

高雄榮民總醫院

乳癌診療原則

2025年06月13日 第一版

乳癌醫療團隊擬訂

注意事項：這個診療原則主要作為醫師和其他保健專家診療癌症病人參考之用。假如你是一個癌症病人，直接引用這個診療原則並不恰當，只有你的醫師才能決定給你最恰當的治療。

修訂指引

- 本共識依下列參考資料修改版本
 - NCCN Clinical Practical Guidelines in Oncology™
Breast Cancer (**Version 4. 2025**)

《停藥機制》

- Progression: image ,tumor marker
- SAE:: severe side effect

會議討論

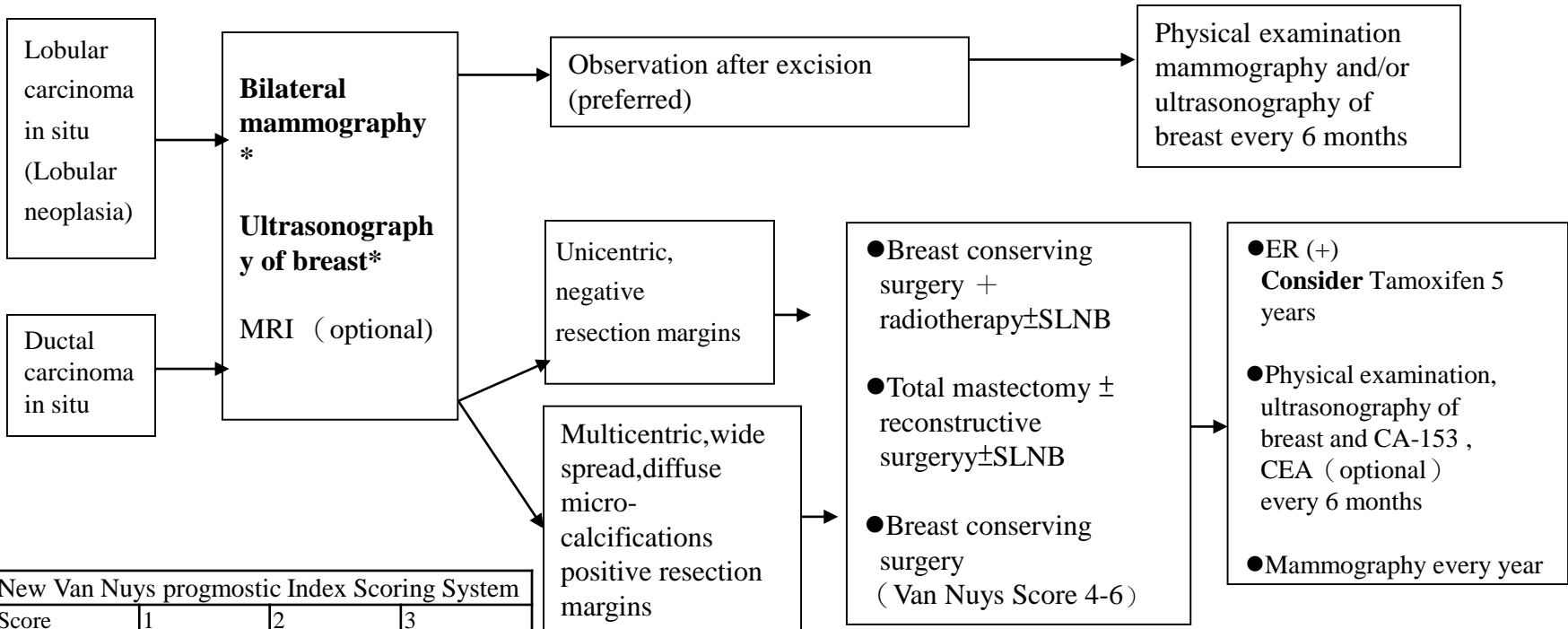
上次會議：2024/07/04

本共識與上一版的差異

上一版	新版
無。	<p>1.新增乳癌治療處方</p> <ul style="list-style-type: none">– Phesgo (loading) 〈 2025/7/3上線 〉– Phesgo (meitanance) 〈 2025/7/8上線 〉– Enhertu (NHI) 〈 2025/6/11上線 〉 <p>2.異動乳癌治療處方</p> <ul style="list-style-type: none">– Abemaciclib：新增premedication-loperamide 1cap BIDPRN– LC、Lipo-dox alone：新增premedication-CTM, cimetidine

Breast Cancer

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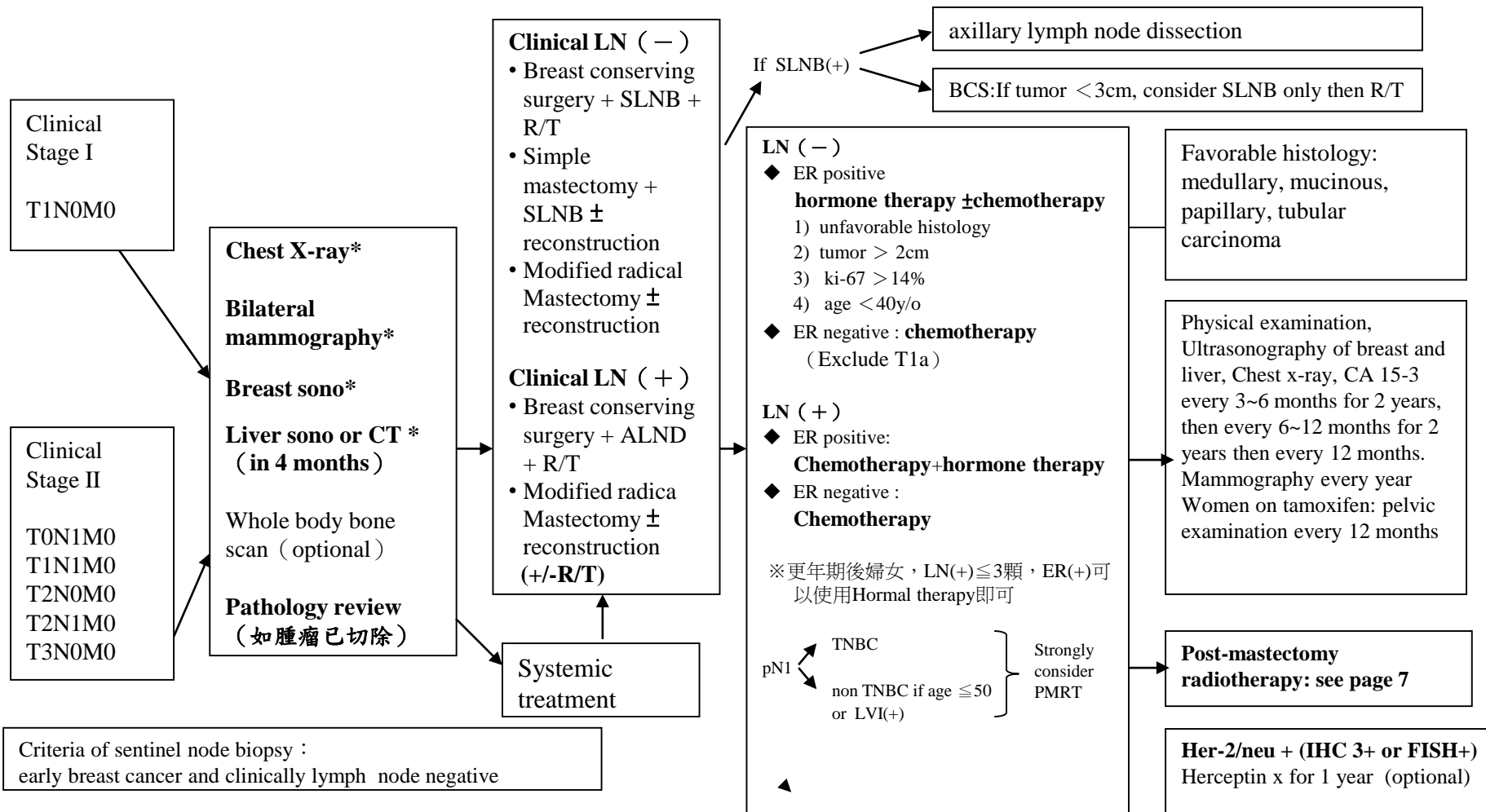
Score	1	2	3
Size	≤ m	16	≥
Margin width	≥ m	1	< m
Pathologic classification	Non-high-Grade w/o necrosis	Non-high-Grade with necrosis	High-grade With or w/o necrosis
Age	>60	40-60	<40

