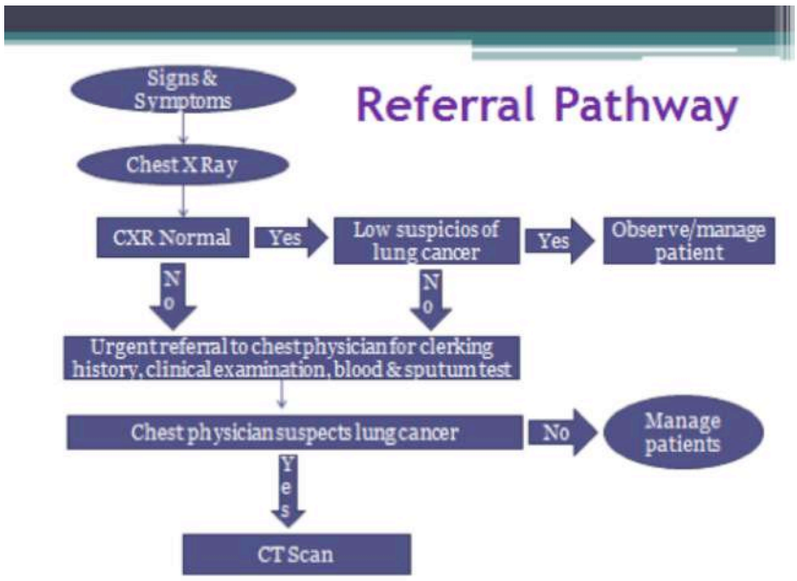
- Lung cancer typically doesn't cause signs and symptoms in its earliest stages.
- It typically occur only when the disease is advanced.
- Only a third are detected early enough at operable stage and nearly half have progressed to advanced stage at the time of diagnosis

d) Defining high-risk group for screening and early detection of lung cancer

- At present, 50% of people who develop lung cancer are former smokers, and 15% have never smoked.
- Lung cancer may also occur in young adults, and is actually increasing in younger people, especially young, never-smoking women.
- However the USPSTF 2013 recommended lung cancer screening for adults aged 55-80, with history of smoking (Low Ct Scan)

Screening Tests

- Low-Dose CT or LDCT
  - The only recommended screening test for lung cancer is helical low-dose computed tomography (also called low-dose CT or LDCT) for persons who are at high risk for lung cancer because of their age and cigarette smoking history.



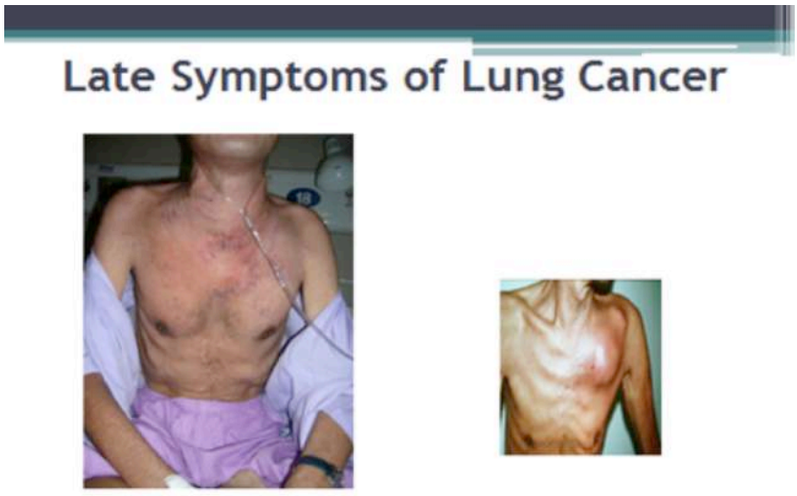
Patient Navigation for abnormal chest x-ray

GP/Health Clinics

- To identify, console, refer and to notify the hospital about the patient particulars
- Education material shall be passed to the patients
- Refer to medical social support-NGO
- Refer to chest clinic in hospital
- Hospital to follow-up on further management

Nurse navigator's role

1. Act as liaison between patient & physician
2. Implement & manage CT Lung screening
3. Educates patient about :
   - Smoking cessation
   - Screening results
   - Further workup or diagnosis
   - Treatment option
   - Important of early detection


Late Symptoms of Lung Cancer


Late Symptoms of
Lung Cancer

7.6 MODUL 6 : ORAL CANCER

7.6.1 Content Summary for Oral Cancer Module

Target Audience • *Healthcare practitioner* ***Contents of Learning Module*** • *Instructor's Guide with Pre/Post Self-Assessment* • *PowerPoint presentation*	***Goals*** *In this session, participants will gain an understanding on oral cancer, risk factors and signs and symptoms.* ***Objective*** *At the completion of Learning Module 6, participants will understand:* *1) Epidemiology of oral cancer* *2) Signs and symptoms of oral cancer* *3) Risk factors/contributing factors of oral cancer* *4) Challenges to early detection of oral cancer* *5) Treatment* *6) Referral pathways* *7) Patient Navigation* ***Measures of Objective Accomplishment*** *The presenter will administer a pre self-assessment and a post self- assessment to measure participants' knowledge of the module's objectives. The pre self-assessment measures existing knowledge and the post self-assessment measures what was gained through the learning module*

