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BRINGING EDUCATION AND UNDERSTANDING TO YOU



LYMPHOMA

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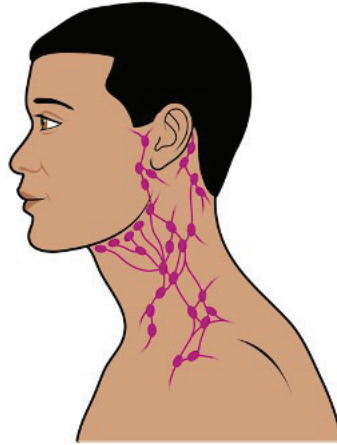
How do I protect myself from lymphoma?

08

How do I protect myself from cancer in general?

I What is lymphoma?

- **Lymphoma** is a type of cancer that occurs when cells in the lymphatic system grow out of control and start changing in an abnormal way.¹



- The lymphatic system functions to protect your body from infections.²
- There are two types of lymphoma:

Hodgkin's lymphoma

Non-Hodgkin's lymphoma

- A doctor can only know the type of lymphoma you have by collecting a sample from you later on.



References:

1. National Cancer Institute. Lymphoma [Internet]. [cited on 2022 Nov 17]. Available from: <https://www.cancer.gov/types/lymphoma>
2. Cleveland Clinic. Lymphatic system [Internet]. 2020 [cited on 2022 Nov 17]. Available from: <https://my.clevelandclinic.org/health/articles/21199-lymphatic-system>

I How common is lymphoma?

Lymphoma is the number

4

most common cancer among Malaysians.³

About

3 out of 5

lymphoma cases in Malaysia are diagnosed late in stage 3 and stage 4 between 2012 and 2016, making it difficult for effective treatment.³



- The two types of lymphoma affect people of different age groups:

Hodgkin's lymphoma (HL)

Affects young and old people, mostly those in their teens and early 20's, as well as those who are over 55 years old.⁴

Non-Hodgkin's lymphoma (NHL)

Can affect people of any age, but mostly in those who are over 65 years old.⁵

References:

3. Azizah A, Hashimah B, Nirmal K, Siti Zubaidah A, Puteri N, Nabihah A et al. Malaysia National Cancer Registry Report (MNCR) 2012-2016. Putrajaya, Malaysia: Ministry of Health Malaysia; 2019.

4. American Cancer Society. Key statistics for Hodgkin Lymphoma [Internet]. 2022 [cited on 2022 Nov 17]. Available from: <https://www.cancer.org/cancer/hodgkin-lymphoma/about/key-statistics.html>

5. American Cancer Society. Key statistics for Non-Hodgkin Lymphoma [Internet]. 2022 [cited on 2022 Nov 17]. Available from: <https://www.cancer.org/cancer/non-hodgkin-lymphoma/about/key-statistics.html>

I Who is at risk of lymphoma?

- **Hodgkin's** lymphoma: adults in their 20's and over 55 years old.

- **Non-Hodgkin's** lymphoma: adults over 60 years old.



References:

6. American Cancer Society. Non-Hodgkin Lymphoma Risk Factors [Internet]. 2022 [cited on 2022 Nov 17].

Available from: <https://www.cancer.org/cancer/non-hodgkin-lymphoma/causes-risks-prevention/risk-factors.html>

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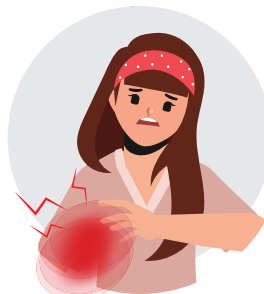
I What are the signs and symptoms of lymphoma?

- Right now, **no screening tests are available for lymphoma**. Therefore, it is very important to recognise the signs and symptoms.

