Gary F Nieman

List of Publications by Year
in descending order

93 papers	2,276 citations	159358 30 h-index	243296 44 g-index
95 all docs	95 docs citations	95 times ranked	1855 citing authors

#	Article	IF	Citations
1	EARLY AIRWAY PRESSURE RELEASE VENTILATION PREVENTS ARDSâ€"A NOVEL PREVENTIVE APPROACH TO LUNG INJURY. Shock, 2013, 39, 28-38.	1.0	101
2	Sepsis: Something old, something new, and a systems view. Journal of Critical Care, 2012, 27, 314.e1-314.e11.	1.0	95
3	Early application of airway pressure release ventilation may reduce mortality in high-risk trauma patients. Journal of Trauma and Acute Care Surgery, 2013, 75, 635-641.	1.1	90
4	Personalizing mechanical ventilation according to physiologic parameters to stabilize alveoli and minimize ventilator induced lung injury (VILI). Intensive Care Medicine Experimental, 2017, 5, 8.	0.9	82
5	The 30-year evolution of airway pressure release ventilation (APRV). Intensive Care Medicine Experimental, 2016, 4, 11.	0.9	81
6	Shear stress-related mechanosignaling with lung ischemia: lessons from basic research can inform lung transplantation. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2014, 307, L668-L680.	1.3	77
7	A two-compartment mathematical model of endotoxin-induced inflammatory and physiologic alterations in swine*. Critical Care Medicine, 2012, 40, 1052-1063.	0.4	72
8	Mechanical Breath Profile of Airway Pressure Release Ventilation. JAMA Surgery, 2014, 149, 1138.	2.2	72
9	Early stabilizing alveolar ventilation prevents acute respiratory distress syndrome. Journal of Trauma and Acute Care Surgery, 2012, 73, 391-400.	1.1	71
10	Trauma in silico: Individual-specific mathematical models and virtual clinical populations. Science Translational Medicine, 2015, 7, 285ra61.	5.8	66
11	Pulmonary impedance and alveolar instability during injurious ventilation in rats. Journal of Applied Physiology, 2005, 99, 723-730.	1.2	63
12	Airway Pressure Release Ventilation Prevents Ventilator-Induced Lung Injury in Normal Lungs. JAMA Surgery, 2013, 148, 1005.	2.2	59
13	Impact of mechanical ventilation on the pathophysiology of progressive acute lung injury. Journal of Applied Physiology, 2015, 119, 1245-1261.	1.2	59
14	Airway Pressure Release Ventilation Reduces Conducting Airway Micro-Strain in Lung Injury. Journal of the American College of Surgeons, 2014, 219, 968-976.	0.2	58
15	Acute lung injury: how to stabilize a broken lung. Critical Care, 2018, 22, 136.	2.5	53
16	Prevention and treatment of acute lung injury with time-controlled adaptive ventilation: physiologically informed modification of airway pressure release ventilation. Annals of Intensive Care, 2020, 10, 3.	2.2	53
17	The POOR Get POORer: A Hypothesis for the Pathogenesis of Ventilator-induced Lung Injury. American Journal of Respiratory and Critical Care Medicine, 2020, 202, 1081-1087.	2.5	51
18	Removal of Inflammatory Ascites Is Associated With Dynamic Modification of Local and Systemic Inflammation Along With Prevention of Acute Lung Injury. Shock, 2014, 41, 317-323.	1.0	50

