

# Diagnosis and Treatment of Patients with early and advanced Breast Cancer



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Guidelines Breast  
Version 2021.1E

## Specific Sites of Metastases

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# Specific Sites Of Metastases

## Local Approaches to Metastatic Disease

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- **Versions 2002–2020:**

**Albert / Bauerfeind / Bischoff / Böhme / Brunnert / Dall / Diel / Fehm / Fersis / Friedrich / Friedrichs / Gerber / Hanf / Janni / Kolberg-Liedtke / Kreipe / Loibl / Lück / Lux / Maass / Oberhoff / Rezai / Rody / Schaller / Schütz / Seegenschmiedt / Solomayer / Souchon / Thomssen**

- **Version 2021:**

**Mundhenke / Park-Simon / Thomssen**

# Specific Sites of Metastases

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- **Liver and lung metastases**
- **Malignant pleural and pericardial effusions**
- **Ascites**
- **Bone marrow involvement**
- **Soft tissue metastases**
- **Any other organs**

# General Treatment Aspects of Metastases

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- **Histological / cytological verification**
- **Systemic therapy preferred**
- **Consider surgery only in case of good response to palliative treatment, oligometastases**
- **Radiation for patients in good physical condition with late onset of oligometastases**
- **Local treatment in the case of pain, exulceration, persistence after systemic treatment, bowel obstruction, hydrocephalus occlusus, spinal cord compression**
- **Systemic treatment after surgery**

Oxford		
LoE	GR	AGO
3	B	+
2a	B	++*
2b	C	+
3a	B	+
5	D	+/-
5	D	++

\* See chapters with systemic treatment recommendations

# Local Therapy in Primary Metastatic Disease

Oxford

LoE GR AGO

<ul style="list-style-type: none"> <li>■ <b>Surgery (R0) of the primary tumor (no OS Benefit)*</b> <ul style="list-style-type: none"> <li>■ In case of symptoms by primary tumor</li> <li>■ In case of bone metastases only</li> <li>■ In case of visceral metastases</li> </ul> </li> <li>■ <b>Axillary surgery for cN1</b></li> <li>■ <b>Sentinel if cN0</b></li> <li>■ <b>Radiotherapy of the primary tumor</b> <ul style="list-style-type: none"> <li>■ Alone (without surgery)</li> <li>■ After local surgical treatment with BCS or mastectomy (according to adjuvant indication)</li> </ul> </li> </ul>	<p><b>1b</b></p> <p>5</p> <p><b>2b</b></p> <p>2b</p> <p><b>5</b></p> <p><b>5</b></p> <p><b>3a</b></p> <p><b>3a</b></p>	<p><b>B</b></p> <p>D</p> <p><b>B</b></p> <p>B</p> <p><b>D</b></p> <p><b>D</b></p> <p><b>C</b></p> <p><b>C</b></p>	<p>-</p> <p>+/-</p> <p>+/-</p> <p>-</p> <p>+/-</p> <p>-</p> <p>+/-</p> <p>+</p>
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\* Individualized procedure in case of oligometastatic disease  
Specific Sites of Metastases

# Randomized Phase III Trials

Trial	n	Prior to Randomization	Local Control	Improved OS Primary Endpoint	QoL
ECOG-Acrin 2108	256	4-8 months systemic therapy	yes	no	ns
Tata Memorial Hospital	350	chemotherapy	yes	no	-
MF07-01	278	no systemic therapy	yes	no in post analysis evaluation improved OS (notably in solitary bone mets.)	-
ABCSG-28*	90	no systemic therapy	yes	no	ns
JCOG 1017	410	completed, results not reported so far			

ns not significant \*trial terminated due to poor recruitment  
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# Liver Metastases

## Local Therapy

Oxford		
LoE	GR	AGO
3a	B	+/-
3b	C	+/-
3b	C	+/-
3b	C	+/-

- Resection of liver metastases (R0)**  
**HR-positive: chemotherapy-sensitive, long disease-free interval, absence of extrahepatic disease, ≤ 3 metastases**  
**HER2-positive: age < 50y, metastasis < 5 cm, no further metastasis**
- Regional chemotherapy**
- Regional radiotherapy**  
**[SIRT, stereotactic body radiosurgery with volumetric intensity modulated arc therapy (SRS-VMAT), radiochemo-embolization, other modalities]**
- Thermoablation (RFA, LITT, cryotherapy)**

