



## 2026 World Conference on Lung Cancer

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# Clinical Outcomes of Salvage Surgery After Systemic Therapy with ICIs for c-stage IV NSCLC

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### JSTS Nationwide Study

**JAPAN**

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# Disclosure

## Disclosures

### Financial relationships

Honoraria / Speaker: Johnson & Johnson, Medtronic, Intuitive Surgical, Chugai Pharmaceutical, AstraZeneca, Daiichi Sankyo, Meiji Seika Pharma, Olympus, Ono Pharmaceutical, Bristol Myers Squibb, Upstream, MSD

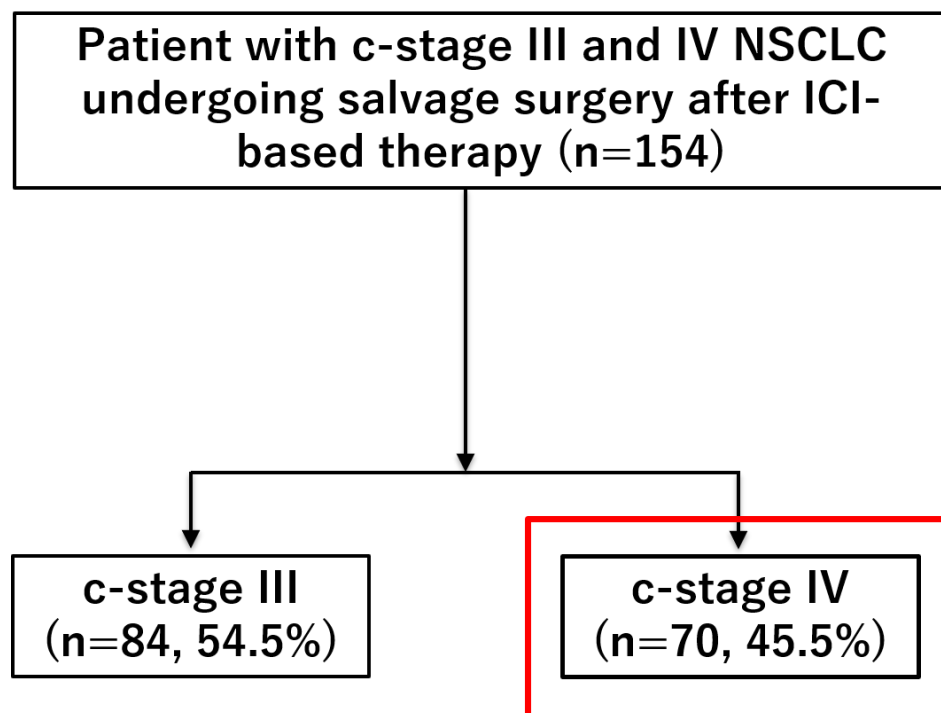
**Other financial relationships** None

### AI Use Disclosure

ChatGPT (OpenAI) was used only for English-language editing and refinement. AI was not used for data analysis or independent scientific or clinical decision-making.

# Patients & Methods

All patients underwent salvage surgery with resection of **the primary lung tumor**



## JSTS Nationwide Study

Planned by the JSTS Academic Research Committee

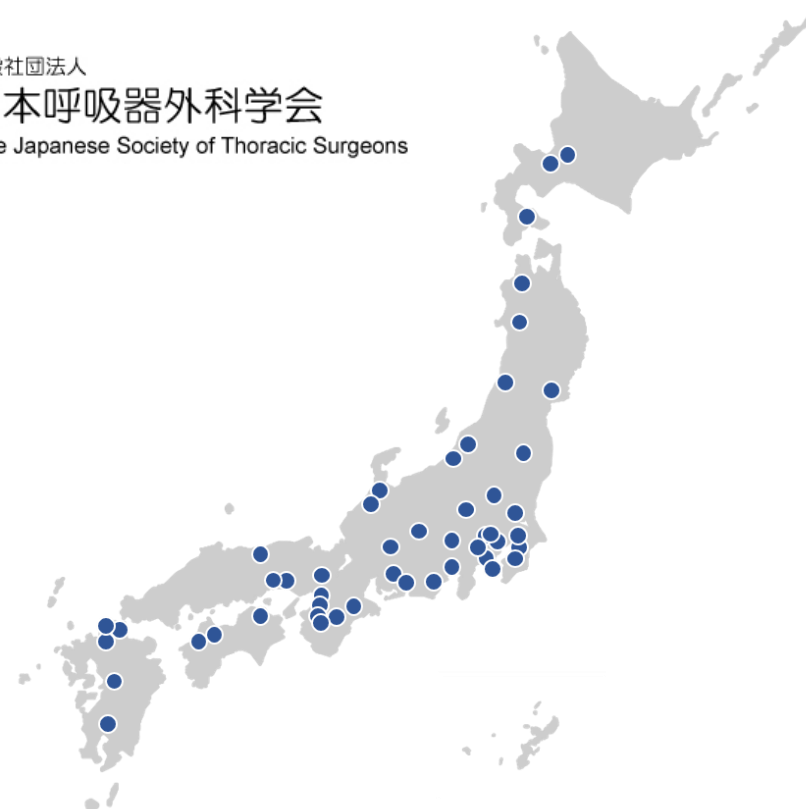
57 participating institutions across Japan



