

Anthony G Gallagher

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/7606170/publications.pdf>

Version: 2024-02-01

133
papers

9,623
citations

57719

44
h-index

37183

96
g-index

138
all docs

138
docs citations

138
times ranked

5408
citing authors

#	ARTICLE	IF	CITATIONS
1	Development and validation of the metric-based assessment of a robotic vessel dissection, vessel loop positioning, clip applying and bipolar coagulation task on an avian model. <i>Journal of Robotic Surgery</i> , 2022, 16, 677-685.	1.0	3
2	Proficiency-based Progression Training: A Scientific Approach to Learning Surgical Skills. <i>European Urology</i> , 2022, 81, 394-395.	0.9	12
3	Does quality assured eLearning provide adequate preparation for robotic surgical skills; a prospective, randomized and multi-center study. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2022, 17, 457-465.	1.7	4
4	Intraoperative robotic-assisted low anterior rectal resection performance assessment using procedure-specific binary metrics and a global rating scale. <i>BJS Open</i> , 2022, 6, .	0.7	8
5	Development and Validation of the Metric-Based Assessment of a Robotic Dissection Task on an Avian Model. <i>Journal of Surgical Research</i> , 2022, 277, 224-234.	0.8	3
6	Proficiency-based progression training for robotic surgery skills training: a randomized clinical trial. <i>BJU International</i> , 2022, 130, 528-535.	1.3	2
7	Discrimination, reliability, sensitivity, and specificity of metric-based assessment of an unstable pertrochanteric 31A2 intramedullary nailing procedure performed by experienced and novice surgeons. <i>Injury</i> , 2022, 53, 2832-2838.	0.7	2
8	Development and validation of the objective assessment of robotic suturing and knot tying skills for chicken anastomotic model. <i>Surgical Endoscopy and Other Interventional Techniques</i> , 2021, 35, 4285-4294.	1.3	17
9	Objective assessment of intraoperative skills for robot-assisted radical prostatectomy (RARP): results from the ERUS Scientific and Educational Working Groups Metrics Initiative. <i>BJU International</i> , 2021, 128, 103-111.	1.3	38
10	Validation of phlebotomy performance metrics developed as part of a proficiency-based progression initiative to mitigate wrong blood in tube. <i>Postgraduate Medical Journal</i> , 2021, 97, 363-367.	0.9	5
11	A Proficiency-Based Progression Simulation Training Curriculum to Acquire the Skills Needed in Performing Arthroscopic Bankart and Rotator Cuff Repairs—Implementation and Impact. <i>Arthroscopy - Journal of Arthroscopic and Related Surgery</i> , 2021, 37, 1099-1106.e5.	1.3	8
12	The imperative of consistency and proficiency in cardiac devices implant skills training. <i>Open Heart</i> , 2021, 8, e001629.	0.9	3
13	Live Observational Objective Assessment of Operative Performance in a Cadaveric Model is Equivalent to Delayed Video-Based Assessment. <i>Arthroscopy - Journal of Arthroscopic and Related Surgery</i> , 2021, 37, 3241-3247.	1.3	2
14	The effect of augmented reality on the accuracy and learning curve of external ventricular drain placement. <i>Neurosurgical Focus</i> , 2021, 51, E8.	1.0	26
15	Proficiency-Based Progression Surgical Training: Preparation for Finishing School. <i>Arthroscopy - Journal of Arthroscopic and Related Surgery</i> , 2021, 37, 3003.	1.3	0
16	A Systematic Review and Meta-analysis on the Impact of Proficiency-based Progression Simulation Training on Performance Outcomes. <i>Annals of Surgery</i> , 2021, 274, 281-289.	2.1	55
17	Operational framework and training standard requirements for AI-empowered robotic surgery. <i>International Journal of Medical Robotics and Computer Assisted Surgery</i> , 2020, 16, 1-13.	1.2	11
18	Reliability of Observational Assessment Methods for Outcome-based Assessment of Surgical Skill: Systematic Review and Meta-analyses. <i>Journal of Surgical Education</i> , 2020, 77, 189-201.	1.2	9

