

Curriculum Vitae

Personal information Eduardo García-Rey

Work experience

- Orthopaedic Surgeon at Hospital Universitario La Paz, Madrid, Spain, from March 2006 (Currently: Adult Reconstruction Lower limb: Hip Unit Surgeon since September/2009)
- Associate Professor in Orthopaedic Surgery and Traumatology at Surgery Department Medical School, Universidad Autónoma Madrid, since September/2011
- Clinical Investigation at Idi-Paz, Hospital La Paz - Institute for Health Research, Madrid, Spain. Research Group in Orthopaedic Surgery (GICOA) since October/2011
- Others: Quality Coordinator of the Orthopaedic Department Hospital la Paz, Madrid since January/2010. CME Member at Hospital La Paz Group since 2014. Orthopaedic Surgeon at Fundación Hospital Alcorcón-Madrid, Spain, from 2003 to 2006.

Education and training

Education:

- Doctoral Thesis: “Fixation and polyethylene wear in two different generations of two cementless porous-coated acetabular cups”. Lecture: 21st May 2003, Cum Laude, Medical School, Universidad Autónoma Madrid
- Medical School: Universidad Autónoma Madrid 1991 to 1997

Training:

- Resident in Orthopaedic Surgery and Traumatology at Hospital 12 de Octubre, Madrid, Spain, May/1998 to May/2003
- EFORT Travelling Fellowship Course 24- 30 May 2004, Finland
- Fellow of the European Board of Orthopaedics and Traumatology (EBOT Exam): Amsterdam-The Netherlands 11th and 12th October 2003.
- Visiting Resident at Mayo Clinic (Adult Reconstruction Unit), July and August 2002.

Additional information

Publications

Last ten years:

2012

Cruz-Pardos A, García-Rey E, García-Cimbrelo E, Ortega-Chamarro J. Alumina-on-alumina THA in patients with juvenile idiopathic arthritis: a 5-year follow-up study. *Clin Orthop Relat Res* 2012; 470; 1421-30

García-Rey E, García-Cimbrelo E, Cruz-Pardos A. Cup press-fit in uncemented THA depends on sex, acetabular shape, and surgical technique. *Clin Orthop Relat Res* 2012; 470: 3014-23

2013

Garcia-Rey E, Garcia-Cimbrelo E, Cruz-Pardos A. New polyethylenes in total hip replacement: A ten- to 12- year follow-up study *Bone Joint J* 2013;95-B:326-32.

García-Rey E, Fernández-Fernández R, Durán D, Madero R. Reconstruction of the rotation hip center of the hip after oblong cups in revision total hip arthroplasty. *J Orthop Traumatol* 2013; 14:39-49

García-Rey E, García-Cimbrelo E, Cruz-Pardos A, Madero R. Increase of cortical bone after a cementless long stem in periprosthetic fractures. *Clin Orthop Relat Res* 2013;471:3912-21

2014

Padilla-Eguiluz NG, García-Rey E, Cordero-Ampuero J, Gómez-Barrena E. Regional variability in the rates of total hip replacement in Spain. *Hip Int* 2014;24:81-90

Gómez-Barrena E, Padilla-Eguiluz NG, García-Rey E, Cordero-Ampuero J, García-Cimbrelo E.. Factors influencing regional variability in the rate of total knee arthroplasty. *Knee* 2014; 21:236-41

García-Cimbrelo E, García-Rey E. Bone defect determines acetabular revision surgery. *Hip Int.* 2014 Oct 2;24 Suppl 10:S33-6. doi: 10.5301/hipint.5000162

Garcia-Rey E, Cruz-Pardos A, Madero R. Clinical outcome following conversion of Girdlestone's resection arthroplasty to total hip replacement: a retrospective matched case-control study. *Bone Joint J.* 2014 Nov;96-B(11):1478-84. doi: 10.1302/0301-620X.96B11.33889

2015

García-Rey E, Cruz-Pardos A, Madero R. The evolution of the technique of impaction bone grafting in femoral revision surgery has improved clinical outcome. A prospective mid-term study. *J Arthroplasty.* 2015 Jan;30(1):95-100. doi: 10.1016/j.arth.2014.08.028. Epub 2014 Sep 6

García-Rey E, Madero R, García-Cimbrelo E. THA Revisions Using Impaction Allografting With Mesh Is Durable for Medial but Not Lateral Acetabular Defects. *Clin Orthop Relat Res.* 2015 Dec;473(12):3882-91. doi: 10.1007/s11999-015-4483-7.