*與期別相關之主要檢查

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DIAGNOSIS	WORK-UP	PRIMARY TREATMENT	ADJUVANT TREATMENT	FOLLOW-UP
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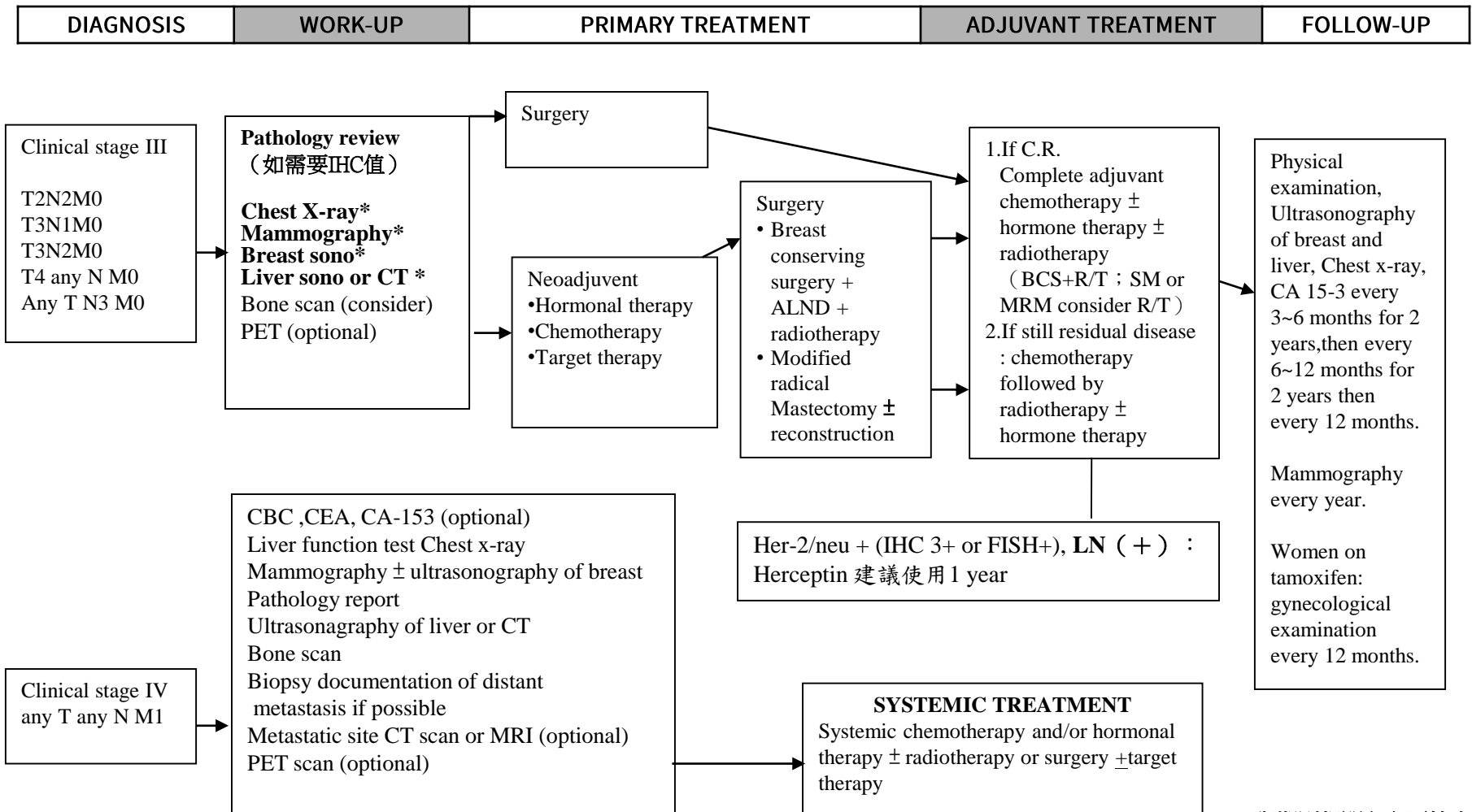


年齡 > 70歲或 ECOG功能狀態評分 ≥ 2分，可考慮不做化學、放射治療

*與期別相關之主要檢查

Breast Cancer

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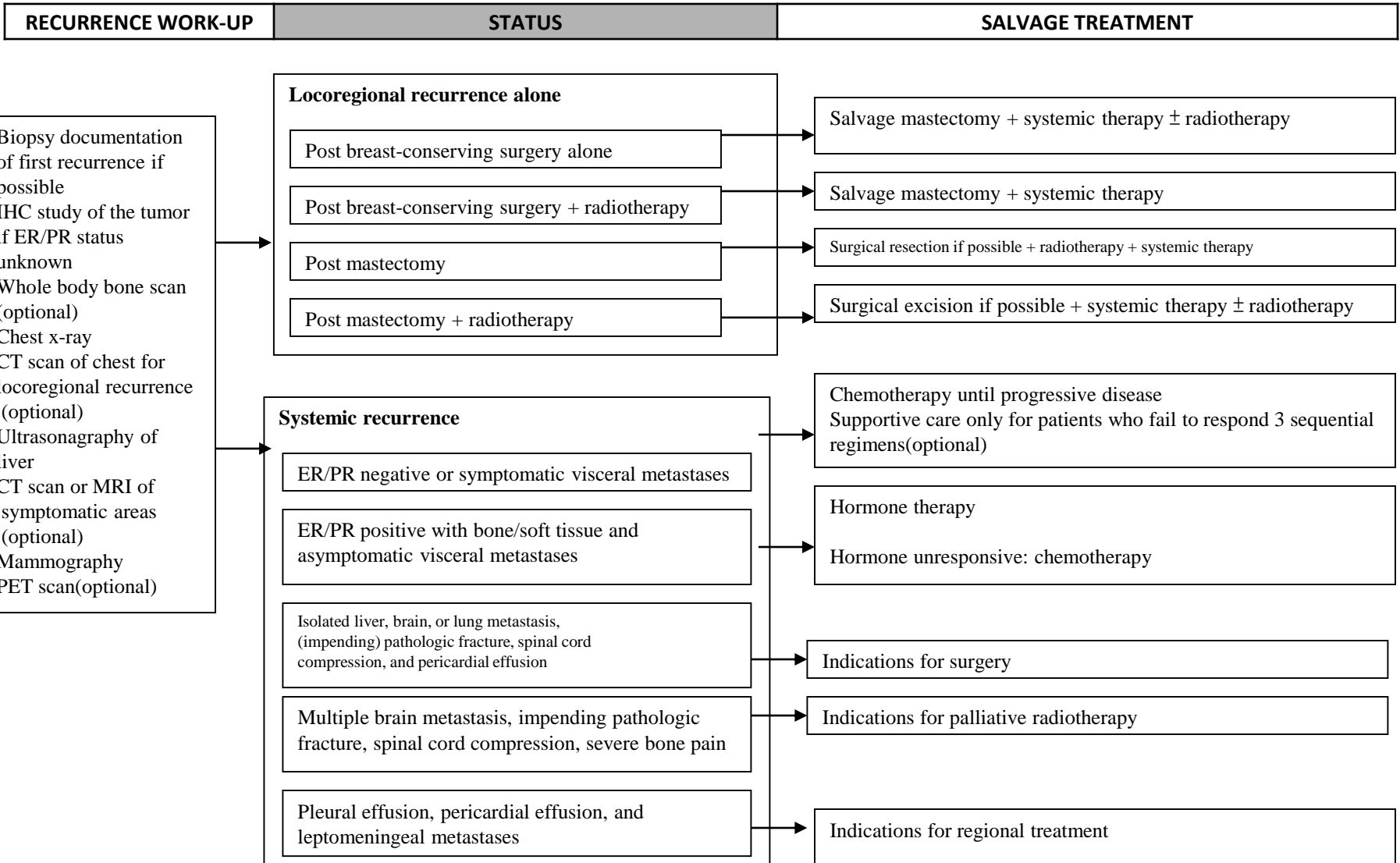


