Supplementary Materials

SUPPLEMENTARY TABLE S1 Phenotypes of chronic lung allograft dysfunction [1]

	BOS	**RAS**	**Mixed**[a]	**Undefined**[b]		
Obstruction (FEV_1/FVC <0.7)	✓	X	✓	✓		✓
Restriction (≥10% ↓ in TLC)	X	✓	✓	X	OR	✓
CT opacities[c]	X	✓	✓	✓		X

[a]By definition, all cases that transition from a BOS to a RAS phenotype and vice versa will meet these criteria.

[b]Undefined means definite CLAD but with two possible combinations of variables making it difficult to categorise as one of the other phenotypes.

[c]Parenchymal opacities and/or pleural thickening consistent with a diagnosis of pulmonary and/or pleural fibrosis.

BOS: bronchiolitis obliterans syndrome; CLAD: chronic lung allograft dysfunction; CT: computed tomography; FEV_1: forced expiratory volume in 1 second; FVC: forced vital capacity; RAS: restrictive allograft syndrome; TLC: total lung capacity.

SUPPLEMENTARY TABLE S2 Other conditions/scenarios affecting pulmonary function in lung transplant or haematopoietic stem cell transplant (HSCT) recipients that need to be excluded during the diagnostic work-up of patients with suspected chronic lung allograft dysfunction or graft-versus-host-disease bronchiolitis obliterans syndrome

Lung transplantation [1]	**HSCT [2]**
A. Conditions in which it may be valid to recalculate/rest FEV_1 reference value • Decreasing lung due to normal aging process • Surgical factors (e.g. transplant lung resection, chest wall surgery, phrenic nerve damage) • Mechanical factors (e.g. persistent pleural effusion, persistent lung oedema due to significant kidney/heart/liver failure, airway stenosis, myopathy/neuropathy/Parkinson's disease, weight gain, native lung hyperinflation after single-lung transplant • Localised infection with chronic scarring (e.g. abscess/empyema/mycetoma)	• Infection • Idiopathic pneumonia syndrome • Cryptogenic-organising pneumonia • Pulmonary fibrosis • Late radiation effects • Asthma • Chronic obstructive pulmonary disease • Tracheomegaly • Tracheobronchomalacia • α_1-antitrypsin deficiency
B. Factors that cannot be differentiated easily from CLAD and do not ever allow	

recalculation/resetting of the FEV_1 reference value • Any from (A) above where there is not stability for ≥6 months • Infiltration with tumour • Infiltration of the allograft with proven disease recurrence from the underlying transplant indication (e.g. LAM, sarcoidosis) • Drug or other induced pulmonary toxicity (e.g. sirolimus, methotrexate, amiodarone, radiotherapy) • Pulmonary arterial strictures or emboli • Acute/subacute generalised infection • Acute/subacute cellular or antibody-mediated rejection • Acute/subacute effects of aspiration **C. Failing to reach normal predicted lung function (i.e. low FEV_1 reference value such that FEV_1 is ≤80% of the recipient predicted value)** • May include an age difference between donor and recipient where older donor	

lungs are implanted or when an intra-operative allograft reduction surgery/lobectomy is performed	

FEV_1: forced expiratory volume in 1 second; HSCT: haematopoietic stem cell transplant; LAM: lymphangioleiomyomatosis.

References

1 Verleden GM, Glanville AR, Lease ED, et al. Chronic lung allograft dysfunction: Definition, diagnostic criteria, and approaches to treatment - a consensus report from the Pulmonary Council of the ISHLT. *J Heart Lung Transplant* 2019: 38: 493-503.

2 Williams KM. How I treat bronchiolitis obliterans syndrome after hematopoietic stem cell transplantation. *Blood* 2017: 129: 448-455.