AUTOMATIC VERSUS MANUAL OXYGEN TITRATION USING A NOVEL NASAL HIGH-FLOW DEVICE IN MEDICAL INPATIENTS WITH AN ACUTE ILLNESS: A RANDOMISED CONTROLLED TRIAL

SUPPLEMENTARY MATERIAL

[1,2,4]James CP Harper, [1,4]Nethmi A Kearns, [1,2,4]Grace E Bird,

[1]Irene Braithwaite, [1]Nicholas P Shortt, [1]Allie Eathorne, [3]Mark Weatherall,

[1,2,4]Richard Beasley

[1]Medical Research Institute of New Zealand, Wellington, New Zealand

[2]Victoria University, Wellington, New Zealand

[3]University of Otago Wellington, Wellington, New Zealand

[4]Capital & Coast District Health Board, Wellington, New Zealand

Correspondence to:

Dr James Harper
Medical Research Institute of New Zealand
Private Bag 7902, Newtown
Wellington 6242, New Zealand
Email: James.Harper@mrinz.ac.nz

METHODS

Withdrawal criteria

- Sustained (> 10 minutes) requirement for >50% FiO_2 (92-96% group) or >40% FiO_2 (88-92% group) at rest
- Sustained (> 10 minutes) requirement for FiO_2 in excess of the maximum allowed limit to maintain target SpO_2. The maximum allowed limit is defined as the FiO_2 at the start of the randomized treatment plus 10
- An increase in FiO_2 of 10 is insufficient to maintain target SpO_2. This may be lower than the maximum allowed FiO_2 if the oxygen concentration has been decreased since the start of the randomised treatment.
- Requirement for a target SpO_2 range other than 88-92% or 92-96% as determined by the participant's medical team after enrollment
- Requirement for NIV, CPAP or endotracheal intubation
- Admission to ICU
- Ineligibility (either arising during the trial or retrospectively having been overlooked at screening)
- Significant protocol deviation
- Significant non-compliance with trial requirements
- An adverse event which requires discontinuation of the trial
- Any concern over participant safety

RESULTS

Table S1: Difference in blood gas parameters between interventions

	Mean difference (automatic minus manual) adjusted for baseline (95% CI)	P value
pH	-0.001 (-0.02 to 0.02)	0.94
PCO_2 (mmHg)	0.50 (-2.0 to 3.0)	0.68
PO_2 (mmHg)	-3.1 (-14.7 to 8.6)	0.59