

# Current status on clinical applications of magnesium-based alloys from clinical translational perspective

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Development of magnesium-based biodegradable metals with dietary trace element germanium as orthopaedic implant applications. <i>Acta Biomaterialia</i> , 2017, 64, 421-436.	8.3	81
2	Nanocomposite hydrogels stabilized by self-assembled multivalent bisphosphonate-magnesium nanoparticles mediate sustained release of magnesium ion and promote in-situ bone regeneration. <i>Acta Biomaterialia</i> , 2017, 64, 389-400.	8.3	117
3	The improvement of corrosion resistance, biocompatibility and osteogenesis of the novel porous Mg–Nd–Zn alloy. <i>Journal of Materials Chemistry B</i> , 2017, 5, 7661-7674.	5.8	28
4	Magnesium (Mg) based interference screws developed for promoting tendon graft incorporation in bone tunnel in rabbits. <i>Acta Biomaterialia</i> , 2017, 63, 393-410.	8.3	55
5	Pseudoelastic and corrosion behaviors of Mg ZEK100 alloy under cyclic loading. <i>International Journal of Fatigue</i> , 2017, 103, 466-477.	5.7	9
6	Effects of Heat Treatment on Corrosion and Wear Behaviors of Mg-6Gd-2Zn-0.4Zr Alloy in Simulated Body Fluid. <i>Journal of Materials Engineering and Performance</i> , 2017, 26, 5501-5510.	2.5	11
7	In vivo study of microarc oxidation coated biodegradable magnesium plate to heal bone fracture defect of 3 mm width. <i>Colloids and Surfaces B: Biointerfaces</i> , 2017, 158, 147-156.	5.0	30
8	Biodegradable Metals for Orthopedic Applications. , 2017, , 275-309.		5
9	The role of biomaterials in the treatment of meniscal tears. <i>PeerJ</i> , 2017, 5, e4076.	2.0	11
10	Metallic Biomaterials: Current Challenges and Opportunities. <i>Materials</i> , 2017, 10, 884.	2.9	410
11	Biodegradable Scaffolds for Bone Regeneration Combined with Drug-Delivery Systems in Osteomyelitis Therapy. <i>Pharmaceuticals</i> , 2017, 10, 96.	3.8	120
12	Microstructure and enhanced corrosion resistance of biodegradable Mg–Gd–Cu–Zr alloy by solution treatment. <i>Materials Technology</i> , 2018, 33, 301-310.	3.0	13
13	Biodegradable macroporous scaffold with nano-crystal surface microstructure for highly effective osteogenesis and vascularization. <i>Journal of Materials Chemistry B</i> , 2018, 6, 1658-1667.	5.8	24
14	Biofunctional Mg coating on PEEK for improving bioactivity. <i>Bioactive Materials</i> , 2018, 3, 139-143.	15.6	44
15	Mg <sub>65</sub> Ni <sub>20</sub> Y <sub>15</sub> –XAgX (X = 1, 2, 3, 5) alloys prepared via atmosphere controlled induction system. <i>Canadian Journal of Physics</i> , 2018, 96, 810-815.	1.1	2
16	Hybrid scaffolds of Mg alloy mesh reinforced polymer/extracellular matrix composite for critical-sized calvarial defect reconstruction. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2018, 12, 1374-1388.	2.7	18
17	In vitro evaluation of MgSr and MgCaSr alloys via direct culture with bone marrow derived mesenchymal stem cells. <i>Acta Biomaterialia</i> , 2018, 72, 407-423.	8.3	48
18	Degradable Magnesium Implants—Assessment of the Current Situation. <i>Minerals, Metals and Materials Series</i> , 2018, , 405-411.	0.4	4

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19	Initial organ distribution and biological safety of Mg <sup>2+</sup> released from a Mg alloy implant. Biomedical Materials (Bristol), 2018, 13, 035006.	3.3	5
20	Building towards a standardised approach to biocorrosion studies: a review of factors influencing Mg corrosion in vitro pertinent to in vivo corrosion. Science China Materials, 2018, 61, 475-500.	6.3	50
21	Mg-based bone implants show promising osteoinductivity and controllable degradation: A long-term study in a goat femoral condyle fracture model. Materials Science and Engineering C, 2018, 86, 42-47.	7.3	38
22	Effects of scandium addition on biocompatibility of biodegradable Mgâ€‘1.5Znâ€‘0.6Zr alloy. Materials Letters, 2018, 215, 200-202.	2.6	27
