

# Gary F Nieman

## List of Publications by Year in descending order

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93  
papers

2,276  
citations

159585

30  
h-index

243625

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. <i>Shock</i> , 2013, 39, 28-38.	2.1	101
2	Sepsis: Something old, something new, and a systems view. <i>Journal of Critical Care</i> , 2012, 27, 314.e1-314.e11.	2.2	95
3	Early application of airway pressure release ventilation may reduce mortality in high-risk trauma patients. <i>Journal of Trauma and Acute Care Surgery</i> , 2013, 75, 635-641.	2.1	90
4	Personalizing mechanical ventilation according to physiologic parameters to stabilize alveoli and minimize ventilator induced lung injury (VILI). <i>Intensive Care Medicine Experimental</i> , 2017, 5, 8.	1.9	82
5	The 30-year evolution of airway pressure release ventilation (APRV). <i>Intensive Care Medicine Experimental</i> , 2016, 4, 11.	1.9	81
6	Shear stress-related mechanosignaling with lung ischemia: lessons from basic research can inform lung transplantation. <i>American Journal of Physiology - Lung Cellular and Molecular Physiology</i> , 2014, 307, L668-L680.	2.9	77
7	A two-compartment mathematical model of endotoxin-induced inflammatory and physiologic alterations in swine*. <i>Critical Care Medicine</i> , 2012, 40, 1052-1063.	0.9	72
8	Mechanical Breath Profile of Airway Pressure Release Ventilation. <i>JAMA Surgery</i> , 2014, 149, 1138.	4.3	72
9	Early stabilizing alveolar ventilation prevents acute respiratory distress syndrome. <i>Journal of Trauma and Acute Care Surgery</i> , 2012, 73, 391-400.	2.1	71
10	Trauma in silico: Individual-specific mathematical models and virtual clinical populations. <i>Science Translational Medicine</i> , 2015, 7, 285ra61.	12.4	66
11	Pulmonary impedance and alveolar instability during injurious ventilation in rats. <i>Journal of Applied Physiology</i> , 2005, 99, 723-730.	2.5	63
12	Airway Pressure Release Ventilation Prevents Ventilator-Induced Lung Injury in Normal Lungs. <i>JAMA Surgery</i> , 2013, 148, 1005.	4.3	59
13	Impact of mechanical ventilation on the pathophysiology of progressive acute lung injury. <i>Journal of Applied Physiology</i> , 2015, 119, 1245-1261.	2.5	59
14	Airway Pressure Release Ventilation Reduces Conducting Airway Micro-Strain in Lung Injury. <i>Journal of the American College of Surgeons</i> , 2014, 219, 968-976.	0.5	58
15	Acute lung injury: how to stabilize a broken lung. <i>Critical Care</i> , 2018, 22, 136.	5.8	53
16	Prevention and treatment of acute lung injury with time-controlled adaptive ventilation: physiologically informed modification of airway pressure release ventilation. <i>Annals of Intensive Care</i> , 2020, 10, 3.	4.6	53
17	The POOR Get POORer: A Hypothesis for the Pathogenesis of Ventilator-induced Lung Injury. <i>American Journal of Respiratory and Critical Care Medicine</i> , 2020, 202, 1081-1087.	5.6	51
18	Removal of Inflammatory Ascites Is Associated With Dynamic Modification of Local and Systemic Inflammation Along With Prevention of Acute Lung Injury. <i>Shock</i> , 2014, 41, 317-323.	2.1	50