2016

García-Rey E, García-Cimbrelo E. Abductor Biomechanics Clinically Impact the Total Hip Arthroplasty Dislocation Rate: A Prospective Long-Term Study. *J Arthroplasty.* 2016 Feb;31(2):484-90. doi: 10.1016/j.arth.2015.09.039

Cifuentes SC, Bensiamar F, Gallardo-Moreno AM, Osswald TA, González-Carrasco JL, Benavente R, González-Martín ML, García-Rey E, Vilaboa N, Saldaña L. Incorporation of Mg particles into PDLLA regulates mesenchymal stem cell and macrophage responses. *J Biomed Mater Res A.* 2016 Apr;104(4):866-78. doi: 10.1002/jbm.a.35625.

Cruz-Pardos A, Garcia-Rey E, Ortega-Chamarro JA, Duran-Manrique D, Gomez-Barrena E. Mid-term comparative outcomes of autologous bone-marrow concentration to treat osteonecrosis of the femoral head in standard practice. *Hip Int.* 2016 Sep 29;26(5):432-437. doi: 10.5301/hipint.5000366.

Bensiamar F, Olalde B, Cifuentes SC, Argarate N, Atorrasagasti G, González-Carrasco JL, García-Rey E, Vilaboa N, Saldaña L. Bioactivity of dexamethasone-releasing coatings on polymer/magnesium composites. *Biomed Mater.* 2016 Oct 7;11(5):055011.

2017

García-Rey E. Screws are not needed when secure interference fit of uncemented acetabular components is adequate. *Hip Int* 2017;27(3):267-272. DOI: 10.5301/hipint.5000459

García-Rey E, Cruz-Pardos A, García-Cimbrelo E. The evolution of an uncemented acetabular component in alumina-on-alumina total hip arthroplasty has improved clinical outcome: a prospective, comparative five- to 15-year follow-up study. *Bone Joint J.* 2017 Jun;99-B(6):749-758. doi: 10.1302/0301-620X.99B6.BJJ-2016-0045.R3.

2018

Cordero-Ampuero J, Garcia-Rey E, Garcia-Cimbrelo E. Proximal Femoral Bone Regeneration After an Uncemented Hydroxyapatite-coated Long-stem in Revision Hip Surgery. *Open Orthop J.* 2018 Mar 30;12:125-133.

Gómez-Barrena E, Padilla-Eguiluz NG, Avendaño-Solá C, Payares-Herrera

C, Velasco-Iglesias A, Torres F, Rosset P, Gebhard F, Baldini N, Rubio-Suarez JC, García-Rey E, Cordero-Ampuero J, et al. A Multicentric, Open-Label, Randomized, Comparative Clinical Trial of Two Different Doses of Expanded hBM-MSCs Plus Biomaterial versus Iliac Crest Autograft, for Bone Healing in Nonunions after Long Bone Fractures: Study Protocol. *Stem Cells Int.* 2018 Feb 22;2018:6025918. doi: 10.1155/2018/6025918

Gómez-Barrena E, Rosset P, Gebhard F, Hernigou P, Baldini N, Rouard H, Sensebé L, Gonzalo-Daganzo RM, Giordano R, Padilla-Eguiluz N, García-Rey E, Cordero-Ampuero J et al. Feasibility and safety of treating non-unions in tibia, femur and humerus with autologous, expanded, bone marrow-derived mesenchymal stromal cells associated with biphasic calcium phosphate biomaterials in a multicentric, non-comparative trial. *Biomaterials.* 2018 Mar 19. pii: S0142-9612(18)30205-9. doi: 10.1016/j.biomaterials.2018.03.033

Lindgren V, Galea VP, Nebergall A, Greene ME, Rolfsen O, Malchau H; Multicenter Writing Committee (Johan Kärrholm, MD, PhD; Søren Overgaard, MD, PhD; Stefan Bartels, MD, PhD; James I. Huddleston III, MD; Mogens Berg Laursen, MD, PhD; Peter Gebuhr, MD; Eduardo García-Rey, MD; and Charles Bragdon, PhD). Radiographic and Clinical Outcomes of Porous Titanium-Coated and Plasma-Sprayed Acetabular Shells: A Five-Year Prospective Multicenter Study. *J Bone Joint Surg Am.* 2018 Oct 3;100(19):1673-1681. doi: 10.2106/JBJS.17.00729.

