In patients with stable COPD, there is no agreement on the FEV1 threshold above which ABG are unnecessary to identify patients who would require supplemental LTOT to patients enrolled in the ANTADIR (French National Respiratory homecare network) Observatory, 2081 questionnaires were sent to 34 NOD subjects. The mean age of doctors was 43.5 ± 7 yr. and 81% were men. 654 replies have been received. The mean age of doctors was 43.5 ± 7 yr. and 81% were respiratory physicians. 1176/1443 (81.8%) had never prescribed LTOT at PaO2 > 60 mmHg. The remaining 537 marked a median of three options. 154 marked 5 options or more. The commonest motives for prescription outside guidelines were "nocturnal desaturation" (38%), "sleep with oxygen" (31%), and "recurrent clinical right heart failure" (31%). 174 (31%) doctors ticked at least these three situations together. In contrast the options of prescription in "response to demand by the patient" or "fluency" were only chosen 40 times. 309 prescribed for "effort desaturation", 215 for "dyspnea", 197 for "repeat hospitalization", 127 for "poly-excitment". We conclude that physicians prescribe LTOT outside guidelines for objective rather than subjective reasons of perceived severity of disease and trials of efficacy of LTOT in these circumstances are required.

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Nocturnal oxygenhemoglobin desaturation (NOD) as predictor of long-term oxygen therapy (LTOT)
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NOD often occurs among COPD patients with daytime PaO2 < 60 mmHg, and our aim was to evaluate the outcome of these subjects.

Methods: 210 COPD were observed from January 1991 to December 1995 with chronic severe hypoxemia (PaO2 50.8 ± 6.5 mmHg) treated with LTOT (LTOT subjects) and 34 with NOD, assessed by 15% of the recorded time with SaO2 < 90 and diurnal PaO2 > 60 mmHg (NOD subjects).

Results: We compared age and FEV1 of LTOT subjects and NOD subjects (Student's t test, level of significance p < 0.05). NOD subjects compared to LTOT subjects were younger (64 ± 3 vs 70 ± 0.4 yrs; p < 0.005), had FEV1 higher (50 ± 2.7 vs 38.6 ± 2.7% predicted; p = 0.0001). During follow-up, daytime PaO2 in 1034 NOD subjects fall to values that required LTOT: these patients showed, compared to other 24 NOD subjects, FEV1 significantly reduced (42 ± 2 versus 56.6 ± 2%, p < 0.0001) and greater PaO2 (58 ± 15 versus 35 ± 13, p < 0.05). All these differences were significant in 21 patients who did not significantly different (61.3 ± 4 versus 64.6±15% predicted).

Conclusions: We speculate that our 34 NOD patients are a subgroup, with an earlier stage of their disease, leading progressively to severe chronic hypoxemia: bronchial obstruction and Pack Years are the risk factors for the worsening diurnal PaO2.