
What's New in Bronchiectasis Management

ERS 2025 vs. Chest 2026

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Bronchiectasis research development

- **Multinational Bronchiectasis Registries**

- 2012: EMBARC established
- 2015: EMBARC Prospective registry / Australian bronchiectasis registry
- **2017**: US Bronchiectasis Research Registry
 - ERS guideline: Conditional + Low/Very low certainty
- 2020: KMBARC/BE-China

- **High-Quality RCT**

- Inhaled antibiotics (RESPIRE/ORBIT/Tobramycin/PROMIS)
- ACT/PEP
- Muco-active drug (Hypertonic saline/Oral muco-active drug)
- Pulmonary rehabilitation
- DPP1 inhibitor (WILLOW/ASPEN)

→ **Growing evidence: Updated international guidelines (2025: ERS guideline/2026: CHEST guideline)**

ERS 2025 vs Chest 2026

Item	2025 ERS	2026 CHEST
Literature search period	2023.11 -2024.01	2023.10 (+ 2025.06 update)
PICO	8 PICO	8 PICO
Patient involvement	3 patient representatives (EMBARC/ELF)	No
Consensus threshold	≥ 70% agreement	≥ 80% agreement
Strong recommendation	Included	Not included
Narrative questions	Underlying cause/ Comorbidities/Severity/Deterioration	X
Additional recommendation	ICS, Pulmonary rehabilitation	Brensocatib, Atorvastatin, Tranexamic acid

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① Initial assessment

② Airway clearance

③ Infection

④ Inflammation

⑤ Exacerbation

⑥ Others



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① Initial assessment

② Airway clearance

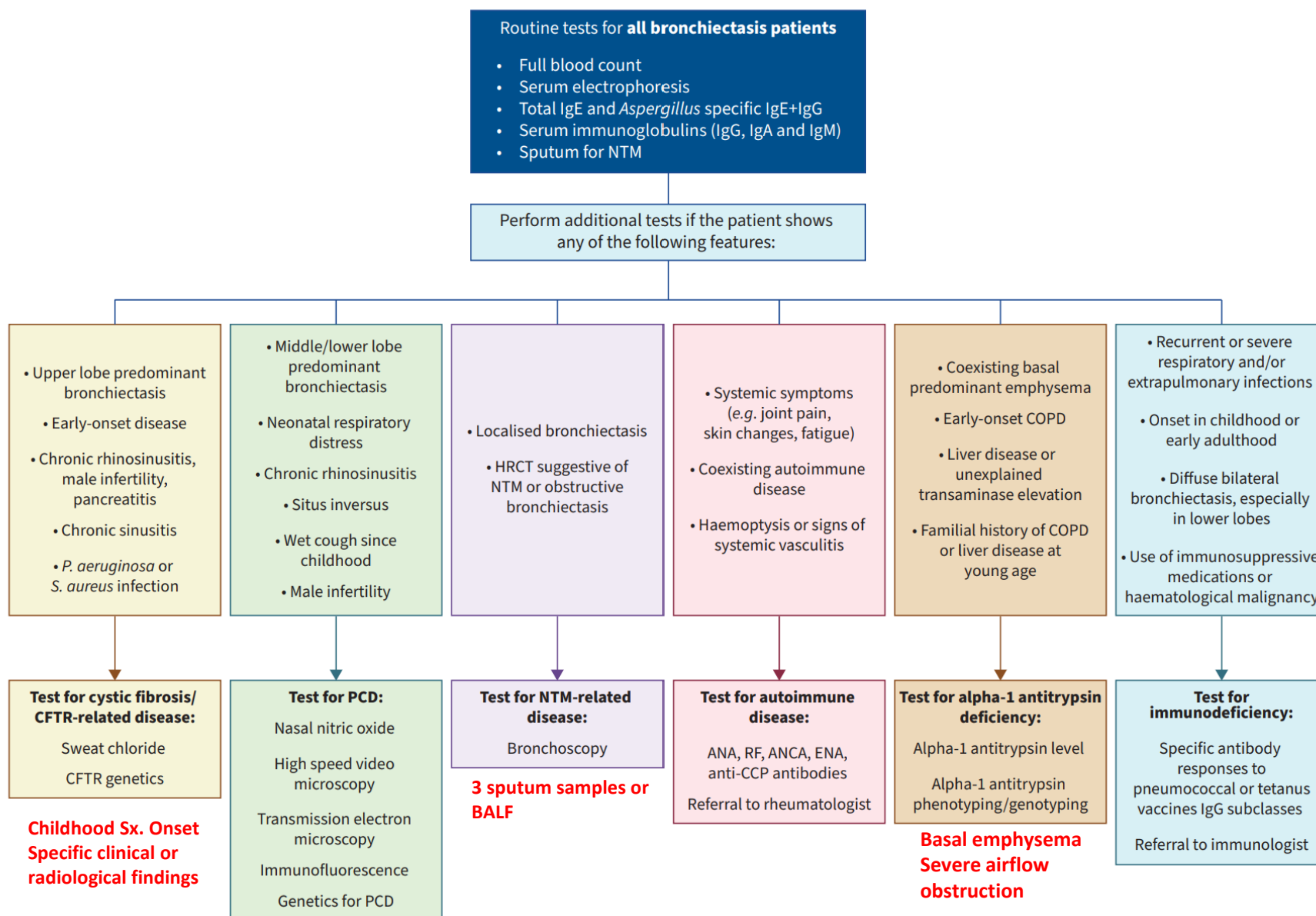
③ Infection

④ Inflammation

⑤ Exacerbation

⑥ Others

Initial Assessment



1 Screening

- CBC
- Serum Electrophoresis
- Serum Immunoglobulin
- Total IgE
- *Aspergillus* specific IgE + IgG
- Sputum for NTM

2 High risk pts.

- COPD, PCD, RA
- PsA or Gram-negative infection
- Frequent exacerbations
- Severe symptoms
- NTM / ABPA

→ frequent FU and a lower threshold for treatment

3 Comorbid illness: low QoL, high mortality

- Cardiovascular disease
- Osteoporosis
- Depression/Anxiety
- Rhinosinusitis/GERD

4 Bronchiectasis Severity Index

TABLE 2 The Bronchiectasis Severity Index

Severity marker	Score
Age, years	
<50	0
50–69	2
70–79	4
≥80	6
BMI, kg·m ⁻²	
<18.5	2
18.5–25	0
26–29	0
≥30	0
FEV ₁ % pred	
>80	0
50–80	1
30–49	2
<30	3
Previous hospital admission	
No	0
Yes	5
Number of exacerbations in previous year	
0	0
1–2	0
≥3	2
MRC breathlessness score	
1–3	0
4	2
5	3
<i>Pseudomonas</i> colonisation	
No	0
Yes	3
Colonisation with other organisms	
No	0
Yes	1
Radiological severity: ≥3 lobes involved or cystic bronchiectasis	
Yes	1
No	0

≥ 9 points: severe or high risk of mortality and hospitalization

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① Initial assessment

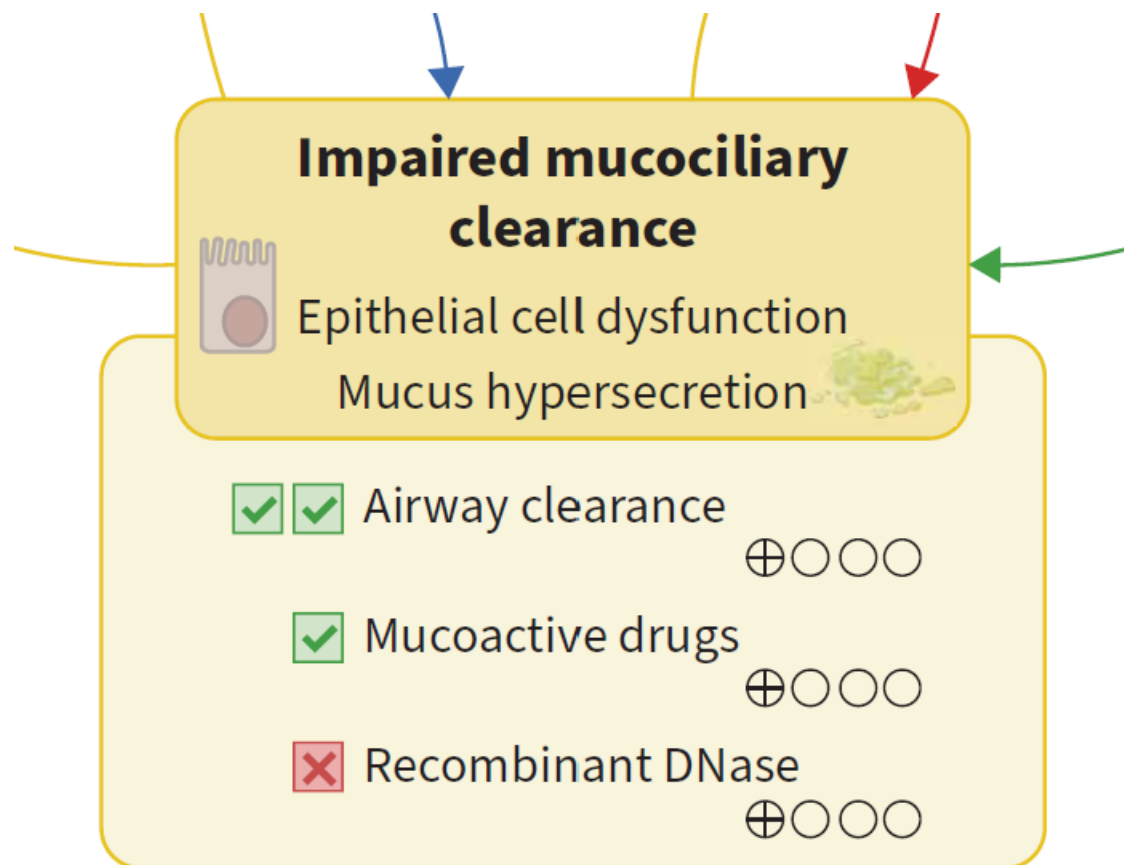
② **Airway clearance**

③ Infection

④ Inflammation

⑤ Exacerbation

⑥ Others



ACBT

University College London Hospitals
NHS Foundation Trust

Huff

자막 C

2:37 / 4:17 Huffing exercise >

How to clear phlegm from your chest | Active cycle of breathing technique (ACBT)