#	ARTICLE	IF	CITATIONS
19	Arthroscopic Rotator Cuff Repair Metrics: Establishing Face, Content, and Construct Validity in a Cadaveric Model. <i>Arthroscopy - Journal of Arthroscopic and Related Surgery</i> , 2020, 36, 71-79.e1.	1.3	4
20	Proving the Effectiveness of the Fundamentals of Robotic Surgery (FRS) Skills Curriculum. <i>Annals of Surgery</i> , 2020, 272, 384-392.	2.1	118
21	Proficiency based progression simulation training significantly reduces utility strikes; A prospective, randomized and blinded study. <i>PLoS ONE</i> , 2020, 15, e0231979.	1.1	5
22	A validation study of intraoperative performance metrics for training novice cardiac resynchronization therapy implanters. <i>International Journal of Cardiology</i> , 2020, 307, 48-54.	0.8	12
23	Orsi Consensus Meeting on European Robotic Training (OCERT): Results from the First Multispecialty Consensus Meeting on Training in Robot-assisted Surgery. <i>European Urology</i> , 2020, 78, 713-716.	0.9	32
24	Response to. <i>Annals of Surgery</i> , 2020, Publish Ahead of Print, e847-e848.	2.1	1
25	Utilising the Delphi Process to Develop a Proficiency-based Progression Train-the-trainer Course for Robotic Surgery Training. <i>European Urology</i> , 2019, 75, 775-785.	0.9	62
26	Validation studies of virtual reality simulation performance metrics for mechanical thrombectomy in ischemic stroke. <i>Journal of NeuroInterventional Surgery</i> , 2019, 11, 775-780.	2.0	26
27	Acute surgical woundâ€dressing procedure: Description of the steps involved in the development and validation of an observational metric. <i>International Wound Journal</i> , 2019, 16, 641-648.	1.3	3
28	International expert consensus on a scientific approach to training novice cardiac resynchronization therapy implanters using performance quality metrics. <i>International Journal of Cardiology</i> , 2019, 289, 63-69.	0.8	12
29	Wearable technology-based metrics for predicting operator performance during cardiac catheterisation. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2019, 14, 645-657.	1.7	8
30	Effect of a proficiency-based progression simulation programme on clinical communication for the deteriorating patient: a randomised controlled trial. <i>BMJ Open</i> , 2019, 9, e025992.	0.8	34
31	Outlier experienced surgeonâ€™s performances impact on benchmark for technical surgical skills training. <i>ANZ Journal of Surgery</i> , 2018, 88, E412-E417.	0.3	7
32	Visual spatial ability for surgical trainees: implications for learning endoscopic, laparoscopic surgery and other image-guided procedures. <i>Surgical Endoscopy and Other Interventional Techniques</i> , 2018, 32, 3634-3639.	1.3	19
33	Simulation Research in Gastrointestinal and Urologic Careâ€”Challenges and Opportunities. <i>Annals of Surgery</i> , 2018, 267, 26-34.	2.1	6
34	Proficiency-based progression training: an â€˜end to endâ€™ model for decreasing error applied to achievement of effective epidural analgesia during labour: a randomised control study. <i>BMJ Open</i> , 2018, 8, e020099.	0.8	27
35	Factors Associated With Variation in Outcomes in Bariatric Surgery Centers of Excellence. <i>JAMA - Journal of the American Medical Association</i> , 2018, 320, 1386.	3.8	5
36	AO international consensus panel for metrics on a closed reduction and fixation of a 31A2 petrochanteric fracture. <i>Injury</i> , 2018, 49, 2227-2233.	0.7	14

