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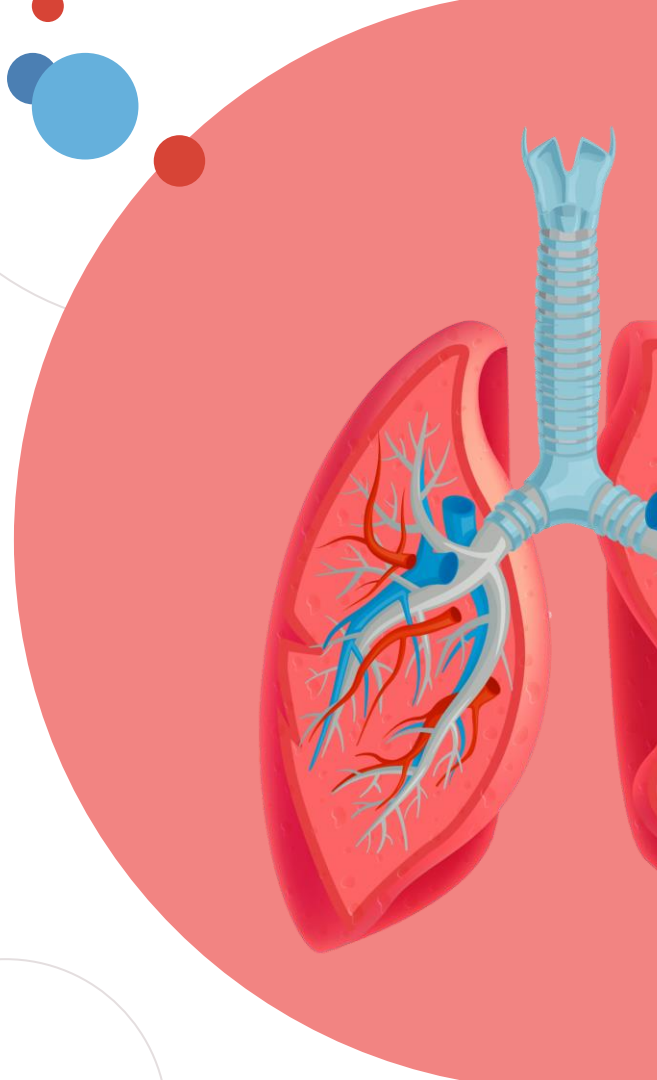
25 Years After SWOG, the NSCLC Treatment Revolution Has Skipped Pancoast: A Systematic Review and Meta-Analysis

