

# IL PERCORSO ASSISTENZIALE E LE PROSPETTIVE TERAPEUTICHE PER IL MESOTELIOMA PLEURICO NELLA REGIONE EMILIA ROMAGNA



## IL RUOLO DELLA CHIRURGIA

Revisione della letteratura


Tecniche chirurgiche

Studio Multicentrico

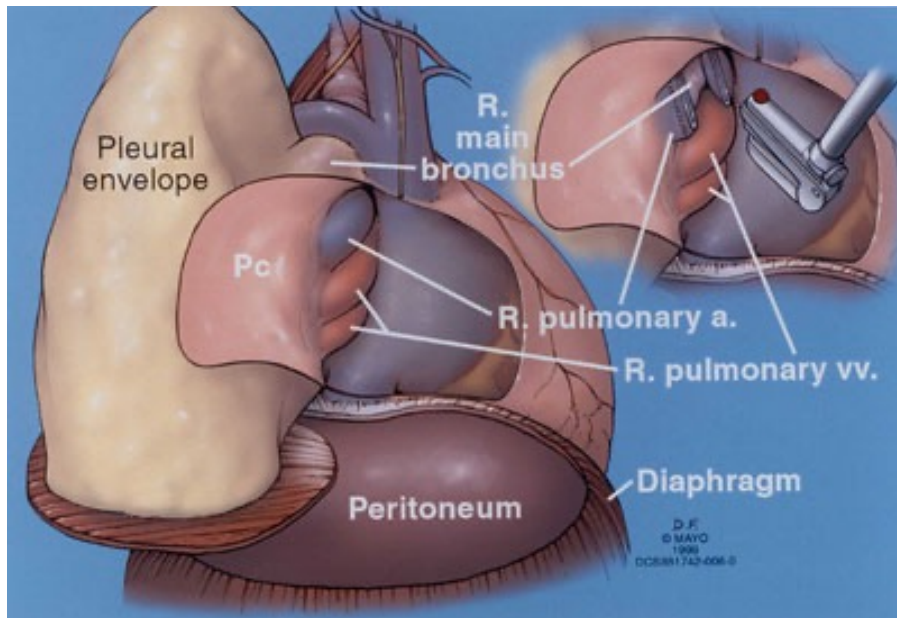
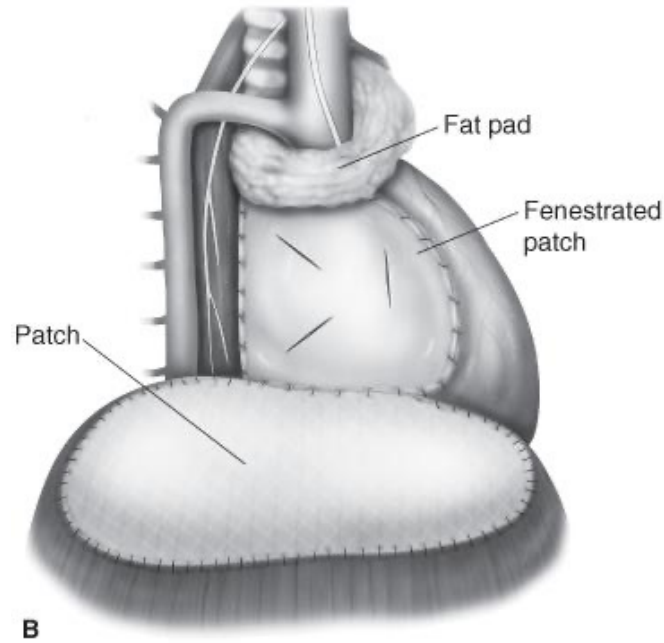
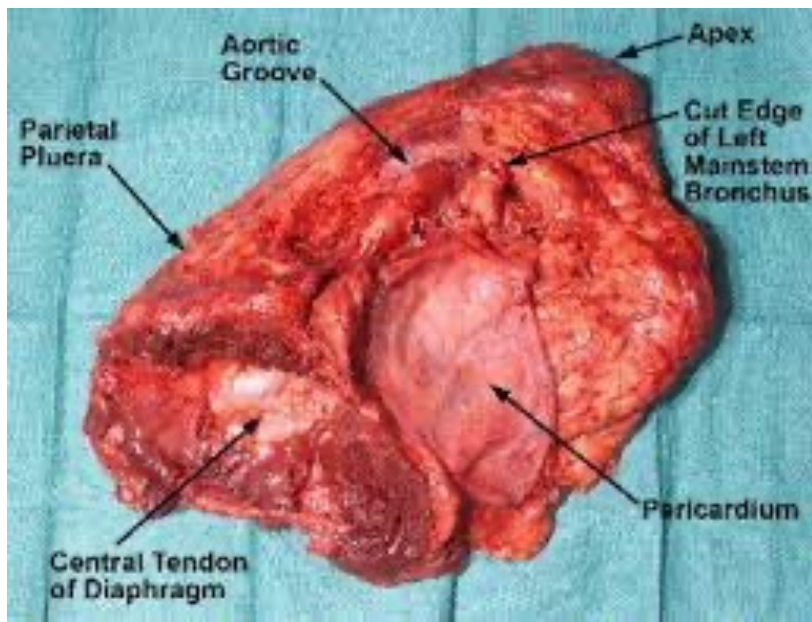
Considerazioni conclusive