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19	Toward Computational Identification of Multiscale â€œTipping Pointsâ€•in Acute Inflammation and Multiple Organ Failure. Annals of Biomedical Engineering, 2012, 40, 2414-2424.	1.3	49
20	Effect of Airway Pressure Release Ventilation on Dynamic Alveolar Heterogeneity. JAMA Surgery, 2016, 151, 64.	2.2	49
21	Correlation between alveolar recruitmentâ€¯/derecruitment and inflection points on the pressure-volume curve. Intensive Care Medicine, 2007, 33, 1204-1211.	3.9	45
22	Preemptive Application of Airway Pressure Release Ventilation Prevents Development of Acute Respiratory Distress Syndrome in a Rat Traumatic Hemorrhagic Shock Model. Shock, 2013, 40, 210-216.	1.0	43
23	The effects of airway pressure release ventilation on respiratory mechanics in extrapulmonary lung injury. Intensive Care Medicine Experimental, 2015, 3, 35.	0.9	42
24	Hemostatic shape memory polymer foams with improved survival in a lethal traumatic hemorrhage model. Acta Biomaterialia, 2022, 137, 112-123.	4.1	41
25	Predicting the response of the injured lung to the mechanical breath profile. Journal of Applied Physiology, 2015, 118, 932-940.	1.2	40
26	Functional pathophysiology of SARS-CoV-2-induced acute lung injury and clinical implications. Journal of Applied Physiology, 2021, 130, 877-891.	1.2	40
27	Linking Inflammation, Cardiorespiratory Variability, and Neural Control in Acute Inflammation via Computational Modeling. Frontiers in Physiology, 2012, 3, 222.	1.3	39
28	The role of high airway pressure and dynamic strain on ventilator-induced lung injury in a heterogeneous acute lung injury model. Intensive Care Medicine Experimental, 2017, 5, 25.	0.9	38
29	Physiology in Medicine: Understanding dynamic alveolar physiology to minimize ventilator-induced lung injury. Journal of Applied Physiology, 2017, 122, 1516-1522.	1.2	37
30	Chemically Modified Tetracycline 3 Prevents Acute Respiratory Distress Syndrome in a Porcine Model of Sepsis + Ischemia/Reperfusionâ€“Induced Lung Injury. Shock, 2012, 37, 424-432.	1.0	32
31	A Physiologically Informed Strategy to Effectively Open, Stabilize, and Protect the Acutely Injured Lung. Frontiers in Physiology, 2020, 11, 227.	1.3	32
32	Biological Response to Time-Controlled Adaptive Ventilation Depends on Acute Respiratory Distress Syndrome Etiology*. Critical Care Medicine, 2018, 46, e609-e617.	0.4	30
33	Lung stress, strain, and energy load: engineering concepts to understand the mechanism of ventilator-induced lung injury (VILI). Intensive Care Medicine Experimental, 2016, 4, 16.	0.9	28
34	Purinergic signalling links mechanical breath profile and alveolar mechanics with the pro-inflammatory innate immune response causing ventilation-induced lung injury. Purinergic Signalling, 2017, 13, 363-386.	1.1	28
35	Electroporation-Mediated Gene Delivery of Na+,K+-ATPase, and ENaC Subunits to the Lung Attenuates Acute Respiratory Distress Syndrome in a Two-Hit Porcine Model. Shock, 2015, 43, 16-23.	1.0	25
36	Pulmonary Interstitial Matrix and Lung Fluid Balance From Normal to the Acutely Injured Lung. Frontiers in Physiology, 2021, 12, 781874.	1.3	24

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37	DIFFERENTIAL SUSCEPTIBILITY OF HUMAN SP-B GENETIC VARIANTS ON LUNG INJURY CAUSED BY BACTERIAL PNEUMONIA AND THE EFFECT OF A CHEMICALLY MODIFIED CURCUMIN. Shock, 2016, 45, 375-384.	1.0	23
38	Rationales and uncertainties for aspirin use in COVID-19: a narrative review. Family Medicine and Community Health, 2021, 9, e000741.	0.6	23
39	Excessive Extracellular ATP Desensitizes P2Y2 and P2X4 ATP Receptors Provoking Surfactant Impairment Ending in Ventilation-Induced Lung Injury. International Journal of Molecular Sciences, 2018, 19, 1185.	1.8	22
40	The time-controlled adaptive ventilation protocol: mechanistic approach to reducing ventilator-induced lung injury. European Respiratory Review, 2019, 28, 180126.	3.0	21
41	Atelectrauma Versus Volutrauma: A Tale of Two Time-Constants. , 2020, 2, e0299.		21
42	Alveolar instability (atelectrauma) is not identified by arterial oxygenation predisposing the development of an occult ventilator-induced lung injury. Intensive Care Medicine Experimental, 2015, 3, 54.	0.9	19
43	Limiting ventilator-associated lung injury in a preterm porcine neonatal model. Journal of Pediatric Surgery, 2017, 52, 50-55.	0.8	19
44	Enteral administration of bacteria fermented formula in newborn piglets: A high fidelity model for necrotizing enterocolitis (NEC). PLoS ONE, 2018, 13, e0201172.	1.1	19
45	Surfactant delivery in rat lungs: Comparing 3D geometrical simulation model with experimental instillation. PLoS Computational Biology, 2019, 15, e1007408.	1.5	18
46	ARDS: what experimental models have taught us. Intensive Care Medicine, 2016, 42, 806-810.	3.9	15
47	Preemptive mechanical ventilation based on dynamic physiology in the alveolar microenvironment: Novel considerations of time-dependent properties of the respiratory system. Journal of Trauma and Acute Care Surgery, 2018, 85, 1081-1091.	1.1	13
48	Looking beyond macroventilatory parameters and rethinking ventilator-induced lung injury. Journal of Applied Physiology, 2018, 124, 1214-1218.	1.2	12
49	Acetylsalicylic Acid Compared with Enoxaparin for the Prevention of Thrombosis and Mechanical Ventilation in COVID-19 Patients: A Retrospective Cohort Study. Clinical Drug Investigation, 2021, 41, 723-732.	1.1	11
50	Alveolar mechanics alter hypoxic pulmonary vasoconstriction*. Critical Care Medicine, 2002, 30, 1315-1321.	0.4	10
51	Amelia Earhart, alveolar mechanics, and other great mysteries. Journal of Applied Physiology, 2012, 112, 935-936.	1.2	10
52	Preemptive mechanical ventilation can block progressive acute lung injury. World Journal of Critical Care Medicine, 2016, 5, 74.	0.8	10
53	Mechanical Ventilation Lessons Learned From Alveolar Micromechanics. Frontiers in Physiology, 2020, 11, 233.	1.3	9
54	Time-controlled adaptive ventilation (TCAV) accelerates simulated mucus clearance via increased expiratory flow rate. Intensive Care Medicine Experimental, 2019, 7, 27.	0.9	8