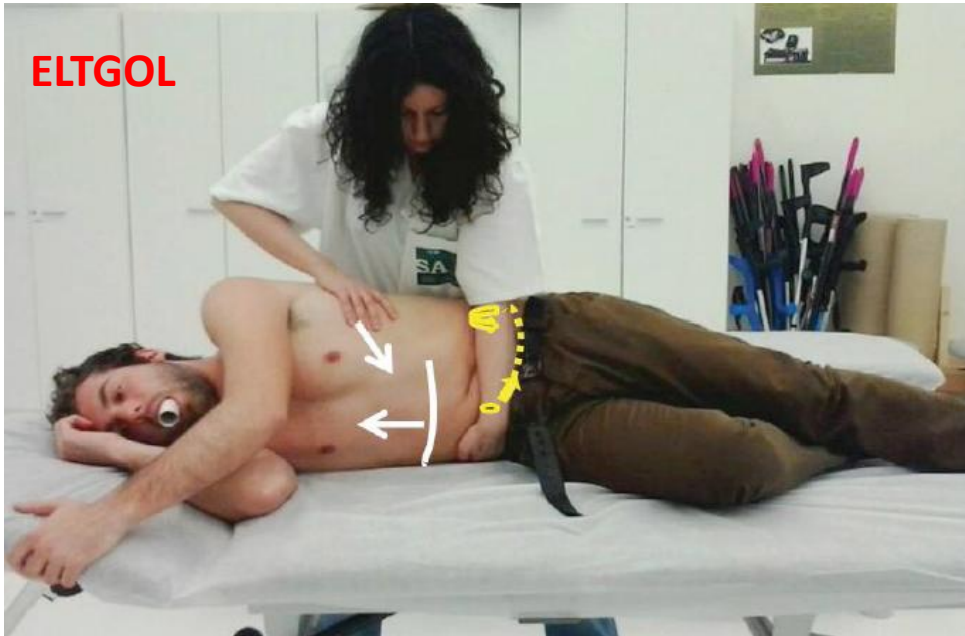


University College London Hospitals NHS Foundation Trust

구독자 4.79만명

구독

ELTGOL



OPEP



(A): acapella* green and blue versions
With acapella*
Choice† green below



(B) Aerobika*



(C) Flutter*



(D) Lung Flute*



(E) PocketPep*



(F) Quake*



(G) RC-Cornet*



(H) ShurClear*



(I) Vibralung*



(J) vPEP*



(K) VibraPEP*

• ACT

↑ sputum clearance

↓ cough impact

↑ QoL

	ELTGOL			Placebo			p-value ⁱ
	Baseline	Month 12	Between-group differences	Baseline	Month 12	Between-group differences	
SGRQ total score	40.2±13.7	33.7±15.7	−6.8 (−15.1–1.5) ⁺	35.0±9.9	47.6±12.8	11.4 (6.9–15.9) ⁺	<0.001
LCQ total score	14.5±3.4	16.2±3.2	1.96 (0.2–3.8) ⁺	15.7±2	13.7±2.1	−2 (−2.8– −1.2) ⁺	<0.001
Exacerbations	2 (1–3.25)	1 (0–2)	−0.8 (−1.5– −0.1) [¶]	1(0.75–2.25)	2 (1–3)	0.35 (−0.5–0.35) [¶]	0.042

TABLE 2 Sputum volume obtained during the study

	Sputum volume mL		p-value
	ELTGOL group	Placebo group	
Baseline 24-h	20 (15–40)	15 (15–20)	0.061
Visit 2 overall 24-h	40 (23.75–60)	12.5 (0–20)	<0.001
During intervention	12.27±11.93	0	
24 h later	30 (20–45)	12.5 (0–20)	<0.001
Difference between visit 2 and baseline⁺	17.5 (10–26.25)	−5 (−11.25–0)	<0.001
Month 12 overall 24-h	35 (30–50)	15 (10–20)	<0.001
During intervention	10.83±5.21	0	
24 h later	25 (20–40)	15 (10–20)	0.001
Difference between month 12 and baseline[#]	10 (−5–25)	0 (−10–3.75)	0.015
Difference between month 12 and visit 2[¶]	−5 (−30–5)	5 (5–10)	0.019

Airway clearance technique

ERS 2025

PICO 1

Strong recommendation, Very low certainty of evidence

- **Teach ACT to all pts**
 - No technique proven superior
 - Even dry-cough pts with mucus plugging may benefit
 - Airway clearance devices may be used to support manual ACTs
- **Why?**
 - Self-administered, low-cost, widely accessible
 - Strong patient advocacy

Chest 2026

PICO 7

Conditional recommendation, Very low certainty of evidence

- **[ELTGOL]** expiration with an open glottis in the lateral position
- **[ACB]** active cycle of breathing:
Conditional recommendation, Low certainty evidence
- **[PEP]** oscillatory positive expiratory pressure:
Conditional recommendation, Very low certainty
- **[HFCWO]** high frequency chest wall oscillation:
Conditional recommendation, Very low certainty evidence

Mucoactive drug

Table 2. Outcomes in the Modified Intention-to-Treat Population.*

Outcome	HTS (N=126)	No HTS (N=141)	Mean Difference or Hazard Ratio, HTS vs. No HTS (95% CI)	Carbocisteine (N=129)	No Carbocisteine (N=138)	Mean Difference or Hazard Ratio, Carbocisteine vs. No Carbocisteine (95% CI)
	mean (95% CI)			mean (95% CI)		
Primary outcome: no. of pulmonary exacerbations over 52 wk†	0.76 (0.58 to 0.95)	0.98 (0.78 to 1.19)	−0.25 (−0.57 to 0.07)	0.86 (0.66 to 1.06)	0.90 (0.70 to 1.09)	−0.04 (−0.36 to 0.28)
Secondary outcomes						
Health-related quality-of-life measures‡						
QoL-B respiratory symptoms	59.8 (57.0 to 62.6)	60.5 (57.9 to 63.1)	−0.7 (−4.6 to 3.1)	60.0 (57.2 to 62.8)	60.3 (57.7 to 62.9)	−0.3 (−4.2 to 3.5)
SGRQ total score	42.5 (39.9 to 45.0)	42.7 (40.4 to 45.1)	−0.3 (−3.8 to 3.2)	42.8 (40.2 to 45.3)	42.5 (40.1 to 44.9)	0.3 (−3.2 to 3.8)

- ✓ **Exacerbations:** Overall, no change
inhaled mannitol: delayed time to first event
- ✓ **QoL (SGRQ, QoLB):** Improvements (not significant)
- ✓ **Sputum :** NAC reduced 24-h sputum volume

Recombinant DNase

Table 3—Pulmonary Exacerbations: Rates and Risk

	Placebo Rate	rhDNase Rate	Relative Risk	95% CI
PDEs	0.56	0.66	1.17	0.85, 1.65
NPDEs	0.14	0.29	2.01	1.15, 3.50
PDEs and NPDEs	0.71	0.95	1.35	1.01, 1.79

Mucoactive drug

ERS 2025

PICO 2

Conditional recommendation, Very low certainty of evidence

- Mannitol, Hypertonic saline, *N*-acetylcysteine
→ Suggested if ACTs alone fail to control symptoms
- Recombinant DNase: Against use

Chest 2026

PICO 7

Conditional recommendation

- Suggest the use of nebulized hypertonic saline
: Conditional recommendation, Very low certainty evidence
- Inhaled Mannitol/Carbocysteine/*N*-acetylcysteine
: No recommendation
- Suggest **against** the use of recombinant DNase
: Conditional recommendation, Low certainty

- Hypertonic saline / mannitol: mucus hydration + cough stimulation
 - NAC / carbocisteine: ↓ mucus viscosity
- Highly symptomatic patients with poor QoL could be considered