*與期別相關之主要檢查

年齡 > 70 歲或 ECOG 功能狀態評分 ≥ 2 分，可考慮不做化學、放射治療

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INDICATIONS FOR POST-MASTECTOMY RADIOOTHERAPY

1. skin involvement (skin nodule, ulceration, dorms lymphatic involvement)
2. Chest wall involvement
3. positive axillary lymph nodes ≥ 4 , lymph nodes positive 1-3 (Strongly consider*)
4. positive or close surgical margin
5. tumor ≥ 5 cm, lymph nodes negative (optional), lymph nodes positive recommendation
6. gross multicentric disease (tumor in more than one quadrant and serpent at least 4cm by clinical or pathology)
7. for breast conservative treatment (if DCIS Van Nuys Score ≥ 7)

*乳房切除術(modified radical mastectomy)後之放射治療：

1. T3N+, T4或腋下淋巴結被癌細胞侵犯超過四顆(含)以上者
2. 手術範圍邊緣仍被癌細胞侵犯者
3. 腋下淋巴結被癌細胞侵犯一至三顆者，應與醫師討論是否需輔助性放射治療。年齡小於50歲、血管淋巴侵犯或三陰性患者，強烈建議接受輔助性放射治療
4. 若手術前接受過化學治療者應以化學治療前的疾病狀態及術後病理來考慮是否需輔助性放射治療。若為病理顯示腫瘤完全消失(pCR)，可考慮不需術後放射治療。
5. T3N0, 手術界邊陽性或小於1mm，建議照射胸廓，是否加上局部淋巴區則依臨床判斷。
6. 如果病情需要施以術後放射治療與化學治療，通常以化學治療為先。

BASIC REQUIREMENTS OF RADIOOTHERAPY

- Radiation fields should include ipsilateral chest wall, internal mammary chain and supraclavicular fossa
- Excluding heart from radiation fields
- Central lung distance of the tangential fields < 3 cm
- No axillary irradiation if axillary clearance is adequate

Excision biopsy with no prior suspicion for malignancy

- Exact tumor size and type of tumor
- Tumor histological and/or nuclear grade
- Margin status (exact distance in mm)
- Status of lymphovascular permeation
- ER and PR study

Ductal carcinoma in situ with wide excision only

- Nuclear grade
- Status of tumor necrosis
- Tumor size
- Margin status (exact distance in mm)
- ER/PR study

Invasive carcinoma with wide excision and axillary lymph node dissection or modified radical mastectomy

- Exact tumor size and type of tumor
- Tumor histological grade
- Margin status (exact distance in mm)
- Status of multifocality and multicentricity
- Presence of DCIS and status of extensive intraductal component
- Status of peritumoral LVI
- Number of involved and total axillary lymph nodes with extranodal extension, total number of axillary nodes examined should not be less than 10.
- If any involvement of skin
- ER and PR study Her-2/neu
- Ki-67

部分乳房照射IORT

適應症：

- 乳管內原位癌
年齡40歲以上
中或低細胞核等級
腫瘤2公分以下
手術邊界陰性
- 早期侵犯性乳癌
年齡40歲以上
侵犯性乳管癌
腫瘤2公分以下
手術邊界陰性
無淋巴轉移
無血管淋巴侵犯
ER陽性
BRCA 1/2基因陰性
Grade 1-2

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住院放置人工血管術前一天
篩選具心臟毒性用藥／評估CRS分數

會診心臟內科醫師

後續追蹤

➤ Cardiotoxicity Risk Score(CRS)

Medication-related risk	Example
High (risk score 4)	Anthracyclines; trastuzumab; cyclophosphamide; 5-fluorouracil
Intermediate (risk score 2)	Pertuzumab; vinblastine; capecitabine; ponatinib
Low (risk score 1)	Bevacizumab; imatinib
Rare (risk score 0)	Carboplatin; fludarabine; paclitaxel; rituximab

心臟功能評估項目：

- Echo
- NT-proBNP
- High sensitivity Troponin-I

• Trastuzumab治療中，每3個月追蹤滿一年。

• Epirubicin療程結束後，每6個月追蹤，滿2年。

➤使用以下藥物，必須於首次治療前評估心臟功能：

- Trastuzumab
- Pertuzumab
- TDM-1
- Lapatinib

➤使用以下藥物，評估以下危險因子，大於5分者必須於首次治療前評估心臟功能：

- Epirubicin

Patient risk factors (1 point per item)

- Cardiomyopathy or heart failure
- Coronary artery disease or equivalent (including peripheral artery disease)
- Hypertension
- Diabetes mellitus
- Prior or concurrent anthracyclines
- Prior or concurrent chest radiation
- Age <15 years or >65years
- Female gender

