

# Paul D Docherty

## List of Publications by Year in descending order

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Version: 2024-02-01

130  
papers

1,418  
citations

393982

19  
h-index

395343

33  
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131  
all docs

131  
docs citations

131  
times ranked

631  
citing authors

#	ARTICLE	IF	CITATIONS
1	The Impact of Exogenous Insulin Input on Calculating Hepatic Clearance Parameters. Journal of Diabetes Science and Technology, 2022, 16, 945-954.	1.3	4
2	Contact force estimation for serial manipulator based on weighted moving average with variable span and standard Kalman filter with automatic tuning. International Journal of Advanced Manufacturing Technology, 2022, 118, 3443-3456.	1.5	6
3	Review of the Development of Hemodynamic Modeling Techniques to Capture Flow Behavior in Arteries Affected by Aneurysm, Atherosclerosis, and Stenting. Journal of Biomechanical Engineering, 2022, 144, .	0.6	6
4	Practical identifiability of parametrised models: A review of benefits and limitations of various approaches. Mathematics and Computers in Simulation, 2022, 199, 202-216.	2.4	9
5	An improved particle swarm optimization algorithm and its application in solving forward kinematics of a 3-DoF parallel manipulator. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2021, 235, 896-907.	1.1	3
6	In-vitro particle image velocimetry assessment of the endovascular haemodynamic features distal of stent-grafts that are associated with development of limb occlusion. Journal of the Royal Society of New Zealand, 2021, 51, 361-374.	1.0	3
7	PIV Analysis of Haemodynamics Distal to the Frozen Elephant Trunk Stent Surrogate. Cardiovascular Engineering and Technology, 2021, 12, 373-386.	0.7	3
8	The Effects of Additional Local-Mixing Compartments in the DISST Model-Based Assessment of Insulin Sensitivity. Journal of Diabetes Science and Technology, 2021, , 193229682110216.	1.3	1
9	A deep learning spatial-temporal framework for detecting surgical tools in laparoscopic videos. Biomedical Signal Processing and Control, 2021, 68, 102801.	3.5	12
10	An in-silico study of the effect of non-linear skin dynamics on skin-mounted accelerometer inference of skull motion. Biomedical Signal Processing and Control, 2021, 70, 102986.	3.5	0
11	In vitro pulsatile flow study in compliant and rigid ascending aorta phantoms by stereo particle image velocimetry. Medical Engineering and Physics, 2021, 96, 81-90.	0.8	3
12	Contact force and torque sensing for serial manipulator based on an adaptive Kalman filter with variable time period. Robotics and Computer-Integrated Manufacturing, 2021, 72, 102210.	6.1	18
13	A Deep Learning Framework for Recognising Surgical Phases in Laparoscopic Videos. IFAC-PapersOnLine, 2021, 54, 334-339.	0.5	6
14	An Alternative Way to Measure Tidal Volumes. IFMBE Proceedings, 2021, , 66-72.	0.2	2
15	Changes of Physiological parameters of the patient during laparoscopic gynaecology. Current Directions in Biomedical Engineering, 2021, 7, 500-503.	0.2	3
16	Assessing Generalisation Capabilities of CNN Models for Surgical Tool Classification. Current Directions in Biomedical Engineering, 2021, 7, 476-479.	0.2	3
17	Methoxyflurane toxicity: historical determination and lessons for modern patient and occupational exposure. New Zealand Medical Journal, 2021, 134, 76-90.	0.5	2
18	Assessment of the Dynamic Insulin Secretion and Sensitivity Test (DISST) Pre and Post Gastric bypass Surgery. Experimental and Clinical Endocrinology and Diabetes, 2020, 128, 164-169.	0.6	2

