Barry J Doyle

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

84 papers	1,919 citations	28 h-index	42 g-index
99 ext. papers	2,333 ext. citations	4 avg, IF	5.05 L-index

#	Paper	IF	Citations
84	Mechanical behaviour of alginate-gelatin hydrogels for 3D bioprinting. *Journal of the Mechanical Behavior of Biomedical Materials*, **2018**, 79, 150-157	4.1	150
83	Vessel asymmetry as an additional diagnostic tool in the assessment of abdominal aortic aneurysms. *Journal of Vascular Surgery*, **2009**, 49, 443-54	3.5	103
82	Characterisation of hyaluronic acid methylcellulose hydrogels for 3D bioprinting. *Journal of the Mechanical Behavior of Biomedical Materials*, **2018**, 77, 389-399	4.1	86
81	Aortic Wall Inflammation Predicts Abdominal Aortic Aneurysm Expansion, Rupture, and Need for Surgical Repair. *Circulation*, **2017**, 136, 787-797	16.7	85
80	New approaches to abdominal aortic aneurysm rupture risk assessment: engineering insights with clinical gain. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2010**, 30, 1687-94	9.4	81
79	Parameter optimization for 3D bioprinting of hydrogels. *Bioprinting*, **2017**, 8, 8-12	7	67
78	The impact of long term freezing on the mechanical properties of porcine aortic tissue. *Journal of the Mechanical Behavior of Biomedical Materials*, **2014**, 37, 165-73	4.1	62
77	3D-Printed Tissue-Mimicking Phantoms for Medical Imaging and Computational Validation Applications. *3D Printing and Additive Manufacturing*, **2014**, 1, 14-23	4	60
76	The biaxial mechanical behaviour of abdominal aortic aneurysm intraluminal thrombus: classification of morphology and the determination of layer and region specific properties. *Journal of Biomechanics*, **2014**, 47, 1430-7	2.9	58
75	Identification of rupture locations in patient-specific abdominal aortic aneurysms using experimental and computational techniques. *Journal of Biomechanics*, **2010**, 43, 1408-16	2.9	55
74	A simple, effective and clinically applicable method to compute abdominal aortic aneurysm wall stress. *Journal of the Mechanical Behavior of Biomedical Materials*, **2016**, 58, 139-148	4.1	53
73	3D reconstruction and manufacture of real abdominal aortic aneurysms: from CT scan to silicone model. *Journal of Biomechanical Engineering*, **2008**, 130, 034501	2.1	51
72	Determining the influence of calcification on the failure properties of abdominal aortic aneurysm (AAA) tissue. *Journal of the Mechanical Behavior of Biomedical Materials*, **2015**, 42, 154-67	4.1	50
71	A comparison of modelling techniques for computing wall stress in abdominal aortic aneurysms. *BioMedical Engineering OnLine*, **2007**, 6, 38	4.1	50
70	Analysis of image formation in optical coherence elastography using a multiphysics approach. *Biomedical Optics Express*, **2014**, 5, 2913-30	3.5	49
69	Modified moving least squares with polynomial bases for scattered data approximation. *Applied Mathematics and Computation*, **2015**, 266, 893-902	2.7	44
68	The biaxial biomechanical behavior of abdominal aortic aneurysm tissue. *Annals of Biomedical Engineering*, **2014**, 42, 2440-50	4.7	38