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# Pulmonary Metastases

## Local Therapy

Oxford

LoE GR AGO

- |  | LoE | GR | AGO |
|--|-----|----|-----|
| <ul style="list-style-type: none"> <li>Before any surgery: staging and biopsy (CT-guided FNA / CNB or transbronchial FNA, EBUS)</li> </ul>   | 3a  | B  | +   |
| <ul style="list-style-type: none"> <li>Resection of pulmonary metastases by VATS or conventional resection               <ul style="list-style-type: none"> <li>In case of multi-locular metastatic disease</li> <li>In case of single / few unilateral metastasis with curative intent</li> </ul> </li> </ul> | 3a  | B  | -   |
| <ul style="list-style-type: none"> <li>In case of single / few unilateral metastasis with curative intent</li> </ul>   | 3a  | B  | +/- |
| <ul style="list-style-type: none"> <li>Thermoablation (CT-guided RFA, LITT)</li> </ul>   | 3b  | C  | +/- |
| <ul style="list-style-type: none"> <li>Regional radiotherapy (e.g. stereotactic body radiosurgery with volumetric intensity modulated arc therapy (SRS-VMAT))</li> </ul>   | 3a  | B  | +/- |

\* VATS = video-assisted thoracic surgery

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# Malignant Pleural Effusions (MPE)

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## Incidence:

- ~ **10 %** of patients with metastatic breast cancer
- ~ **17-30 %** of all MPE are caused by breast cancer

## Clinical presentation:

- **Extensive MPE** are mostly due to malignancy
- The majority of MPE are symptomatic [dyspnea (80%), dull chest pain (30%), nonproductive cough (10%)]
- Survival is related to the presence of additional metastases, age, ECOG PS and extent of involving the pleural surface

## Diagnostic procedures:

- **Clinical examination**
- **Imaging techniques** (chest X-Ray, US, CT-Scan)
- **Proven malignant effusion** [cytology (→ 50% false negative), histology by thoracoscopy)

# Malignant Pleural Effusion (MPE)

## Local Therapy

Oxford

	LoE	GR	AGO
■ If short life expectancy, less invasive procedures should be considered	4	C	++
■ VATS and Talcum-pleurodesis*	1b	B	++
■ Chemical pleurodesis*			
■ Talcum powder	1a	B	+
■ Bleomycin, Doxycycline, Mitoxantrone	2b	C	+/-
■ Povidone-iodine (20 ml of 10% solution)	1b	B	+
■ Continous pleural drainage	2a	B	++
■ Systemic treatment after pleurodesis	3b	C	+/-
■ Serial thoracocentesis	4	C	+/-

\* Adequate pain-relief

VATS: video-assisted thoracoscopic surgery

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# Malignant Ascites

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### Ascites:

- Puncture, drainage in symptomatic patients
- Continuous drainage of ascites
- Systemic therapy
- Local chemotherapy

Oxford		
LoE	GR	AGO
4	D	++
3b	D	+
3b	D	++
3b	D	+/-

# Malignant Pericardial Effusion

## Local Therapy

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### Symptomatic pericardial effusion:

- Drainage, fenestration
- Combination with optimized systemic therapy
- VATS (video-assisted thoracic surgery)
- Ultrasound-guided puncture and instillation of cytotoxic compounds
  - Bleomycin, cisplatinum, mitomycin C, mitoxantrone etc.
  - Bevacizumab

	Oxford		
	LoE	GR	AGO
	<b>3b</b>	<b>B</b>	<b>++</b>
	<b>4</b>	<b>C</b>	<b>++</b>
	<b>4</b>	<b>C</b>	<b>+</b>
	<b>4</b>	<b>C</b>	<b>+/-</b>
	<b>4</b>	<b>C</b>	<b>+/-</b>

# Bone Marrow Infiltration Associated with Pancytopenia

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	Oxford		
	LoE	GR	AGO
<ul style="list-style-type: none"> <li>■ <b>Weekly chemotherapy with*:</b> <ul style="list-style-type: none"> <li>■ Epirubicin, Doxorubicin, Paclitaxel</li> <li>■ Capecitabine</li> </ul> </li> <li>■ <b>HER2-positive:</b> <ul style="list-style-type: none"> <li>■ Add anti-HER2-treatment</li> </ul> </li> <li>■ <b>Hormone receptor-positive:</b> <ul style="list-style-type: none"> <li>■ Endocrine-based therapy</li> </ul> </li> </ul>	4	D	++
	4	D	++
	5	D	++
	4	C	+

\* Consider pre-treatment

# Soft Tissue Metastasis

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- **Surgery of limited locoregional metastasis (skin, muscular, nodal) with complete resection (R0) after exclusion of further metastasis**
- **Radiotherapy (after surgery or, if immediate surgery is not indicated):**
  - **Soft tissue metastasis**
  - **Paresis, spinal cord compression**
  - **Plexus infiltration**

	Oxford		
	LoE	GR	AGO
	4	C	+
	3b	C	+
	2b	C	++
	3b	C	++