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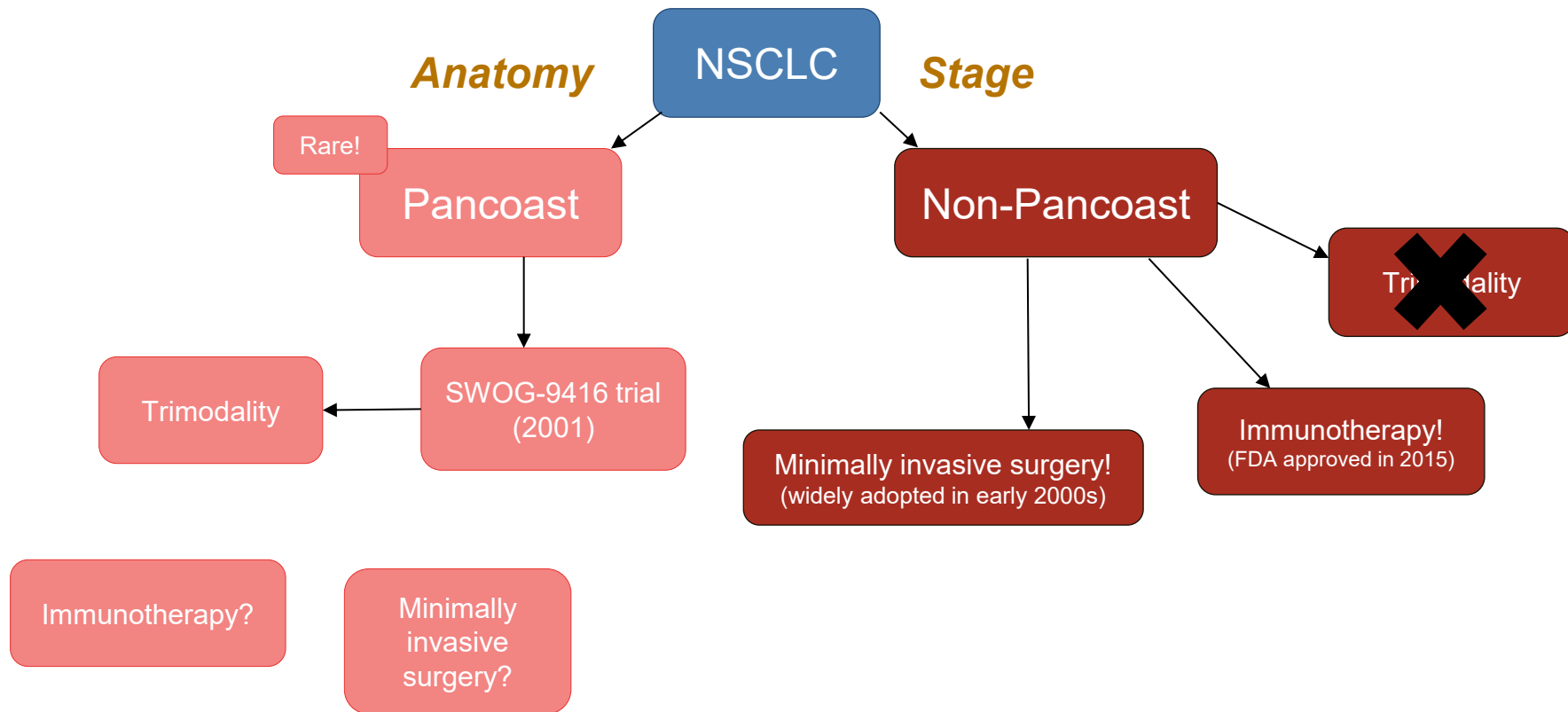
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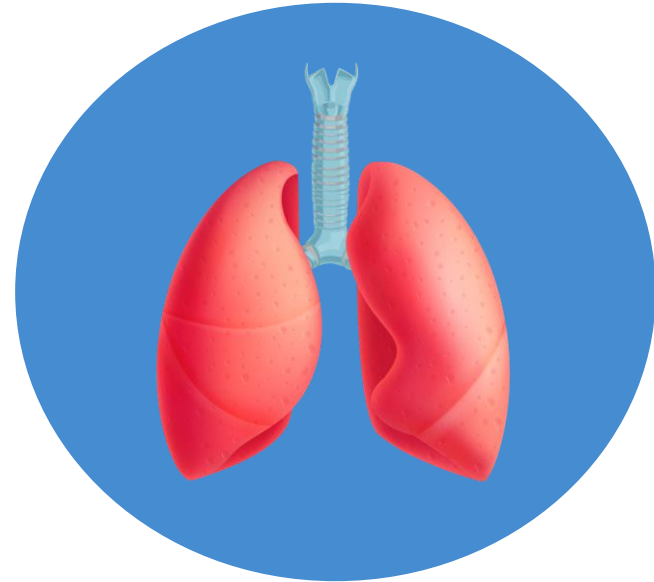


Systematic Review

- Definition of Pancoast
- Incidence of Pancoast
- Management of Pancoast

Meta-Analysis

- Pooled Outcomes
- Temporal Subgroups



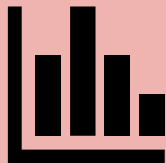
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**Systematic Review:**

- PubMed, Scopus, Web of Science, and CENTRAL
- Database inception - 03/01/2026
- Original studies with ≥ 10 Pancoast patients



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**Meta-analysis of a subset of papers:**

- 2001+, trimodality-dominant
- R0 resection, pathological complete response (pCR), 30-day mortality, 2-year survival, & 5-year survival
- Random-effects pooled proportions
- Pre-specified temporal subgroup analysis
 - Must have ≥ 5 papers per temporal subgroup

Screened 2,126 records

Systematic review: 90 studies, 8,243 patients

Snapshot

- Patients treated between 1955 and 2022
- 72/90 retrospective and single-institutional
- 3,294 patients were derived from two large database studies (NCDB, n=2,910; SEER, n=384)

Definitions

- Pancoast definitions are heterogeneous.
- No formal Pancoast definition
 - Increased mention of explicit radiologic and surgical criteria

Incidence

Incidence has not been reevaluated at the population level since early estimates were proposed in the early 1980s, with most reported incidence figures derived from repeated citation of historical literature → (*Berrino, 1982*)

Treatment

- Evolved from marked heterogeneity to near-universal dominance of trimodality therapy (63%)
- 3 patients treated with immunotherapy
 - 5 studies reported VATS, all published after 2009