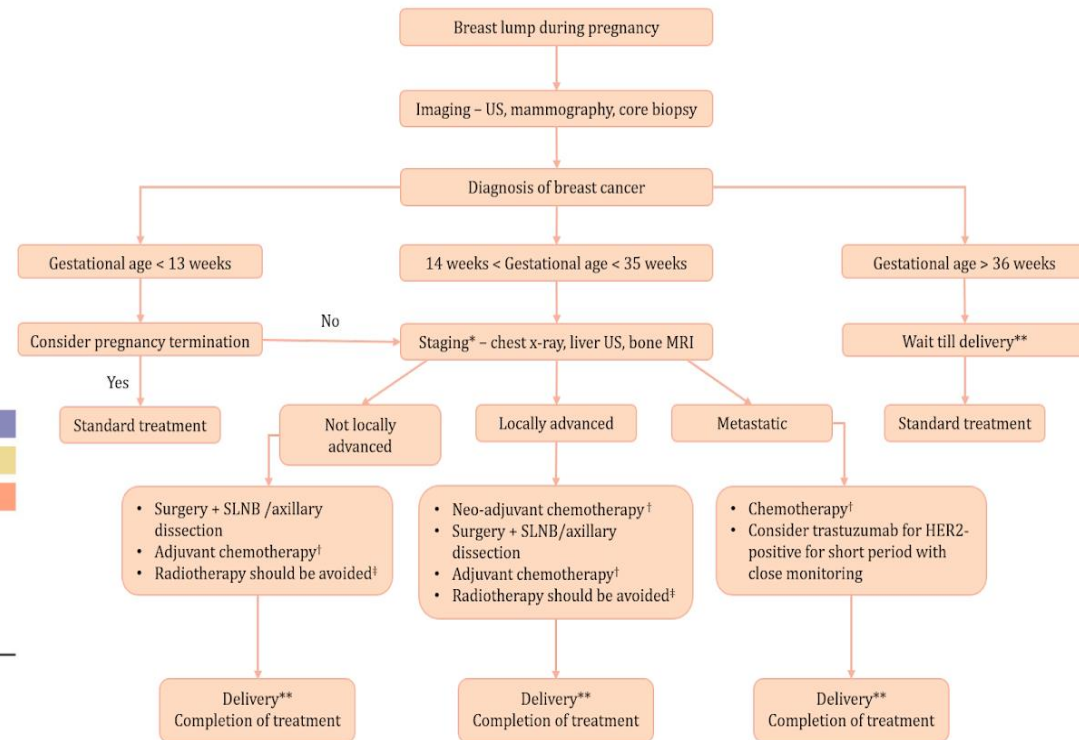
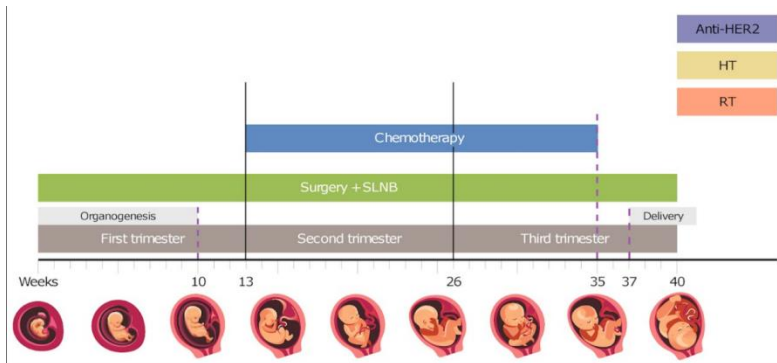
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- 針對骨鬆者：依台灣骨鬆照護規範，50歲以上婦女有骨鬆風險者（如接受化學治療或Aromatase Inhibiter荷爾蒙治療），應每一到兩年檢查骨質密度（DXA：dual energy X-ray absorptiometry），鈣攝取量每天1000 – 1500 mg（胃酸不足，便秘，腎結石病史者使用檸檬酸鈣），並搭配Vitamin D3 400 – 800 IU，對於DXA檢查T-score -2.5以下，建議每日服用Clodronate(Sinclot)400 – 800 mg，或每週服用Alendronate (Fosamax)70mg，或每半年皮下注射Danosumab 60mg(Prolia)，或每半年靜脈注射Zoledronic acid 5mg，或每半年靜脈注射Pamidronate 90mg

- 針對懷孕者：13週以前不考慮墮胎及超過13週而少於35週

1. 早期乳癌患者：進行手術，之後可視病理狀況執行輔助化學治療
2. 局部晚期乳癌患者：先行術前化學治療，再進行手術，之後執行輔助化學治療
3. 轉移性乳癌患者：進行化學治療，若HER2 陽性，可視狀況施打短期trastuzumab



* Indicated only when might alter clinical management

** Avoiding iatrogenic preterm delivery is recommended

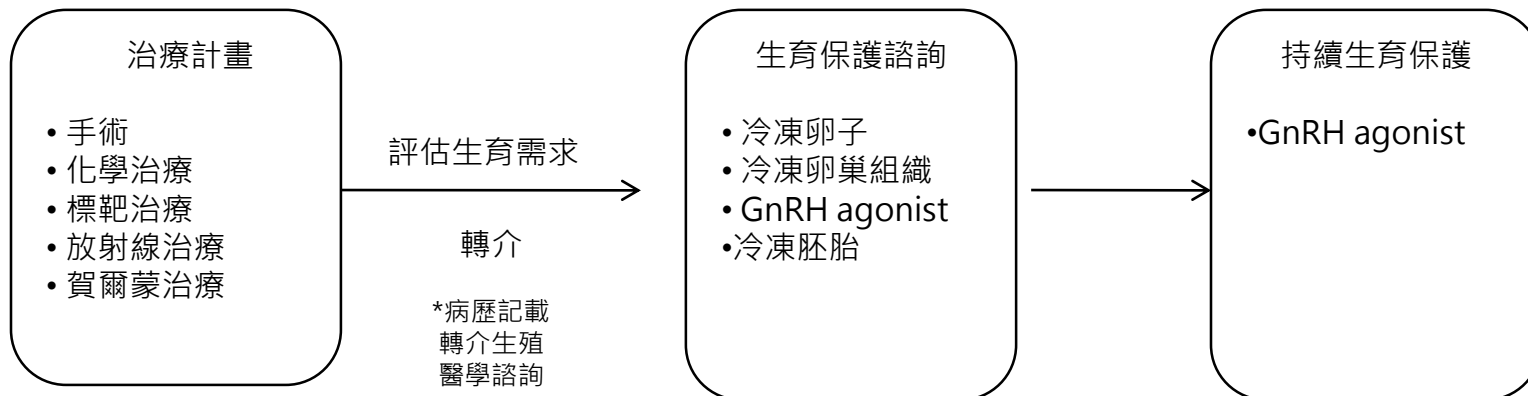
† Allowed only when gestational age is between 14 and 35 weeks

‡ Radiotherapy may be considered in highly selected patients before 20 weeks' gestation

➤ 生育保護標準作業

依NCCN guideline建議：針對停經前婦女，主治醫師應皆要提供其生殖醫學資訊供生育諮詢。

DIAGNOSIS	ONCOFERTILITY	TREATMENT
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最近改版		2025/06/13		
Neoadjuvant	處方內容	Chemotherapy formula	schedule	Reference (No) /strength of evidence
		EC or LC (Epirubicin 90mg/m ² or Lipo-Dox 35mg/m ² + cyclophosphamide 500mg/m ²)	<u>4-6</u> cycles	No 10 / Level I
		Taxol 80 mg/m ²	QWKLY	No 20, 21/Level I
		Docetaxel 75mg/m ²	Q3WKLY	No 5 / Level I
		Trastuzumab 2~8 mg/kg	QWKLY or Q3WKLY	No 8 / Level I
		Trastuzumab SC	Q3WKLY	No 15 / Level I
		Trastuzumab + Pertuzumab (maintenance)	Q3WKLY	No 14 / Level I
		Trastuzumab + Pertuzumab (loading)	Q3WKLY	No 14 / Level I
		Bevacizumab	(D1 & D15)	No 12, 39 / Level I
		Trastuzumab SC + Pertuzumab (maintenance)	Q3WKLY	No 48 / Level I
		Trastuzumab SC + Pertuzumab (loading)	Q3WKLY	No 48 /Level I
		Letrozole 2.5 mg	1tab (QD) x14 day	No 36 / Level I
		Cisplatin+Etoposide	Q3WKLY	No 58 / Level I
		TC (Docetaxel 75mg/m ² + Cyclophosphamide 500mg/m ²)	Q3WKLY	No 23 / Level I
		Paclitaxel+Carboplatin	Q3WKLY	No 62 / Level I
Adjuvant	處方內容	Carboplatin AUC x5mg+ Docetaxel 75mg/m ²	Q3WKLY	No 16 / Level I
		Carboplatin AUC 4~6+ 5-FU 1000mg/m ²	Q3WKLY	No 42 / Level I
		Cisplatin 50mg/m ²	Q3WKLY	No 17 / Level I
		Cisplatin 50mg/m ² + 5-FU 500mg/m ²	Q3WKLY	No 40 / Level I
		Gemcitabine 1250mg/m ²	Q3WKLY	No 18 / Level I
		Lipo-Dox 50mg/m ²	Q3WKLY	No 10, 43 / Level I
		Mitoxantrone 12mg/m ²	Q3WKLY	(刪2019/2/22)
		Taxol 80mg/m ² + Gemcitabine 800mg/m ²	QWKLY Q3WKLY	(刪2017/10/6)
		Taxol 80mg/m ² + Cisplatin 50mg/m ²	Q3WKLY	No 40 / Level I
		Taxol 80mg/m ²	QWKLY	No 20, 21/ Level I
		Taxol 175mg/m ²	Q3WKLY	No 21 / Level I
Docetaxel 60mg/m ² + Cisplatin 50mg/m ²	Q3WKLY	No 22 / Level I		