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① Initial assessment

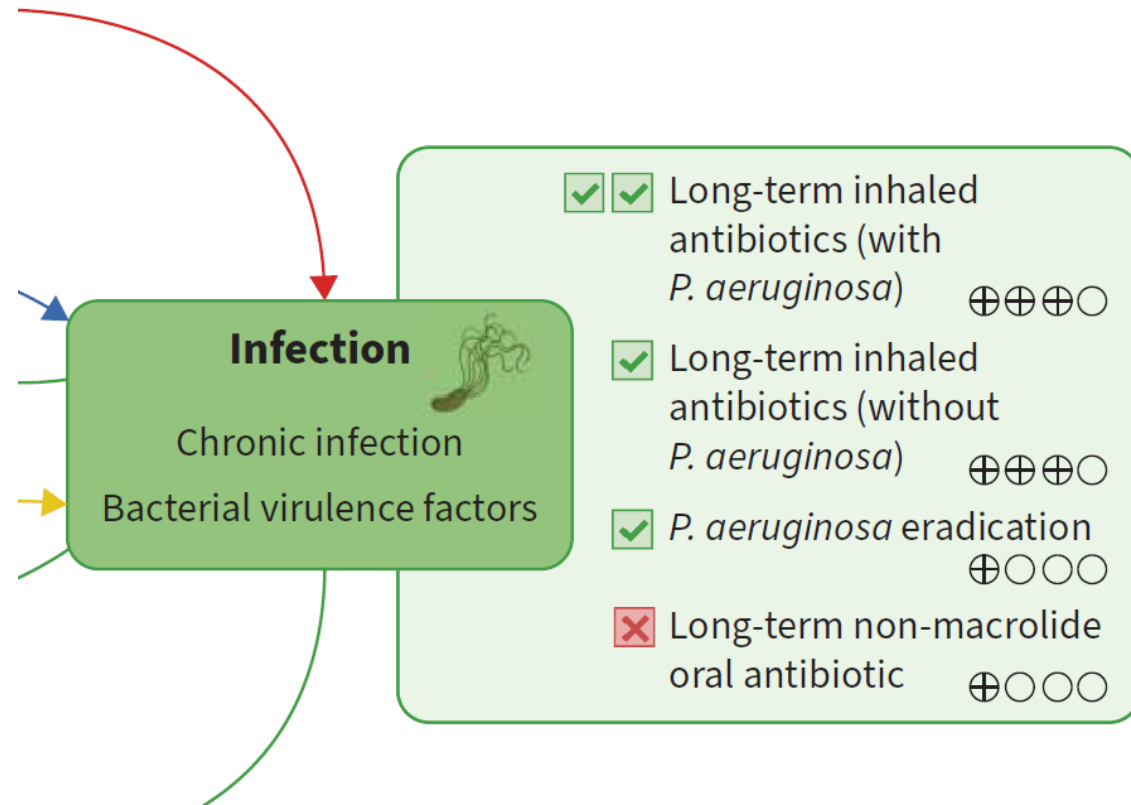
② Airway clearance

③ Infection

④ Inflammation

⑤ Exacerbation

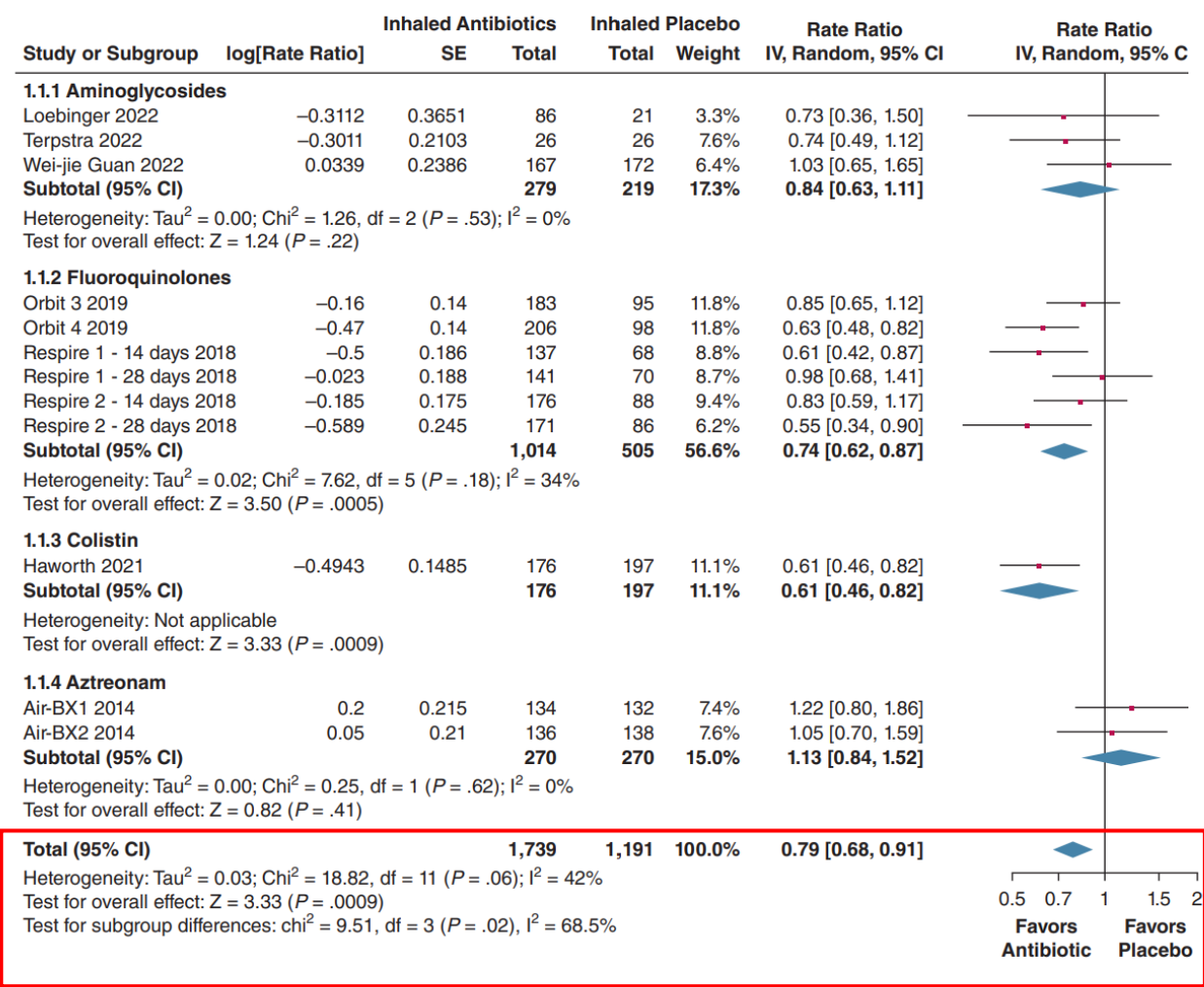
⑥ Others



Infection: Inhaled antibiotics

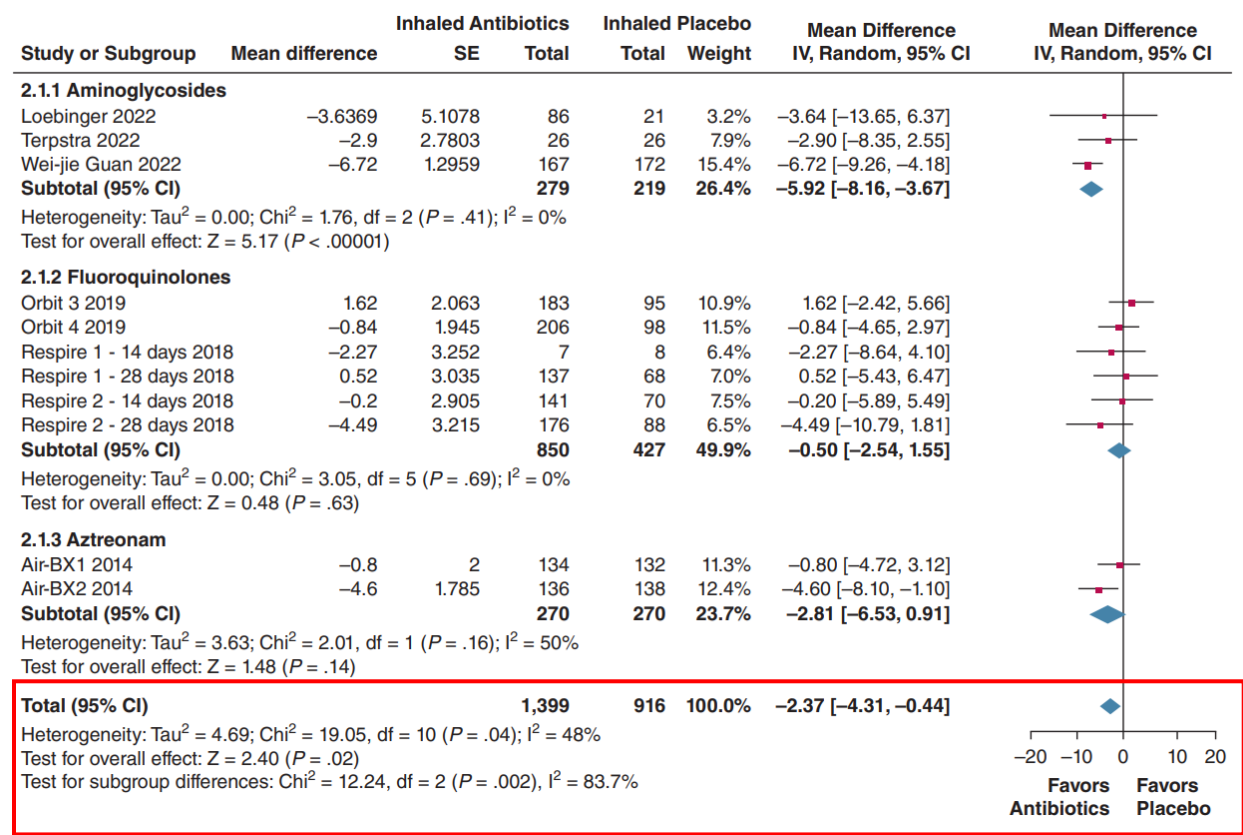
Frequency of exacerbation

A



Quality of Life

A



Infection: Inhaled antibiotics

	PROMIS-I			PROMIS-II		
	Colistimethate sodium (n=176)	Placebo (n=197)	p value	Colistimethate sodium (N=152)	Placebo (N=135)	p value
Primary efficacy endpoint						
Annual exacerbation rate, least squares mean, negative binomial model	0.580	0.948	..	0.889	0.885	..
Annual rate ratio, least squares mean	..	0.612 (95% CI 0.457 to 0.820)	p=0.0010	..	1.004 (0.747 to 1.349)	p=0.98
Secondary efficacy endpoints, in order of protocol specified hierarchical testing						
Median time to first exacerbation, days	NR (95% CI 266.0 to NR)	208.0 (152.0 to 261.0)	..	267.0 (189.0 to 357.0)	214.0 (177.0 to 279.0)	..
Kaplan Meier, 25–75% percentile	122.0 to NR	67.0 to NR	..	73.0 to NR	83.0 to NR	..
Comparison of survival curves	..	..	p=0.00074	..	..	Not reported*
Hazard ratio for time to first exacerbation, Cox model	..	0.590 (95% CI 0.432 to 0.806)	..	..	0.928 (95% CI 0.671 to 1.284)	..
Change from baseline to 12 months or end of treatment in St George's Respiratory Questionnaire total score for quality of life between treatment groups, number of patients with data available	124	144	..	91	86	..
Change from baseline to 12 months or end of treatment in St George's Respiratory Questionnaire total score for quality of life between treatment groups, least squares mean, linear mixed model	..	−4.552 (95% CI −7.755 to −1.349)	p=0.0055	..	0.457 (95% CI −3.692 to 4.606)	Not reported*