#	ARTICLE	IF	CITATIONS
37	Deliberate practice using validated metrics improves skill acquisition in performance of ultrasound-guided peripheral nerve block in a simulated setting. <i>Journal of Clinical Anesthesia</i> , 2018, 48, 22-27.	0.7	10
38	Inter-rater Reliability for Metrics Scored in a Binary Fashion—Performance Assessment for an Arthroscopic Bankart Repair. <i>Arthroscopy - Journal of Arthroscopic and Related Surgery</i> , 2018, 34, 2191-2198.	1.3	21
39	Metric-Based Virtual Reality Simulation. <i>Stroke</i> , 2018, 49, e239-e242.	1.0	35
40	A computerised test of perceptual ability for learning endoscopic and laparoscopic surgery and other image guided procedures: Score norms for PicSO _r . <i>American Journal of Surgery</i> , 2017, 214, 969-973.	0.9	7
41	Simulation Research in Gastrointestinal and Urologic Care—Challenges and Opportunities. <i>Journal of Clinical Gastroenterology</i> , 2017, Publish Ahead of Print, .	1.1	1
42	The effect of metrics-based feedback on acquisition of sonographic skills relevant to performance of ultrasound-guided axillary brachial plexus block. <i>Anaesthesia</i> , 2017, 72, 1117-1124.	1.8	10
43	Development of performance and error metrics for ultrasound-guided axillary brachial plexus block. <i>Advances in Medical Education and Practice</i> , 2017, Volume 8, 257-263.	0.7	11
44	Prospective, randomised and blinded comparison of proficiency-based progression full-physics virtual reality simulator training versus invasive vascular experience for learning carotid artery angiography by very experienced operators. <i>BMJ Simulation and Technology Enhanced Learning</i> , 2016, 2, 1-5.	0.7	61
45	A computer-human interaction model to improve the diagnostic accuracy and clinical decision-making during 12-lead electrocardiogram interpretation. <i>Journal of Biomedical Informatics</i> , 2016, 64, 93-107.	2.5	15
46	A Proficiency-Based Progression Training Curriculum Coupled With a Model Simulator Results in the Acquisition of a Superior Arthroscopic Bankart Skill Set. <i>Arthroscopy - Journal of Arthroscopic and Related Surgery</i> , 2015, 31, 1854-1871.	1.3	161
47	Surgical Simulation. <i>Annals of Surgery</i> , 2015, 262, e50-e51.	2.1	4
48	Attentional Capacity. <i>Annals of Surgery</i> , 2015, 261, e60-e61.	2.1	20
49	Metric Development for an Arthroscopic Bankart Procedure: Assessment of Face and Content Validity. <i>Arthroscopy - Journal of Arthroscopic and Related Surgery</i> , 2015, 31, 1430-1440.	1.3	63
50	The medical procedure pathway. <i>European Journal of Anaesthesiology</i> , 2015, 32, 79-82.	0.7	3
51	Human factors approach to evaluate the user interface of physiologic monitoring. <i>Journal of Electrocardiology</i> , 2015, 48, 982-987.	0.4	20
52	Objective Assessment of Knot-Tying Proficiency With the Fundamentals of Arthroscopic Surgery Training Program Workstation and Knot Tester. <i>Arthroscopy - Journal of Arthroscopic and Related Surgery</i> , 2015, 31, 1872-1879.	1.3	63
53	The Bankart Performance Metrics Combined With a Shoulder Model Simulator Create a Precise and Accurate Training Tool for Measuring Surgeon Skill. <i>Arthroscopy - Journal of Arthroscopic and Related Surgery</i> , 2015, 31, 1639-1654.	1.3	51
54	The Bankart Performance Metrics Combined With a Cadaveric Shoulder Create a Precise and Accurate Assessment Tool for Measuring Surgeon Skill. <i>Arthroscopy - Journal of Arthroscopic and Related Surgery</i> , 2015, 31, 1655-1670.	1.3	43