2019

García-Rey E, Carbonell-Escobar R, Cordero-Ampuero J, García-Cimbrelo E. Outcome of a hemispherical porous-coated acetabular component with a proximally hydroxyapatite-coated anatomical femoral component: an update at 23 to 26 years' follow-up. *Bone Joint J.* 2019 Apr;101-B(4):378-385. doi: 10.1302/0301-620X.101B4.BJJ-2018-1223.R1.

Saldaña L, Bensiamar F, Vallés G, Mancebo FJ, García-Rey E, Vilaboa N. Immunoregulatory potential of mesenchymal stem cells following activation by macrophage-derived soluble factors. *Stem Cell Res Ther.* 2019 Feb 13;10(1):58. doi: 10.1186/s13287-019-1156-6.

Gómez-Barrena E, García-Rey E. Complications in Total Joint Arthroplasties. *J Clin Med.* 2019;8(11):1891. Published 2019 Nov 6. doi:10.3390/jcm8111891

2020

García-Rey E, Sirianni R, García-Cimbrelo E, Sedel L. Total hip arthroplasty after acetabular fracture: does initial treatment make any difference to the outcome? A 5- to 23-year follow-up with clinical and radiological analysis. *Hip Int.* 2019 Hip Int. 2020 May;30(3):339-346. doi: 10.1177/1120700019836413

Vallés G, Bensiamar F, Maestro-Paramio L, García-Rey E, Vilaboa N, Saldaña L. Influence of inflammatory conditions provided by macrophages on osteogenic ability of mesenchymal stem cells. *Stem Cell Res Ther.* 2020;11(1):57. Published 2020 Feb 13. doi:10.1186/s13287-020-1578-1

Pizones J, Garcia-Rey E. Pelvic motion the key to understanding spine-hip interaction. *EFORT Open Rev* 2020;5:522-533. DOI: 10.1302/2058-5241.5.200032

Rubio I, Bellostas L, García-Rey E. Radiological subsidence and acetabular erosion after tapered uncemented hemiarthroplasty in femoral neck fractures a 10- to 13- year follow-up study. *Injury.* 2020;51 Suppl 1:S37-S41. doi:10.1016/j.injury.2020.02.012

Gómez-Barrena E, Padilla-Eguiluz N, Rosset P, Gebhard F, Hernigou P, Baldini N, Rouard H, Sensebé L, Gonzalo-Daganzo RM, Giordano R, García-Rey E et al. Early efficacy evaluation of mesenchymal stromal cells (MSC) combined to biomaterials to treat long bone non-unions. *Injury.* 2020;51 Suppl 1:S63-S73. doi:10.1016/j.injury.2020.02.070

Gómez-Barrena E, Padilla-Eguiluz NG, García-Rey E, et al. Validation of a long bone fracture non-union healing score after treatment with mesenchymal stromal cells combined to biomaterials. *Injury.* 2020;51 Suppl 1:S55-S62. doi:10.1016/j.injury.2020.02.030

2021

García-Rey E. The fate of sagittal alignment in tapered uncemented femoral components in total hip arthroplasty: 889 hips followed for a minimum of 10 years *Hip Int.* 2021 Jul;31(4):472-481. doi: 10.1177/1120700019895983.

Cruz-Pardos A, García-Rey E, Fernandez-Fernández R, Ortega-Chamarro J. Do trabecular metal cups achieve better results when compared to hemispherical porous titanium cups in acetabular revision surgery? *Hip Int.* 2021 Nov;31(6):774-781. doi: 10.1177/1120700020919943.

García-Rey E. CORR Insights®: Intraosseous Regional Prophylactic Antibiotics Decrease the Risk of Prosthetic Joint Infection in Primary TKA: A Multicenter Study. *Clin Orthop Relat Res.* 2021 Nov 1;479(11):2513-2515. doi: 10.1097/CORR.0000000000001963. PMID: 34460441; PMCID: PMC8509909.

Vallés G, García-Rey E, Saldaña L, García-Cimbrelo E, Vilaboa N. Wear of hip prostheses increases serum IGFBP-1 levels in patients with aseptic loosening. *Sci Rep.* 2021 Jan 12;11(1):576. doi: 10.1038/s41598-020-79813-x. PMID: 33436773; PMCID: PMC7804331.