Signs and symptoms of lymphoma⁸



Lump under the skin in the neck



Lump under the skin in the armpit



Lump under the skin in the groin



Unexplained weight loss



Fever



Drenching night sweats

The difference between signs and symptoms:

Signs are what others see (e.g. swelling and bleeding),
symptoms are what you feel (e.g. headache and pain).⁹

TALK TO YOUR DOCTOR IF YOU NOTICE ANY OF THESE CHANGES

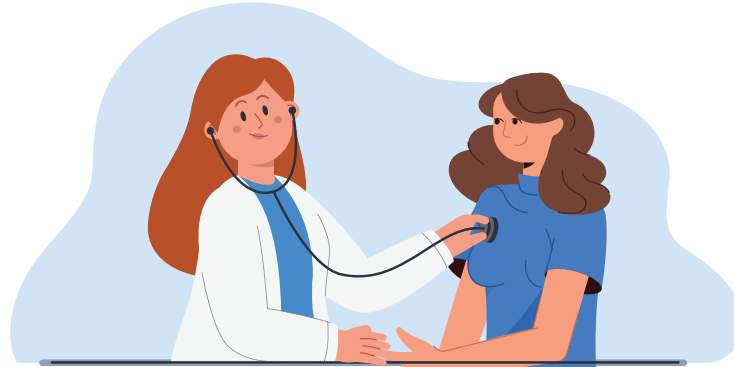
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8. American Cancer Society. Signs & Symptoms of Hodgkin Lymphoma [Internet]. 2018 [cited on 2022 Nov 17]. Available from: <https://www.cancer.org/cancer/hodgkin-lymphoma/detection-diagnosis-staging/signs-and-symptoms.html>

9. American Cancer Society. Signs and symptoms of cancer [Internet]. 2020 Nov 6 [cited on 2022 Dec 28]. Available from: <https://www.cancer.org/treatment/understanding-your-diagnosis/signs-and-symptoms-of-cancer.html>

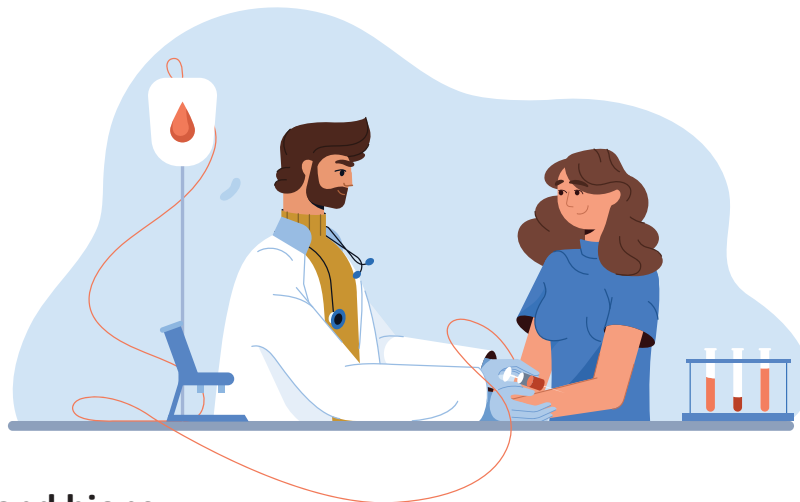
I How do I find out if I have lymphoma?

- First, visit a doctor, who will perform the following procedures¹⁰:



1. Doctor consultation

- The doctor will ask questions and perform routine examinations.



2. Blood test and biopsy

- The doctor will take your blood using a needle and a syringe to look for abnormalities in your blood cells.
- If the results are abnormal, the doctor will proceed with a biopsy.
- **Biopsy:** the doctor will insert a needle into your lump (lymph node) to check for abnormal cells.
- With this procedure, the doctor can confirm the diagnosis of lymphoma.

BASED ON THE RESULTS, YOUR DOCTOR WILL ADVISE ON THE NEXT STEPS

References:

10. American Cancer Society. Tests for Hodgkin Lymphoma [Internet]. 2018 [cited on 2022 Nov 17]. Available from: <https://www.cancer.org/cancer/hodgkin-lymphoma/detection-diagnosis-staging/how-diagnosed.html>

I How do I protect myself from lymphoma?

- There is no sure way to prevent lymphoma.
- However, certain actions can reduce your risk of lymphoma^{11,12}:



Don't smoke

Avoid active and passive smoking completely. Cigarettes contain benzene, known to cause lymphoma.



Avoid exposure to benzene

Minimise benzene exposure by staying away from vehicle exhaust, art supplies, and glue. Clean yourself and your clothes after any exposure.