Adjuvant	處方內容	Docetaxel 75mg/m ² + Gemcitabine 1000mg/m ²	Q3WKLY	(刪2017/10/6)
		Docetaxel 75mg/m ²	Q3WKLY	No 1 / Level I
		TC (Docetaxel 75mg/m ² + Cyclophosphamide 500mg/m ²)	Q3WKLY	No 23 / Level I
		Vinorelbine 25~30mg/m	D1 or D8	No 24 / Level I
		Docetaxel 75mg/m ² x1 + Xeloda 2.5tab x14 day	Q3WKLY+14 day	No 25 / Level I
		Afinitor 5mg	2tab QD × 14 day	No 26, 27 / Level I
		Xeloda 500mg	2tab Bid × 14 day	No 28 / Level I
		Cyclophosphamide	2tab QD × 14 day	No 29 / Level I
		Methotrexate	2tab (BIW) x14 day	No 45 / Level I
		Ufur	3cap (Bid) x14 day	No 44 / Level I
		Vinorelbine 30mg + Vinorelbine 20mg	2 cap1 + 1cap (QW) x 14 day	No 24 / Level I
		Bleomycin 50mg	once	No 55 / Level I
		FEC (5-FU500mg/m ² , Epirubicin75mg/m, cyclophosphamide 500mg/m ²)	<u>2-6</u> cycles	No 6 / Level I
		FLC (5-FU 500mg/m ² , Lipo-Dox 35g/m ² , cyclophosphamide 500mg/m ²)	<u>2-6</u> cycles	No 43 / Level I
		FEC or FLC + Taxol (Q3W) (QW)	2-4 cycles (Q3W) or 2-12 cycles (QW)	(刪2020/3/20)
		FEC or FLC + Taxotere (taxotere 75mg/m ²)	2-4 cycles (Q3W)	(刪2020/3/20)
		CMF (Cyclophosphamide 2tab/m ² + Methotrexate g/m ² + Fluorouracil 500~600mg/m ²)	<u>6-12</u> cycles	No 2 / Level I
		EC or LC (Epirubicin 90mg/m ² or Lipo-Dox 35mg/m ² + cyclophosphamide 500mg/m ²)	<u>6</u> cycles	No 10 / Level I
		TEC (Docetaxel 75mg/m ² + Epirubicin 75mg/m ² + cyclophosphamide 500mg/m ²)	<u>6</u> cycles	No 1 / Level I
		Mitoxantrone 10mg/m ² + Leucovorine 170mg/m ² + 5-FU 600mg/m ² + Cisplatin 60 mg/m ²	Q3WKLY	No 54 / Level I
		IAIC for Epicin 60mg	once	No 47 / Level I
		Bevacizumab + Paclitaxel	(D1 & D8 & D15)	(刪2019/2/22)
		Lynparza (Oraparib) 150mg	2 tabs BID	No 52 / Level I
		Nerlynx (Neratinib) 40mg	6 tabs QD	No 51 / Level I
		Ixempra (Ixabepilone)	Q3WKLY	No 53 / Level I
		TALZENNA (Talazoparib) 0.25mg	4 caps QD	No 56 / Level I
TS-1	14 day	No 57 / Level I		
Cisplatin+Etoposide	Q3WKLY	No 58 / Level I ¹⁴		

Hormone therapy	最近改版	2025/06/13		
	處方內容	Faslodex 250mg	Q28D	No 30 / Level I
		Goserelin 3.6mg	Q28D	No 31,32 / Level I
		Leuprorelin 3.75mg	Q28D (刪2024/5/22)	
		Leuprorelin 3.75mg (1M)	Q28D	No 33 / Level I
		Leuprorelin 11.25mg (3M)	Q3M	No 33 / Level I
		Anastrozole 1mg	1tab (QD) x28 day	No 34 / Level I
		Exemestane 25mg	1tab (QD) x28 day	No 35 / Level I
		Letrozole 2.5 mg	1tab (QD) x28day	No 36 / Level I
		Tamoxifen 10mg	1tab (BID) x28 day	No 34, 36 / Level I
Toremifene	1tab (QD) x28 day	No 46 / Level I		
Target therapy	最近改版	2025/06/13		
	處方內容	Docetaxel 75mg/m ² + Herceptin 6~8 mg/kg	Q3WKLY (刪2018/9/7)	
		Perjeta 420~840mg + Herceptin 6~8 mg/kg + Docetaxel 75mg/m ²	Q3WKLY (刪2018/9/7)	
		Kadcyla 3.6 mg/kg	Q3WKLY	No 37 / Level I
		Tykerb 250mg + Xeloda 500mg	5 tab (QD) +2tab (Bid x14 day	No 38 / Level I
		Tykerb 250mg	5 tab (QD) x14 day	No 38 / Level I
		Trastuzumab 2~8 mg/kg	QWKLY or Q3WKLY	No 8, 9/ Level I
		Trastuzumab SC	Q3WKLY	No 9 / Level I
		Trastuzumab + Pertuzumab (maintenance)	Q3WKLY	No 14 / Level I
		Trastuzumab + Pertuzumab (loading)	Q3WKLY	No 14 / Level I
		Trastuzumab SC + Pertuzumab (maintenance)	Q3WKLY	No 48 / Level I
		Trastuzumab SC + Pertuzumab (loading)	Q3WKLY	No 48 /Level I
		Piqray (Alpelisib) 150mg	2 tab QD	No 64 / Level I
		Palbociclib	1tab (QD) x21 day	No 13 / Level I
		Ribociclib	3cap (QD) x21 day	No 50 / Level I
		Abemaciclib	1tab (BID) x28 day	No 59, 60, 61/ Level 1
Phesgo (loading)	Q3WKLY	No.68 / Level I		
Phesgo (maitenance)	Q3WKLY	No.68 / Level I		