**CHIRURGIA SÌ O CHIRURGIA NO: IL PARERE DEI CHIRURGI** Massimiliano Paci, Luca Ampollini, Piergiorgio Solli

## Surgical Procedures for Malignant Pleural Mesothelioma

Intent	Procedure	Description	Survival (months)	Mortality (%)	Study type
Macroscopic complete resection 	Extrapleural pneumonectomy	<i>En bloc</i> resection of the lung and pleurae to remove all gross tumour with resection of the diaphragm and/or pericardium as required	16.8 - 25.5	0 - 5	Prospective studies with intention-to-treat analysis <sup>13-16</sup>
			14.4	17.6*	Randomised controlled trial <sup>2</sup>
	Extended pleurectomy/decortication	Parietal and visceral pleurectomy to remove all gross tumour with resection of the diaphragm and/or pericardium as required	15 - 25	0 - 4.1	Systematic review <sup>18</sup>
	Pleurectomy/decortication	Parietal and visceral pleurectomy to remove all gross tumour without resection of the diaphragm or pericardium	12 - 18	0 - 1.1	
	Partial pleurectomy/decortication	Partial removal of parietal and/or visceral pleura for diagnostic or palliative purposes but leaving gross tumour behind	9 - 13	2.2 - 5.3	
Palliative	Pleurodesis	Obliteration of the pleural space by forming adhesions between the parietal and visceral pleurae	—	—	—

**Figure 2.** Overview of surgical procedures performed in the curative and palliative treatment of malignant pleural mesothelioma. \*Includes 30-day and in-hospital mortalities. Reprinted with permission.<sup>8</sup>