67	Geometrical enhancements for abdominal aortic stent-grafts. *Journal of Endovascular Therapy*, **2008**, 15, 518-29	2.5	38
66	MRI using ultrasmall superparamagnetic particles of iron oxide in patients under surveillance for abdominal aortic aneurysms to predict rupture or surgical repair: MRI for abdominal aortic aneurysms to predict rupture or surgery-the MA(3)RS study. *Open Heart*, **2015**, 2, e000190	3	37
65	Experimental modelling of aortic aneurysms: novel applications of silicone rubbers. *Medical Engineering and Physics*, **2009**, 31, 1002-12	2.4	36
64	The mechanistic causes of peripheral intravenous catheter failure based on a parametric computational study. *Scientific Reports*, **2018**, 8, 3441	4.9	35
63	Engineering silicone rubbers for in vitro studies: creating AAA models and ILT analogues with physiological properties. *Journal of Biomechanical Engineering*, **2010**, 132, 011008	2.1	35
62	A review of the in vivo and in vitro biomechanical behavior and performance of postoperative abdominal aortic aneurysms and implanted stent-grafts. *Journal of Endovascular Therapy*, **2008**, 15, 468-84	2.5	35
61	Comparison of methods used to measure the thickness of soft tissues and their influence on the evaluation of tensile stress. *Journal of Biomechanics*, **2013**, 46, 1955-60	2.9	34
60	BioPARR: A software system for estimating the rupture potential index for abdominal aortic aneurysms. *Scientific Reports*, **2017**, 7, 4641	4.9	34
59	More accurate neuronavigation data provided by biomechanical modeling instead of rigid registration. *Journal of Neurosurgery*, **2014**, 120, 1477-83	3.2	32
58	An experimental and numerical comparison of the rupture locations of an abdominal aortic aneurysm. *Journal of Endovascular Therapy*, **2009**, 16, 322-35	2.5	32
57	Regions of high wall stress can predict the future location of rupture of abdominal aortic aneurysm. *CardioVascular and Interventional Radiology*, **2014**, 37, 815-8	2.7	29
56	A comparison of hemodynamic metrics and intraluminal thrombus burden in a common iliac artery aneurysm. *International Journal for Numerical Methods in Biomedical Engineering*, **2017**, 33, e2821	2.6	26
55	A Finite Element Analysis Rupture Index (FEARI) as an Additional Tool for Abdominal Aortic Aneurysm Rupture Prediction. *Vascular Disease Prevention*, **2009**, 6, 114-121		24
54	Haemodynamics and stresses in abdominal aortic aneurysms: A fluid-structure interaction study into the effect of proximal neck and iliac bifurcation angle. *Journal of Biomechanics*, **2017**, 60, 150-156	2.9	22
53	Use of the photoelastic method and finite element analysis in the assessment of wall strain in abdominal aortic aneurysm models. *Journal of Biomechanics*, **2012**, 45, 1759-68	2.9	22
52	Computational Biomechanics in Thoracic Aortic Dissection: Today¶s Approaches and Tomorrow¶s Opportunities. *Annals of Biomedical Engineering*, **2016**, 44, 71-83	4.7	21
51	On the prediction of monocyte deposition in abdominal aortic aneurysms using computational fluid dynamics. *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine*, **2013**, 227, 1114-24	1.7	20
50	Viscosity and haemodynamics in a late gestation rat feto-placental arterial network. *Biomechanics and Modeling in Mechanobiology*, **2017**, 16, 1361-1372	3.8	17

