

Does mechanical threshold inspiratory muscle training promote recovery and improve outcomes in ventilator-dependent ICU patients? The IMPROVE randomised trial.

ONLINE SUPPLEMENT

Table E1 (ONLINE SUPPLEMENT)

Comparisons within groups for outcome measures.

OUTCOME	GROUPS AND TIMEPOINTS					
	<i>Enrolment (while ventilator-dependent)</i>		<i>Point of ventilator liberation (24 hours ventilator-free)</i>		<i>Completion (1 week following ventilator liberation)</i>	
	Estimated Marginal Mean (SEM)		Estimated Marginal Mean (SEM)		Estimated Marginal Mean (SEM)	
	IMT (n = 33)	Control (n = 37)	IMT (n = 33)	Control (n = 37)	IMT (n = 33)	Control (n = 37)
MIP % predicted	33 (3.6)	35 (3.6)	38 (3.6)	45 (3.8)	48 (3.7)	46 (3.7)
Fatigue resistance index /1.00			0.94 (0.06)	1.06 (0.05)	1.01 (0.06)	0.91 (0.05)
QOL: SF-36 PCS (Physical)	29.9 (1.5)	30.4 (1.3)			36.3 (1.6)	29.7 (1.6)
QOL: SF-36 MCS (Mental)	33.0 (2.2)	34.8 (2.0)			31.6 (2.5)	37.8 (2.4)
QOL: SF-36 SF6D (Total)	0.43 (0.02)	0.45 (0.02)			0.48 (0.03)	0.47 (0.02)
QOL: EQ5D	27 (4)	40 (4)			49 (5)	47(4)
ACIF /1.00	0.31 (0.04)	0.28 (0.04)			0.40 (0.04)	0.42 (0.04)
Dyspnoea at rest /10	2.8 (0.5)	2.6 (0.4)			1.3 (0.5)	1.7 (0.5)
Dyspnoea during exercise /10	5.3 (0.60)	4.1 (0.5)			3.4 (0.6)	3.7 (0.5)

SEM = standard error of the mean, IMT = Inspiratory Muscle Training group, MIP = maximum inspiratory pressure, QOL = Quality of Life (SF-36 or EQ5D tools), ACIF = Acute Care Index of Function.

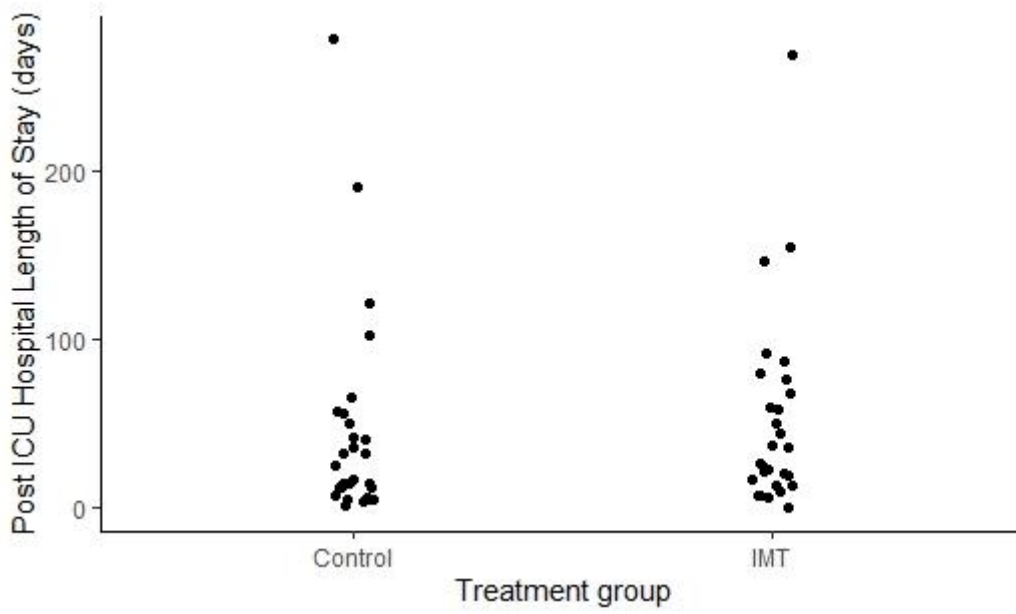


Figure E1: Post-ICU hospital length of stay for hospital survivors.