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19	Toward Computational Identification of Multiscale “Tipping Points” in Acute Inflammation and Multiple Organ Failure. <i>Annals of Biomedical Engineering</i> , 2012, 40, 2414-2424.	2.5	49
20	Effect of Airway Pressure Release Ventilation on Dynamic Alveolar Heterogeneity. <i>JAMA Surgery</i> , 2016, 151, 64.	4.3	49
21	Correlation between alveolar recruitment/derecruitment and inflection points on the pressure-volume curve. <i>Intensive Care Medicine</i> , 2007, 33, 1204-1211.	8.2	45
22	Preemptive Application of Airway Pressure Release Ventilation Prevents Development of Acute Respiratory Distress Syndrome in a Rat Traumatic Hemorrhagic Shock Model. <i>Shock</i> , 2013, 40, 210-216.	2.1	43
23	The effects of airway pressure release ventilation on respiratory mechanics in extrapulmonary lung injury. <i>Intensive Care Medicine Experimental</i> , 2015, 3, 35.	1.9	42
24	Hemostatic shape memory polymer foams with improved survival in a lethal traumatic hemorrhage model. <i>Acta Biomaterialia</i> , 2022, 137, 112-123.	8.3	41
25	Predicting the response of the injured lung to the mechanical breath profile. <i>Journal of Applied Physiology</i> , 2015, 118, 932-940.	2.5	40
26	Functional pathophysiology of SARS-CoV-2-induced acute lung injury and clinical implications. <i>Journal of Applied Physiology</i> , 2021, 130, 877-891.	2.5	40
27	Linking Inflammation, Cardiorespiratory Variability, and Neural Control in Acute Inflammation via Computational Modeling. <i>Frontiers in Physiology</i> , 2012, 3, 222.	2.8	39
28	The role of high airway pressure and dynamic strain on ventilator-induced lung injury in a heterogeneous acute lung injury model. <i>Intensive Care Medicine Experimental</i> , 2017, 5, 25.	1.9	38
29	Physiology in Medicine: Understanding dynamic alveolar physiology to minimize ventilator-induced lung injury. <i>Journal of Applied Physiology</i> , 2017, 122, 1516-1522.	2.5	37
30	Chemically Modified Tetracycline 3 Prevents Acute Respiratory Distress Syndrome in a Porcine Model of Sepsis + Ischemia/Reperfusion-Induced Lung Injury. <i>Shock</i> , 2012, 37, 424-432.	2.1	32
31	A Physiologically Informed Strategy to Effectively Open, Stabilize, and Protect the Acutely Injured Lung. <i>Frontiers in Physiology</i> , 2020, 11, 227.	2.8	32
32	Biological Response to Time-Controlled Adaptive Ventilation Depends on Acute Respiratory Distress Syndrome Etiology*. <i>Critical Care Medicine</i> , 2018, 46, e609-e617.	0.9	30
33	Lung stress, strain, and energy load: engineering concepts to understand the mechanism of ventilator-induced lung injury (VILI). <i>Intensive Care Medicine Experimental</i> , 2016, 4, 16.	1.9	28
34	Purinergic signalling links mechanical breath profile and alveolar mechanics with the pro-inflammatory innate immune response causing ventilation-induced lung injury. <i>Purinergic Signalling</i> , 2017, 13, 363-386.	2.2	28