#	ARTICLE	IF	CITATIONS
19	Authors'™ Response to Drs. Ece Salihoglu and Ziya Salihoglu's™ Letter to the Editor. <i>Annals of Biomedical Engineering</i> , 2020, 48, 2-3.	1.3	0
20	The contribution of gender segregated secondary education on the progression to engineering. <i>Australasian Journal of Engineering Education</i> , 2020, 25, 31-38.	0.2	3
21	Serum fluoride levels following commencement of methoxyflurane for patient analgesia in an ambulance service. <i>British Journal of Anaesthesia</i> , 2020, 125, e457-e458.	1.5	2
22	Prediction of lung mechanics throughout recruitment maneuvers in pressure-controlled ventilation. <i>Computer Methods and Programs in Biomedicine</i> , 2020, 197, 105696.	2.6	22
23	Model-based PEEP titration versus standard practice in mechanical ventilation: a randomised controlled trial. <i>Trials</i> , 2020, 21, 130.	0.7	22
24	Developments in Modelling Bone Screwing. <i>Current Directions in Biomedical Engineering</i> , 2020, 6, 111-114.	0.2	9
25	An In-silico Simulation of Pressure Wave Excursions after Impact to the Frontal Lobe of a Homogenous Model of the Brain. <i>IFAC-PapersOnLine</i> , 2020, 53, 16281-16285.	0.5	0
26	Using the Adapted Levenberg-Marquardt method to determine the validity of ignoring insulin and glucose data that is affected by mixing. <i>IFAC-PapersOnLine</i> , 2020, 53, 16341-16346.	0.5	2
27	Model-based bone material property identification. <i>Automatisierungstechnik</i> , 2020, 68, 913-921.	0.4	4
28	A bootstrap approach for predicting fluoride toxicity in paramedics after occupational methoxyflurane exposure. <i>IFAC Journal of Systems and Control</i> , 2019, 9, 100061.	1.1	1
29	A Novel Fabrication Method for Compliant Silicone Phantoms of Arterial Geometry for Use in Particle Image Velocimetry of Haemodynamics. <i>Applied Sciences (Switzerland)</i> , 2019, 9, 3811.	1.3	20
30	Comparing three differing approaches to identify a three-parameter gas-exchange model with noisy data. <i>IFAC Journal of Systems and Control</i> , 2019, 7, 100038.	1.1	0
31	Optimising mechanical ventilation through model-based methods and automation. <i>Annual Reviews in Control</i> , 2019, 48, 369-382.	4.4	47
32	The quadratic dimensional reduction method for parameter identification. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2019, 73, 425-436.	1.7	3
33	Predictive Virtual Patient Modelling of Mechanical Ventilation: Impact of Recruitment Function. <i>Annals of Biomedical Engineering</i> , 2019, 47, 1626-1641.	1.3	41
34	Practical identifiability analysis of a minimal cardiovascular system model. <i>Computer Methods and Programs in Biomedicine</i> , 2019, 171, 53-65.	2.6	15
35	The Need to Calculate Target Glucose Levels When Measuring Changes in Insulin Sensitivity During Interventions for Individuals With Type 2 Diabetes. <i>Journal of Diabetes Science and Technology</i> , 2018, 12, 665-672.	1.3	2
36	Accurate and precise prediction of insulin sensitivity variance in critically ill patients. <i>Biomedical Signal Processing and Control</i> , 2018, 39, 327-335.	3.5	5