一般社団法人

日本呼吸器外科学会

The Japanese Society of Thoracic Surgeons



Study period: 2016–2023 M1a/M1b/M1c = 39%/36%/25%

The median interval from diagnosis to surgery = **23.9 months**

# Surgery & Safety

## Characteristics at Salvage Surgery

| c-stage IV (n=70)                 |               |                 |
|-----------------------------------|---------------|-----------------|
| Age at surgery                    |               | 67 (58-72)      |
| Preoperative steroid use          |               | 9 (13)          |
| CEA at pre-surgery                | ≥5ng/ml       | 24 (39)         |
| SUVmax at pre-surgery             |               | 10.6 (4.7-14.7) |
| Approach                          | Thoracotomy   | 23 (33)         |
|                                   | MIS           | 47 (67)         |
|                                   | Conversion    | 5 (7)           |
| Surgery                           | Sublobar      | 16 (23)         |
|                                   | Lobectomy     | 51 (73)         |
|                                   | Pneumonectomy | 3 (4)           |
| Lymph node dissection             | ND0-1         | 25 (36)         |
|                                   | ND2           | 44 (63)         |
| Adhesions                         | ≤ Mild        | 48 (73)         |
|                                   | Moderate      | 4 (6)           |
|                                   | Severe        | 14 (21)         |
| Angioplasty                       |               | 6 (9)           |
| Bronchoplasty                     |               | 4 (6)           |
| Combined resection                |               | 13 (19)         |
| Bronchial stump reinforcement     |               | 19 (27)         |
| R0 resection of the primary tumor |               | 66 (94)         |

## Perioperative outcomes

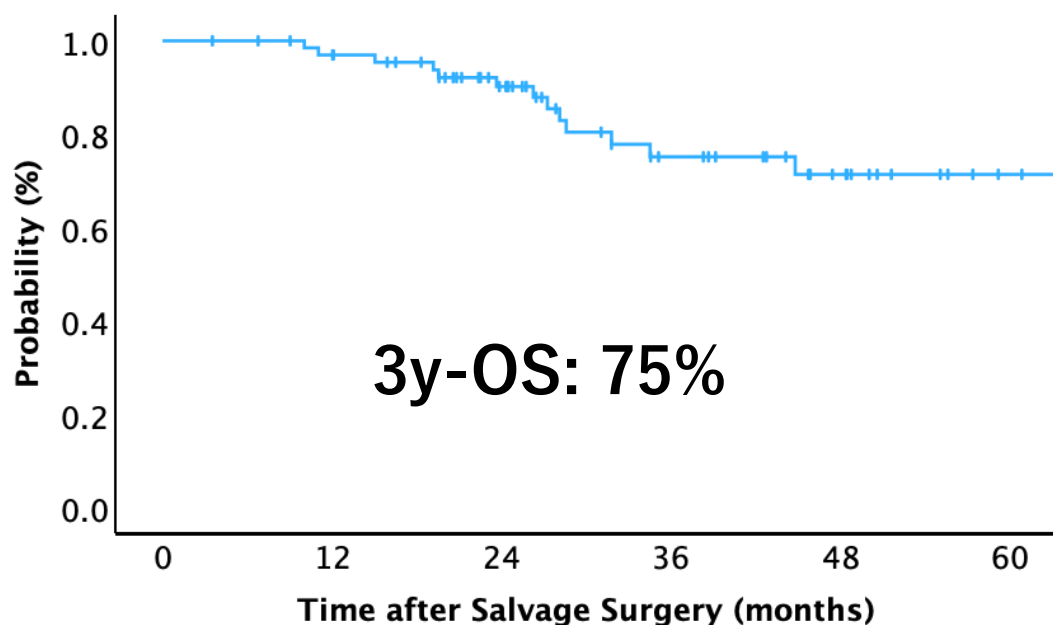
| c-stage IV (n=70)                       |                 |
|-----------------------------------------|-----------------|
| Operative time, min                     | 227.5 (143-306) |
| Blood loss, ml                          | 60 (27-154)     |
| Drain duration, days                    | 2 (2-4)         |
| Postoperative complication C-D grade ≥3 | 3 (4)           |
| Postoperative hospital stay, days       | 7 (5-11)        |
| 30-day mortality                        | 0 (0)           |
| 90-day mortality                        | 0 (0)           |

