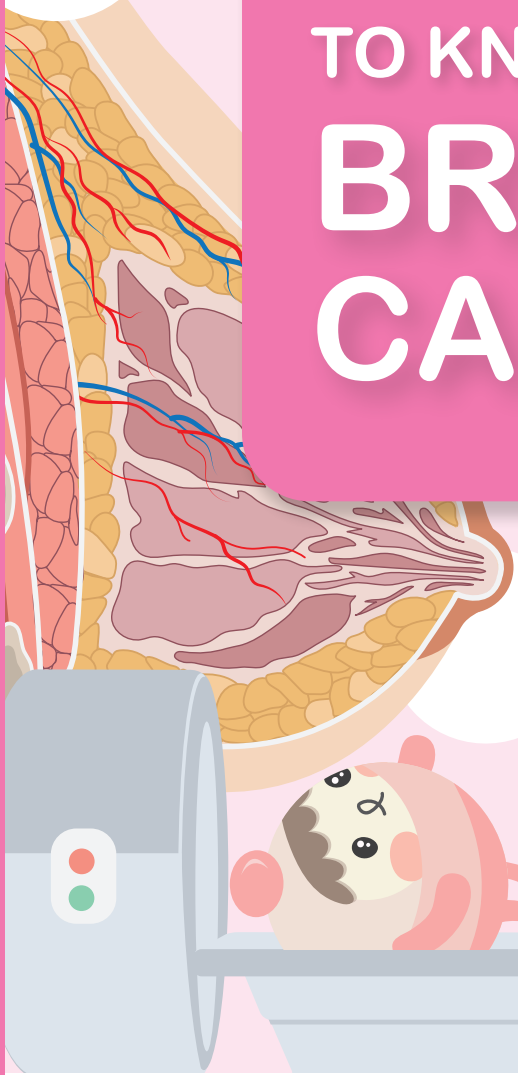
100 THINGS TO KNOW ABOUT BREAST CANCER



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Preface

"You have breast cancer" is a phrase that every hour, about thirty women in the world will hear and we know how the words can make the patients deaf momentarily. As unpleasant as society has perceived cancers, cancer treatment has been even more negatively portrayed as deteriorating procedures. This misunderstanding and fear could deprive potentially curable patients of the treatment, and absolutely, we are talking about a cure. Despite breast cancer being the most common cancer in women and its increasing prevalence, rapid advancement in novel drugs and treatment modalities has led to a major increment in treatment outcomes especially survival. The earlier the patients are diagnosed, the more chance of cure. The way we physicians see breast cancer is completely different from the past and we believe there is a need for a mutual understanding in our society. This is why this book was originated – to serve as a comprehensive guide of breast cancer to patients, their relatives, or anyone interested.

Writing a book is always a team effort and we are thankful for all who contributed. All chapters were written by field experts from the country's leading medical school - Faculty of Medicine, Chulalongkorn University and King Chulalongkorn Memorial Hospital, Thai Red Cross Society, Bangkok, Thailand.

Now It is time to turn the page. This book will calm your pace down instead of giving you a heart attack next time you hear 'breast cancer'. We hope that readers will see breast cancer in a more hopeful way as we see and enjoy the book as much as we do. Have a beautiful read!

Asst. Prof. Chonnipa Nantavithya, M.D.
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March 2021