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37	Principles of Product Design in Developing Countries. <i>Applied System Innovation</i> , 2018, 1, 11.	2.7	5
38	An analysis of the impact of the inclusion of expiration data on the fitting of a predictive pulmonary elastance model. <i>Current Directions in Biomedical Engineering</i> , 2018, 4, 255-258.	0.2	1
39	Basis function identification of lung mechanics in mechanical ventilation for predicting outcomes of therapy changes: A first virtual patient. <i>IFAC-PapersOnLine</i> , 2018, 51, 299-304.	0.5	3
40	Model-based Modified OGTT Insulin Sensitivity Test Design. <i>IFAC-PapersOnLine</i> , 2018, 51, 86-91.	0.5	4
41	Performance of variations of the dynamic elastance model in lung mechanics. <i>Control Engineering Practice</i> , 2017, 58, 262-267.	3.2	10
42	The dimensional reduction method for identification of parameters that trade-off due to similar model roles. <i>Mathematical Biosciences</i> , 2017, 285, 119-127.	0.9	4
43	Laboratory diagnosis of gestational diabetes: An in silico investigation into the effects of pre-analytical processing on the diagnostic sensitivity and specificity of the oral glucose tolerance test. <i>Clinical Biochemistry</i> , 2017, 50, 506-512.	0.8	5
44	Evaluation of pharmacokinetic model designs for subcutaneous infusion of insulin aspart. <i>Journal of Pharmacokinetics and Pharmacodynamics</i> , 2017, 44, 477-489.	0.8	3
45	Tracking the progression to type 2 diabetes with a proportional-derivative insulin secretion model. <i>Control Engineering Practice</i> , 2017, 59, 165-172.	3.2	1
46	Extrapolation of a non-linear autoregressive model of pulmonary mechanics. <i>Mathematical Biosciences</i> , 2017, 284, 32-39.	0.9	21
47	Shedding light on grey noise in diabetes modelling. <i>Biomedical Signal Processing and Control</i> , 2017, 31, 16-30.	3.5	17
48	Regressive cross-correlation of pressure signals in the region of stenosis: Insights from particle image velocimetry experimentation. <i>Biomedical Signal Processing and Control</i> , 2017, 32, 143-149.	3.5	7
49	Predicting the Effects of Changing PEEP Using a Basis Function Method. <i>IFAC-PapersOnLine</i> , 2017, 50, 5468-5473.	0.5	0
50	The Novel Dimensional Reduction Method and Tikhonov Regularisation in Parameter Identification of Non-Linear Ill-Posed Problems. <i>IFAC-PapersOnLine</i> , 2017, 50, 5474-5479.	0.5	2
51	Plateau Pressure Prediction in ARDS Patients. <i>IFAC-PapersOnLine</i> , 2017, 50, 5480-5485.	0.5	0
52	Basis Function Modelling of Respiratory Patients with High or Low Auto-PEEP. <i>IFAC-PapersOnLine</i> , 2017, 50, 15121-15126.	0.5	3
53	The effect of measurement error on the hierarchical identification of a gas exchange model. <i>IFAC-PapersOnLine</i> , 2017, 50, 15145-15150.	0.5	0
54	Negative Lung Elastance in Mechanically Ventilated Spontaneously Breathing Patient. <i>IFAC-PapersOnLine</i> , 2017, 50, 15179-15184.	0.5	4