## SURGICAL COMPLICATIONS AFTER EPP

### — **PLEURO-PULMONARY:**

pneumonia, ALI/ARDS  
bronchopleural fistula  
pleural empyema

### — **CARDIOVASCULAR:**

arrhythmias,  
cardiac herniation  
pulmonary embolism

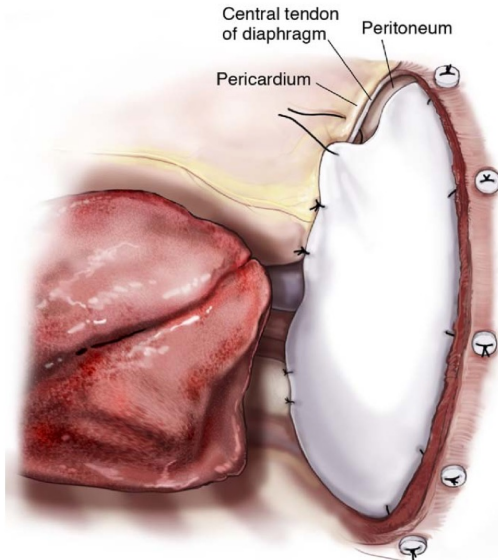
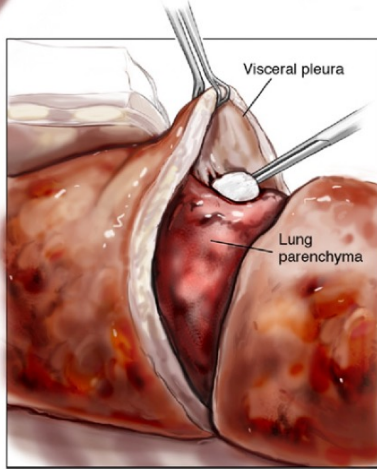
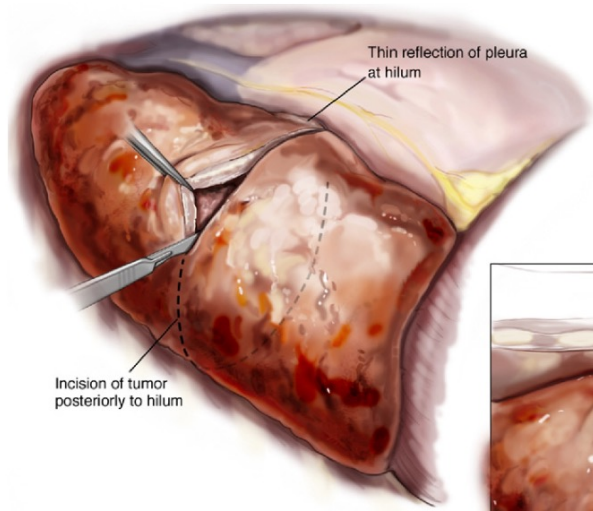
### — **TECHNICAL:**

haemothorax, chylothorax,  
prosthetic patch dehiscence  
oesophagopleural fistula

MORBIDITY high 22% - 62%  
most complications  
manageable...

MORTALITY 2% TO 5%  
in experienced centers





**P/D HAS LOWER MORTALITY 0%-2% AND LOWER MORBIDITY**  
(complications are specific: prolonged air leak, hemothorax,...)

therefore currently the **most common surgical approach**

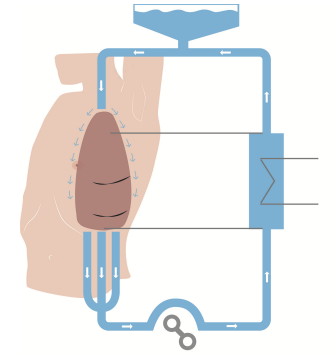
improved late pulmonary function,  
better short- and long-term QoL,  
chance to offer surgery in older pts  
pts with limited cardiorespiratory reserve

### Meta-analysis OS after P/D vs EPP Ann Thorac Surg 2015

2year survival rate was similar for the two cohorts  
EPP associated with a 2.5-fold higher short-term mortality  
therefore, P/D should be preferred if MCR could be achieved

## HITHOC as surgery-based multimodality therapy

surgical cytoreduction, is not expected to achieve always R0 target  
multimodality therapy administered after surgery,



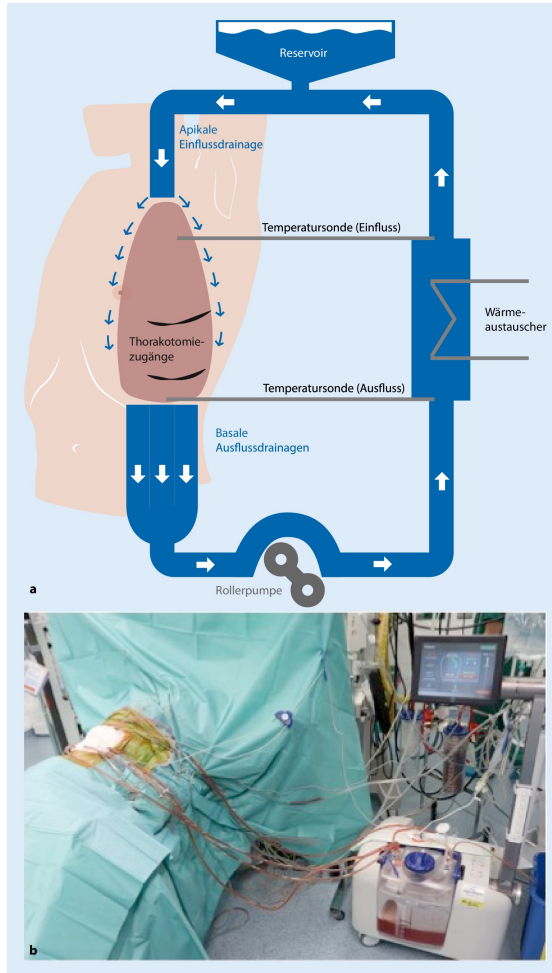
## HITHOC as another type of adjuvant local treatment, performed in operating room immediately after surgery