7.6.2 Pre/Post Self-Assessment for Oral Cancer Module

No.	Questions	True	False
1	What are risk factors for oral cancer? Please circle either that statement is true or false		
	a. Betel quid/guthka/bidi chewing	T	F
	b. Smoking	T	F
	c. Tobacco chewing	T	F
	d. Excessive alcohol consumption	T	F
	e. Hot food & beverages consumption	T	F
	f. Spicy food consumption	T	F
	g. Family history of mouth cancer	T	F
	h. HPV infection	T	F
	i. Excessive sun exposure	T	F
	j. Poor fitting dentures	T	F
2	Which are the symptoms of oral cancer? Please circle the correct answer		
	a. White/red patches in the mouth	T	F
	b. Ulcers that don't heal for more than 2 weeks	T	F
	c. Swelling or lumps in the mouth, face and neck	T	F
	d. Difficulty in chewing or moving jaw or tongue	T	F
	e. Problems or pain when swallowing	T	F
	f. Bleeding gums	T	F

7.6.3 Pre/Post Self-Assessment for Oral Cancer Module

The correct answer to each question, is underlined

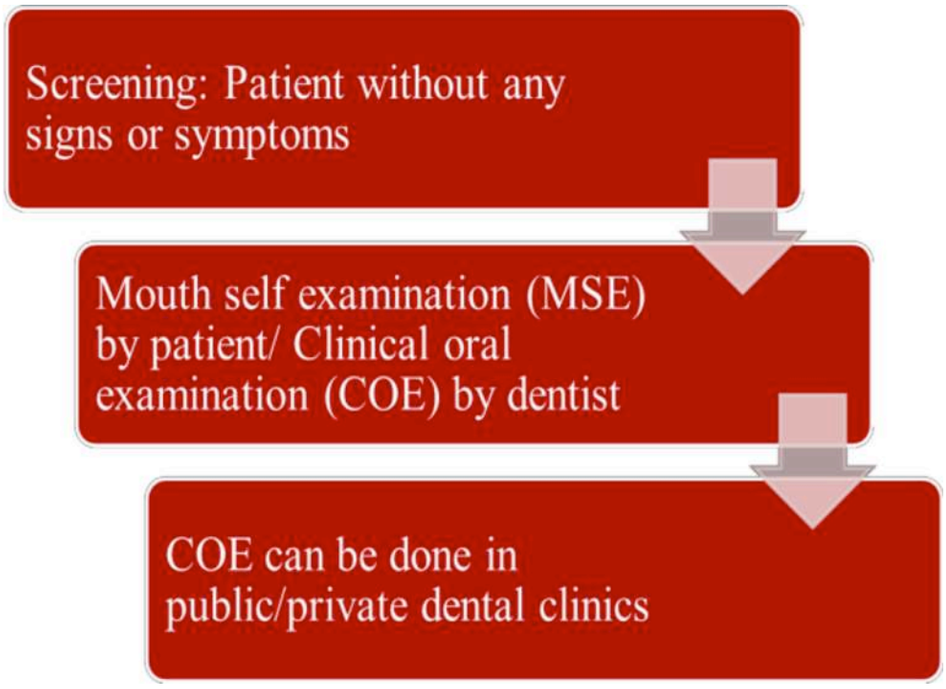
No.	Questions	True	False
1	What are risk factors for oral cancer? Please circle either that statement is true or false		
	a. Betel quid/guthka/bidi chewing	T	F
	b. Smoking	T	F
	c. Tobacco chewing	T	F
	d. Excessive alcohol consumption	T	F
	e. Hot food & beverages consumption	T	F
	f. Spicy food consumption	T	F
	g. Family history of mouth cancer	T	F
	h. HPV infection	T	F
	i. Excessive sun exposure	T	F
	j. Poor fitting dentures	T	F
2	Which are the symptoms of oral cancer? Please circle the correct answer		
	a. White/red patches in the mouth	T	F
	b. Ulcers that don't heal for more than 2 weeks	T	F
	c. Swelling or lumps in the mouth, face and neck	T	F
	d. Difficulty in chewing or moving jaw or tongue	T	F
	e. Problems or pain when swallowing	T	F
	f. Bleeding gums	T	F