Infection: Inhaled antibiotics

ERS 2025

PICO 3

- *P. aeruginosa*: strong recommendation
- Other pathogens: conditional recommendation
- **High-risk exacerbators**
 - ✓ ≥ 2 exacerbations/year
 - ✓ ≥ 1 severe exacerbation
 - ✓ 1 exacerbation + severe symptoms
- Strong support from **patient representatives**

Chest 2026

PICO 4

- Long-term inhaled antibiotics (≥ 3 months)
: conditional recommendation, Low certainty
 - ✓ Exacerbations: Reduced overall risk (RR 0.83)
- **High-risk exacerbators**
 - ✓ ≥ 2 exacerbations/year
- **Limitations**
 - ✓ High study heterogeneity
 - ✓ Mild bronchospasm
 - ✓ Antimicrobial resistance

Infection: Non-macrolide oral antibiotics

- **NOT to offer** as first-line treatment
: Conditional recommendation against, Very low-certainty
- **Exceptions**
 - ✓ Macrolide contraindication/intolerance
 - ✓ High NTM prevalence
 - ✓ Culture-directed therapy

TABLE 4. *Severity of acute exacerbations. Percentage of patients experiencing milder acute exacerbations than their usual during the study in the amoxycillin (A) and placebo (P) groups*

Time interval	0–32 weeks		32–52 weeks		0–52 weeks	
Group	A	P	A	P	A	P
Patient numbers ^a	14	18	12	13	17	19
Sputum	64**	17	83**	31	65**	21
Breathlessness	36	17	67*	8	41**	5
General symptoms	50	17	83*	23	65**	21

Statistical significance of differences between amoxycillin and placebo group for each time interval assessed by Yates χ^2 test.

* $p < 0.01$; ** $p < 0.05$; $p > 0.1$ for other two comparisons.

^aIn each time period only those patients who experienced one or more exacerbations are included.

Infection: Eradication

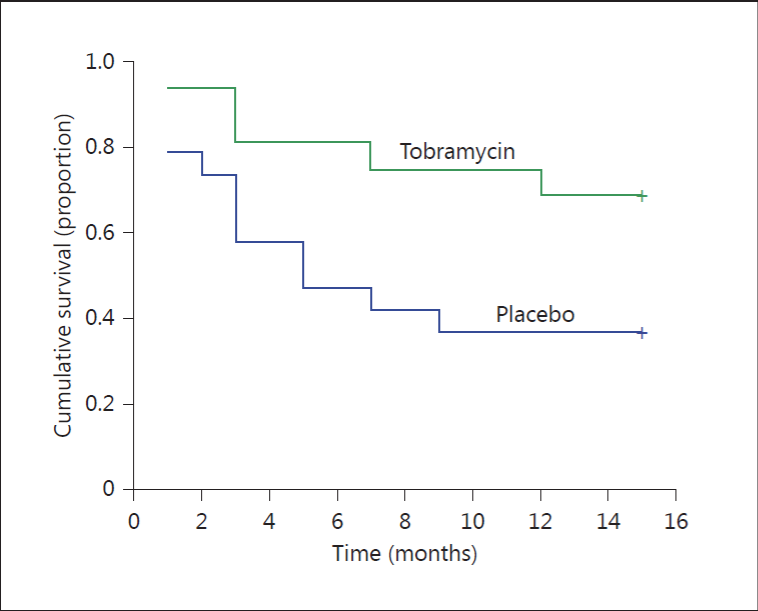
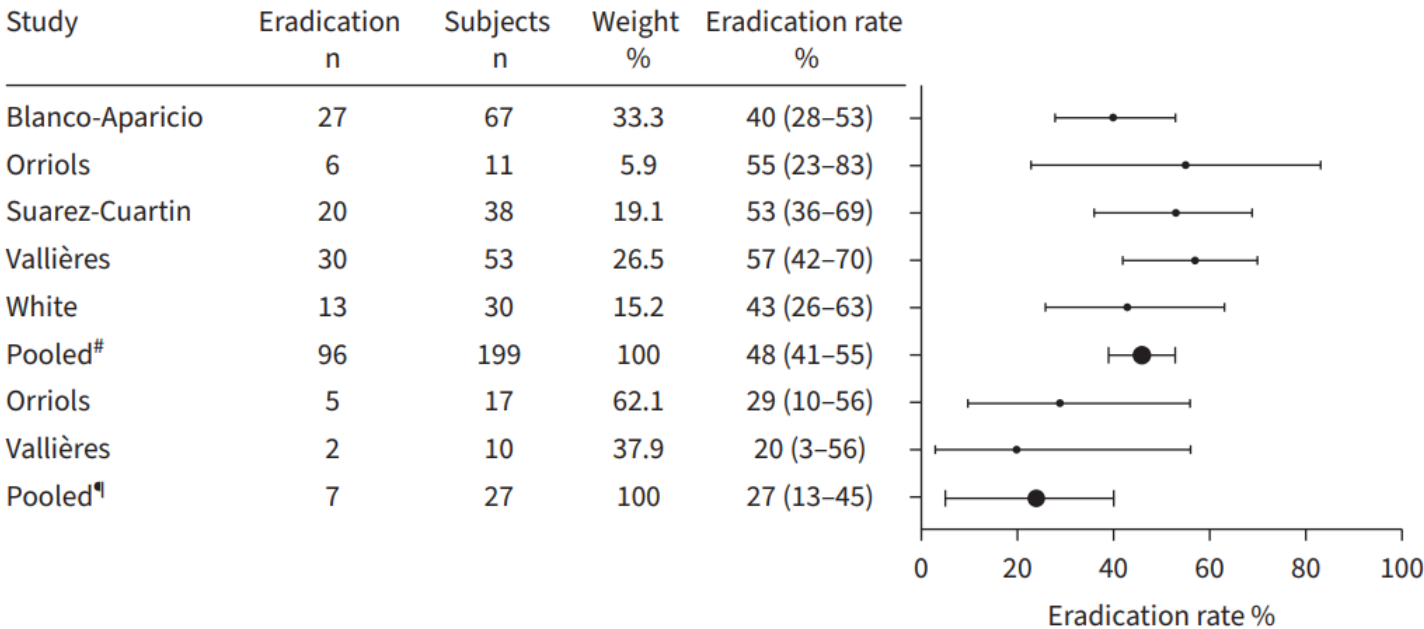


Table 3. Effect of treatment with the tobramycin nebulisation solution versus placebo