1. high concentrated dose of chemo- (usually cisplatin) infused in 3—4 liters of saline solution
2. warmed at 38—43°, introduced and circulated in the chest for 60 minutes after both EPP or P/D

**THE HITHOC ACTS WITH A DOUBLE ACTION:** chemotherapeutic drug has a local / direct effect on the tumor cells while hyperthermia enhances the impact of chemotherapy by increasing its penetration into the tissue

# Hyperthermic intrathoracic chemotherapy (HITHOC): narrative review of the current literature, recommendations and future studies

Till Markowiak<sup>1^</sup>, Christopher Larisch<sup>1</sup>, Hans-Stefan Hofmann<sup>1,2</sup>, Michael Ried<sup>1</sup>

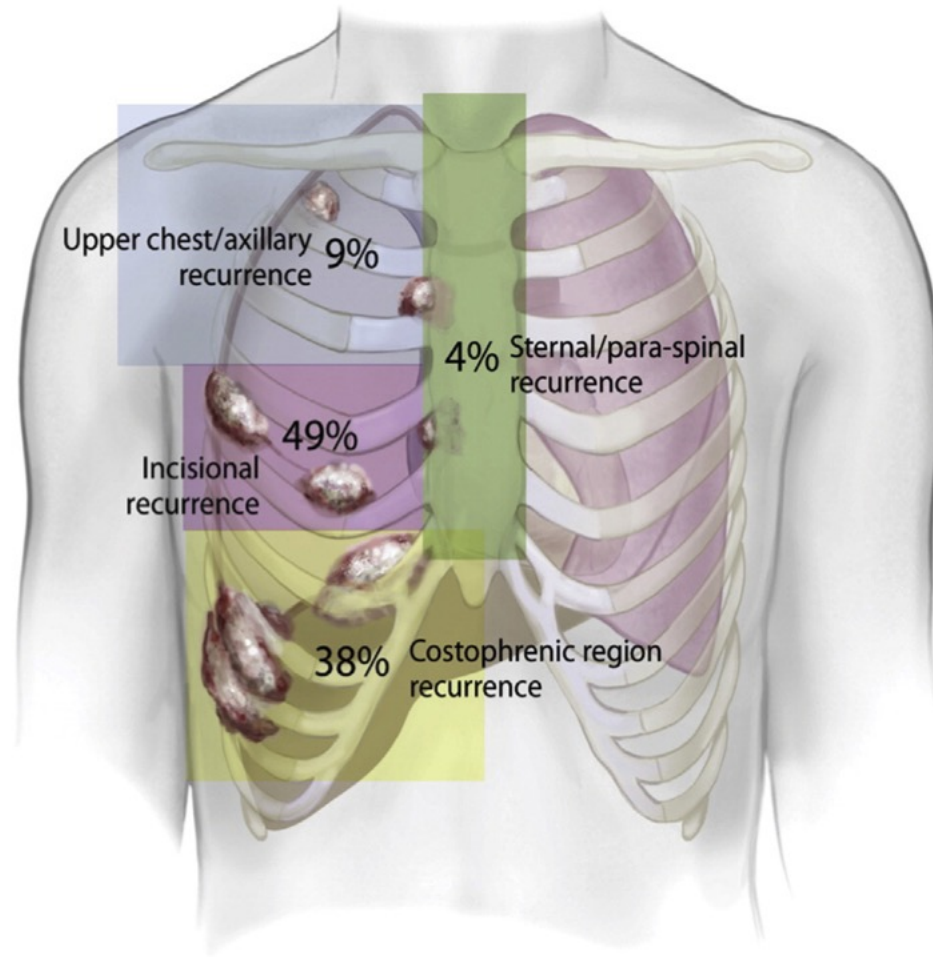


## Advantages of HITHOC

- Multimodal treatment within a single procedure (surgery + chemotherapy + hyperthermia)
- Possibility to avoid demolitive surgery by enhancing cytoreduction with other treatments
- Good tolerability of the procedure by patients with a low morbidity-rate and a rapid post-operative recovery
- Lower systemic toxicity compared to traditional chemotherapy