#	ARTICLE	IF	CITATIONS
55	Objective structured assessment of technical skills and checklist scales reliability compared for high stakes assessments. ANZ Journal of Surgery, 2014, 84, 568-573.	0.3	37
56	An Objective Evaluation of a Multi-Component, Competitive, Selection Process for Admitting Surgeons into Higher Surgical Training in a National Setting. World Journal of Surgery, 2014, 38, 296-304.	0.8	9
57	Assessing computerized eye tracking technology for gaining insight into expert interpretation of the 12-lead electrocardiogram: an objective quantitative approach. Journal of Electrocardiology, 2014, 47, 895-906.	0.4	51
58	Simulation fidelity: more than experience and mere repetition?. Studies in Health Technology and Informatics, 2014, 196, 128-34.	0.2	6
59	Measuring surgical skill: a rapidly evolving scientific methodology. Surgical Endoscopy and Other Interventional Techniques, 2013, 27, 1451-1455.	1.3	15
60	Augmenting, not cheating!. Surgery, 2013, 153, 299-300.	1.0	1
61	Prospective, Randomized Assessment of Transfer of Training (ToT) and Transfer Effectiveness Ratio (TER) of Virtual Reality Simulation Training for Laparoscopic Skill Acquisition. Annals of Surgery, 2013, 257, 1025-1031.	2.1	124
62	Prospective, Randomized Assessment of the Acquisition, Maintenance, and Loss of Laparoscopic Skills. Annals of Surgery, 2012, 256, 387-393.	2.1	53
63	Factors influencing microsurgical skill acquisition during a dedicated training course. Microsurgery, 2012, 32, 649-656.	0.6	45
64	Virtual Reality Simulation Training in a High-fidelity Procedure Suite: Operator Appraisal. Journal of Vascular and Interventional Radiology, 2012, 23, 1361-1366.e2.	0.2	16
65	The future of simulation technologies for complex cardiovascular procedures. European Heart Journal, 2012, 33, 2127-2134.	1.0	36
66	Fundamentals of Surgical Simulation. , 2012, , .		50
67	Metric-based simulation training to proficiency in medical education:- what it is and how to do it. Ulster Medical Journal, 2012, 81, 107-13.	0.2	38
68	Persistent Next-Day Effects of Excessive Alcohol Consumption on Laparoscopic Surgical Performance. Archives of Surgery, 2011, 146, 419.	2.3	30
69	Optimising surgical training: use of feedback to reduce errors during a simulated surgical procedure. Postgraduate Medical Journal, 2011, 87, 524-528.	0.9	47
70	Simulations for Procedural Training. , 2011, , 39-66.		2
71	Validation of Metrics Coupled to Simulation Training. , 2011, , 185-211.		2
72	Agents of Change. , 2011, , 1-38.		0

#	ARTICLE	IF	CITATIONS
73	Metrics for the Measurement of Skill. , 2011, , 123-153.		0
74	Metric-Based Simulation Training. , 2011, , 155-183.		0
75	Simulation In and For Medicine: Where Next?. , 2011, , 297-323.		0
76	Human Factors in Acquiring Medical Skills; Learning and Skill Acquisition in Surgery. , 2011, , 89-121.		0
77	Metric-Based Training to Proficiency: What Is It and How Is It Done?. , 2011, , 213-240.		0
78	Didactic Education and Training for Improved Intraoperative Performance: e-Learning Comes of Age. , 2011, , 241-264.		0
79	Simulation Training for Improved Procedural Performance. , 2011, , 265-296.		0
80	Human Factors in Acquiring Medical Skill; Perception and Cognition. , 2011, , 67-87.		0
81	An ergonomic analysis of the effects of camera rotation on laparoscopic performance. Surgical Endoscopy and Other Interventional Techniques, 2009, 23, 2684-2691.	1.3	27
82	Do we see what we think we see? The complexities of morphological assessment. Journal of Pathology, 2009, 218, 285-291.	2.1	52
83	Role and feasibility of psychomotor and dexterity testing in selection for surgical training. ANZ Journal of Surgery, 2009, 79, 108-113.	0.3	73
84	Objective assessment of surgical performance and its impact on a national selection programme of candidates for higher surgical training in plastic surgery. Journal of Plastic, Reconstructive and Aesthetic Surgery, 2009, 62, 1543-1549.	0.5	25
85	Simulation in surgery: opportunity or threat?. Irish Journal of Medical Science, 2008, 177, 283-287.	0.8	28
86	Construct validation of a novel hybrid virtual-reality simulator for training and assessing laparoscopic colectomy; results from the first course for experienced senior laparoscopic surgeons. Surgical Endoscopy and Other Interventional Techniques, 2008, 22, 2301-2309.	1.3	73
87	NOVEL METHOD FOR ASSESSMENT AND SELECTION OF TRAINEES FOR HIGHER SURGICAL TRAINING IN GENERAL SURGERY. ANZ Journal of Surgery, 2008, 78, 282-290.	0.3	44
88	Prospective, Randomized, Double-Blind Trial of Curriculum-Based Training for Intracorporeal Suturing and Knot Tying. Journal of the American College of Surgeons, 2008, 207, 560-568.	0.2	159
89	Assessing Surgical Skill Using Bench Station Models. Plastic and Reconstructive Surgery, 2008, 121, 1869-1870.	0.7	6
90	Proficiency-based virtual reality training significantly reduces the error rate for residents during their first 10 laparoscopic cholecystectomies. American Journal of Surgery, 2007, 193, 797-804.	0.9	560