Table E2 (ONLINE SUPPLEMENT)

Characteristics of participants who died during hospital admission.

Age, Gender	Group	Main Diagnosis on ICU admission	APACHE II score	Cause of Death (during or after intervention period)	Co-morbidities
66, Male	IMT	Guillain Barre Syndrome	15	Pneumonia (during)	Asthma, emphysema, HTN, tonsillitis, dyslipidaemia
77, Male	IMT	Septic shock, leg cellulitis	27	Respiratory Failure, ARDS (during)	CCF, bronchiectasis, IHD, AMI, CABG, HTN, peripheral vascular disease, hiatus hernia, bilateral femoral-popliteal bypass (failed)
63, Female	IMT	Septic shock, acute kidney injury	21	Multiple organ failure, septic shock (during)	Chronic AF, HTN, GORD, epilepsy, idiopathic intracranial hypertension, morbid obesity, osteoarthritis, degenerative lumbar disc disease, shingles, depression, abdominal apron cellulitis
62, Male	IMT	Extradural haemorrhage	19	Stroke, left cerebellar infarction (after)	HT, hypercholesterolaemia, osteoarthritis
65, Female	Cont rol	Cardiac arrest	18	Sepsis, multiple organ failure (after)	Chronic myeloid leukemia, HTN, chronic kidney disease, gout, GORD, osteoporosis, morbid obesity
55, Male	Cont rol	Bacterial pneumonia	29	Pneumonia (after)	NIDDM, HTN, gout, bilateral total hip replacements, pneumonia, respiratory failure (home oxygen)
54, Female	Cont rol	Metastatic Cancer, SVC construction	11	Pulmonary embolism (during)	Sinusitis, osteoarthritis, transient ischaemic attack, migraine, seizures, caesarean sections, endometriosis, ovarian tumours, tonsillectomy, appendicectomy, uterine polyp, asthma, schizoaffective disorder
51, Male	Cont rol	Septic shock, multiple organ failure	34	Necrotising fasciitis (during)	AF, deep vein thrombosis, recurrent lower limb cellulitis, chronic leg ulcers, morbid obesity, OSA, cor pulmonale, gout, HTN, hypercholesterolaemia, vancomycin resistant enterococcus
75, Male	Cont rol	Hypoxic respiratory failure	26	Multiple organ failure (after)	COPD, chronic kidney disease, HTN, dyslipidaemia, gout Parkinson's Disease, depression, GORD, prostate cancer
65, Male	Cont rol	Necrotising pancreatitis	20	Necrotising pancreatitis with multiple organ failure (during)	GORD, HTN, skin cancer, impaired glucose tolerance, rotator cuff injury, tonsillectomy
53, Male	Cont rol	Necrotising pancreatitis	24	Multiple organ failure, necrotising pancreatitis (during)	Nil
66, Male	Cont rol	Septic shock, hospital acquired pneumonia	25	Aspiration pneumonia (after)	Duodenal ulcers, C5/6 tetraplegia, NIDDM, ankylosing spondylosis, HTN, appendicectomy, chronic hypomagnesia, renal cell carcinoma, UTI
71, Male	Cont rol	Cardiac arrest	21	Multiple organ failure (during)	IHD, CABG, CCF, hypercholesterolaemia, COPD, HTN, temporal arteritis, chronic renal failure, small lung cell cancer

APACHE II = acute physiology and chronic health evaluation score, SVC = superior vena cava, HTN = hypertension, GORD = gastroesophageal reflux disease, IHD = ischaemic heart disease, NIDDM = non-insulin-dependent diabetes mellitus, AF = atrial fibrillation, CCF = congestive cardiac failure, CABG = coronary artery bypass grafting, OSA = obstructive sleep apnoea, COPD = chronic obstructive pulmonary disease.