- Compatibility with all the other adjuvant therapies

## Limits of HITHOC

- Limited indications related to patient performance status, the histology and stage of MPM
- Dedicated equipment and qualified and experienced staff
- Possibility of adverse events such as cardio- and nephrotoxicity, according to the regimens of chemotherapy used
- Prolonged timing of surgical and anesthesiological procedure



**Figure 11.** Location of isolated ipsilateral chest wall recurrence of malignant pleural mesothelioma after cytoreductive surgery. Reprinted with permission.<sup>92</sup>

## SURGERY FOR RECURRENCE

Locally recurrent disease is a common problem after surgery for MPM.

usually in the ipsilateral thoracic cavity (also retroperitoneum and abdomen)

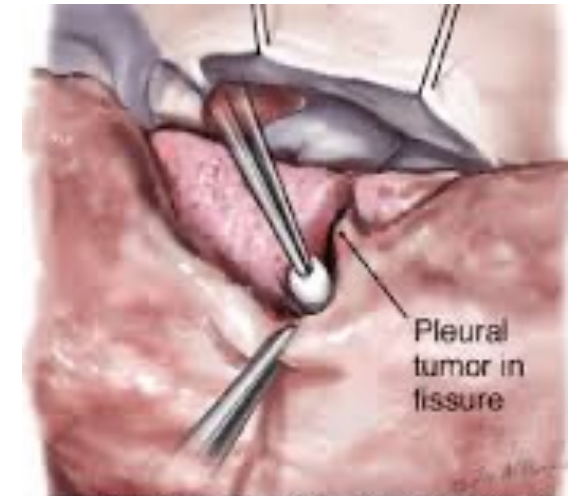
usually this is handled by localized RT or CT  
occasionally the recurrence is limited and potentially resectable



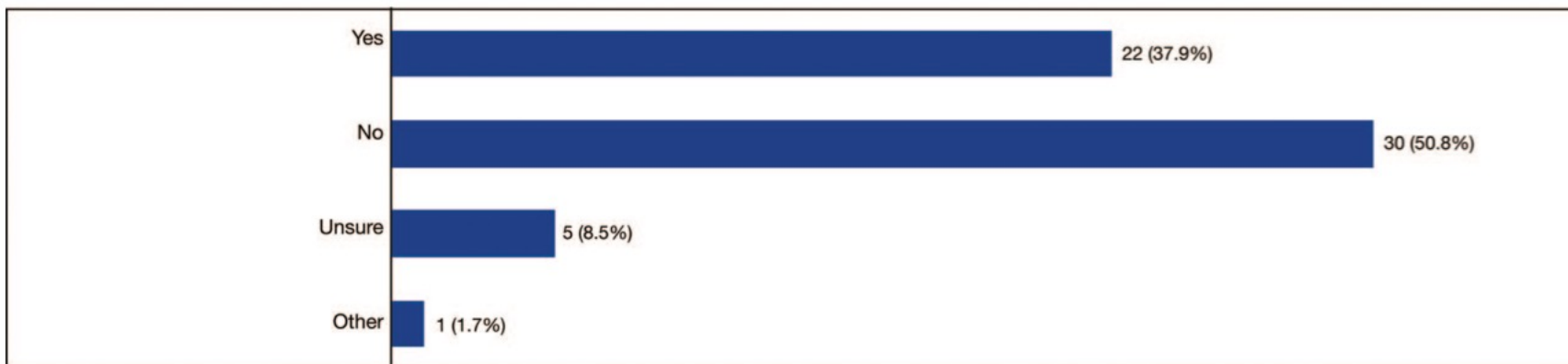
# Recommendations for Uniform Definitions of Surgical Techniques for Malignant Pleural Mesothelioma