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55	Model based prediction of plateau pressure in mechanically ventilated patients. Current Directions in Biomedical Engineering, 2017, 3, 301-304.	0.2	1
56	The Effect of a Diet Moderately High in Protein and Fiber on Insulin Sensitivity Measured Using the Dynamic Insulin Sensitivity and Secretion Test (DISST). Nutrients, 2017, 9, 1291.	1.7	15
57	Prediction of high airway pressure using a non-linear autoregressive model of pulmonary mechanics. BioMedical Engineering OnLine, 2017, 16, 126.	1.3	12
58	Resistance in a non-linear autoregressive model of pulmonary mechanics. Current Directions in Biomedical Engineering, 2016, 2, 623-627.	0.2	0
59	Evaluating different approaches to identify a three parameter gas exchange model. Current Directions in Biomedical Engineering, 2016, 2, 669-673.	0.2	2
60	Inspiratory and expiratory elastance in a non-linear autoregressive model of pulmonary mechanics. Current Directions in Biomedical Engineering, 2016, 2, 629-632.	0.2	0
61	Early clinical trial termination: Simulation-based design of a robust stopping rule using difference in interventional effect on mortality. , 2016, , .		0
62	Fabrication of a compliant phantom of the human aortic arch for use in Particle Image Velocimetry (PIV) experimentation. Current Directions in Biomedical Engineering, 2016, 2, 493-497.	0.2	15
63	Effects of Different Models and Different Respiratory Manoeuvres in Respiratory Mechanics Estimation. IFMBE Proceedings, 2016, , 50-55.	0.2	1
64	The Influence of Airway Resistance in the Dynamic Elastance Model. IFMBE Proceedings, 2016, , 56-61.	0.2	1
65	Structural identifiability analysis of a cardiovascular system model. Medical Engineering and Physics, 2016, 38, 433-441.	0.8	21
66	Assessing respiratory mechanics using pressure reconstruction method in mechanically ventilated spontaneous breathing patient. Computer Methods and Programs in Biomedicine, 2016, 130, 175-185.	2.6	32
67	A modified approach to objective surface generation within the Gauss-Newton parameter identification to ignore outlier data points. Biomedical Signal Processing and Control, 2016, 30, 162-169.	3.5	13
68	Incorporating bolus and infusion pharmacokinetics into the ICING insulin model. Mathematical Biosciences, 2016, 281, 1-8.	0.9	2
69	Use of basis functions within a non-linear autoregressive model of pulmonary mechanics. Biomedical Signal Processing and Control, 2016, 27, 44-50.	3.5	24
70	Implementation of a Non-Linear Autoregressive Model with Modified Gauss-Newton Parameter Identification to Determine Pulmonary Mechanics of Respiratory Patients that are Intermittently Resisting Ventilator Flow Patterns. IFAC-PapersOnLine, 2015, 48, 354-359.	0.5	5
71	Parameter Identification Methods in a Model of the Cardiovascular System—This work was supported by the French Community of Belgium, the Belgian Funds for Scientific Research (F.R.S.-FNRS) and EU Marie Curie Actions (FP7-PEOPLE-2012-IRSES).. IFAC-PapersOnLine, 2015, 48, 366-371.	0.5	4
72	The precision of identified variables with respect to multivariable set size in glycaemic data from a virtual type 1 diabetic patient. IFAC-PapersOnLine, 2015, 48, 82-87.	0.5	0

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73	Time-Varying Respiratory System Elastance: A Physiological Model for Patients Who Are Spontaneously Breathing. PLoS ONE, 2015, 10, e0114847.	1.1	66
74	Pressure reconstruction method for spontaneous breathing effort monitoring. Critical Care, 2015, 19, .	2.5	3
75	An eigen-analysis of the relationships between model structure, discrete data, measurement error and resulting parameter identification distributions. IFAC-PapersOnLine, 2015, 48, 88-93.	0.5	0
76	Interpolation within a Recruitment Manoeuvre using a Non-Linear Autoregressive Model of Pulmonary Mechanics. IFAC-PapersOnLine, 2015, 48, 297-302.	0.5	1
77	A Proportional-Derivative Endogenous Insulin Secretion model with an Adapted Gauss Newton Approach. IFAC-PapersOnLine, 2015, 48, 24-29.	0.5	2
78	Identifying pressure dependent elastance in lung mechanics with reduced influence of unmodelled effects. IFAC-PapersOnLine, 2015, 48, 401-406.	0.5	2
79	A polynomial model of patient-specific breathing effort during controlled mechanical ventilation. , 2015, 2015, 4532-5.		8
80	Application of a meta-analysis of aortic geometry to the generation of a compliant phantom for use in particle image velocimetry experimentation. IFAC-PapersOnLine, 2015, 48, 407-412.	0.5	13
81	Multi-frequency Rayleigh damped elastography: in silico studies. Medical Engineering and Physics, 2015, 37, 55-67.	0.8	3
82	Estimation of secondary effect parameters in glycaemic dynamics using accumulating data from a virtual type 1 diabetic patient. Mathematical Biosciences, 2015, 266, 108-117.	0.9	10
83	Impact of Haemodialysis on Insulin Kinetics of Acute Kidney Injury Patients in Critical Care. Journal of Medical and Biological Engineering, 2015, 35, 125-133.	1.0	14
84	The necessity of identifying the basal glucose set-point in the IVGTT for patients with Type 2 Diabetes. BioMedical Engineering OnLine, 2015, 14, 18.	1.3	3
85	A Novel Hierarchal-Based Approach to Measure Insulin Sensitivity and Secretion in At-Risk Populations. Journal of Diabetes Science and Technology, 2014, 8, 807-814.	1.3	2
86	Use of the DISST Model to Estimate the HOMA and Matsuda Indexes Using Only a Basal Insulin Assay. Journal of Diabetes Science and Technology, 2014, 8, 815-820.	1.3	1
87	A Patient-Specific Airway Branching Model for Mechanically Ventilated Patients. Computational and Mathematical Methods in Medicine, 2014, 2014, 1-10.	0.7	6
88	Utility of a novel error-stepping method to improve gradient-based parameter identification by increasing the smoothness of the local objective surface: A case-study of pulmonary mechanics. Computer Methods and Programs in Biomedicine, 2014, 114, e70-e78.	2.6	10
89	An in-silico proof-of-concept investigation of a combined glucose-insulin bolus quick dynamic insulin sensitivity test. Biomedical Signal Processing and Control, 2014, 10, 332-337.	3.5	1
90	Multi-frequency inversion in Rayleigh damped Magnetic Resonance Elastography. Biomedical Signal Processing and Control, 2014, 13, 270-281.	3.5	7