Meta-analysis: 40 studies, 2,381 patients

Pooled Outcomes in Trimodality Cohorts



R0 resection
87.7%



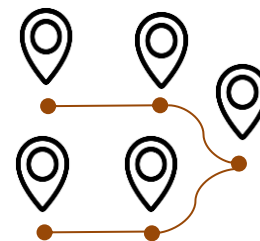
pCR
32.3%



30-day
mortality
3.4%

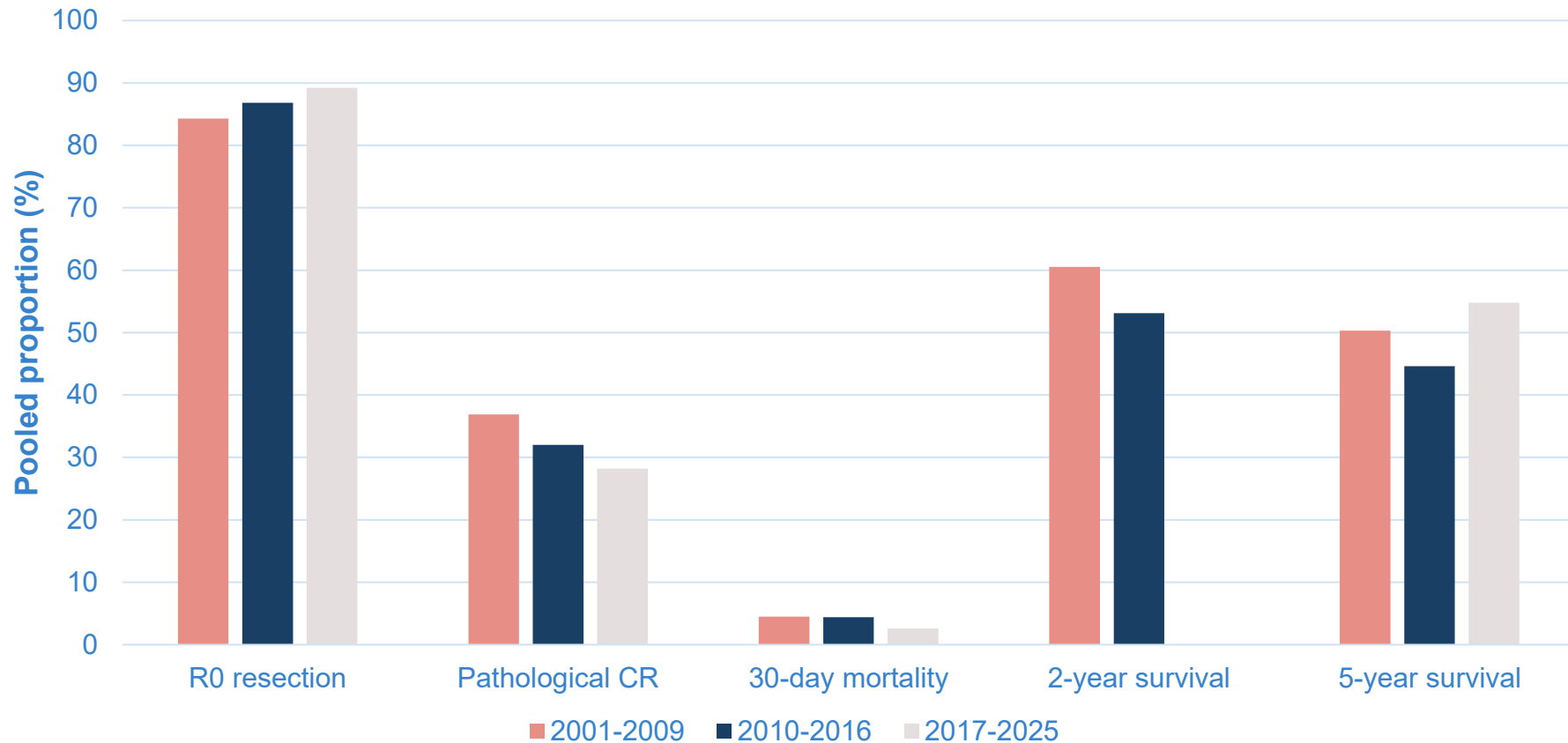


2-year
survival
63.0%



5-year
survival
48.9%

Outcomes by Publication Era Stratified by Study Density





A quarter of a century later, Pancoast outcomes are unchanged, and modern NSCLC therapies have not been studied in this disease.