23	Exploring the effects of organic molecules on the degradation of magnesium under cell culture conditions. Corrosion Science, 2018, 132, 35-45.	6.6	42
24	A crack-free anti-corrosive coating strategy for magnesium implants under deformation. Corrosion Science, 2018, 132, 116-124.	6.6	22
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26	â€‘Petal effectâ€‘inspired superhydrophobic and highly adhesive coating on magnesium with enhanced corrosion resistance and biocompatibility. Science China Materials, 2018, 61, 629-642.	6.3	25
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29	Biomimetic fluoridated hydroxyapatite coating with micron/nano-topography on magnesium alloy for orthopaedic application. Chemical Engineering Journal, 2018, 339, 7-13.	12.7	32
30	An <i>in vitro</i> and <i>in vivo</i> characterization of fine <sup>WE43B</sup> magnesium wire with varied thermomechanical processing conditions. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2018, 106, 1987-1997.	3.4	18
31	Biomaterial Cues Regulate Epigenetic State and Cell Functionsâ€‘A Systematic Review. Tissue Engineering - Part B: Reviews, 2018, 24, 112-132.	4.8	31
32	Recent Advancements in Bulk Metallic Glasses and Their Applications: A Review. Critical Reviews in Solid State and Materials Sciences, 2018, 43, 233-268.	12.3	170
33	Effects of nanofeatures induced by severe shot peening (SSP) on mechanical, corrosion and cytocompatibility properties of magnesium alloy AZ31. Acta Biomaterialia, 2018, 66, 93-108.	8.3	167
34	Loading 5-Fluorouracil into calcined Mg/Al layered double hydroxide on AZ31 via memory effect. Materials Letters, 2018, 213, 383-386.	2.6	35
35	Additively manufactured biodegradable porous magnesium. Acta Biomaterialia, 2018, 67, 378-392.	8.3	273
36	Magnesium alloy based interference screw developed for ACL reconstruction attenuates peri-tunnel bone loss in rabbits. Biomaterials, 2018, 157, 86-97.	11.4	79

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39	Lanthanum phosphate/chitosan scaffolds enhance cytocompatibility and osteogenic efficiency via the Wnt/ $\beta$ -catenin pathway. Journal of Nanobiotechnology, 2018, 16, 98.	9.1	42
40	Fabrication of magnesium-hydroxyapatite composites targeted for biodegradable implant application. AIP Conference Proceedings, 2018, , .	0.4	2
41	PEO/Mg-Zn-Al LDH Composite Coating on Mg Alloy as a Zn/Mg Ion-Release Platform with Multifunctions: Enhanced Corrosion Resistance, Osteogenic, and Antibacterial Activities. ACS Biomaterials Science and Engineering, 2018, 4, 4112-4121.	5.2	76
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45	Zirconium ions integrated in 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP) as a metalorganic-like complex coating on biodegradable magnesium for corrosion control. Corrosion Science, 2018, 144, 277-287.	6.6	29
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48	Design of a migration assay for human gingival fibroblasts on biodegradable magnesium surfaces. Acta Biomaterialia, 2018, 79, 158-167.	8.3	31
49	The prospect of layered double hydroxide as bone implants: A study of mechanical properties, cytocompatibility and antibacterial activity. Applied Clay Science, 2018, 165, 179-187.	5.2	35
50	Surface design of Mg-Zn alloy temporary orthopaedic implants: Tailoring wettability and biodegradability using laser surface melting. Surface and Coatings Technology, 2018, 347, 337-349.	4.8	43
51	Updates on the research and development of absorbable metals for biomedical applications. Progress in Biomaterials, 2018, 7, 93-110.	4.5	182
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53	Microstructure and mechanical property of biodegradable Mg-1.5Zn-0.6Zr alloy with varying contents of scandium. Materials Letters, 2018, 229, 60-63.	2.6	6
54	In vitro degradation of a biodegradable polylactic acid/magnesium composite as potential bone augmentation material in the presence of titanium and PEEK dental implants. Dental Materials, 2018, 34, 1492-1500.	3.5	19

