**Supplementary Material 20.** Definitions of severity degree in disability due to respiratory problems

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| Grade | | Definitions |
| Level | Number |
| 1 | 1 | With chronic respiratory failure, oxygen therapy is required even at rest  and \*FEV1 ≤25% predicted  or arterial oxygen saturation at rest less than 55 mmHg (without oxygen supply) |
| 2 | Requires ventilator all day with tracheostomy tube due to chronic respiratory disease |
| 2 | N/A | Too breathless to leave the house and breathless when dressing or undressing  and FEV1 ≤30% predicted  or arterial oxygen saturation at rest ≤60 mmHg (without oxygen supply) |
| 3 | N/A | Short of breath after walking a few minutes on level surface  and FEV1 ≤40% predicted  or arterial oxygen saturation at rest ≤65 mmHg (without oxygen supply) |
| 5 | 1 | Lung transplantation |
| 2 | Pleural fistula |

N/A, not applicable

\*FEV1 = forced expiratory volume in one second