Metastasis First line prescription	最新改版	2025/06/13		
	處方內容	Taxol 80 mg/m	QWKLY	No 21 / Level I
		Docetaxel 75mg/m ²	Q3WKLY	No 5 / Level I
		EC or LC (Epirubicin 90mg/m ² or Lipo-Dox 35mg/m ² + cyclophosphamide 500mg/m ²)	6 cycles	No 10 / Level I
		Bevacizumab + Paclitaxel	(D1 & D8& D15) (刪 2019/2/22)	
		Faslodex 250mg	Q28D	No 30 / Level I
		Goserelin 3.6mg	Q28D	No 31, 32 / Level I
		Leuprorelin 3.75mg	Q28D	No 33 / Level I
		Letrozole 2.5 mg	1tab (QD) x28 day	No 36 / Level I
		Tamoxifen 10mg	1tab (BID) x28 day	No 34, 36 / Level I
		Bevacizumab	(D1 & D15)	No 12, 39 / Level I
		Perjeta 420~840mg + Herceptin 6~8 mg/kg + Docetaxel 75mg/m ²	Q3WKLY (刪2018/9/7)	
		Kadcyla 3.6 mg/kg	Q3WKLY	No 37 / Level I
		Trastuzumab 2~8 mg/kg	QWKLY or Q3WKLY	No 9 / Level I
		Atezolizumab 840mg	Q2WKLY	No 49 / Level I
		Lynparza (Olaparib) 150mg	2 tabs BID	No 52 / Level I
		Ixempra(Ixabepilone)	Q3WKLY	No 53 / Level I
		TALZENNA (Talazoparib) 0.25mg	4 caps QD	No 56 / Level I
		Eribulin:1.4mg/ m ²	on days 1 and 8, 21-day cycle	No 11 / Level I
		Gemcitabine + Carboplatin	on days 1 and 8, 21-day cycle	No 65 / Level I
Enhertu (Trastuzumab deruxtecan)	Q3WKLY	No 66 / Level I		
Enhertu (NHI)	Q3WKLY	No 66 / Level I		
Trodelyv(Sacituzumab govitecan)	on days 1 and 8, 21-day cycle	No 67 / Level I		
Immuno-oncology therapy	最近改版	2025/06/13		
	處方內容	Atezolizumab+Abraxane	Q3WKLY	No 63 / Level I
		Pembrolizumab 200mg	Q3WKLY	No 62 / Level I

Reference for Neoadjuvant / Adjuvant Chemotherapy Regimens

1. Martin, Pienkowski T, Mackey J, et al: Adjuvant Docetaxel for Node-Positive Breast Cancer. *N Engl J Med* 2005; 352:22.
2. Goldhirsch A, Colleoni M, Coates AS, et al: Adding adjuvant CMF chemotherapy to either radiotherapy or tamoxifen: Are all CMFs alike? The International Breast Cancer Study Group (IBCSG). *Ann Oncol* 1998;9:489-93.
3. Sparano JA, Wang M, Martino S, et al: Weekly paclitaxel in the adjuvant treatment of breast cancer. *N Eng J Med* 2008;258:1663-1671.
4. Piccart MJ, Di Leo A, Beauduin M, et al: Phase III trial comparing two dose levels of epirubicin combined with cyclophosphamide with cyclophosphamide, methotrexate, and fluorouracil in node-positive breast cancer. *J Clin Oncol* 2001;19:3103-3110.
5. Roche H, Fumoleau P, Spielmann M, et al: Sequential adjuvant epirubicin-based and docetaxel chemotherapy for node-positive breast cancer patients: The FNCLCC PACS 001 trial. *J Clin Oncol* 2006;24:5664-5671.
6. Martin M, Rodriguez-Lescure A, Ruiz A, et al: Randomized phase 3 trial of fluorouracil, epirubicin, and cyclophosphamide alone or followed by Paclitaxel for early breast cancer. *J Natl Cancer Inst* 2008;100:805-814.
7. Joensuu H, Kellokumpu-Lehtinen P-L, Bono P, et al: Adjuvant docetaxel or vinorelbine with or without trastuzumab for breast cancer. *N Engl J Med* 2006;354:809-20.
8. Buzdar A, Ibrahim N, Francis D, et al: Significantly higher pathologic complete remission rate after neoadjuvant therapy with trastuzumab, paclitaxel, and epirubicin chemotherapy: Results of a randomized trial in human epidermal growth factor receptor 2-positive operable breast cancer. *J Clin Oncol* 2005;23:3676-3685.
9. Slamon D, Eiermann W, Robert N, et al: Adjuvant Trastuzumab in HER2-Positive Breast Cancer. *N Engl J Med* 2011;365:1273-1283.
10. Rayson D, Suter T.M, Jackisch C, et al: Cardiac Safety of Adjuvant Pegylated Liposomal Doxorubicin With Concurrent Trastuzumab: A Randomized Phase II Trial *Annals of Oncology* 2012;23:1780-1788.
11. [Cortes J, O'Shaughnessy J, Loesch D, et al. EMBRACE \(Eisai Metastatic Breast Cancer Study Assessing Physician's Choice Versus E7389\) investigators: Eribulin monotherapy versus treatment of physician's choice in patients with metastatic breast cancer \(EMBRACE\): a phase 3 open-label randomised study. *Lancet*. 2011 Mar 12;377\(9769\):914-23. doi: 10.1016/S0140-6736\(11\)60070-6. Epub 2011 Mar 2.](#)
12. Kathy Miller, M.D., Molin Wang, Ph.D., Julie Gralow, M.D., Maura Dickler, M.D., Melody Cobleigh, M.D., Edith A. Perez, M.D., Tamara Shenkier, M.D., David Cella, Ph.D., and Nancy E. Davidson, M.D.; [Paclitaxel plus Bevacizumab versus Paclitaxel Alone for Metastatic Breast Cancer](#) *N Engl J Med* 2007; 357:2666-2676 [December 27, 2007](#) DOI: 10.1056/NEJMoa072113
13. Richard S. Finn, M.D., Miguel Martin, M.D., Hope S. Rugo, M.D., Stephen Jones, M.D., Seock Ah Im, M.D., Ph.D., Karen Gelmon, M.D., Nadia Harbeck, M.D., Ph.D., Oleg N. Lipatov, M.D., Janice M. Walshe, M.D., Stacy Moulder, M.D., Eric Gauthier, Pharm.D., Ph.D., Dongrui R. Lu, M.Sc., Sophia Randolph, M.D., Ph.D., Veronique Dieras, M.D., and Dennis J. Slamon, M.D., Ph.D. [Palbociclib and Letrozole in Advanced Breast Cancer](#) *N Engl J Med*. 2016 Nov 17;375(20):1925-1936.
14. Gunter von Minckwitz, MD, et al. Adjuvant Pertuzumab and Trastuzumab in Early HER2-Positive Breast Cancer. *N Engl J Med* 2017;377:122-131
15. Christian Jackisch, et. al. HannaH phase III randomized study: Association of total pathological complete response with event-free survival in HER2-positive early breast Cancer treated with neoadjuvant-adjuvant trastuzumab after 2 years of treatment-free follow up. *European Journal of Cancer*. 2016:62-75