## *A Consensus Report of the International Association for the Study of Lung Cancer International Staging Committee and the International Mesothelioma Interest Group*

*David Rice, MB, BCh,\* Valerie Rusch, MD,† Harvey Pass, MD,‡ Hisao Asamura, MD,§  
Takashi Nakano, MD,|| John Edwards, MB, ChB, PhD,¶ Dorothy J. Giroux, MS,#  
Seiki Hasegawa, MD,\*\* Kemp H. Kernstine, MD, PhD,†† David Waller, MD,‡‡  
and Ramon Rami-Porta, MD§§, on behalf of the International Association for the Study of Lung  
Cancer International Staging Committee and the International Mesothelioma Interest Group*



**Question 13. In a patient with tumor involving the fissure(s) pleurectomy / decortication can usually achieve macroscopic complete resection:**



Answered question: 58

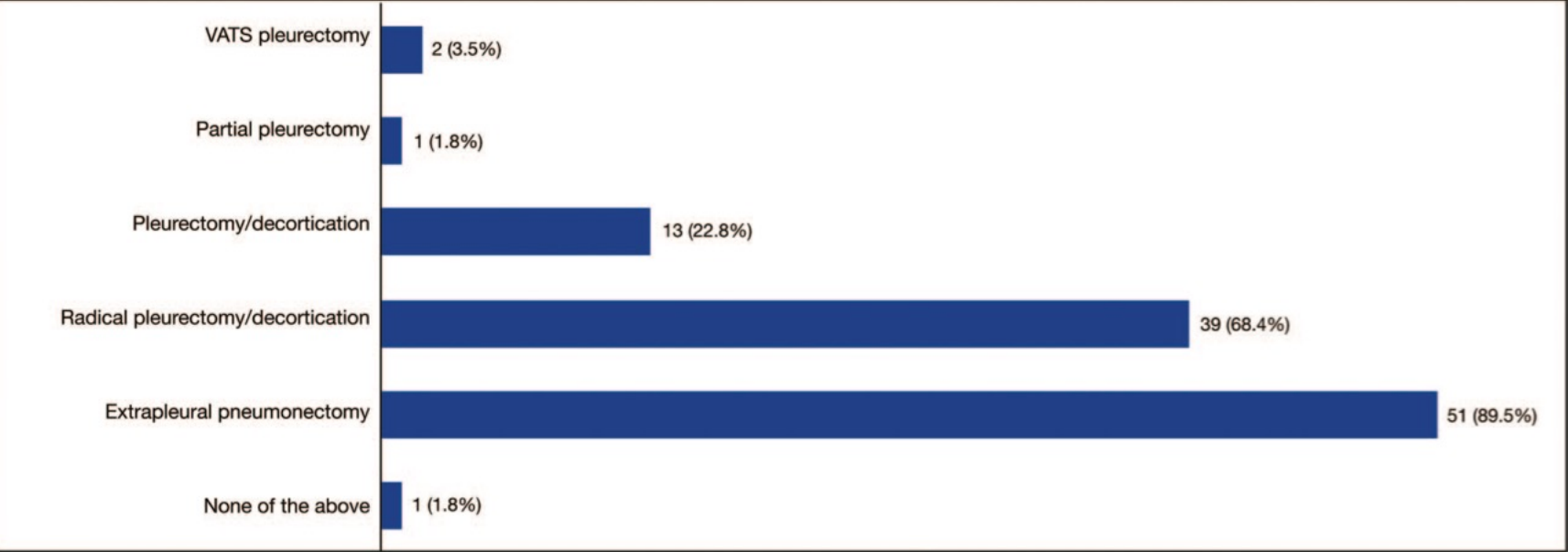
Skipped question: 0



**Question 12. The goal of cytoreductive surgery for malignant pleural mesothelioma should be the removal of all visual and palpable tumor, in other words, a macroscopic complete resection (R0/R1):**