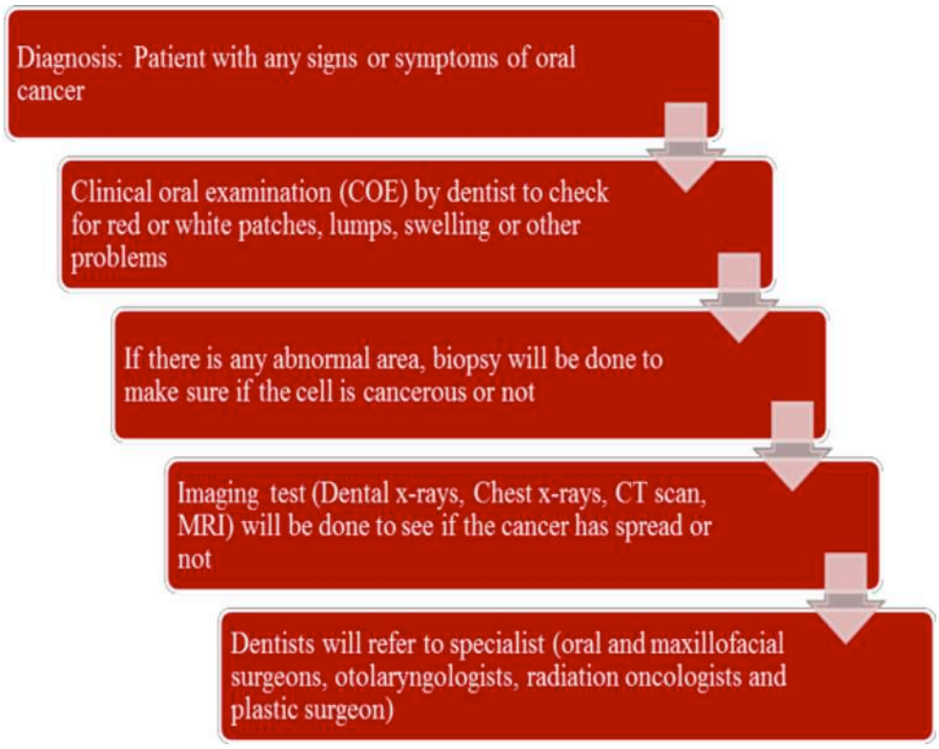
7.6.4 Oral Cancer : The Module

No.	Topics	Remarks
1	**EEpidemiology of Oral Cancer** Oral cancer is a major cause of morbidity and mortality worldwide. The survival rate when mouth cancer is detected early is very high up to 90%. Unfortunately, most people are not aware that this cancer affects more than 700 Malaysians every year. Moreover, Malaysians unable to identify the early signs and symptoms of mouth cancer. Less than 40% of Malaysian could identify the early signs and symptoms. This is then reflects the clinical scenario where majority of mouth cancer patients are diagnosed at late stage, making survival rates poor. Even those who survive the disease experience severe disfigurement, loss of everyday function and often ostracized by the public. Oral cancer is a part of head and neck cancer. Most oral cancers begin in the tongue and in the floor of the mouth. Almost all oral cancers begin in the squamous cells that cover the surfaces of the mouth, tongue and lips which called as squamous cell carcinomas.	
2	**Signs and symptoms** Having any of the abnormal findings in the list below should lead to a suspicion of oral cancer: a. Sore or ulcers in the mouth that does not heal after 2 weeks. b. White or red patches or both within the mouth i. White patches (leukoplakia) are the most common. White patches sometimes become malignant ii. Mixed red and white patches (erythroleukoplakia) are more likely than white patches to become malignant iii. Red patches (erythroplakia) are brightly colored, smooth areas that often become malignant c. Swelling or lumps in the mouth, face or neck d. Problems or pain when swallowing. e. Difficulty in chewing and moving the jaw or tongue f. A persistent unexplained earache g. Unexplained loose or wobbly tooth h. Numbness of the tongue or mouth Source: 1. US Department of Health and Human Services, National Institute of Health, National Cancer Institute, National Institute of Dental and Craniofacial Research	

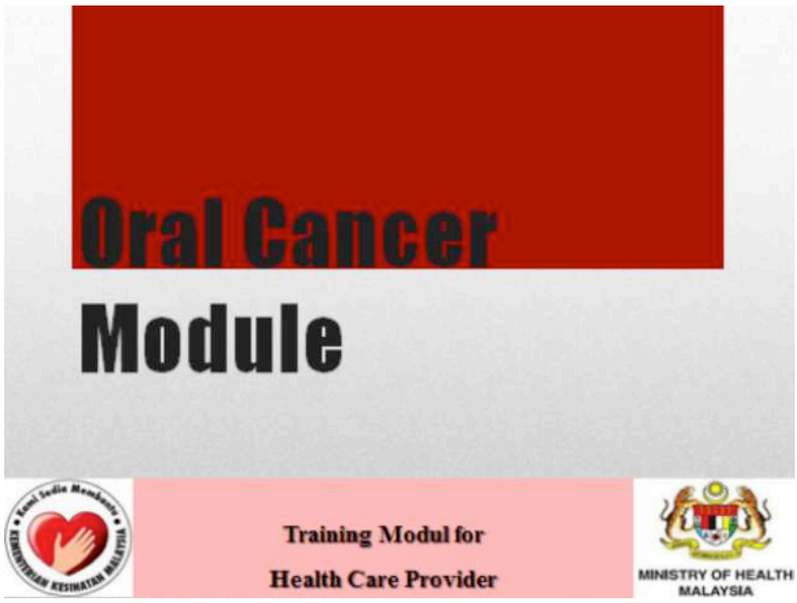
No.	Topics	Remarks
3	**Oral Cancer Risk/ Contributing Factor** A risk factor is anything that affects your chance of getting a disease, such as cancer. Different cancers have different risk factors. Compared to others, oral cancer usually related to lifestyle. a. Smoking or chewing tobacco- cigarettes, cigar and pipes Tobacco use accounts for most oral cancers. Smoking cigarettes, cigars, pipes, chewing tobacco, dipping snuff are all linked to oral cancer. Heavy smokers who use tobacco for a long time are most at risk. The risk is even higher for tobacco users who drink alcohol heavily. In fact, three out of four oral cancers occur in people who use alcohol, tobacco or alcohol and tobacco. b. Betel quid/paan chewing Quid chewing habit appears to be a dying habit among younger generation and urbanites. However, it is still widely practiced by some sections of the populations including Indians and indigenous people in Sabah and Sarawak. The main ingredients used are areca nut, betel leaf and lime. c. High alcohol consumption (synergistic with tobacco) People who drink alcohol are more likely to develop oral cancer than people who don't drink. The risk increases with the amount of alcohol that a person consumes. The risk increases even more if the person both drinks and smokes. d. Human papillomavirus (HPV) infection. e. A personal history of head and neck cancer People who have had head and neck cancer are at increased risk of developing another primary head and neck cancer. Smoking increases this risk. Other possible risk factors include: a. Exposure to secondary smoker b. Family history of cancer Source: 1. Zain, R. B., &Ghazali, N. (2001). A review of epidemiological studies of oral cancer and precancer in Malaysia. Annals of Dentistry University of Malaya,8, 50-56. 2. Cancer Research Malaysia, info fact sheet	