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91	Reformulation of the pressure-dependent recruitment model (PRM) of respiratory mechanics. Biomedical Signal Processing and Control, 2014, 12, 47-53.	3.5	19
92	Parametric-based brain Magnetic Resonance Elastography using a Rayleigh damping material model. Computer Methods and Programs in Biomedicine, 2014, 116, 328-339.	2.6	7
93	The Regional Conjugate Optimisation Approach: A Novel Method for Three Parameter Identification of Physiological Models. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 3893-3898.	0.4	0
94	Virtual Trials with b-spline Basis Functions and Stochastic Differential Equations. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 10976-10981.	0.4	0
95	Reducing the Effect of Outlying Data on the Identification of Insulinaemic Pharmacokinetic Parameters with an Adapted Gauss-Newton Approach. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 5635-5640.	0.4	5
96	An Extension to the First Order Model of Pulmonary Mechanics to Capture a Pressure dependent Elastance in the Human Lung. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 1176-1181.	0.4	3
97	Determining the relative efficacy of a number of PID and PD models that relate insulin secretion to bolus induced glucose excursions. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 2100-2105.	0.4	2
98	Continuous Stroke Volume Estimation from Aortic Pressure Using Zero Dimensional Cardiovascular Model: Proof of Concept Study from Porcine Experiments. PLoS ONE, 2014, 9, e102476.	1.1	23
99	Improvements in Glucose Metabolism and Insulin Sensitivity with a Low-Carbohydrate Diet in Obese Patients with Type 2 Diabetes. Journal of the American College of Nutrition, 2013, 32, 11-17.	1.1	48
100	Altered blood glucose dynamics during and after anhepatic phase of liver transplantation: A model-based approach. , 2013, , .		4
101	Clinical Validation of the Quick Dynamic Insulin Sensitivity Test. IEEE Transactions on Biomedical Engineering, 2013, 60, 1266-1272.	2.5	4
102	Non-identifiability of the Rayleigh damping material model in Magnetic Resonance Elastography. Mathematical Biosciences, 2013, 246, 191-201.	0.9	11
103	Impact of haemodialysis on insulin sensitivity of acute renal failure (ARF) patients with sepsis in critical care. , 2013, 2013, 3503-6.		2
104	Clinical evaluation and interpretation of a proportional-derivative control model for endogenous insulin secretion response to glucose. , 2012, , .		1
105	Observation of changes in model-based insulin sensitivity during haemodialysis transitions for critically ill patients. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 349-354.	0.4	0
106	Traversing the Fuzzy Valley: Problems Caused by Reliance on Default Simulation and Parameter Identification Programs for Discontinuous Models. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 490-494.	0.4	4
107	Identifiability Analysis of a Pressure-Depending Alveolar Recruitment Model. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 137-142.	0.4	3
108	Improving Minimal Model Identifiability in Insulin Resistant Patients Utilizing Insight from the Graphical Structural Model Identifiability Method. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 236-241.	0.4	0