16. Robert N, Leyland-Jones B, Asmar L, et al. Randomized phase III study of trastuzumab, paclitaxel, and carboplatin compared with trastuzumab and paclitaxel in women with HER-2-overexpressing metastatic breast cancer. *J Clin Oncol* 2006;24:2786-2792.
17. Silver DP, Richardson AL, Eklund AC, et al. Efficacy of neoadjuvant cisplatin in triple-negative breast cancer. *J Clin Oncol* 2010;28(7):1145-53.
18. Seidman AD. Gemcitabine as single-agent therapy in the management of advanced breast cancer. *Oncology (Williston Park)* 2001;15:11-14.
19. Albain KS, Nag S, Calderillo-Ruiz G, et al. Global phase III study of gemcitabine plus paclitaxel (GT) vs. paclitaxel (T) as frontline therapy for metastatic breast cancer (MBC): First report of overall survival [Abstract]. *J Clin Oncol* 2004;22:Abstract 510 Available at: http://meeting.ascopubs.org/cgi/content/abstract/22/14_suppl/510.
20. Tolaney S, Barry W, Dang C, et al. Adjuvant paclitaxel and trastuzumab for node-negative HER2-positive breast cancer. *N Engl J Med* 2015;372:134-141.
21. Seidman AD, Tiersten A, Hudis C, et al. Phase II trial of paclitaxel by 3-hour infusion as initial and salvage chemotherapy for metastatic breast cancer. *J Clin Oncol* 1995;13:2575-2581.
22. Hurley J, Doliny P, Reis I, et al. Docetaxel, cisplatin, and trastuzumab as primary systemic therapy for human epidermal growth factor receptor 2-positive locally advanced breast cancer. *J Clin Oncol* 2006;24:1831-1838. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/16549824>.
23. Jones S, Holmes F, O'Shaughnessy J, et al. Docetaxel with cyclophosphamide is associated with an overall survival benefit compared with doxorubicin and cyclophosphamide: 7-year follow-up of US Oncology Research trial 9735. *J Clin Oncol* 2009;27:1177-1183.
24. Zelek L, Barthier S, Riofrio M, et al. Weekly vinorelbine is an effective palliative regimen after failure with anthracyclines and taxanes in metastatic breast carcinoma. *Cancer* 2001;92:2267-2272.
25. Mavroudis D, Papakotoulas P, Ardavanis A, et al. Randomized phase III trial comparing docetaxel plus epirubicin versus docetaxel plus capecitabine as first-line treatment in women with advanced breast cancer. *Ann Oncol* 21:48(2010).
26. Yardley DA, Noguchi S, Pritchard KI, et al. Everolimus plus exemestane in postmenopausal patients with HR(+) breast cancer: BOLERO-2 final progression-free survival analysis. *Adv Ther* 2013;30:870-884. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/24158787>.
27. Baselga J, Campone M, Piccart M, et al. Everolimus in postmenopausal hormone-receptor-positive advanced breast cancer. *N Engl J Med* 2012;366:520-529. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/22149876>.
28. Capecitabine 1,000-1,250 mg/m² PO twice daily on Days 1-14. Cycled every 21 days for 6-8 cycles. Masuda N, Lee SJ, Ohtani S, et al. Adjuvant capecitabine for breast cancer after preoperative chemotherapy. *N Engl J Med* 2017;376:2147- 2159.
29. Licchetta A, Correale P, Migali C, et al. Oral metronomic chemo-hormonal-therapy of metastatic breast cancer with cyclophosphamide and megestrol acetate. *Chemother* 2010;22(3):201-4.

30. Robertson JF, Llombart-Cussac A, Rolski J, et al. Activity of fulvestrant 500 mg versus anastrozole 1 mg as first-line treatment for advanced breast cancer: results from the FIRST study. *J Clin Oncol* 2009;27:4530-4535. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/19704066>.
31. Moore HC, Unger JM, Phillips KA, et al. Goserelin for ovarian protection during breast-cancer adjuvant chemotherapy. *N Engl J Med* 2015;372:923-932. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/25738668>.
32. Francis PA, Regan MM, Fleming GF, et al. Adjuvant ovarian suppression in premenopausal breast cancer. *N Engl J Med* 2015;372:436-446. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/25495490>.
33. Schmid P, Untch M, Wallwiener D, et al. Cyclophosphamide, methotrexate and fluorouracil (CMF) versus hormonal ablation with leuprorelin acetate as adjuvant treatment of node-positive, premenopausal breast cancer patients: preliminary results of the TABLE-study (Takeda Adjuvant Breast cancer study with Leuprorelin Acetate). *Anticancer Res* 2002;22:2325-2332. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/12174922>.
34. Vergote I, Bonnetterre J, Thurlimann B, et al. Randomised study of anastrozole versus tamoxifen as first-line therapy for advanced breast cancer in postmenopausal women. *Eur J Cancer* 2000;36 Suppl 4:S84-85. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/11056332>.
35. Johnston SR, Kilburn LS, Ellis P, et al. Fulvestrant plus anastrozole or placebo versus exemestane alone after progression on non-steroidal aromatase inhibitors in postmenopausal patients with hormone-receptor-positive locally advanced or metastatic breast cancer (SoFEA): a composite, multicentre, phase 3 randomised trial. *Lancet Oncol* 2013;14:989-998. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/23902874>.
36. Goss PE, Ingle JN, Martino S, et al. A randomized trial of letrozole in postmenopausal women after five years of tamoxifen therapy for early-stage breast cancer. *N Engl J Med* 2003;349:1793-1802. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/14551341>.
37. Verma S, Miles D, Gianni L, et al. Trastuzumab emtansine for HER2-positive advanced breast cancer [supplementary appendix available online]. *N Engl J Med* 2012;367:1783-1791.
38. Geyer C, Forster J, Lindquist D, et al. Lapatinib plus capecitabine for HER2-positive advanced breast cancer. *N Engl J Med* 2006;355:2733-2743.
39. E. Smith, J-Y Pierga, L. Biganzoli, et al. First-line bevacizumab plus taxane-based chemotherapy for locally recurrent or metastatic breast cancer: safety and efficacy in an open-label study in 2251 patients. *Annals of Oncology* 2011;22:595-602
40. Lekakis L, Tryfonopoulos D, Pistamatzian N, et al. Salvage chemotherapy with cisplatin and 5-fluorouracil in metastatic breast cancer. Particular activity against liver metastases. *Anticancer Res.* 2012 May;32(5):1833-7.
41. Liheng Zhou, Shuguang Xu, Wenjin Yin, et al. Weekly paclitaxel and cisplatin as neoadjuvant chemotherapy with locally advanced breast cancer: a prospective, single arm, phase II study. *Oncotarget.* 2017 Oct 3;8(45): 79305–79314.