49	Patient-specific biomechanical model as whole-body CT image registration tool. *Medical Image Analysis*, **2015**, 22, 22-34	15.4	17
48	On the influence of patient-specific material properties in computational simulations: a case study of a large ruptured abdominal aortic aneurysm. *International Journal for Numerical Methods in Biomedical Engineering*, **2013**, 29, 150-64	2.6	17
47	From Detection to Rupture: A Serial Computational Fluid Dynamics Case Study of a Rapidly Expanding, Patient-Specific, Ruptured Abdominal Aortic Aneurysm **2014**, 53-68		17
46	Biomechanical Assessment Predicts Aneurysm Related Events in Patients with Abdominal Aortic Aneurysm. *European Journal of Vascular and Endovascular Surgery*, **2020**, 60, 365-373	2.3	13
45	Development of 3D bioprinted GelMA-alginate hydrogels with tunable mechanical properties. *Bioprinting*, **2021**, 21, e00105	7	13
44	Morphology and Hemodynamics in Isolated Common Iliac Artery Aneurysms Impacts Proximal Aortic Remodeling. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2019**, 39, 1125-1136	9.4	12
43	Towards measuring neuroimage misalignment. *Computers in Biology and Medicine*, **2015**, 64, 12-23	7	12
42	Improved assessment and treatment of abdominal aortic aneurysms: the use of 3D reconstructions as a surgical guidance tool in endovascular repair. *Irish Journal of Medical Science*, **2009**, 178, 321-8	1.9	12
41	A Finite Element Analysis Rupture Index (FEARI) as an Additional Tool for Abdominal Aortic Aneurysm Rupture Prediction. *Vascular Disease Prevention*, **2009**, 6, 114-121		11
40	On the potential of hydrated storage for naturally derived ECMs and associated effects on mechanical and cellular performance. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2014**, 102, 89-97	3.5	8
39	Exploring the Biological and Mechanical Properties of Abdominal Aortic Aneurysms Using USPIO MRI and Peak Tissue Stress: A Combined Clinical and Finite Element Study. *Journal of Cardiovascular Translational Research*, **2017**, 10, 489-498	3.3	8
38	The influence of downstream branching arteries on upstream haemodynamics. *Journal of Biomechanics*, **2016**, 49, 3090-3096	2.9	8
37	Numerical investigations of rib fracture failure models in different dynamic loading conditions. *Computer Methods in Biomechanics and Biomedical Engineering*, **2016**, 19, 527-37	2.1	7
36	Wall Stress and Geometry of the Thoracic Aorta in Patients With Aortic Valve Disease. *Annals of Thoracic Surgery*, **2018**, 105, 1077-1085	2.7	7
35	Computational rupture prediction of AAAs: what needs to be done next?. *Journal of Endovascular Therapy*, **2011**, 18, 226-9	2.5	7
34	The application of computational modeling for risk prediction in type B aortic dissection. *Journal of Vascular Surgery*, **2020**, 71, 1789-1801.e3	3.5	7
33	Biofabrication and Signaling Strategies for Tendon/Ligament Interfacial Tissue Engineering. *ACS Biomaterials Science and Engineering*, **2021**, 7, 383-399	5.5	7
32	Computer-Aided Diagnosis of Abdominal Aortic Aneurysms. *Studies in Mechanobiology, Tissue Engineering and Biomaterials*, **2011**, 119-138	0.5	6