35	Electroporation-Mediated Gene Delivery of Na <sup>+</sup> ,K <sup>+</sup> -ATPase, and ENaC Subunits to the Lung Attenuates Acute Respiratory Distress Syndrome in a Two-Hit Porcine Model. <i>Shock</i> , 2015, 43, 16-23.	2.1	25
36	Pulmonary Interstitial Matrix and Lung Fluid Balance From Normal to the Acutely Injured Lung. <i>Frontiers in Physiology</i> , 2021, 12, 781874.	2.8	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. <i>Shock</i> , 2016, 45, 375-384.	2.1	23
38	Rationales and uncertainties for aspirin use in COVID-19: a narrative review. <i>Family Medicine and Community Health</i> , 2021, 9, e000741.	1.6	23
39	Excessive Extracellular ATP Desensitizes P2Y2 and P2X4 ATP Receptors Provoking Surfactant Impairment Ending in Ventilation-Induced Lung Injury. <i>International Journal of Molecular Sciences</i> , 2018, 19, 1185.	4.1	22
40	The time-controlled adaptive ventilation protocol: mechanistic approach to reducing ventilator-induced lung injury. <i>European Respiratory Review</i> , 2019, 28, 180126.	7.1	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. <i>Intensive Care Medicine Experimental</i> , 2015, 3, 54.	1.9	19
43	Limiting ventilator-associated lung injury in a preterm porcine neonatal model. <i>Journal of Pediatric Surgery</i> , 2017, 52, 50-55.	1.6	19
44	Enteral administration of bacteria fermented formula in newborn piglets: A high fidelity model for necrotizing enterocolitis (NEC). <i>PLoS ONE</i> , 2018, 13, e0201172.	2.5	19
45	Surfactant delivery in rat lungs: Comparing 3D geometrical simulation model with experimental instillation. <i>PLoS Computational Biology</i> , 2019, 15, e1007408.	3.2	18
46	ARDS: what experimental models have taught us. <i>Intensive Care Medicine</i> , 2016, 42, 806-810.	8.2	15
47	Preemptive mechanical ventilation based on dynamic physiology in the alveolar microenvironment: Novel considerations of time-dependent properties of the respiratory system. <i>Journal of Trauma and Acute Care Surgery</i> , 2018, 85, 1081-1091.	2.1	13
48	Looking beyond macroventilatory parameters and rethinking ventilator-induced lung injury. <i>Journal of Applied Physiology</i> , 2018, 124, 1214-1218.	2.5	12
49	Acetylsalicylic Acid Compared with Enoxaparin for the Prevention of Thrombosis and Mechanical Ventilation in COVID-19 Patients: A Retrospective Cohort Study. <i>Clinical Drug Investigation</i> , 2021, 41, 723-732.	2.2	11
50	Alveolar mechanics alter hypoxic pulmonary vasoconstriction*. <i>Critical Care Medicine</i> , 2002, 30, 1315-1321.	0.9	10
51	Amelia Earhart, alveolar mechanics, and other great mysteries. <i>Journal of Applied Physiology</i> , 2012, 112, 935-936.	2.5	10
52	Preemptive mechanical ventilation can block progressive acute lung injury. <i>World Journal of Critical Care Medicine</i> , 2016, 5, 74.	1.8	10
53	Mechanical Ventilation Lessons Learned From Alveolar Micromechanics. <i>Frontiers in Physiology</i> , 2020, 11, 233.	2.8	9
54	Time-controlled adaptive ventilation (TCAV) accelerates simulated mucus clearance via increased expiratory flow rate. <i>Intensive Care Medicine Experimental</i> , 2019, 7, 27.	1.9	8