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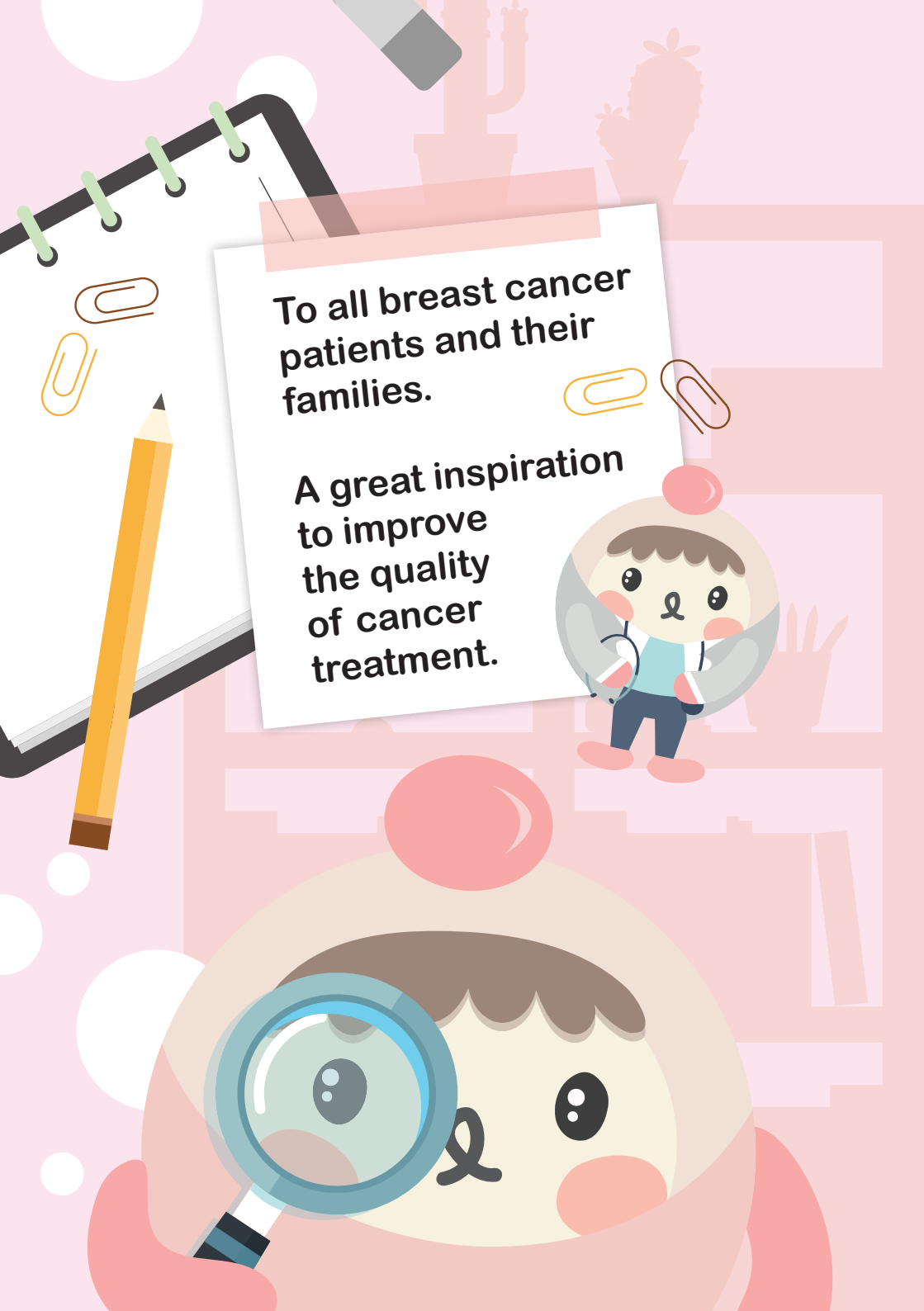
To all breast cancer patients and their families.

A great inspiration to improve the quality of cancer treatment.



