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**Title:** Cardiopulmonary exercise testing in patients with common variable immunodeficiency and agammaglobulinemia

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**Body:** Cardiopulmonary exercise testing (CPET) is considered the gold standard to study a patient's exercise intolerance and its causes. An heterogeneous group of chronic lung diseases occurs in CVID and X-LA and can affect the prognosis. The lung disease is usually assessed by spirometry, lung CT-scan, and 6-minute walking test (6-MWT). Aims: To characterize the pulmonary function and exercise capacity of adult patients with CVID and X-LA. Methods: CPET was performed by six CVID and two X-LA patients. Spirometry, CT-lung scan and 6-MWT data were acquired. Results: All the patients reached a maximal effort. Five patients had abnormalities in the aerobic exercise capacity at peak (VO<sub>2</sub> peak) and the efficiency of ventilatory response to exercise at the anaerobic thresholds. On the contrary, 6-MWT was almost normal in seven patients. Conclusions: CPET can improve early detection of ventilatory dysfunctions and help to set a highly individualized training intensity for exercise prescription to improve prognosis and quality of life.