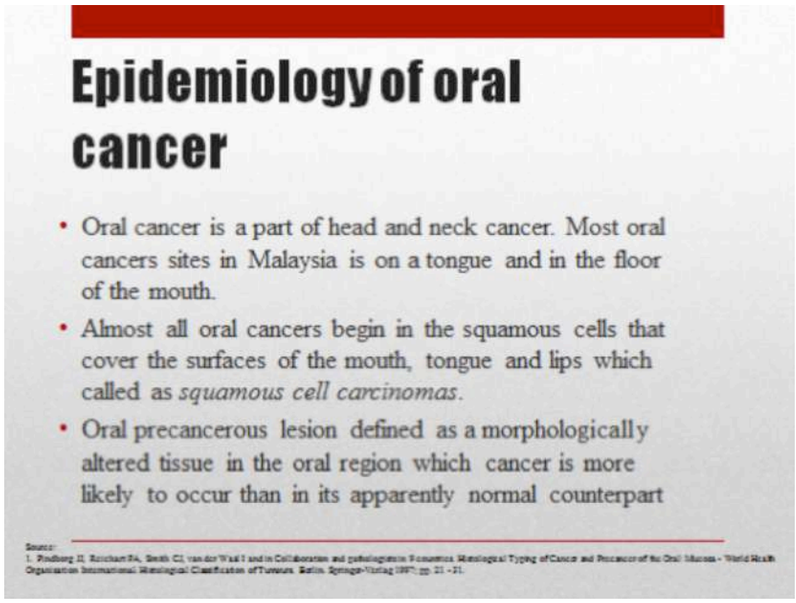
No.	Topics	Remarks
4	**Challenges to early detection** Oral cancer is often preceded by "oral potentially malignant disorders (OPMD)" which can be observed visually. However, according to National Cancer Registry 2007, 71.8% of patient with Oral Squamous Carcinoma Cell (OSCC) were diagnosed at late stage. This is because they were lack of awareness and urgency, difficult to access the treatment center and patients were loss to follow up. Challenges faced by Community Healthcare providers:- a. Not clear who are high risk individuals b. Do not regularly examine the mouth and not trained to evaluate lesions c. No system to keep track of patients and access to specialist Challenges faced by Dental Healthcare providers:- a. Lack motivation to refer as there is no quick feedback or referral b. Lack access to specialist Challenges faced by Oncology specialists a. No access to patients unless referred and patients' turn-up b. No effective system to follow up patients and patients are often loss to follow up	
5	**Treatment** Oral cancer treatment may include:- a) Surgery Surgery is to remove the tumour in the mouth or throat and is a common treatment for oral cancer. Sometimes, the surgeon also removes lymph nodes in the neck or tissues in the mouth and neck. b) Radiation therapy Radiotherapy is a local therapy. It affects cells only in the treated area. Radiation therapy is used alone for small tumours or for patients who cannot have surgery. It may be used before surgery to kill cancer cells and shrink the tumour. It also may be used after surgery to destroy cancer cells that may remain in the area. Radiation therapy uses high-energy rays to kill cancer cells. There are 2 types of radiation therapy:- i. External radiation: the radiation comes from a machine. Patients go to the hospital or clinic once or twice a day, generally 5 days a week for several weeks	

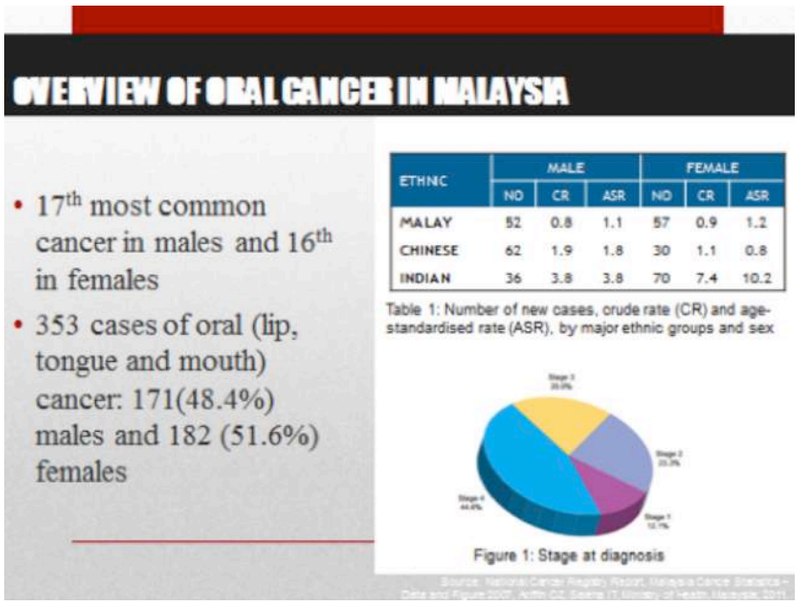
No.	Topics	Remarks
	ii. Internal radiation (implant radiation): the radiation comes from radioactive material placed in seeds, needles or thin plastic tubes to put directly in the tissue. The patient stays in the hospital. The implants remain in place for several days and removed before patient goes home. c) Chemotherapy Chemotherapy uses anticancer drugs to kill cancer cells. It is called systemic therapy because it enters the blood stream and can affect cancer cells throughout the body. It is usually given by injection. e) Combination of above f) Palliative	
6	**Referral pathway** **Screening** 	