	Tobramycin group (n = 16)	Placebo group (n = 19)	p
Exacerbations, n	1.27±1.62	2.5±1.63	0.04
Admissions, n	0.06±0.25	0.47±0.51	0.04
Days of admission	0.90±3.01	13.56±22.64	0.03
Days of antibiotic use	8.4±11.2	19.1±24.4	0.052
ESR change, mm/h	-3.25±16.76	10.72±18.47	0.11
CRP change, mg/dl	-0.67±2.01	2.04±4.24	0.09
Leucocyte change, ×10 ⁹ /l	1,436±3,119	785.71±4,544	0.69
FVC change, %	-2.55±6.26	1.35±12.17	0.36
FEV ₁ change, %	-0.78±5.12	1.46±6.23	0.36
PO ₂ change, mm Hg	-10.97±13.19	0.25±19.37	0.18
PCO ₂ change, mm Hg	5.72±14.84	-5.77±21.11	0.20

Eradication

Achievement of sustained culture negativity for PsA after initial isolation



Infection: Eradication

ERS 2025

PICO 6

- First isolation of *P. aeruginosa*
 - **Offer eradication therapy**
- : Conditional recommendation, Very low-certainty

→ **prioritizes early intervention for PsA**

Chest 2026

PICO 3

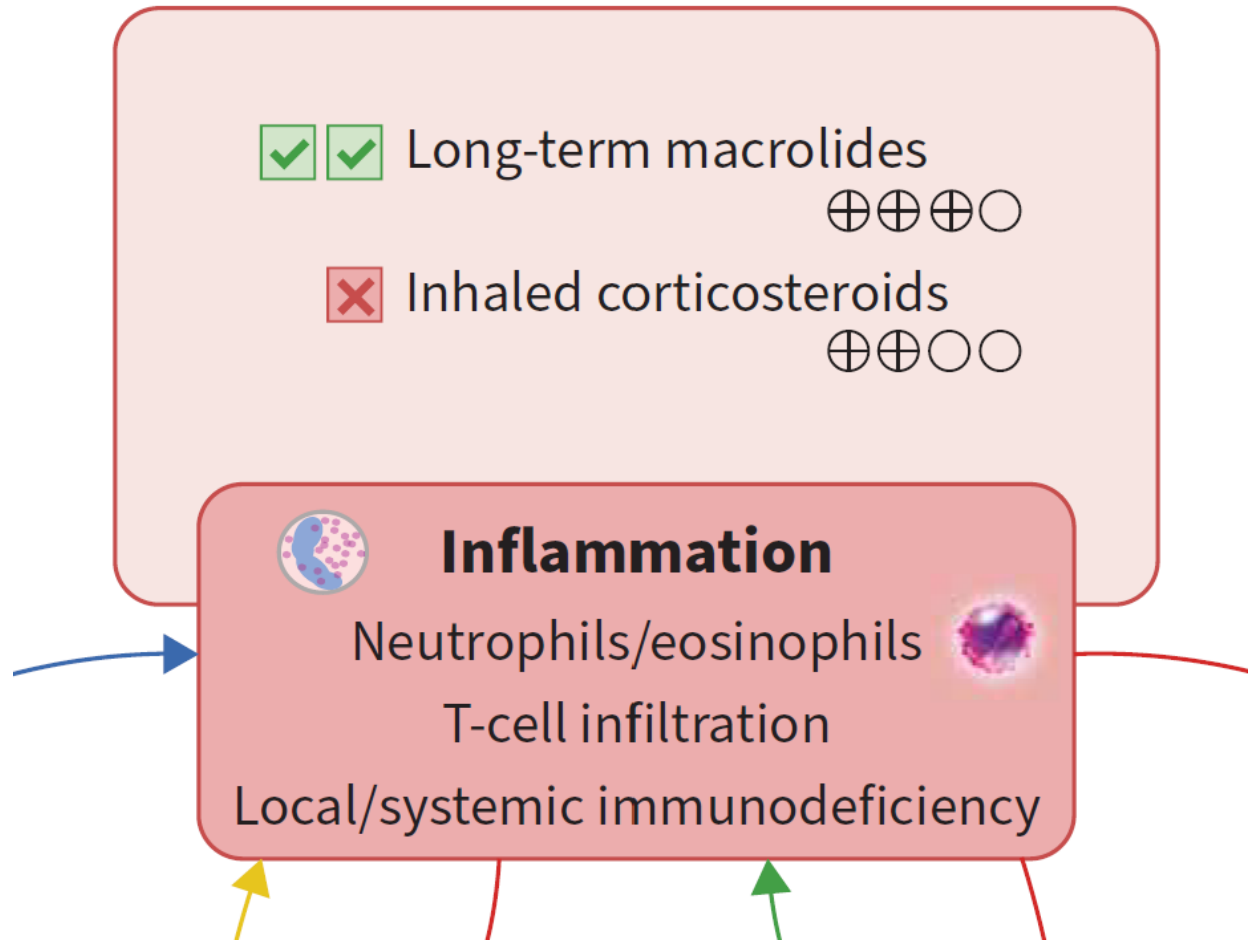
- First isolation of *P. aeruginosa*
 - **No specific recommendation** for or against eradication: Insufficient evidence

→ **prioritizes evidence certainty**

- **Practical approach** (based on 2017 ERS guideline)
 - 2-week systemic antibiotics → 6 wks ~ 3 months inhaled antibiotics
 - Serial sputum cultures follow up

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- ④ **Inflammation**
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- ⑥ Others



Inflammation : Macrolide

	Number of participants (intervention vs placebo)	Incident rate ratio (95% CI)	p value	P _{interaction} value
Age groups	..	..	..	0.18
<50 years	53 (27 vs 26)	0.61 (0.27–1.37)	0.23	..
50–69 years	211 (110 vs 101)	0.52 (0.36–0.76)	0.0011	..
≥70 years	77 (36 vs 41)	0.36 (0.18–0.71)	0.0032	..
Sex	..	..	..	0.31
Male	119 (59 vs 60)	0.59 (0.35–0.99)	0.047	..
Female	222 (114 vs 108)	0.43 (0.29–0.62)	<0.0001	..
Previous exacerbations (per year)	..	..	..	0.86
1–2	73 (37 vs 36)	0.37 (0.16–0.88)	0.025	..
3	85 (48 vs 37)	0.62 (0.32–1.20)	0.072	..
≥4	183 (88 vs 95)	0.52 (0.36–0.77)	0.0019	..
Smoking status	..	..	..	0.64
Never	222 (115 vs 107)	0.51 (0.35–0.74)	<0.0001	..
Former	112 (56 vs 56)	0.44 (0.27–0.73)	0.0024	..
Current	7 (2 vs 5)	NE	NA	..
Inhaled corticosteroid use	..	..	..	0.46
Yes	223 (112 vs 111)	0.49 (0.34–0.71)	<0.0001	..
No	118 (61 vs 57)	0.44 (0.26–0.75)	0.0036	..
BMI at baseline (kg/m ²)	..	..	..	0.50
<21	38 (20 vs 18)	0.36 (0.13–1.02)	0.054	..
21–24.9	179 (92 vs 87)	0.56 (0.37–0.84)	0.0050	..
25–29.9	65 (36 vs 29)	0.55 (0.27–1.10)	0.093	..
30 or more	59 (25 vs 34)	0.27 (0.12–0.61)	0.0018	..

Cause	..	..	..	0.034
Idiopathic and post-infective	267 (149 vs 118)	0.56 (0.39–0.80)	0.0029	..
Other	74 (24 vs 50)	0.23 (0.11–0.52)	<0.0001	..
Baseline concentration of C-reactive protein (mg/L)	..	..	..	0.27
<2	98 (49 vs 49)	0.60 (0.34–1.03)	0.065	..
2–5	95 (51 vs 44)	0.52 (0.30–0.92)	0.023	..
5.1–10	71 (36 vs 35)	0.33 (0.15–0.73)	0.0061	..
>10	60 (30 vs 30)	0.35 (0.17–0.76)	0.0086	..
Baseline FEV ₁ (% predicted)	..	..	..	0.51
≥80	137 (64 vs 73)	0.52 (0.32–0.84)	0.0088	..
50–79	144 (82 vs 62)	0.43 (0.27–0.70)	0.0015	..
<50	60 (27 vs 33)	0.55 (0.27–1.12)	0.10	..
SGRQ total score	..	..	..	0.90
<30	139 (72 vs 67)	0.50 (0.29–0.84)	0.0082	..
30–49	123 (64 vs 59)	0.45 (0.27–0.74)	0.0024	..
≥50	79 (37 vs 42)	0.50 (0.28–0.90)	0.022	..
<i>Pseudomonas aeruginosa</i> infection	..	..	..	0.45
Yes	61 (31 vs 30)	0.36 (0.18–0.72)	0.0044	..
No	280 (142 vs 138)	0.53 (0.38–0.74)	<0.0001	..
IRR=incident rate ratio. NE=not estimable. NA=not applicable. BMI=body-mass index. SGRQ=St George's Respiratory Questionnaire.				
Table 2: Subgroup analysis of bronchiectasis exacerbation frequency				

Inflammation : Macrolide

ERS 2025

PICO 4

Strong recommendation, moderate certainty of evidence

- **High-risk exacerbators**
 - ✓ ≥ 2 exacerbations/year
 - ✓ fewer exacerbations with severe symptoms
- **Preferred regimen**
 - ✓ Azithromycin
 - ✓ Dose: 250 mg daily or TIW or 500mg TIW
- **Monitoring**
 - ✓ Exclude NTM before treatment
 - ✓ Monitor ECG/QT & hearing
 - ✓ Reassess after 1 year