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109	Structural Identifiability and Practical Applicability of an Alveolar Recruitment Model for ARDS Patients. IEEE Transactions on Biomedical Engineering, 2012, 59, 3396-3404.	2.5	46
110	Observation of incretin effects during enteral feed transitions of critically ill patients. E-SPEN Journal, 2012, 7, e154-e159.	0.5	5
111	Respiratory airway resistance monitoring in mechanically ventilated patients. , 2012, , .		0
112	Iterative integral parameter identification of a respiratory mechanics model. BioMedical Engineering OnLine, 2012, 11, 38.	1.3	29
113	Characterisation of the iterative integral parameter identification method. Medical and Biological Engineering and Computing, 2012, 50, 127-134.	1.6	65
114	An in-silico Analysis of the Ability of Dynamic Tests to Trace the Kinetic Behaviour of Insulin Sensitizer Drugs. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 1751-1756.	0.4	0
115	Evaluation of a Glomerular Filtration Term in the DISST Model to Capture the Glucose Pharmacodynamics of an Insulin-Resistant Cohort.. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 1757-1762.	0.4	1
116	The dynamic insulin sensitivity and secretion test—a novel measure of insulin sensitivity. Metabolism: Clinical and Experimental, 2011, 60, 1748-1756.	1.5	52
117	Independent cohort cross-validation of the real-time DISTq estimation of insulin sensitivity. Computer Methods and Programs in Biomedicine, 2011, 102, 94-104.	2.6	21
118	A physiological Intensive Control Insulin-Nutrition-Glucose (ICING) model validated in critically ill patients. Computer Methods and Programs in Biomedicine, 2011, 102, 192-205.	2.6	169
119	A graphical method for practical and informative identifiability analyses of physiological models: A case study of insulin kinetics and sensitivity. BioMedical Engineering OnLine, 2011, 10, 39.	1.3	90
120	A Spectrum of Dynamic Insulin Sensitivity Test Protocols. Journal of Diabetes Science and Technology, 2011, 5, 1499-1508.	1.3	14
121	Design and Clinical Pilot Testing of the Model-Based Dynamic Insulin Sensitivity and Secretion Test (DISST). Journal of Diabetes Science and Technology, 2010, 4, 1408-1423.	1.3	46
122	Evaluation of the Performances and Costs of a Spectrum of Dynamic Insulin Sensitivity Test Protocols. , 2010, , .		1
123	A three-compartment model of the C-peptide—insulin dynamic during the DIST test. Mathematical Biosciences, 2010, 228, 136-146.	0.9	2
124	The Identification of Insulin Saturation Effects During the Dynamic Insulin Sensitivity Test. Open Medical Informatics Journal, 2010, 4, 141-148.	1.0	8
125	A Minimal C-Peptide Sampling Method to Capture Peak and Total Prehepatic Insulin Secretion in Model-Based Experimental Insulin Sensitivity Studies. Journal of Diabetes Science and Technology, 2009, 3, 875-886.	1.3	9
126	DISTq: Low-cost, accurate and real-time estimation of insulin sensitivity. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 91-96.	0.4	1



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127	DISTq: An Iterative Analysis of Glucose Data for Low-Cost, Real-Time and Accurate Estimation of Insulin Sensitivity. <i>Open Medical Informatics Journal</i> , 2009, 3, 65-76.	1.0	37
128	A quantitative analysis of the short-term and mid-term benefit of a flipped classroom for foundational engineering dynamics. <i>Research Papers in Education</i> , 0, , 1-15.	1.7	1
129	Student perspectives of independent and collaborative learning in a flipped foundational engineering course. <i>Australasian Journal of Educational Technology</i> , 0, , .	2.0	8
130	Exposure to methoxyflurane: Low-dose analgesia and occupational exposure. <i>Australasian Journal of Paramedicine</i> , 0, 17, .	0.4	3