There is very little novel data and almost no exploration of new therapies in the last 25 years. Outcomes after the (still) standard of care trimodality therapy are essentially unchanged.

Further study should:

1. Standardize the definition of Pancoast tumors
2. Reevaluate population-level incidence
3. Test immunotherapy and other modern systemic therapies
4. Compare Pancoast directly with stage-matched non-Pancoast NSCLC

Thank you!

Any questions? Feel free to reach out!
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Poster P1.117: 25 Years After SWOG, the NSCLC Treatment Revolution Has Skipped Pancoast: A Systematic Review and Meta-Analysis

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A quarter of a century later, Pancoast outcomes are *unchanged*, and modern NSCLC therapies have *not been studied* in this disease.



Introduction

Pancoast tumors are a rare NSCLC subtype involving the apical chest wall. SWOG-9416 established trimodality therapy in 2001 as the standard of care for Pancoast. Since then, broader NSCLC care has transformed with immunotherapy (IO) and minimally invasive surgery (MIS). **Whether Pancoast management evolved similarly was unknown.**

We aimed to:

- Scope the **definition** of Pancoast tumors
- Examine **incidence**, **treatment** regimens, and outcomes **over time**
 - as well as changes **specifically after SWOG**

Methods

- **Systematic Review:**
 - PubMed, Scopus, Web of Science, and Cochrane/CENTRAL
 - From database inception to 03/01/2026
- **Meta-analysis** of a subset of papers: ≥10 patients, 2001+, trimodality-dominant
 - **Outcomes:** R0 resection, pathological complete response (pCR), **30-day mortality**, **2-year survival**, **5-year survival**
 - Random-effects pooled proportions
 - **Pre-specified temporal subgroup analysis** to evaluate potential changes in pooled outcomes over time according to publication year
 - ≥5 papers minimum per temporal subgroup

Key Findings



Pancoast definitions are **highly variable**.



Population-level incidence is **unknown**.



Trimodality was dominant in **63% of papers**.



IO was reported in **only 3 patients**.



MIS reported only after **2009**.

META-ANALYSIS: POOLED OUTCOMES IN TRIMODALITY COHORTS



R0 resection
87.7%



pCR
32.3%



30-day mortality
3.4%



2-year survival
63.0%



5-year survival
48.9%

Outcomes by Publication Era Stratified by Study Density

Publication Eras	R0 resection	pathological CR	30-day mortality	2-year survival	5-year survival
2001-2009	84.3% (63.2-94.3) [65.4] (7)	36.9% (27.5-47.3) [64.8] (8)	4.5% (2.3-8.7) [0.0] (6)	60.5% (52.7-67.7) [72.4] (6)	50.3% (41.1-59.4) [57.9] (6)
2010-2016	86.8% (81.0-91.0) [34.1] (10)	32.0% (25.2-39.7) [55.9] (10)	4.4% (2.6-7.3) [0.0] (10)	53.1% (33.4-71.9) [73.1] (5)	44.6% (41.1-59.4) [57.9] (6)
2017-2025	89.2% (84.5-92.6) [49.7] (7)	28.2% (21.8-35.7) [75.4] (8)	2.6% (1.4-4.8) [0.0] (6)	— — — (2)	54.8% (42.5-66.5) [74.7] (5)
% (95% CI) [I ²] (number of studies per pooled outcome)					

Outcomes are not meaningfully different from SWOG, and there has been no clear, consistent improvement over time.

Results

- **Systematic review:** 90 studies, 8,243 unique patients
 - **Screened 2,126 records**
 - Pancoast **definitions are extremely heterogeneous**.
 - Population-level **incidence has not been evaluated** since 1982.
 - **Trimodality** therapy remains the standard of care for Pancoast tumors, with **minimal integration of modern systemic therapies**.
- **Meta-analysis:** 40 studies, 2,381 patients
 - R0 resection rates remain high.
 - pCR appears to be worsening.
 - **30-day mortality** remains low.
 - **2-year** and **5-year survival** have not demonstrated consistent improvement.

Conclusion

A quarter century after SWOG, there is little novel data and almost no exploration of new therapies in Pancoast. **Further study should:**

- **standardize the definition** of Pancoast,
- **re-evaluate** population-level **incidence**,
- compare outcomes directly with stage-matched non-Pancoast NSCLC,
- explore NGS mutational profiles, &
- **test modern systemic therapies such as chemoIO** in Pancoast.

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