#	ARTICLE	IF	CITATIONS
91	The effect of escalating feedback on the acquisition of psychomotor skills for laparoscopy. Surgical Endoscopy and Other Interventional Techniques, 2007, 21, 220-224.	1.3	53
92	Attempted establishment of proficiency levels for laparoscopic performance on a national scale using simulation: the results from the 2004 SAGES Minimally Invasive Surgical Trainerâ€™Virtual Reality (MIST-VR) learning center study. Surgical Endoscopy and Other Interventional Techniques, 2007, 21, 5-10.	1.3	72
93	Virtual Reality: Objective Assessment, Education, and Training. , 2007, , 27-33.		1
94	Learning Curves and Reliability Measures for Virtual Reality Simulation in the Performance Assessment of Carotid Angiography. Journal of the American College of Cardiology, 2006, 47, 1796-1802.	1.2	136
95	Perceptual, visuospatial, and psychomotor abilities correlate with duration of training required on a virtual-reality flexible endoscopy simulator. American Journal of Surgery, 2006, 192, 379-384.	0.9	62
96	Face and Content Validation of Virtual Reality Simulation for Carotid Angiography: Results from the First 100 Physicians Attending the Emory NeuroAnatomy Carotid Training (ENACT) Program. Simulation in Healthcare, 2006, 1, 147-150.	0.7	37
97	Effects of a Twentyâ€™Four Hour Call Period on Resident Performance During Simulated Endoscopic Sinus Surgery in an Accreditation Council for Graduate Medical Educationâ€™Compliant Training Program. Laryngoscope, 2005, 115, 143-146.	1.1	47
98	Construct validation of the ProMIS simulator using a novel laparoscopic suturing task. Surgical Endoscopy and Other Interventional Techniques, 2005, 19, 1227-1231.	1.3	147
99	Evaluation of a Tensiometer to Provide Objective Feedback in Knot-Tying Performance. American Surgeon, 2005, 71, 1018-1023.	0.4	25
100	Real-Time Objective Assessment of Knot Quality With a Portable Tensiometer Is Superior to Execution Time for Assessment of Laparoscopic Knot-Tying Performance. Surgical Innovation, 2005, 12, 233-237.	0.4	50
101	Virtual Reality Simulation for the Operating Room. Annals of Surgery, 2005, 241, 364-372.	2.1	831
102	Video-assisted surgery represents more than a loss of three-dimensional vision. American Journal of Surgery, 2005, 189, 76-80.	0.9	47
103	Clinical competence statement on carotid stenting: Training and credentialing for carotid stentingâ€™multispecialty consensus recommendations. Journal of the American College of Cardiology, 2005, 45, 165-174.	1.2	99
104	Evaluation of a tensiometer to provide objective feedback in knot-tying performance. American Surgeon, 2005, 71, 1018-23.	0.4	18
105	Approval of Virtual Reality Training for Carotid Stenting. JAMA - Journal of the American Medical Association, 2004, 292, 3024.	3.8	186
106	Training to Proficiency. JAMA Otolaryngology, 2004, 130, 1145.	1.5	20
107	Virtual reality training improves junior residentsâ€™ operating room performance: Results of a prospective, randomized, double-blinded study of the complete laparoscopic cholecystectomy. Journal of the American College of Surgeons, 2004, 199, 73.	0.2	29
108	Analysis of errors in laparoscopic surgical procedures. Surgical Endoscopy and Other Interventional Techniques, 2004, 18, 592-595.	1.3	67

