

Home Oxygen Therapy for Adults with Chronic Lung Disease

2020 ATS Guideline

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Hypoxemia thresholds and GRADE recommendations for long-term and ambulatory oxygen therapy in COPD and ILD, plus liquid oxygen and safety guidance.

GRADE

Strong

Conditional For

Conditional Against

1 Hypoxemia Definitions & Terminology

CATEGORY	DEFINITION
Severe resting	SpO ₂ < 88% or PaO ₂ < 55 mmHg (7.3 kPa); or SpO ₂ 89% / PaO ₂ 56–59 mmHg with edema, hematocrit > 55%, or P pulmonale on ECG.
Moderate resting	SpO ₂ 89–93%.
Severe exertional	SpO ₂ < 88% on exertion.
Long-term / ambulatory O₂	Long-term = chronic hypoxemia, usually lifelong, ≥15 h/d; ambulatory = during exercise or activities of daily living.
Continuous-flow / nocturnal / palliative	Continuous-flow = constant rate regardless of respiratory rate; nocturnal = sleep time only; palliative = to relieve dyspnea (continuous, nocturnal, or intermittent).

2 COPD — Resting vs. Exertional Hypoxemia

RESTING HYPOXEMIA

Strong

Severe — prescribe long-term oxygen therapy (LTOT) for ≥15 h/d.

Cond.

Moderate — suggest NOT prescribing LTOT.

EXERTIONAL HYPOXEMIA

Cond.

Severe — suggest prescribing ambulatory oxygen.

3 ILD Hypoxemia & Liquid Oxygen

Strong

ILD, severe resting hypoxemia — prescribe LTOT for ≥15 h/d.

Cond.

ILD, severe exertional hypoxemia — suggest prescribing ambulatory oxygen.

Cond.

Portable liquid oxygen (LOX) — suggest prescribing if mobile and needing > 3 L/min continuous flow during exertion.

4 Education, Safety & Burden

All home O₂ patients

Patient and caregivers should receive instruction/training on equipment use and maintenance, plus safety education covering smoking cessation, fire prevention, and tripping hazards (best practice).

Anticipated burden

Panel notes a moderate undesirable burden of LTOT: physical/mental burden of equipment, reduced travel ability, and equipment noise affecting sleep — factor into shared decision-making.

Format note: "we recommend" = strong; "we suggest" = conditional. Condensed from the Summary of Recommendations.