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61	The Mechanical Properties and Corrosion Resistance of Magnesium Alloys with Different Alloying Elements for Bone Repair. Crystals, 2018, 8, 271.	2.2	10
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64	Biodegradable Metallic Wires in Dental and Orthopedic Applications: A Review. Metals, 2018, 8, 212.	2.3	33
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74	Biodegradable Poly(l-lactic acid) (PLLA) Coatings Fabricated from Nonsolvent Induced Phase Separation for Improving Corrosion Resistance of Magnesium Rods in Biological Fluids. Langmuir, 2018, 34, 10684-10693.	3.5	17
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76	“The return of ceramic implants” Rose stem inspired dual layered modification of ceramic scaffolds with improved mechanical and anti-infective properties. Materials Science and Engineering C, 2018, 93, 873-879.	7.3	13
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82	Improved corrosion resistance and biocompatibility of biodegradable magnesium alloy by coating graphite carbon nitride (g-C <sub>3</sub> N <sub>4</sub> ). Journal of Alloys and Compounds, 2019, 770, 823-830.	5.5	33
83	Design Principles in Biomaterials and Scaffolds. , 2019, , 505-522.		6
84	Poly(l-lactic acid) (PLLA) Coatings with Controllable Hierarchical Porous Structures on Magnesium Substrate: An Evaluation of Corrosion Behavior and Cytocompatibility. ACS Applied Bio Materials, 2019, 2, 3843-3853.	4.6	17
85	Development of magnesium implants by application of conjoint-based quality function deployment. Journal of Biomedical Materials Research - Part A, 2019, 107, 2814-2834.	4.0	6
86	Selenium conversion coating on AZ31 Mg alloy: A solution for improved corrosion rate and enhanced bio-adaptability. Surface and Coatings Technology, 2019, 378, 124902.	4.8	23
87	Evaluation of the Corrosion Resistance and Cytocompatibility of a Bioactive Micro-Arc Oxidation Coating on AZ31 Mg Alloy. Coatings, 2019, 9, 396.	2.6	17
88	Corrosion resistance and cytotoxicity of AZ31 magnesium alloy with N <sup>+</sup> ion implantation. Materials Technology, 2019, 34, 730-736.	3.0	15
89	Evolution of mechanical behavior of magnesium alloy infiltrated 3D-printed CoCr scaffolds under corrosion in simulated body fluid. Materials Science and Engineering C, 2019, 105, 109747.	7.3	8
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94	Halloysite Nanotube Based Scaffold for Enhanced Bone Regeneration. <i>ACS Biomaterials Science and Engineering</i> , 2019, 5, 4037-4047.	5.2	61
95	The influence of the crosslinking degree on the corrosion protection properties of chitosan coatings in simulated body fluid. <i>Progress in Organic Coatings</i> , 2019, 137, 105328.	3.9	15
96	Biological and Bio-inspired Nanomaterials. <i>Advances in Experimental Medicine and Biology</i> , 2019, , .	1.6	8
97	Endoscopic submucosal dissection of distal intestinal tumors using grasping forceps for traction. <i>Techniques in Coloproctology</i> , 2019, 23, 1079-1083.	1.8	7
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99	Biocorrosion Zoomed In: Evidence for Dealloying of Nanometric Intermetallic Particles in Magnesium Alloys. <i>Advanced Materials</i> , 2019, 31, e1903080.	21.0	29
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102	Hydrophilic thin films formation on AZ31 alloys by hydrothermal treatment in silicate containing solution and the evaluation of corrosion protection in phosphate buffered saline. <i>Materials Research Express</i> , 2019, 6, 116424.	1.6	4
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104	Overview of Biocompatible Materials and Their Use in Medicine. <i>Folia Medica</i> , 2019, 61, 34-40.	0.5	35
105	Exceptional Strengthening of Biodegradable Mg-Zn-Ca Alloys through High Pressure Torsion and Subsequent Heat Treatment. <i>Materials</i> , 2019, 12, 2460.	2.9	26