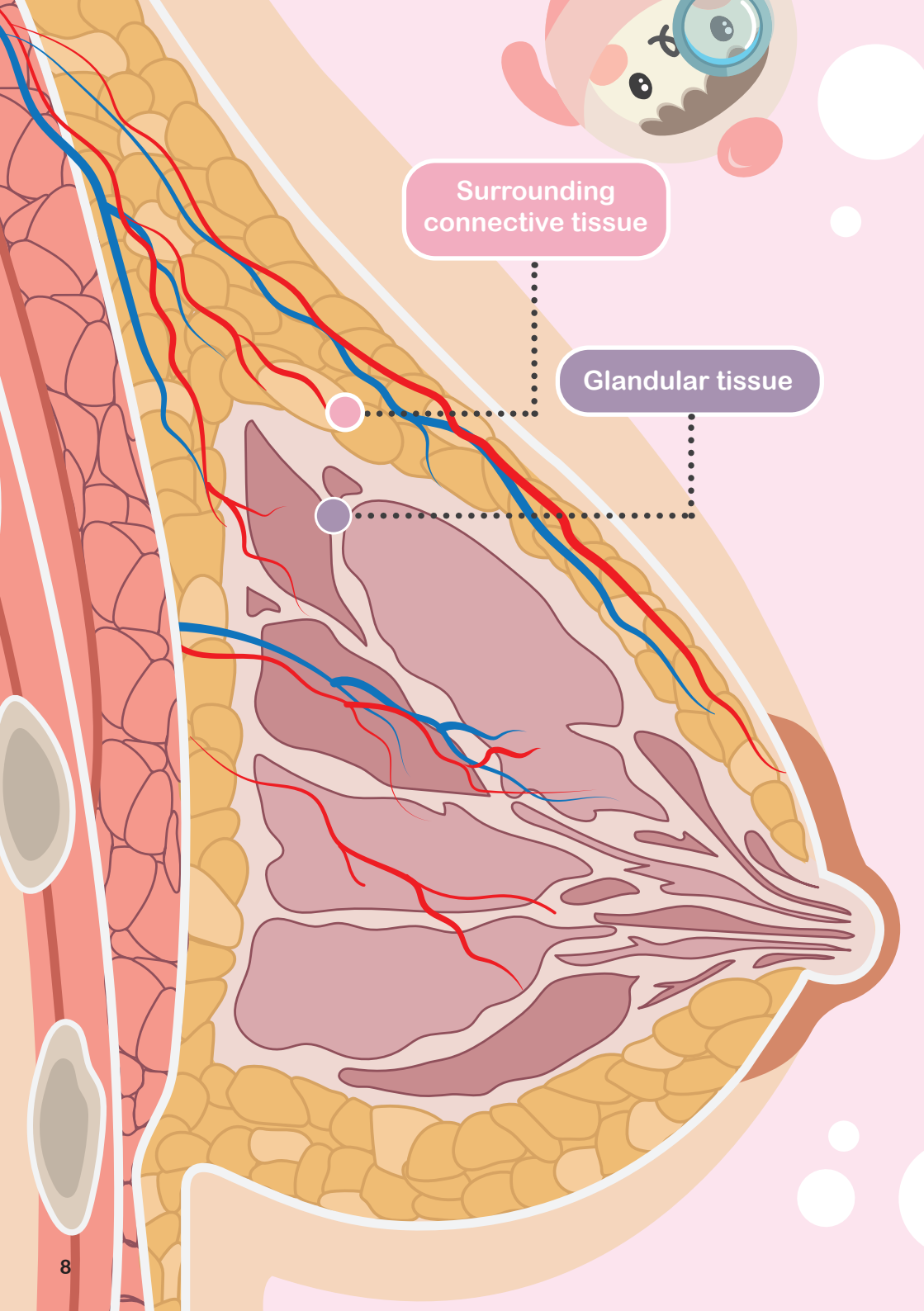
Breast function and development

1

The breasts are specialized organs. In women, they produce breast milk – an important source of nutrition for infants. The breasts also give women a feminine appearance.

The development of human breasts starts in an unborn baby at week 5th of pregnancy, when the baby is still called an Embryo.

During puberty, female breasts enlarge due to the influence of sex hormones. Breast ducts, lobules and surrounding connective tissue grow in size and number. This process continues until about the age of 20, but the breasts can grow further during pregnancy.