**Question 15. Which of the following procedures do you consider capable of providing adequate cytoreduction (R0/R1 )?**



# Macroscopic Complete Resection: The Goal of Primary Surgery in Multimodality Therapy for Pleural Mesothelioma

JTO 2011

*David J. Sugarbaker, MD*

Although EPP is associated with a higher morbidity (25%) and surgical mortality (4–15%), it provides more complete tumor cytoreduction than P/D, and the empty thorax permits the use of high-dose radiotherapy postoperatively

P/D is associated with lower morbidity and mortality but MCR is less frequently attainable  
Residual disease can remain on diaphragm, pericardium, lobar fissures, LNs intra-pulm & extrapleural  
Diffuse infiltration of lung parenchyma is common with sarcomatoid and mixed histologic variants.

CHI OPERIAMO?

EPITHELIOD

BIPHASIC ???

COME

sempre P/D (quale P/D?)

EPP?

Quale obiettivo

Macroscopic Complete Resection

R0/R1?

NOMENCLATURA, STAGING LINFONODALE

SHADOW ZONE

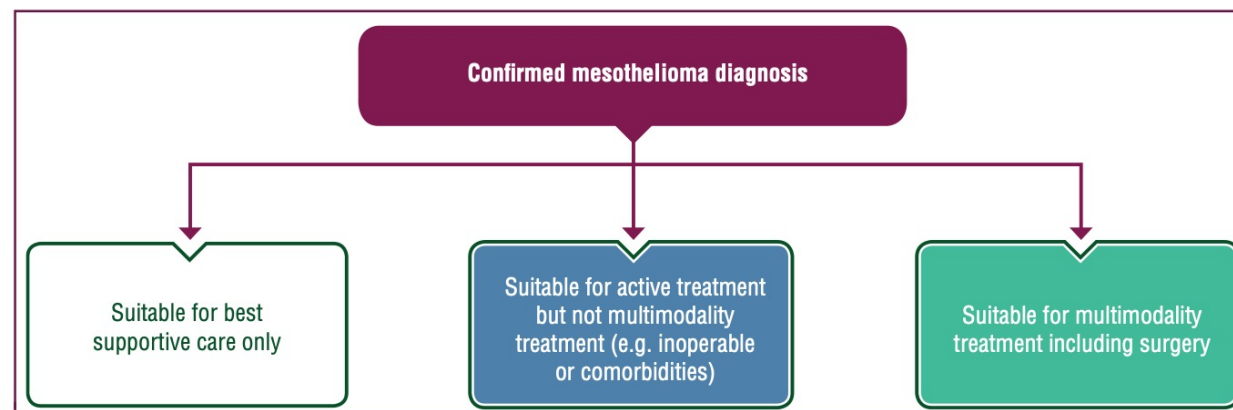
RUOLO ATTIVO DEL CHIRURGO MDT IN QUALE FASE LA CHIRURGIA POTREBBE/DEVE? ESSERE INTEGRATA



#### SPECIAL ARTICLE

### Malignant pleural mesothelioma: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up<sup>☆</sup>

S. Popat<sup>1,2</sup>, P. Baas<sup>3,4</sup>, C. Faivre-Finn<sup>5</sup>, N. Girard<sup>6</sup>, A. G. Nicholson<sup>2,7</sup>, A. K. Nowak<sup>8,9</sup>, I. Opitz<sup>10</sup>, A. Scherpereel<sup>11</sup> & M. Reck<sup>12</sup>, on behalf of the ESMO Guidelines Committee



**Figure 2. Therapeutic strategy by treatment intent.**

Purple: general categories or stratification; blue: systemic anticancer therapy; turquoise: combination of treatments or other systemic treatments; white: other aspects of management.