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107	Dual-Purpose Magnesium-Incorporated Titanium Nanotubes for Combating Bacterial Infection and Ameliorating Osteolysis to Realize Better Osseointegration. <i>ACS Biomaterials Science and Engineering</i> , 2019, 5, 5368-5383.	5.2	38
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116	Improved In Vitro Test Procedure for Full Assessment of the Cytocompatibility of Degradable Magnesium Based on ISO 10993-5/-12. International Journal of Molecular Sciences, 2019, 20, 255.	4.1	63
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128	One-pot hydrothermal synthesis, in vitro biodegradation and biocompatibility of Sr-doped nanorod/nanowire hydroxyapatite coatings on ZK60 magnesium alloy. <i>Journal of Alloys and Compounds</i> , 2019, 799, 71-82.	5.5	31
129	Hydrothermal Synthesis of Protective Coating on Mg Alloy for Degradable Implant Applications. <i>Coatings</i> , 2019, 9, 160.	2.6	11
130	In vitro degradation behavior of Mg wire/poly(lactic acid) composite rods prepared by hot pressing and hot drawing. <i>Acta Biomaterialia</i> , 2019, 98, 125-141.	8.3	31
131	Osteogenic activity and antibacterial ability on titanium surfaces modified with magnesium-doped titanium dioxide coating. <i>Nanomedicine</i> , 2019, 14, 1109-1133.	3.3	35
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139	Polyelectrolytes fabrication on magnesium alloy surface by layer-by-layer assembly technique with antiplatelet adhesion and antibacterial activities. <i>Journal of Coatings Technology Research</i> , 2019, 16, 857-868.	2.5	8
140	Effect of alkali/acid pretreatment on the topography and corrosion resistance of as-deposited CaP coating on magnesium alloys. <i>Journal of Alloys and Compounds</i> , 2019, 793, 202-211.	5.5	46
141	Embedding magnesium metallic particles in polycaprolactone nanofiber mesh improves applicability for biomedical applications. <i>Acta Biomaterialia</i> , 2019, 98, 215-234.	8.3	57
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143	Additive manufacturing of biodegradable metals: Current research status and future perspectives. <i>Acta Biomaterialia</i> , 2019, 98, 3-22.	8.3	176
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146	In vitro degradation and antibacterial property of a copper-containing micro-arc oxidation coating on Mg-2Zn-1Gd-0.5Zr alloy. <i>Colloids and Surfaces B: Biointerfaces</i> , 2019, 179, 77-86.	5.0	63
147	In vitro and in vivo studies of Mg-30Sc alloys with different phase structure for potential usage within bone. <i>Acta Biomaterialia</i> , 2019, 98, 50-66.	8.3	62
148	Control of magnesium alloy corrosion by bioactive calcium phosphate coating: Implications for resorbable orthopaedic implants. <i>Materialia</i> , 2019, 6, 100291.	2.7	22
149	The effect of small-molecule bio-relevant organic components at low concentration on the corrosion of commercially pure Mg and Mg-0.8Ca alloy: An overall perspective. <i>Corrosion Science</i> , 2019, 153, 258-271.	6.6	76
150	The Influence of Temperature and Medium on Corrosion Response of ZE41 and EZ33. <i>Minerals, Metals and Materials Series</i> , 2019, , 159-167.	0.4	2
151	Fundamental Theory of Biodegradable Metals—Definition, Criteria, and Design. <i>Advanced Functional Materials</i> , 2019, 29, 1805402.	14.9	226
152	The Interface Between Degradable Mg and Tissue. <i>Jom</i> , 2019, 71, 1447-1455.	1.9	30
153	Microstructures, Corrosion and Mechanical Properties of Mg—Si Alloys as Biodegradable Implant Materials. <i>Minerals, Metals and Materials Series</i> , 2019, , 151-157.	0.4	1
154	Bone regeneration of hollow tubular magnesium—strontium scaffolds in critical-size segmental defects: Effect of surface coatings. <i>Materials Science and Engineering C</i> , 2019, 100, 297-307.	7.3	39
155	Local Administration of Magnesium Promotes Meniscal Healing Through Homing of Endogenous Stem Cells: A Proof-of-Concept Study. <i>American Journal of Sports Medicine</i> , 2019, 47, 954-967.	4.2	20
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