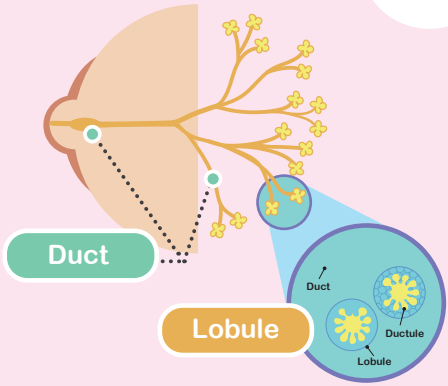

Surrounding connective tissue
Glandular tissue

Breast components

2

The breast tissue is made of two main components: glandular tissue and the surrounding connective tissue.

Glandular tissue responds to sex hormones which stimulate breast growth. Glandular tissue consists of 2 components – the ductal part and the lobular part. The female breast contains 15-20 sections, or lobes, which surround the nipple. Each lobe consists of multiple lobules. Lobules contain small glands that produce breast milk. Many lobules form into the terminal ductal lobular units (TDLUs). Each TDLU is connected to a duct. Many small ducts drain to larger ducts which finally carry milk to the nipple. The number of lobes and TDLUs vary between person.

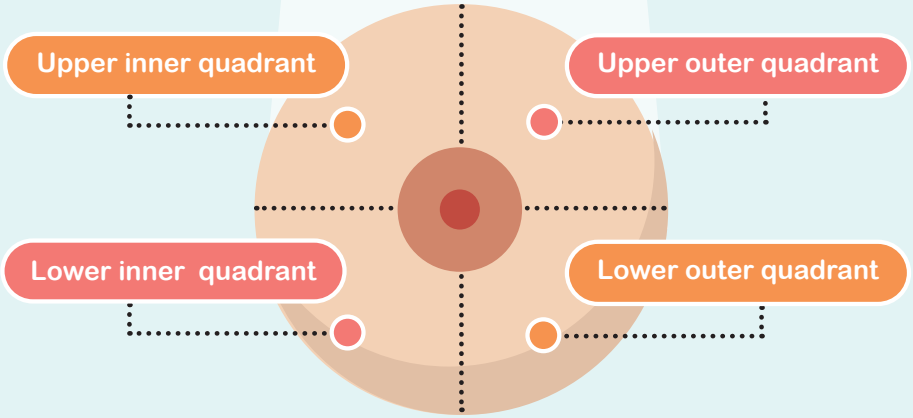


During the embryonic stage, the breast has only 3 layers of cells. The outermost layer, called the **ectoderm,** gives rise to the mammary ducts and lobules, and finally covers them. Portions of the ectoderm become ligaments called **Cooper's ligaments,** which run from the superficial to the deep layers of the breasts, helping to maintain breast shape.

3

Understanding the location

Breasts can be divided by virtual lines running vertically and horizontally, intersecting at the nipple. The lines form four regions called quadrants.



Breast tumors typically originate at the end units of the breast, called TDLUs. Other non-tumor abnormalities can occur anywhere in the breast. Most breast conditions are benign; however, there is a risk of developing breast cancer, and it increases with age.

Warning signs of breast abnormalities

4

The most common symptoms are...

Pain or tenderness

Palpable mass

Nipple discharge.

These symptoms are non-specific and not always caused by cancer. However, you are advised to seek medical attention if you experience these symptoms.

Breast pain

Pain is the most common condition that draws medical attention, but it is usually not caused by cancer. Breast pain can be cyclical (linked to the menstrual cycle) or non-cyclical. Cyclical breast pain is caused by the hormonal change during the menstrual period. Non-cyclical breast pain is often localized, and is caused by trauma or infection. However, pain may occur in up to 10% of breast cancer patients.

5 Palpable breast mass

An abnormal breast mass is lumpy, unlike the texture of normal breasts.

Cancer often presents as breast mass, but most breast lumps or masses are not cancerous. Many benign conditions can cause breast lumpiness, for example, cysts, fibroadenoma, and more.