#	ARTICLE	IF	CITATIONS
109	Discriminative validity of the Minimally Invasive Surgical Trainer in Virtual Reality (MIST-VR) using criteria levels based on expert performance. <i>Surgical Endoscopy and Other Interventional Techniques</i> , 2004, 18, 660-665.	1.3	138
110	Virtual reality training for the operating room and cardiac catheterisation laboratory. <i>Lancet</i> , The, 2004, 364, 1538-1540.	6.3	168
111	Objective psychomotor skills assessment of experienced and novice flexible endoscopists with a virtual reality simulator. <i>Journal of Gastrointestinal Surgery</i> , 2003, 7, 871-878.	0.9	67
112	PicSOR: An objective test of perceptual skill that predicts laparoscopic technical skill in three initial studies of laparoscopic performance. <i>Surgical Endoscopy and Other Interventional Techniques</i> , 2003, 17, 1468-1471.	1.3	90
113	Fundamental principles of validation, and reliability: rigorous science for the assessment of surgical education and training. <i>Surgical Endoscopy and Other Interventional Techniques</i> , 2003, 17, 1525-1529.	1.3	339
114	Surgical competence and surgical proficiency: definitions, taxonomy, and metrics. <i>Journal of the American College of Surgeons</i> , 2003, 196, 933-937.	0.2	133
115	Psychomotor skills assessment in practicing surgeons experienced in performing advanced laparoscopic procedures. <i>Journal of the American College of Surgeons</i> , 2003, 197, 479-488.	0.2	111
116	Human-Factors Lessons Learned from the Minimally Invasive Surgery Revolution. <i>Surgical Innovation</i> , 2003, 10, 127-139.	0.4	26
117	Palliative care in district general hospitals: the nurse's perspective. <i>International Journal of Palliative Nursing</i> , 2002, 8, 169-175.	0.2	23
118	The Efficacy of Using a Personal Stereo to Treat Auditory Hallucinations. <i>Behavior Modification</i> , 2002, 26, 537-549.	1.1	13
119	Virtual Reality Training Improves Operating Room Performance. <i>Annals of Surgery</i> , 2002, 236, 458-464.	2.1	2,315
120	Evaluation of structured and quantitative training methods for teaching intracorporeal knot tying. <i>Surgical Endoscopy and Other Interventional Techniques</i> , 2002, 16, 130-137.	1.3	127
121	Virtual reality as a metric for the assessment of laparoscopic psychomotor skills. <i>Surgical Endoscopy and Other Interventional Techniques</i> , 2002, 16, 1746-1752.	1.3	229
122	Virtual reality training leads to faster adaptation to the novel psychomotor restrictions encountered by laparoscopic surgeons. <i>Surgical Endoscopy and Other Interventional Techniques</i> , 2001, 15, 1080-1084.	1.3	112
123	Objective Psychomotor Skills Assessment of Experienced, Junior, and Novice Laparoscopists with Virtual Reality. <i>World Journal of Surgery</i> , 2001, 25, 1478-1483.	0.8	213
124	A case-control comparison of traditional and virtual-reality training in laparoscopic psychomotor performance. <i>Minimally Invasive Therapy and Allied Technologies</i> , 2000, 9, 347-352.	0.6	7
125	Randomly Alternating Image Presentation During Laparoscopic Training Leads to Faster Automation to the "Fulcrum Effect". <i>Endoscopy</i> , 2000, 32, 317-321.	1.0	23
126	A comparison between randomly alternating imaging, normal laparoscopic imaging, and virtual reality training in laparoscopic psychomotor skill acquisition. <i>American Journal of Surgery</i> , 2000, 180, 208-211.	0.9	78

#	ARTICLE	IF	CITATIONS
127	Experienced Laparoscopic Surgeons are Automated to the "Fulcrum Effect": An Ergonomic Demonstration. <i>Endoscopy</i> , 1999, 31, 365-369.	1.0	107
128	Virtual Reality Training in Laparoscopic Surgery: A Preliminary Assessment of Minimally Invasive Surgical Trainer Virtual Reality (MIST VR). <i>Endoscopy</i> , 1999, 31, 310-313.	1.0	221
129	An Ergonomic Analysis of the Fulcrum Effect in the Acquisition of Endoscopic Skills. <i>Endoscopy</i> , 1998, 30, 617-620.	1.0	260
130	The effects of varying information content and speaking aloud on auditory hallucinations. <i>The British Journal of Medical Psychology</i> , 1995, 68, 143-155.	0.6	10
131	Suicide in rural communities. <i>Journal of Community and Applied Social Psychology</i> , 1994, 4, 145-155.	1.4	20
132	The effects of varying auditory input on schizophrenic hallucinations: A replication. <i>The British Journal of Medical Psychology</i> , 1994, 67, 67-75.	0.6	44
133	Beliefs of Psychologists About Schizophrenia and Their Role in Its Treatment. <i>Irish Journal of Psychology</i> , 1991, 12, 393-405.	0.2	10