- ✓ **MIS: 67% (Conversion: 7%)**
- ✓ **Sublobar : 23% / Lobectomy: 73%**
- ✓ **Severe adhesions: 21%**
- ✓ **R0 resection of the primary tumor: 94%**
- ✓ **C-D grade ≥3 complications: 4%**
- ✓ **30-/90-day mortality: 0%/0%**

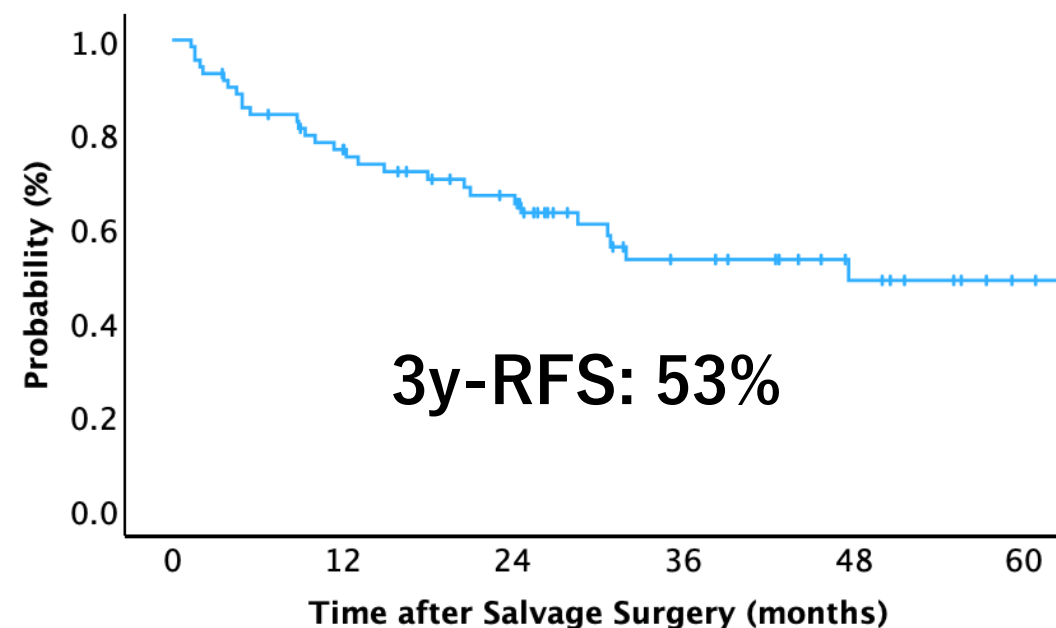
**technically demanding but safe**

# Survival Curves after Salvage Surgery

## Overall Survival



## Recurrence-free Survival



Median follow-up: **28.0** months (IQR, 21.1-46.2)

# Take-home Messages

## 1. Selected patients

**Median interval to surgery: 23.9 M**

## 2. Surgical safety

**C-D grade  $\geq 3$ : 4%**

**90-day mortality: 0%**

## 3. Favorable survival

**3-year OS: 75%**

**3-year RFS: 63%**

Only **R0 resection** was independently associated with survival in multivariable analysis.

**Salvage surgery is not for all patients with stage IV NSCLC, but may be a valuable option for highly selected patients with long-term disease control after ICI-based therapy.**