Chest 2026

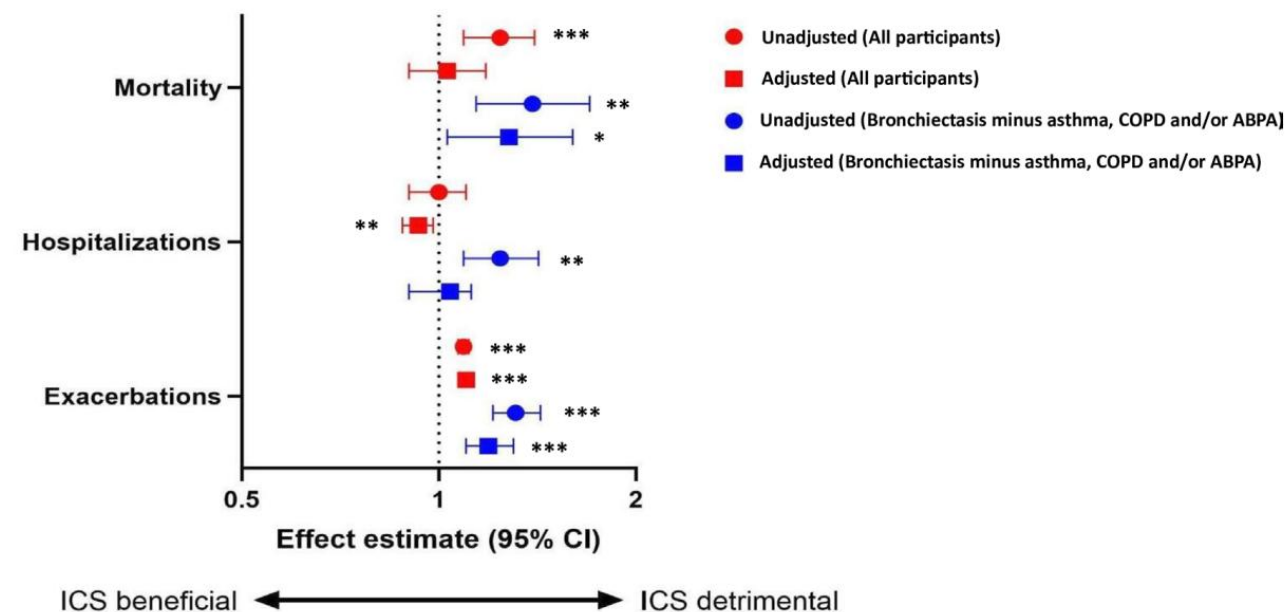
PICO 5

Conditional recommendation, moderate certainty evidence

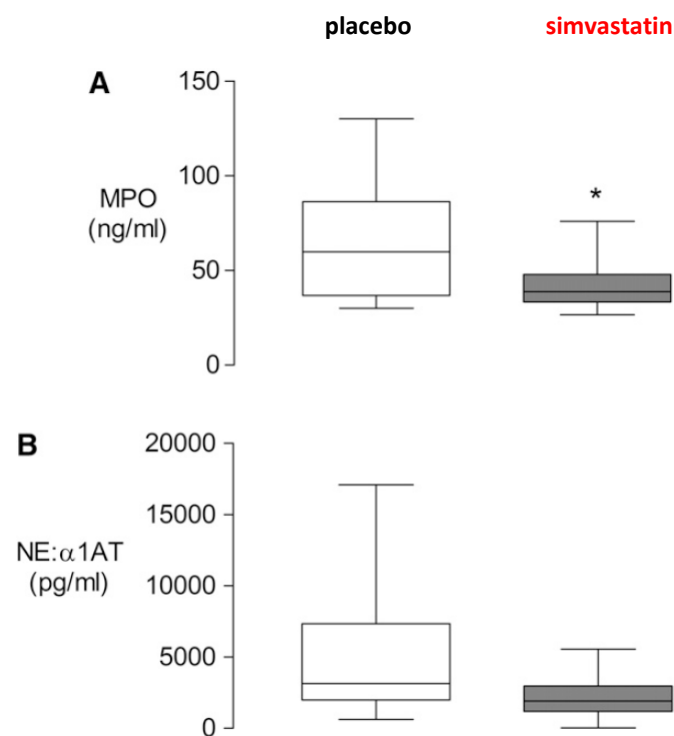
- **Frequent exacerbators**
- **Key benefits**
 - ✓ ↓ Exacerbations (-1.01/year)
 - ✓ No increase in serious adverse events
 - ✓ High adherence (~96%)
- **Concerns**
 - ✓ Trend toward increased macrolide resistance
 - ✓ Baseline NTM evaluation recommended

Inflammation : Inhaled corticosteroid

- **Do NOT** routinely use ICS:
Conditional recommendation, low certainty of evidence
- Continue only when indicated (asthma, COPD)
- **Why?**
 - ✓ Routine benefit not demonstrated
 - ✓ Potential harms
 - Pneumonia
 - NTM Infection



Inflammation : Atorvastatin



- **Against** long-term atorvastatin therapy:

Conditional recommendation, low certainty of evidence

- ✓ Crossover Trial

SGRQ Score : Improved significantly by -5.62 points ($P=0.016$)

LCQ Score: Showed no statistically significant change

- ✓ RCT

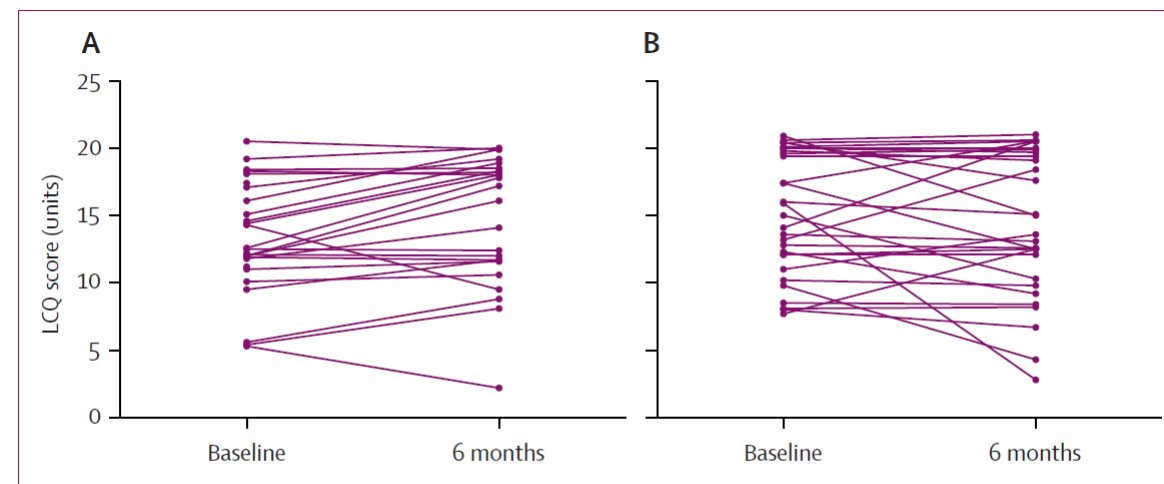


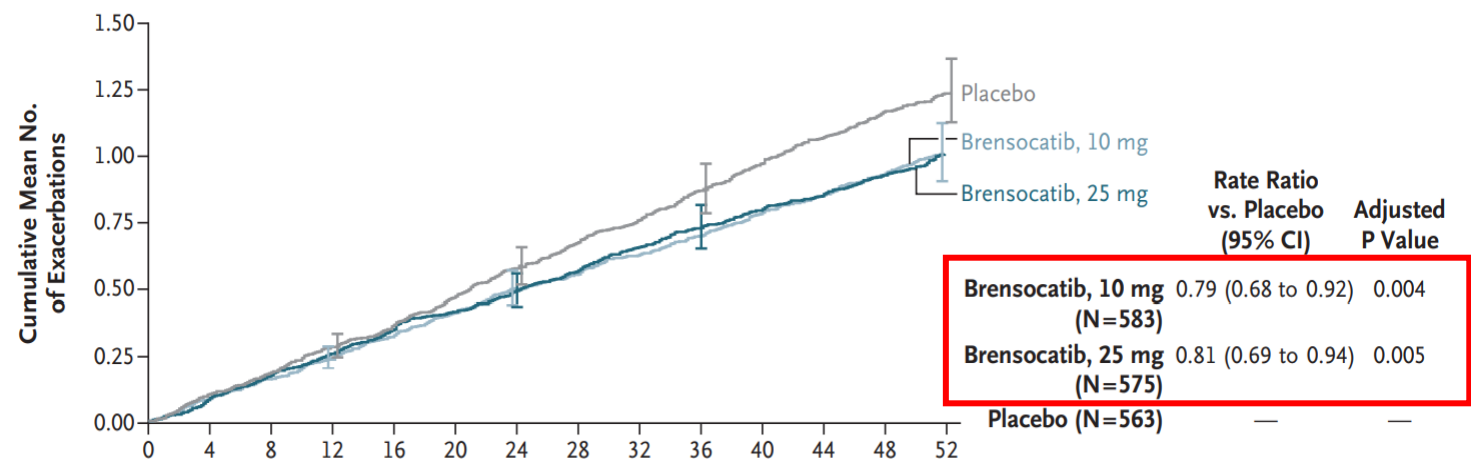
Figure 3: Reduction of cough, measured by Leicester Cough Questionnaire
LCQ=Leicester Cough Questionnaire. (A) Atorvastatin group. (B) Placebo group.