Be careful when pumping gasoline

Avoid skin contact with gasoline. Avoid spending too much time near car engines that are left on and inhaling fumes from gasoline and vehicle exhaust.



Wear personal protective equipment (PPE) at work

If your work exposes you to benzene, make sure you wear your PPE.

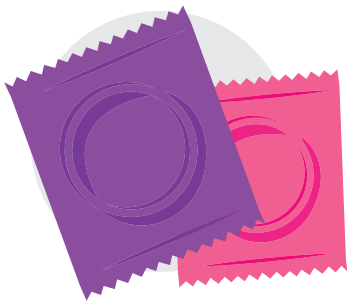
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11. American Cancer Society. Can Acute Myeloid Leukaemia (AML) Be Prevented? [Internet] 2022 Jan [cited on 2022 Nov 17]. Available from: <https://www.cancer.org/cancer/acute-myeloid-leukemia/causes-risks-prevention/prevention.html>

12. American Cancer Society. Benzene and cancer risk. [Internet] 2022 Jan [cited on 2022 Nov 17]. Available from: <https://www.cancer.org/healthy/cancer-causes/chemicals/benzene.html>

I How do I protect myself from lymphoma? (continued)

- One risk factor of lymphoma is infection with **human immunodeficiency virus (HIV)**.
- **HIV** is a virus that attacks and destroys the body's immune system. It can lead to **acquired immunodeficiency syndrome (AIDS)** if left untreated.¹³
- Here are some ways to prevent being infected with **HIV**.¹⁴



Use condoms during sexual intercourse



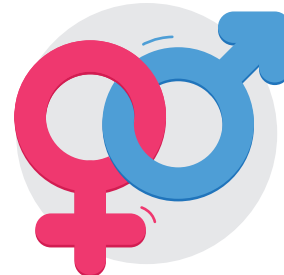
Use clean, sterile needles for drug injections



Taking pre (PrEP) and post-exposure prophylaxis (PEP) pills

PrEP - if you're at high risk, take the pills every day

PEP - if you have just been exposed, take the pills within 72 hours after exposure¹⁴



Avoid having multiple sex partners

References:

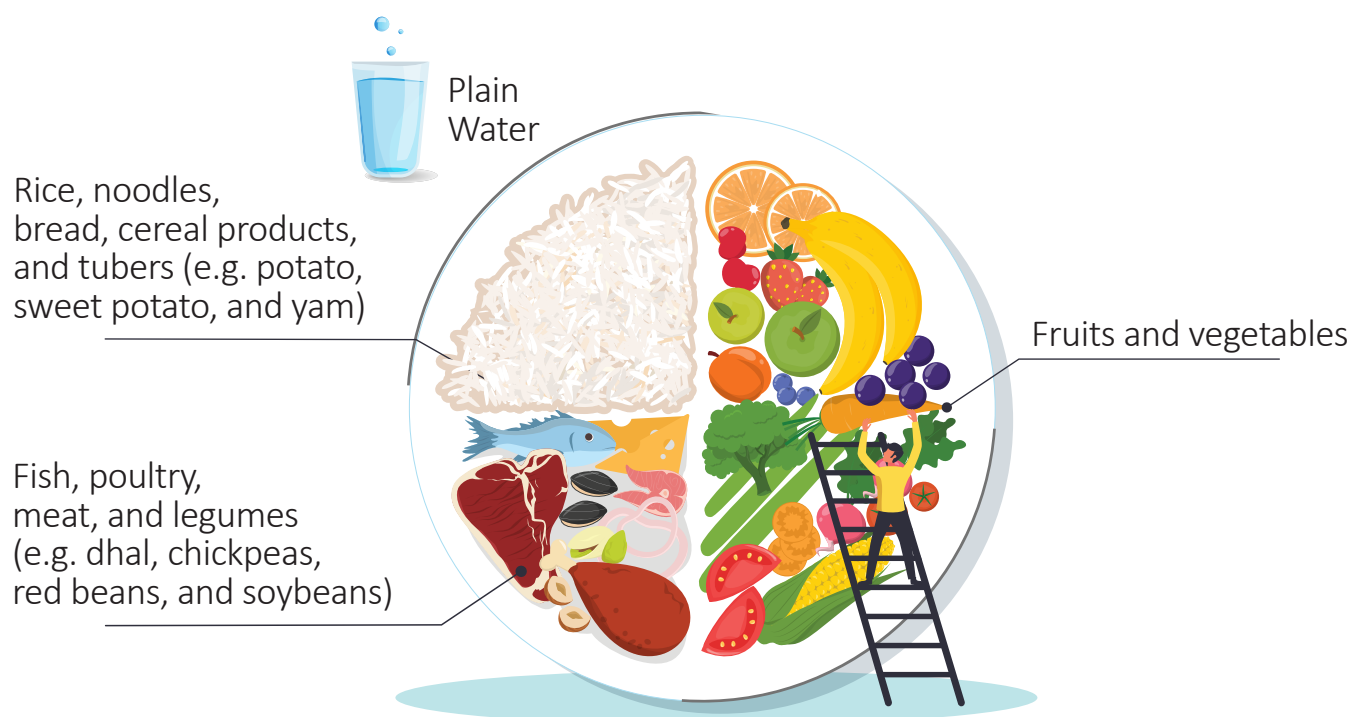
13. Centers for Disease Control and Prevention. About HIV [Internet]. 2022 [cited on 2022 Nov 17]. Available from: <https://www.cdc.gov/hiv/basics/whatishiv.html>