42. M. V. Fiorentino & A. Brandes. Carboplatin plus 5-fluorouracil and leucovorin in previously treated patients with metastatic breast cancer. *Annals of Oncology* 3 (Suppl.3): S29-S32, 1992.
43. Juan Lao, Julia Madani, Teresa Puértolas, et al. Liposomal Doxorubicin in the Treatment of Breast Cancer Patients: A Review *Journal of Drug Delivery*. 2013, Article ID 456409, 12 pages.
44. SATORU TANAKA, MITSUHIKO IWAMOTO, KOSEI KIMURA, et al. A Phase II Study of Adjuvant Chemotherapy of Tegafur–Uracil for Patients with Breast Cancer with HER2-negative Pathologic Residual Invasive Disease After Neoadjuvant Chemotherapy. 2016;36:6505-6510.
45. VITTORIO GEBBIA, HAMOUDA BOUSSEN and MARIA ROSARIA VALERIO. Oral Metronomic Cyclophosphamide with and without Methotrexate as Palliative Treatment for Patients with Metastatic Breast Carcinoma. *ANTICANCER RESEARCH* 2012;32:529-536.
46. T. Qin, MD, Z.Y. Yuan, MD, R.J. Peng, MD, et al. Efficacy and tolerability of toremifene and tamoxifen therapy in premenopausal patients with operable breast cancer: a retrospective analysis. *Curr Oncol*. 2013;20(4):196–204.
47. Hsiao JH, Chang HT, Tseng YD, et al. Hepatic Arterial Infusion Chemotherapy Is a Feasible Treatment Option for Breast Cancer with Liver-predominant Metastatic Disease. 2018 Nov-Dec;32(6):1635-1641.
48. Joseph Gligorov a, Giuseppe Curigliano b, Volkmar Müller c, et al. Switching between intravenous and subcutaneous trastuzumab: Safety results from the PrefHer trial. *The Breast* 2017(34): 89-95
49. M.A. Socinski, R.M. Jotte, F. Cappuzzo, et al. Atezolizumab for First-Line Treatment of Metastatic Nonsquamous NSCLC. *N Engl J Med* 2018;378:2288-2301
50. G.N. Hortobagyi, S.M. Stemmer, H.A. Burris, et al. Ribociclib as First-Line Therapy for HR-Positive, Advanced Breast Cancer. *N Engl J Med* 2016; 375:1738-1748
51. Miguel Martin, Frankie A Holmes, Bent Ejler Jensen, et al. Neratinib after trastuzumab-based adjuvant therapy in HER2-positive breast cancer.(ExteNET):5-year analysis of a randomized, double-blind, placebo-controlled, phase 3 trial. *The Lancet Oncology*. November 2017.
52. Mark Robson, Seock-Ah, Elzbieta Senkus, et al. Olaparib for Metastatic Breast Cancer in Patient with a Germline BRCA Mutation. *N Engl J Med* 2017; 377:523-533
53. Joseph A., Eduard Vrdoljak, Oliver Rixe, et al. Randomized Phase III Trial of Ixabepilone Plus Capecitabine Versus Capecitabine in Patient With Metastatic Breast Cancer Previously Treated With an Anthracycline and a Taxane. *Journal of clinical oncology*. 2010; 28: 3256-3263
54. Lazzaro Repetto, Loredana Miglietta, Giovanni Gardin, et al. Phase II study of weekly mitoxantrone, 5-fluorouracil, and leucovorin in metastatic breast cancer. [Breast Cancer Research and Treatment](#). 1994;30(2):133-7.
55. Carol Tan, Artyom Sedrakyan, John Browne, et al. The evidence on the effectiveness of management for malignant pleural effusion: a systematic review. *European Journal of Cardio-thoracic Surgery*. 2006;29:829–838
56. Jennifer K. Litton, Hope S. Rugo, Johannes Ettl, et al. (2018). Talazoparib in patient with advanced breast cancer and a germline BRCA mutation. *N Engl J Med* 379;8:753-763

57. Masakazu Toi, Shigeru Imoto, Takanori Ishida, et al. Adjuvant S-1 plus endocrine therapy for oestrogen receptor-positive, HER2-negative, primary breast cancer: a multicentre, open-label, randomised, controlled, phase 3 trial. *Lancet Oncol* 2021; 22: 74-84
58. Alessandro Inno, Giuseppe Bogina, Monica Turazza, et al. Neuroendocrine carcinoma of the breast: current evidence and future perspectives. *The Oncologist* 2016; 21: 28-32
59. Maura N. Dickler, Sara M. Tolaney, Hope S. Rugo, et al. MONARCH 1, a phase II study of abemaciclib, a CDK4 and CDK6 inhibitor, as a single agent, in patient with refractory HR+/HER- metastatic breast cancer. *Clin Can Res*; 23(17), 5218-5224
60. George W. Sledge, Jr., Masakazu Toi, et al. MONARCH 2: Abemaciclib in combination with fulvestrant in women with HR+/HER2- advanced breast who had progressed while receiving endocrine therapy. *Journal of clinical oncology* 2017; 35(25): 2875-2884
61. Matthew P. Goetz, Masakazu Toi, Mario Campone, et al. MONARCH 3: Abemaciclib as initial therapy for advanced breast cancer. *Journal of clinical oncology* 2017; 35(32): 3638-3646
62. Peter Schmid, Javier Cortes, Rebecca Dent, et al. Pembrolizumab for Early Triple-Negative Breast Cancer. *N Engl J Med* 2020; 382:810-821
63. Peter Schmid, Sylvia Adams, Hope S. Rugo, et al. Atezolizumab and Nab-Paclitaxel in Advanced Triple-Negative Breast Cancer. *N Engl J Med* 2018; 379:2108-2121
64. F. Andre, E. Ciruelos, G. Robovszky, et al. Alpelisib for PIK3CA-Mutated, Hormone Receptor-Positive Advanced Breast Cancer. *N Engl J Med* 2019; 380:1929-40
65. J. Cortes, H.S. Rugo, D.W. Cescon, et al. Pembrolizumab plus Chemotherapy in Advanced Triple-Negative Breast Cancer. *N Engl J Med* 2022; 387:217-26
66. J. Cortés, S.-B. Kim, W.-P. Chung, et al. Trastuzumab Deruxtecan versus Trastuzumab Emtansine for Breast Cancer. *N Engl J Med* 2022; 386:1143-54.
67. A. Bardia, S.A. Hurvitz, S.M. Tolaney, et al, Sacituzumab Govitecan in Metastatic Triple-Negative Breast Cancer. *N Engl J Med* 2021; 384:1529-41.
68. Antoinette R Tan, Seock-Ah Im, André Mattar, et al, Fixed-dose combination of pertuzumab and trastuzumab for subcutaneous injection plus chemotherapy in HER2-positive early breast cancer (FeDeriCa): a randomised, open-label, multicentre, non-inferiority, phase 3 study. Published Online. December 21, 2020, [https://doi.org/10.1016/S1470-2045\(20\)30536-2](https://doi.org/10.1016/S1470-2045(20)30536-2)

Reference :

美國癌症聯合委員會(第八版AJCC)乳腺癌TNM分期
American Joint Committee on Cancer (AJCC)第8版
NCCN Chemotherapy Order Templates (NCCN Templates™)
The National Comprehensive Cancer Network (NCCN)
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JNCCN - The Journal of the National Comprehensive Cancer Network
NCCN Drugs & Biologics Compendium (NCCN Compendium™)
NCCN Oncology Research Program (ORP)
NCCN Annual Conference: Clinical Practice Guidelines & Quality Cancer Care™
Oken, M.M., Creech, R.H., Tormey, D.C., Horton, J., Davis, T.E., McFadden, E.T., Carbone, P.P.: Toxicity And Response Criteria Of The Eastern Cooperative Oncology Group. *Am J Clin Oncol* 5:649-655, 1982.
衛生福利部國民健康署「癌症篩檢與診療測量指標」公告版109年12月修訂
Ann Surg Oncol (2013) 20:3169–3174
[Cancer](#). 2013 Jul 1;119(13):2366-74. doi: 10.1002/cncr.28085. Epub 2013 Apr 10.
Annals of Oncology 25 (Supplement 1): i3, 2014
[J Clin Oncol](#). 2011 Jul 20;29(21):2852-8. doi: 10.1200/JCO.2010.33.4714. Epub 2011 Jun 13.
Athanasios K, Argyrios N, Evangelos R, et al. Cardio-oncology a focus on cardiotoxicity. *European Cardiology Review* 2018;13(1):64-69
Irving E., Sara T., Gabriel A. et al. Cancer therapy-related cardiac dysfunction an overview for the clinician. *Clinical Medicine Insights: Cardiology* 2019;13:1-11