- **Statins**

- ✓ modulate innate/adaptive immune systems
- ✓ reduce inflammation

Inflammation : Brensocatib

A Exacerbations over the 52-Wk Treatment Period



D Change in Postbronchodilator FEV₁ from Baseline

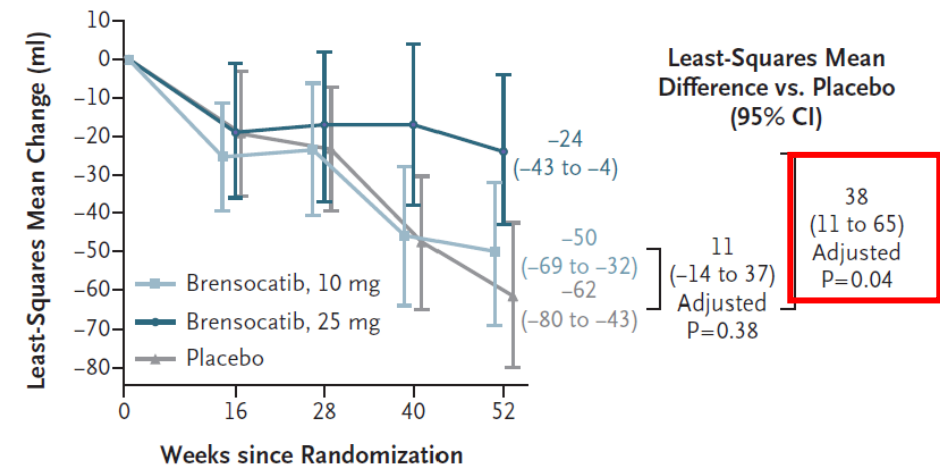


TABLE 3 Concomitant medications and long-term antibiotic use by region

Concomitant medications	ASPEN cohort	Australia/New Zealand	Eastern Europe	Western Europe	Japan	Latin America	North America	Southeast Asia
Patients, n	1682	133	169	482	87	473	249	89
Inhaled steroids	964 (57.3)	84 (63.2)	61 (36.1)	279 (57.9)	18 (20.7)	323 (68.3)	154 (61.8)	45 (50.6)
LABA	847 (50.4)	69 (51.9)	51 (30.2)	238 (49.4)	16 (18.4)	312 (66.0)	114 (45.8)	47 (52.8)
LAMA	278 (16.5)	20 (15.0)	16 (9.5)	77 (16.0)	7 (8.0)	84 (17.8)	38 (15.3)	36 (40.4)
Mucoactive drugs								
Carbocisteine or N-acetylcysteine	110 (6.5)	0	0	34 (7.1)	37 (42.5)	14 (3.0)	1 (0.4)	24 (27.0)
Hypertonic saline	38 (2.3)	10 (7.5)	0	16 (3.3)	0	1 (0.2)	11 (4.4)	0
Ambroxol hydrochloride	33 (2.0)	0	2 (1.2)	0	24 (27.6)	0	0	7 (7.9)
Bromhexine hydrochloride	8 (0.5)	6 (4.5)	0	1 (0.2)	1 (1.1)	0	0	0
DNAse	6 (0.4)	1 (0.8)	0	2 (0.4)	0	0	3 (1.2)	0
Isotonic saline	6 (0.4)	0	0	6 (1.2)	0	0	0	0
Long-term antibiotics								
Oral macrolides	280 (16.6)	31 (23.3)	0	96 (19.9)	66 (75.9)	52 (11.0)	30 (12.0)	5 (5.6)
Inhaled antibiotics	97 (5.8)	3 (2.3)	0	56 (11.6)	0	7 (1.5)	30 (12.0)	1 (1.1)
Other oral antibiotics	59 (3.5)	9 (6.8)	0	17 (3.5)	1 (1.1)	6 (1.3)	24 (9.6)	2 (2.2)

Data are presented as n (%) unless indicated otherwise. LABA: long-acting β2-agonist; LAMA: long-acting muscarinic antagonist.

BRINSUPRI® (brensocatib) tablets, for oral use
Initial U.S. Approval: 2025

-----**INDICATIONS AND USAGE**-----

BRINSUPRI is a dipeptidyl peptidase 1 (DPP1) inhibitor indicated for the treatment of non-cystic fibrosis bronchiectasis in adult and pediatric patients 12 years of age and older. (1)

-----**DOSAGE AND ADMINISTRATION**-----

Recommended dosage: 10 mg or 25 mg orally once daily with or without food. (2.1)

1. NAME OF THE MEDICINAL PRODUCT

Brinsupri 25 mg film-coated tablets

4.1 Therapeutic indications

Brinsupri is indicated for the treatment of non-cystic fibrosis bronchiectasis (NCFB) in patients 12 years of age and older with two or more exacerbations in the prior 12 months.



Contents

- ① Initial assessment
- ② Airway clearance
- ③ Infection
- ④ Inflammation
- ⑤ Exacerbation**
- ⑥ Others

During exacerbation

Definition of a bronchiectasis pulmonary exacerbation for clinical trials

A person with bronchiectasis with a deterioration in three or more of the following key symptoms for at least 48 h:

- 1) Cough
- 2) Sputum volume and/or consistency
- 3) Sputum purulence
- 4) Breathlessness and/or exercise tolerance
- 5) Fatigue and/or malaise
- 6) Haemoptysis

AND a clinician determines that a change in bronchiectasis treatment is required[#]

During exacerbation

ERS 2025

NQ 2

- **During exacerbation**
 - ✓ Antibiotics guided by **previous microbiology**
 - ✓ **14-day** course (especially severe exacerbation or *P. aeruginosa*)
 - ✓ **Self management** (self-initiate antibiotics)
 - ✓ Inadequate response / severe exacerbation
→ consider IV antibiotics/hospitalization
 - ✓ ACT: adapt frequency, intensity, and technique

Chest 2026

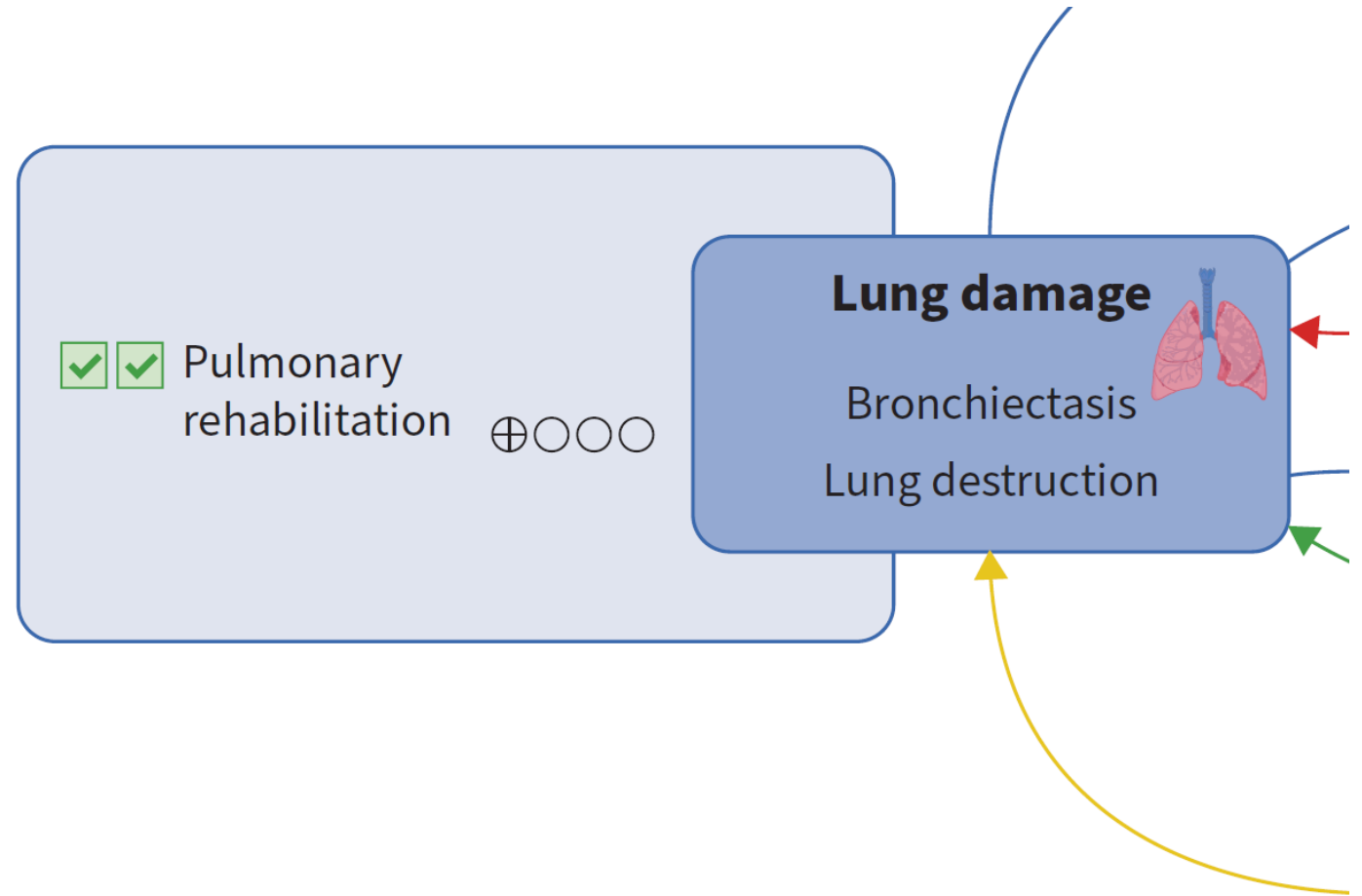
PICO 1,2

- **During exacerbation**
 - ✓ **Targeted antibiotic therapy** (Conditional Recommendation, very low-certainty evidence)
 - ✓ No prior cultures: broad-spectrum empiric therapy
→ improvement in symptoms by 7 days
- **Duration of antibiotics**
 - ✓ **Depending on clinical response** (Conditional Recommendation, very low-certainty evidence)