14. American Cancer Society. What are HIV and AIDS? [Internet]. 2022 [cited on 2022 Nov 17]. Available from: <https://www.cancer.org/healthy/cancer-causes/infectious-agents/hiv-infection-aids/what-are-hiv-and-aids.html>

I How do I protect myself from cancer in general?

Eat Healthy

The diagram below shows the Malaysian Healthy Plate with Quarter Quarter Half concept. Use this as a visual guide to healthy, balanced meals.¹⁵



Recommendation for the following food products:

	Red meat	Less than 500g/week = 3 palm sizes of meat in total ¹⁶		2 servings of fruits and 3 servings of vegetables daily¹⁶	E.g., eat 1 apple + 1 slice watermelon + 12 tablespoons of cooked leafy vegetables/day
	Processed meat	Avoid completely ¹⁶		Sugar sweetened drinks	Avoid completely ¹⁶
	More than 2 servings of wholegrain daily¹⁶	E.g., eat at least 2 slices brown bread + 0.5 cup cooked brown rice/day		Processed foods	Less than once a week or avoid completely ¹⁶

References:

15. Panduan Pinggan Sihat Malaysia. Putrajaya (MY). Ministry of Health Malaysia; 2016. 50 p. Report No.: 1.

16. World Cancer Research Fund/American Institute for Cancer Research. "Continuous Update Project Expert Report 2018. Recommendations and public health and policy implications." [Internet]. [cited on 2022 Nov 17]. Available from: dietandcancerreport.org

I How do I protect myself from cancer in general? (continued)

Be Active



150 Minutes

Moderate-intensity* aerobic activity per week¹⁷

Brisk walking, jogging, swimming, tennis (doubles), cycling, hiking, line dancing

or



75 Minutes

Vigorous-intensity** aerobic activity per week¹⁷

Running, swimming laps, tennis (singles), jumping rope, aerobic dance, kickboxing

and



At least 2 days

of muscle strengthening activities per week¹⁷

Use of exercise bands, weight machines, or hand-held weights; push-ups, pull-ups, planks, squats, lunges, some yoga postures and tai chi

How do you measure intensity?

Use the 'talk test'

*Moderate-intensity exercise	Moderate effort required. You breathe harder, you start to sweat, and you will talk more slowly than you do normally. ¹⁸
**Vigorous-intensity exercise	High effort required. You are puffing, sweating, and can only talk with pauses. ¹⁸

References:

17. World Health Organization. Physical Activity [Internet]. [cited on 2022 Nov 17]. Available from: <https://www.who.int/news-room/fact-sheets/detail/physical-activity>

18. Cancer Council Australia. "Exercise for people living with cancer" [Internet]. 2019. [cited on 2022 Nov 17]. Available from: <https://www.cancer.org.au/assets/pdf/exercise-for-people-living-with-cancer>

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