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55	Time-Controlled Adaptive Ventilation Versus Volume-Controlled Ventilation in Experimental Pneumonia. Critical Care Medicine, 2021, 49, 140-150.	0.4	8
56	Commentaries on Viewpoint: Unresolved mysteries. Journal of Applied Physiology, 2012, 113, 1948-1949.	1.2	7
57	Electric Cell-Substrate Impedance Sensing (ECIS) as a Platform for Evaluating Barrier-Function Susceptibility and Damage from Pulmonary Atelectrauma. Biosensors, 2022, 12, 390.	2.3	5
58	Bayesian inference of the lung alveolar spatial model for the identification of alveolar mechanics associated with acute respiratory distress syndrome. Physical Biology, 2013, 10, 036008.	0.8	4
59	Is Time the Missing Component in Protective Ventilation Strategies?*. Critical Care Medicine, 2013, 41, 2461-2462.	0.4	4
60	Never give the lung the opportunity to collapse. Trends in Anaesthesia and Critical Care, 2018, 22, 10-16.	0.4	4
61	Up in smoke. Critical Care Medicine, 2012, 40, 1040-1041.	0.4	3
62	Commentaries on Viewpoint: The ongoing need for good physiological investigation: Obstructive sleep apnea in HIV patients as a paradigm. Journal of Applied Physiology, 2015, 118, 247-250.	1.2	2
63	Last Word on Viewpoint: Looking beyond macroventilatory parameters and rethinking ventilator-induced lung injury. Journal of Applied Physiology, 2018, 124, 1220-1221.	1.2	2
64	It Is Time to Treat the Patient and Not Just the Ventilator. Critical Care Medicine, 2019, 47, e723-e724.	0.4	2
65	Hemostatic Shape Memory Polymer Foams With Improved Survival in a Lethal Traumatic Hemorrhage Model. SSRN Electronic Journal, 0, , .	0.4	2
66	â€œOpen the lung and keep it openâ€: a homogeneously ventilated lung is a â€˜healthy lungâ€™. Annals of Translational Medicine, 2016, 4, 141-141.	0.7	2
67	Simultaneous, noninvasive, in vivo, continuous monitoring of hematocrit, vascular volume, hemoglobin oxygen saturation, pulse rate and breathing rate in humans and other animal models using a single light source. , 2018, , .		2
68	Effects of time-controlled adaptive ventilation on cardiorespiratory parameters and inflammatory response in experimental emphysema. Journal of Applied Physiology, 2022, 132, 564-574.	1.2	2
69	Mechanical Ventilation in Pediatric and Neonatal Patients. Frontiers in Physiology, 2021, 12, 805620.	1.3	2
70	A Ventilator Mode Cannot Set Itself, Nor Can It Be Solely Responsible for Outcomes*. Critical Care Medicine, 2022, 50, 695-699.	0.4	2
71	Assessment of Heterogeneity in Lung Structure and Function During Mechanical Ventilation: A Review of Methodologies. Journal of Engineering and Science in Medical Diagnostics and Therapy, 2022, , .	0.3	2
72	Lung recruitment. Critical Care Medicine, 2012, 40, 1985-1986.	0.4	1