31	A Finite Element Analysis Rupture Index (FEARI) Assessment of Electively Repaired and Symptomatic/Ruptured Abdominal Aortic Aneurysms. *IFMBE Proceedings*, **2010**, 883-886	0.2	6
30	Spatially Heterogeneous Tubular Scaffolds for In Situ Heart Valve Tissue Engineering Using Melt Electrowriting. *Advanced Functional Materials*,2110716	15.6	6
29	Surgical Decision Making in Uncomplicated Type B Aortic Dissection: A Survey of Australian/New Zealand and European Surgeons. *European Journal of Vascular and Endovascular Surgery*, **2020**, 60, 194-200	2.3	5
28	Commentary: Computational Biomechanics-Based Rupture Prediction of Abdominal Aortic Aneurysms. *Journal of Endovascular Therapy*, **2016**, 23, 121-4	2.5	5
27	Blood flow velocity prediction in aorto-iliac stent grafts using computational fluid dynamics and Taguchi method. *Computers in Biology and Medicine*, **2017**, 84, 235-246	7	4
26	A novel biocompatible polymeric blend for applications requiring high toughness and tailored degradation rate. *Journal of Materials Chemistry B*, **2021**, 9, 2532-2546	7.3	4
25	Development of a shear-thinning biomaterial as an endovascular embolic agent for the treatment of type B aortic dissection. *Journal of the Mechanical Behavior of Biomedical Materials*, **2019**, 99, 66-77	4.1	3
24	Morphology and Computational Fluid Dynamics Support a Novel Classification of Common Iliac Aneurysms. *European Journal of Vascular and Endovascular Surgery*, **2020**, 59, 786-793	2.3	3
23	Natural, synthetic and commercially-available biopolymers used to regenerate tendons and ligaments.. *Bioactive Materials*, **2023**, 19, 179-197	16.7	3
22	Commentary: Computational Modeling of Contemporary Stent-Grafts. *Journal of Endovascular Therapy*, **2015**, 22, 591-3	2.5	2
21	Management of acute type B aortic dissection. *ANZ Journal of Surgery*, **2020**, 90, 2425-2433	1	2
20	Hemodynamic Comparison of Stent-Grafts for the Treatment of Aortoiliac Occlusive Disease. *Journal of Endovascular Therapy*, **2021**, 28, 623-635	2.5	2
19	Response to "Re Biomechanical Assessment Predicts Aneurysm Related Events in Patients with Abdominal Aortic Aneurysm". *European Journal of Vascular and Endovascular Surgery*, **2021**, 61, 164	2.3	2
18	The Effects of Geometric Variation from OCT-Derived 3D Reconstructions on Wall Shear Stress in a Patient-Specific Coronary Artery **2017**, 1-13		1
17	A computational framework to investigate retinal haemodynamics and tissue stress. *Biomechanics and Modeling in Mechanobiology*, **2019**, 18, 1745-1757	3.8	1
16	Multimodal Imaging and Analysis of the Neuroanatomical Organization of the Primary Olfactory Inputs in the Brownbanded Bamboo Shark,. *Frontiers in Neuroanatomy*, **2020**, 14, 560534	3.6	1
15	Fundus Image Based Blood Flow Simulation of the Retinal Arteries **2016**, 143-154		1
14	Proximal false lumen thrombosis is associated with low false lumen pressure and fewer complications in type B aortic dissection. *Journal of Vascular Surgery*, **2021**,	3.5	1

13	Simulating Platelet Transport in Type-B Aortic Dissection **2019**, 145-159		1
12	Assessment of cerebrovascular responses to physiological stimuli in identical twins using multimodal imaging and computational fluid dynamics. *Journal of Applied Physiology*, **2020**, 129, 1024-1032	3.7	1
11	Investigating the Upstream and Downstream Hemodynamic Boundary Conditions of Healthy and Growth-Restricted Rat Feto-Placental Arterial Networks. *Annals of Biomedical Engineering*, **2021**, 49, 2183-2195	4.7	1
10	Determining an Appropriate To-Keep-Vein-Open (TKVO) Infusion Rate for Peripheral Intravenous Catheter Usage **2021**, 26, 13-20		1
9	Coronary artery segmentation from intravascular optical coherence tomography using deep capsules. *Artificial Intelligence in Medicine*, **2021**, 116, 102072	7.4	1
8	Low Shear Stress at Baseline Predicts Expansion and Aneurysm-Related Events in Patients With Abdominal Aortic Aneurysm. *Circulation: Cardiovascular Imaging*, **2021**, CIRCIMAGING121013160	3.9	1
7	The technological advancement to engineer next-generation stent-grafts: design, material, and fabrication techniques.. *Advanced Healthcare Materials*, **2022**, e2200271	10.1	1
6	Multi-response optimization of shrinkage, clamp force, and part weight in simulated injection molding process of a dialysis micro-filter. *Journal of Applied Polymer Science*, **2022**, 139, 51732	2.9	0
5	Measurement of the Mechanical Properties of Biological Tissues **2017**, 255-269		
4	Patient Specific Modelling **2017**, 207-230		
3	Aneurysms **2017**, 307-329		
2	Low Endothelial Shear Stress Is Associated With High-Risk Coronary Plaque Features and Microcalcification Activity. *JACC: Cardiovascular Imaging*, **2021**, 14, 2262-2264	8.4	
1	Micromechanical Force Measurement of Clotted Blood Particle Cohesion: Understanding Thromboembolic Aggregation Mechanisms.. *Cardiovascular Engineering and Technology*, **2022**, 1	2.2	