Aim of antibiotic treatment: reduce symptoms by reducing the bacterial load rather than an attempt to eradication

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Pulmonary rehabilitation

- **Patients with impaired exercise capacity → Offer pulmonary rehabilitation**

: strong recommendation, very low certainty of evidence

- **Expected benefits**

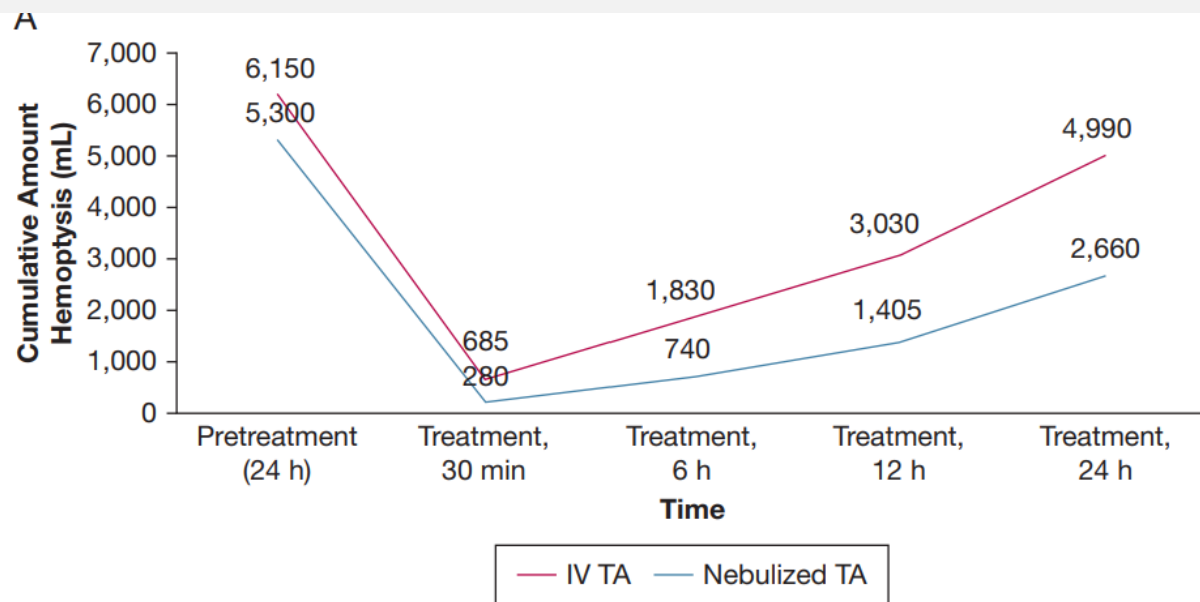
- ✓ ↑ Exercise capacity
- ✓ ↑ Quality of life
- ✓ ↓ Dyspnea
- ✓ Possible ↓ exacerbations (limited evidence)

- **Key message**

- ✓ Benefits mainly during/soon after the program
- ✓ Ongoing exercise is needed to maintain effects

Pharmacologic antifibrinolytic therapy

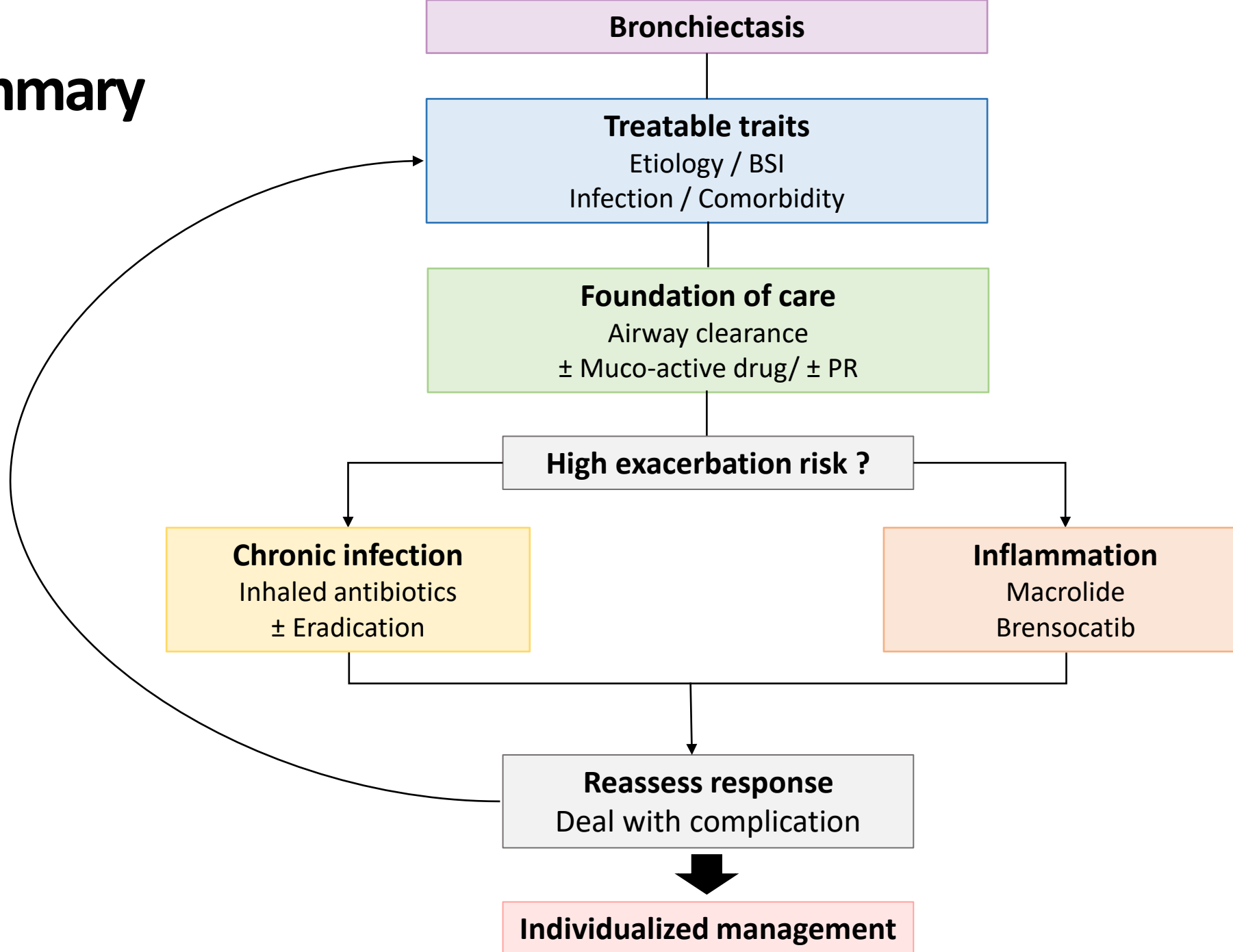
- **Bronchiectasis pts. with hemoptysis** → suggest **tranexamic acid**
: Conditional recommendation, very low certainty evidence
- **Escalation of care**: Significantly reduced (RR = 0.17, 95% CI: 0.05-0.51)
- **Hemoptysis volume**: Reduced (mean difference: -56.2mL, 95% CI: -95.5~ -16.9)
- **Hospital stay**: Shortened by 1.6 days (95% CI: -3.0~ -0.3)
- **Hemoptysis resolution**: More frequent (RR = 1.44, 95% CI: 0.84~2.47)



Surgical intervention

- **Localized** bronchiectasis with **refractory symptoms** despite **optimized medical therapy**
→ **Consider surgical resection** for appropriate candidates: Conditional, Very low certainty
- **Key Criteria**
 - ✓ Ideal Candidates: Disease in 1–2 lobes, preserved lung function, acceptable surgical risk
 - ✓ Avoid If: Diffuse/cystic/bilateral disease, severe COPD, or severe frailty
 - ✓ Surgical setting: High-volume thoracic center/minimally invasive approaches/multidisciplinary care
- **Limitations:** Retrospective, non-randomized, single-center studies with heterogeneous definitions

Summary



Thank you for your attention