No.	Topics	Remarks
	Diagnosis 	
7	**Patient Navigation** • Recognize any support group that can help patient to make a decision on treatment • Give information to patient about cost for testing and treatment or non-medical cost • Refer the patients to the Medical Social Services Department in the hospital, government agency or NGO for support.	

7.6.5 Power Point Presentation for Oral Cancer Module







ETHNIC	MALE			FEMALE		
	NO	CR	ASR	NO	CR	ASR
MALAY	52	0.8	1.1	57	0.9	1.2
CHINESE	62	1.9	1.8	30	1.1	0.8
INDIAN	36	3.8	3.8	70	7.4	10.2

Table 1: Number of new cases, crude rate (CR) and age-standardised rate (ASR), by major ethnic groups and sex

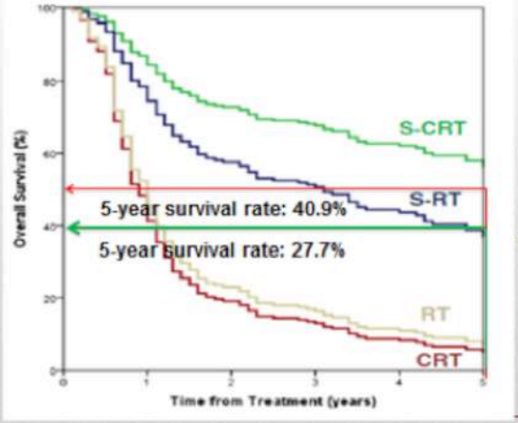
Oral Cancer in Malaysia

- Recognized in 1960's
- Prevalence 0.04%
- Higher frequency found among the Indians and indigenous group of Sabah and Sarawak
- Associated with identifiable risk habits
- Late presentation(stage 3 & 4)

(Hirayama T,1966,Zain RM et al.1993,Hooi In et al 1998, Penang Cancer Registry, Kelantan Cancer registry)

Oral Cancer Presentation

References	Stage 3 & 4	Stage 1
Hooi and Devan 1998	>80%	-
Penang Cancer Registry 1994-1998	55.0 %	15.0%
Penang Cancer Registry 1999-2003	56.9 %	26.0%
Kelantan Cancer Registry 1999-2003	73.0 %	13.0%
OCRCC 2007 (Unpublished)	62.3%	6.1%
OHD,MOH 2003-2009 (screening Programme)	64%	20.5%



5 year survival rate for Penisular was only 40.9% while for Sabah and Sarawak was 27.7% (OCRCC data)

Zhang et al., 2013 J Otolaryngology – Head and neck surgery
Ghani et al. 2013, Manuscript Submitted

Issues and Challenges

- Low uptake of the screening programme
- Compliance to referral is only 53.3% however there was an increasing trend shown over the years
  - 59.9% cases seen by surgeon are premalignant and malignant lesion
  - 23.6% detected at stage I
  - 60% detected at stage 3 and 4
- Late Diagnosis and treatment
  - Patient - failed to come for screening/diagnosis/logistics
  - Services – late referral, long appointment for investigation/treatment, location
- Effectiveness of Health Education and Promotion activities related to oral cancer and risk habits