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73	Response to letter by Dr. M. S. A. Mohamed (Antagonizing reactive oxygen species during lung) Tj ETQq1 1 0.784314 rgBT /Overlock 10 L909-L909.	1.3	1
74	Designing Protective Mechanical Ventilation for the Injured Lung: Opportunities for the Engineer. Journal of Engineering and Science in Medical Diagnostics and Therapy, 2019, 2, .	0.3	1
75	Alveolar Overdistension Does Not Occur Even at Very High Airway Pressure. FASEB Journal, 2015, 29, 1016.1.	0.2	1
76	Airway Pressure Release Ventilation in Acute Respiratory Failure Due to Coronavirus Disease 2019. Critical Care Medicine, 2021, Publish Ahead of Print, .	0.4	1
77	Nano-chemically Modified Tetracycline-3 (nCMT-3) Attenuates Acute Lung Injury via Blocking sTREM-1 Release and NLRP3 Inflammasome Activation. Shock, 2022, 57, 749-758.	1.0	1
78	712. Critical Care Medicine, 2014, 42, A1531.	0.4	0
79	693. Critical Care Medicine, 2015, 43, 175.	0.4	0
80	Failure to Disclose Conflicts of Interest. JAMA Surgery, 2016, 151, 1190.	2.2	0
81	1080: ACUTELY INJURED LUNGS RECEIVE SIGNIFICANTLY LESS POWER THAN HEALTHY LUNGS WITH EXERCISE. Critical Care Medicine, 2018, 46, 523-523.	0.4	0
82	1123: DECOMPRESSIVE LAPAROTOMY IMPROVES DISTRIBUTION OF PULMONARY VENTILATION IN A PORCINE MODS/ARDS MODEL. Critical Care Medicine, 2018, 46, 545-545.	0.4	0
83	1124: TIME-CONTROLLED PEEP USING SHORT EXPIRATORY DURATION PREVENTS ALVEOLAR COLLAPSE IN A RAT ARDS MODEL. Critical Care Medicine, 2018, 46, 545-545.	0.4	0
84	379: CAN AN IN VIVO HANDS-ON LEARNING EXPERIENCE ON LUNG-PROTECTIVE VENTILATION MODIFY CLINICAL PRACTICE?. Critical Care Medicine, 2018, 46, 172-172.	0.4	0
85	Reply to Drs. Monjezi and Jamaati: Dynamic alveolar mechanics are more than a soap bubble on a capillary tube. Journal of Applied Physiology, 2018, 124, 525-525.	1.2	0
86	1616: TRANSPULMONARY THERMODILUTION MEASUREMENT OF PULMONARY EDEMA IN A PORCINE SEPTIC SHOCK MODEL. Critical Care Medicine, 2019, 47, 783-783.	0.4	0
87	1187: TIDAL VOLUME VARIES WITH CHANGES IN TEST LUNG COMPLIANCE IN TIME-CONTROLLED MECHANICAL VENTILATION. Critical Care Medicine, 2019, 47, 570-570.	0.4	0
88	433. Critical Care Medicine, 2012, 40, 1-328.	0.4	0
89	207. Critical Care Medicine, 2012, 40, 1-328.	0.4	0
90	Reducing acute respiratory distress syndrome occurrence using mechanical ventilation. World Journal of Respirology, 2014, 5, 188.	0.5	0

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91	PV[O]H Signals Intravascular Blood Loss in the Rat. , 2018, , .		0
92	1153: THE ROLE OF STATIC AND DYNAMIC STRAIN ON VENTILATOR-INDUCED LUNG INJURY. Critical Care Medicine, 2022, 50, 575-575.	0.4	0
93	1483: EXCESSIVE DYNAMIC AND STATIC STRAIN ACT SYNERGISTICALLY TO INCREASE LUNG INFLAMMATION. Critical Care Medicine, 2022, 50, 745-745.	0.4	0