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55	Time-Controlled Adaptive Ventilation Versus Volume-Controlled Ventilation in Experimental Pneumonia. <i>Critical Care Medicine</i> , 2021, 49, 140-150.	0.9	8
56	Commentaries on Viewpoint: Unresolved mysteries. <i>Journal of Applied Physiology</i> , 2012, 113, 1948-1949.	2.5	7
57	Electric Cell-Substrate Impedance Sensing (ECIS) as a Platform for Evaluating Barrier-Function Susceptibility and Damage from Pulmonary Atelectrauma. <i>Biosensors</i> , 2022, 12, 390.	4.7	5
58	Bayesian inference of the lung alveolar spatial model for the identification of alveolar mechanics associated with acute respiratory distress syndrome. <i>Physical Biology</i> , 2013, 10, 036008.	1.8	4
59	Is Time the Missing Component in Protective Ventilation Strategies?*. <i>Critical Care Medicine</i> , 2013, 41, 2461-2462.	0.9	4
60	Never give the lung the opportunity to collapse. <i>Trends in Anaesthesia and Critical Care</i> , 2018, 22, 10-16.	0.9	4
61	Up in smoke. <i>Critical Care Medicine</i> , 2012, 40, 1040-1041.	0.9	3
62	Commentaries on Viewpoint: The ongoing need for good physiological investigation: Obstructive sleep apnea in HIV patients as a paradigm. <i>Journal of Applied Physiology</i> , 2015, 118, 247-250.	2.5	2
63	Last Word on Viewpoint: Looking beyond macroventilatory parameters and rethinking ventilator-induced lung injury. <i>Journal of Applied Physiology</i> , 2018, 124, 1220-1221.	2.5	2
64	It Is Time to Treat the Patient and Not Just the Ventilator. <i>Critical Care Medicine</i> , 2019, 47, e723-e724.	0.9	2
65	Hemostatic Shape Memory Polymer Foams With Improved Survival in a Lethal Traumatic Hemorrhage Model. <i>SSRN Electronic Journal</i> , 0, , .	0.4	2
66	“Open the lung and keep it open” a homogeneously ventilated lung is a “healthy lung”™. <i>Annals of Translational Medicine</i> , 2016, 4, 141-141.	1.7	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. <i>Journal of Applied Physiology</i> , 2022, 132, 564-574.	2.5	2
69	Mechanical Ventilation in Pediatric and Neonatal Patients. <i>Frontiers in Physiology</i> , 2021, 12, 805620.	2.8	2
70	A Ventilator Mode Cannot Set Itself, Nor Can It Be Solely Responsible for Outcomes*. <i>Critical Care Medicine</i> , 2022, 50, 695-699.	0.9	2
71	Assessment of Heterogeneity in Lung Structure and Function During Mechanical Ventilation: A Review of Methodologies. <i>Journal of Engineering and Science in Medical Diagnostics and Therapy</i> , 2022, , .	0.5	2
72	Lung recruitment. <i>Critical Care Medicine</i> , 2012, 40, 1985-1986.	0.9	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.	2.9	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, .	0.5	1
75	Alveolar Overdistension Does Not Occur Even at Very High Airway Pressure. FASEB Journal, 2015, 29, 1016.1.	0.5	1
76	Airway Pressure Release Ventilation in Acute Respiratory Failure Due to Coronavirus Disease 2019. Critical Care Medicine, 2021, Publish Ahead of Print, .	0.9	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.	2.1	1
78	712. Critical Care Medicine, 2014, 42, A1531.	0.9	0
79	693. Critical Care Medicine, 2015, 43, 175.	0.9	0
80	Failure to Disclose Conflicts of Interest. JAMA Surgery, 2016, 151, 1190.	4.3	0
81	1080: ACUTELY INJURED LUNGS RECEIVE SIGNIFICANTLY LESS POWER THAN HEALTHY LUNGS WITH EXERCISE. Critical Care Medicine, 2018, 46, 523-523.	0.9	0
82	1123: DECOMPRESSIVE LAPAROTOMY IMPROVES DISTRIBUTION OF PULMONARY VENTILATION IN A PORCINE MODS/ARDS MODEL. Critical Care Medicine, 2018, 46, 545-545.	0.9	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.	0.9	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.	0.9	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.	2.5	0
86	1616: TRANSPULMONARY THERMODILUTION MEASUREMENT OF PULMONARY EDEMA IN A PORCINE SEPTIC SHOCK MODEL. Critical Care Medicine, 2019, 47, 783-783.	0.9	0
87	1187: TIDAL VOLUME VARIES WITH CHANGES IN TEST LUNG COMPLIANCE IN TIME-CONTROLLED MECHANICAL VENTILATION. Critical Care Medicine, 2019, 47, 570-570.	0.9	0
88	433. Critical Care Medicine, 2012, 40, 1-328.	0.9	0
89	207. Critical Care Medicine, 2012, 40, 1-328.	0.9	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.	0.9	0
93	1483: EXCESSIVE DYNAMIC AND STATIC STRAIN ACT SYNERGISTICALLY TO INCREASE LUNG INFLAMMATION. Critical Care Medicine, 2022, 50, 745-745.	0.9	0