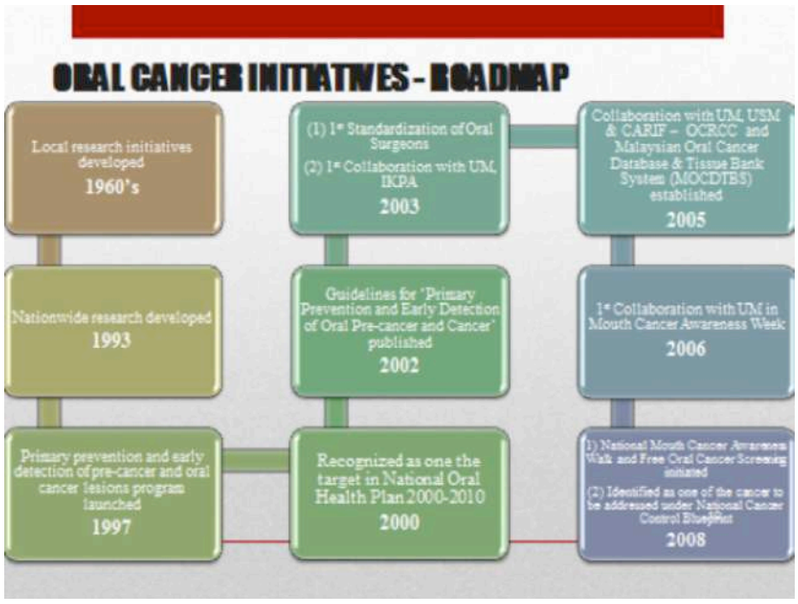
Challenges

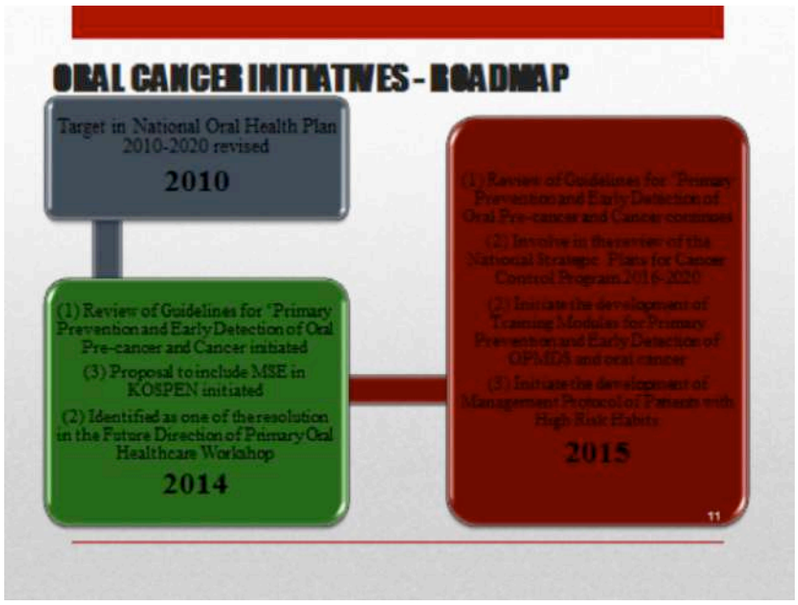
- Prevalence in Malaysia is 0.04%, about 60% among Indian ethnic groups(Zain et 1993/1994)
- 45% and 32% five-year survival rate reported after treatment respectively [Agar NJM, Patel RS (2014) Early Detection, Causes and Screening of Oral Cancer. JSM Dent 2(3): 1039
- The survival rate of oral cancer is lower than that of cervical cancer, skin melanoma and breast cancer
- About 10% of oral cancer cases in Malaysia had no known risk factors (OCRCC Data)
- **Substantial awareness** of public on oral cancer **BUT insufficient knowledge** to detect oral cancer early
  - Awareness= 70% (NOHSA 2010) – majority through mass media
  - Ability to identify sign & symptoms = 35.8% (Saleh, A. et al. 2012)

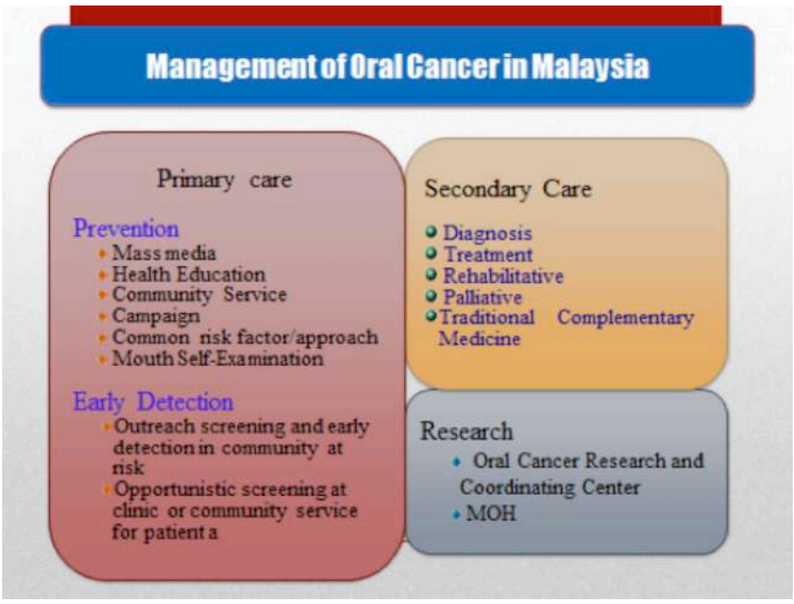
Challenges

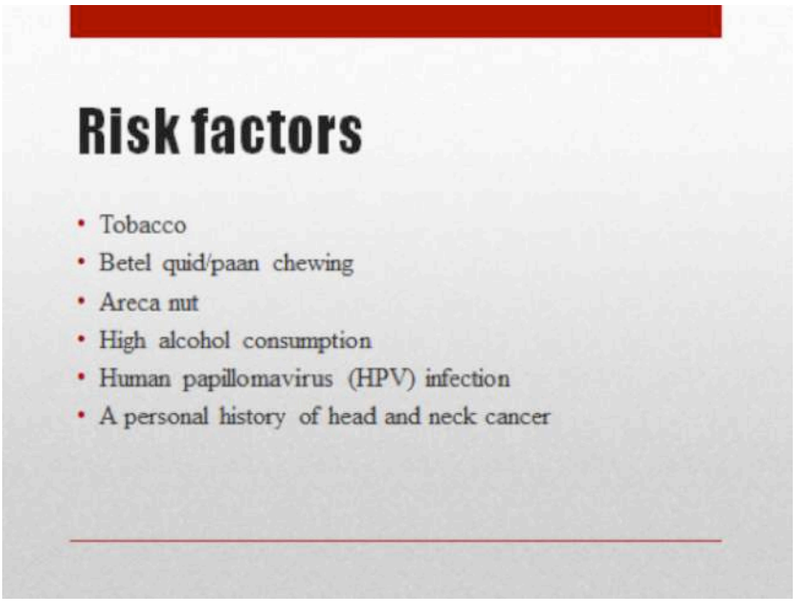
- Prevalence in Malaysia is 0.04%, about 60% among Indian ethnic groups(Zain et 1993/1994)
- 45% and 32% five-year survival rate reported after treatment respectively [Agar NJM, Patel RS (2014) Early Detection, Causes and Screening of Oral Cancer. JSM Dent 2(3): 1039
- The survival rate of oral cancer is lower than that of cervical cancer, skin melanoma and breast cancer
- About 10% of oral cancer cases in Malaysia had no known risk factors (OCRCC Data)
- **Substantial awareness** of public on oral cancer **BUT insufficient knowledge** to detect oral cancer early
  - Awareness= 70% (NOHSA 2010) – majority through mass media
  - Ability to identify sign & symptoms = 35.8% (Saleh, A. et al. 2012)

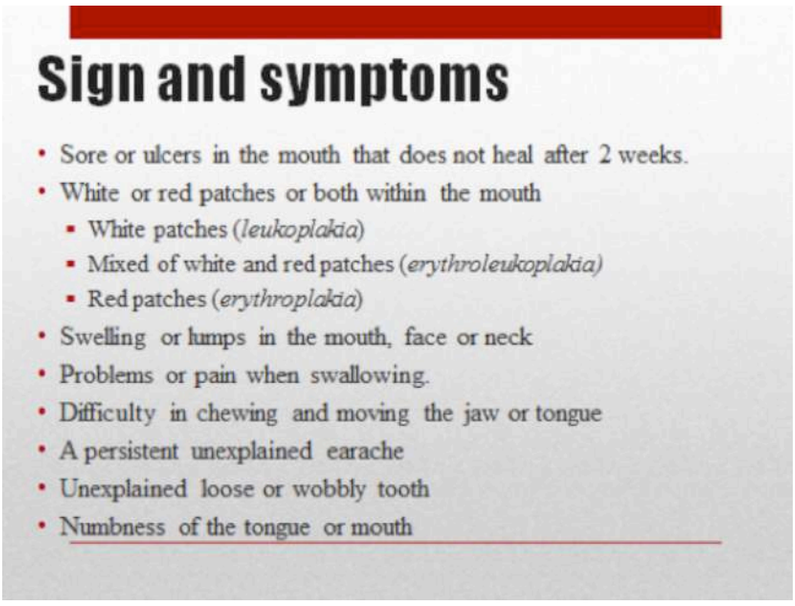
Current Health system for oral cancer management in Malaysia

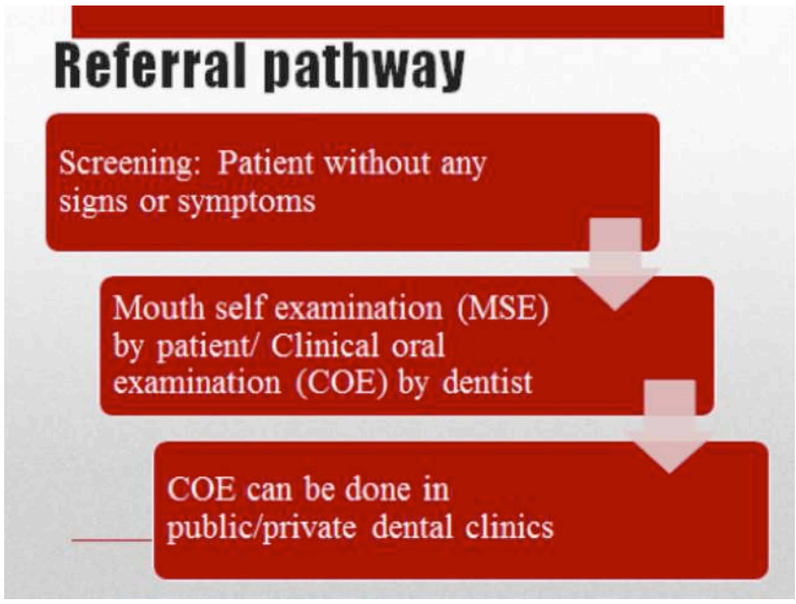


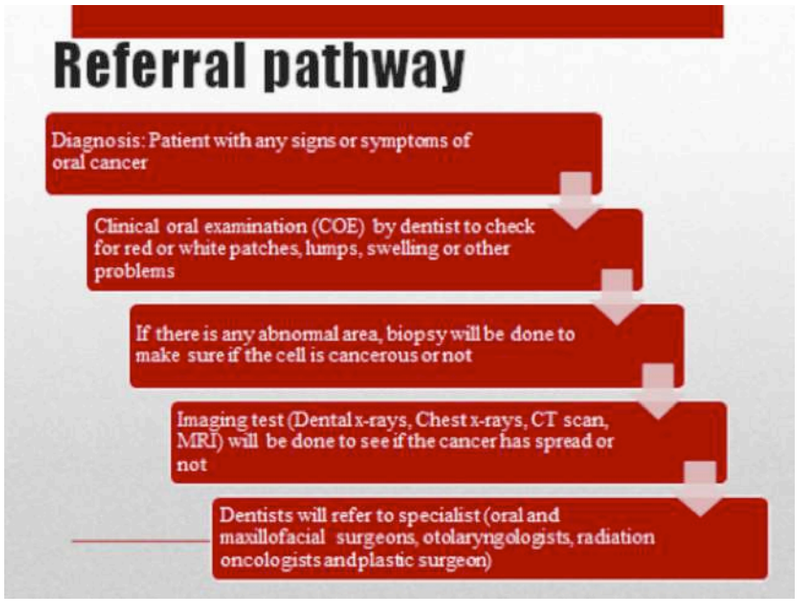



Management of Oral Cancer in Malaysia
Primary care
Prevention
Mass media
Health Education
Community Service
Campaign
Common risk factor/approach
Mouth Self-Examination
Early Detection
Outreach screening and early detection in community at risk
Opportunistic screening at clinic or community service for patient a
Secondary Care
Diagnosis
Treatment
Rehabilitative
Palliative
Traditional Complementary Medicine
Research
Oral Cancer Research and Coordinating Center
MOH

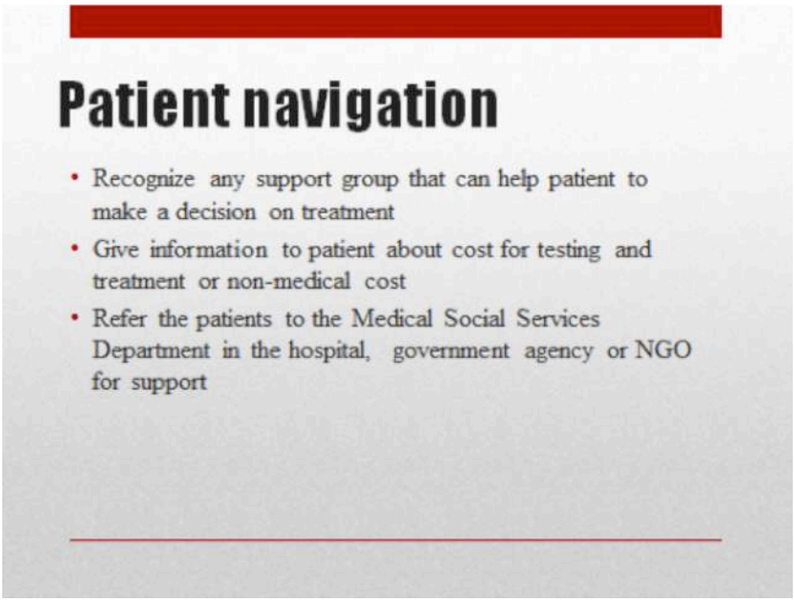

Risk factors
Tobacco
Betel quid/paan chewing
Areca nut
High alcohol consumption
Human papillomavirus (HPV) infection
A personal history of head and neck cancer


Sign and symptoms
Sore or ulcers in the mouth that does not heal after 2 weeks.
White or red patches or both within the mouth
White patches (leukoplakia)
Mixed of white and red patches (erythroleukoplakia)
Red patches (erythroplakia)
Swelling or lumps in the mouth, face or neck
Problems or pain when swallowing.
Difficulty in chewing and moving the jaw or tongue
A persistent unexplained earache
Unexplained loose or wobbly tooth
Numbness of the tongue or mouth


Referral pathway
Screening: Patient without any signs or symptoms
Mouth self examination (MSE) by patient/ Clinical oral examination (COE) by dentist
COE can be done in public/private dental clinics


Referral pathway
Diagnosis: Patient with any signs or symptoms of oral cancer
Clinical oral examination (COE) by dentist to check for red or white patches, lumps, swelling or other problems
If there is any abnormal area, biopsy will be done to make sure if the cell is cancerous or not
Imaging test (Dental x-rays, Chest x-rays, CT scan, MRI) will be done to see if the cancer has spread or not
Dentists will refer to specialist (oral and maxillofacial surgeons, otolaryngologists, radiation oncologists and plastic surgeon)


Treatment
Oral cancer treatment may include
Surgery
Radiation therapy
Chemotherapy


Patient navigation
• Recognize any support group that can help patient to make a decision on treatment
• Give information to patient about cost for testing and treatment or non-medical cost
• Refer the patients to the Medical Social Services Department in the hospital, government agency or NGO for support

THANK YOU

ACKNOWLEDGEMENT

The Disease Control Division would like to express appreciation to the agencies listed below for the contribution in preparing this module.

1. Family Health Development Division, Ministry of Health Malaysia
2. Oral Health Division, Ministry of Health Malaysia
3. NCD Unit, Selangor State Health Department
4. National Population and Family Development Board (LPPKN), Ministry of Women, Family and Community Development
5. National Cancer Society Malaysia
6. National Cancer Council (MAKNA)
7. Cancer Research Malaysia
8. Breast Cancer Welfare Association
9. Malaysian Health Promotion Board (MySihat)