Garcia-Rey E, Bizot P, Garcia-Cimbrelo E. Ceramic-on-ceramic cementless total hip arthroplasty in patients aged 40 years or under: Do

preoperative conditions affect long-term results? Orthop Traumatol Surg Res. 2021 Feb;107(1):102763. doi: 10.1016/j.otsr.2020.102763. Epub 2020 Dec 13. PMID: 33321234.

Garcia-Rey E, Saldaña L, Garcia-Cimbrelo E. Impaction bone grafting in hip re-revision surgery. Bone Joint J. 2021 Mar;103-B(3):492-499. doi: 10.1302/0301-620X.103B3.BJJ-2020-1228.R1. PMID: 33641418.

García Rey E, Cruz Pardos A, Ortega Chamarro J. Mortality as a competition risk factor in the survival analysis of the results of the type of fixation of the total hip prosthesis in octogenarian patients. Rev Esp Cir Ortop Traumatol. 2021 Mar-Apr;65(2):99-107. English, Spanish. doi: 10.1016/j.recot.2020.07.004. Epub 2020 Nov 7. PMID: 33172799.

Gómez-Luque J, Cruz-Pardos A, Garabito-Cociña A, Ortega-Chamarro J, García-Rey E. Topical, intravenous tranexamic acid and their combined use are equivalent in reducing blood loss after primary total hip arthroplasty. Rev Esp Cir Ortop Traumatol. 2021 Apr 27:S1888-4415(21)00049-7. English, Spanish. doi: 10.1016/j.recot.2020.12.003. Epub ahead of print. PMID: 33931356

García-Maya B, Gómez Luque J, García Rey E. Posterior pelvic tilt evolution in patients undergoing total hip arthroplasty. A minimum 5-years follow-up clinico-radiological study. Rev Esp Cir Ortop Traumatol (Engl Ed). 2021 Jul 30:S1888-4415(21)00088-6. English, Spanish. doi: 10.1016/j.recot.2021.06.001. Epub ahead of print. PMID: 34340937.

2022

García-Rey E, Cruz-Pardos A, Saldaña L. New polyethylenes in total hip arthroplasty: a 20- to 22-year follow-up study. Bone Joint J. 2022 Sep;104-B(9):1032-1038. doi: 10.1302/0301-620X.104B9.BJJ-2022-0434.R1. PMID: 36047028. Garcia-Rey E, Bizot P,

2023

Grupp TM, Rusch S, Massin P, Blom A, Garcia-Rey E, Cristofolini L, Janssen D, Grimm B, Giurea A, Jäger M, Siccardi F, Overgaard S. 1st EFORT European Consensus "Medical & Scientific Research Requirements for the Clinical Introduction of Artificial Joint Arthroplasty Devices": Background, Delphi Methodology & Consensus process. EFORT Open Rev. 2023 Jul 3;8(7):499-508. doi: 10.1530/EOR-23-0054. PMID: 37395678.

Projects

Research Projects:

International:

Participant:

Orthounion: ORTHOpedic randomized clinical trial with expanded bone marrow MSC and bioceramics versus autograft in long bone nonUNIONs. Horizon 2020 European funding for Research and

National:

Principal Investigator:

2018: Laura Saldaña Quero and Eduardo García Rey

PI18/00643: “Identificación de factores moleculares implicados en la Osteonecrosis Idiopática: análisis del transcriptoma del tejido óseo”. Ministerio de Economía, Industria y Competitividad. FIS-ISCIII.

2022: Laura Saldaña Quero and Eduardo García Rey

PI22/00939: “Osteonecrosis de cabeza femoral: Identificación de alteraciones en el hueso trabecular, correlación clínica y factores de riesgo en la fijación de la prótesis total de cadera”

Participant:

P[10/00731]: “Análisis de imagen en la evaluación del desgaste del polietileno en las prótesis totales de cadera”.” Ministerio de Economía y Competitividad. FIS-ISCIII.

PI15/00752 (2016-2018). Preacondicionamiento inflamatorio de células madre mesenquimales para su aplicación en terapias avanzadas de regeneración ósea mediante Ingeniería de Tejidos.” Ministerio de Economía y Competitividad. FIS-ISCIII.

Memberships

1. Scientific Societies Member of:

• International

European Hip Society (EHS) since 2004,

European Orthopaedics Research Society (EORS) since 2016,

International Society for Technology in Arthroplasty (ISTA) since 2016

American Academy of Orthopaedic Surgeons since 2022

• National

Spanish Orthopaedic Society (SECOT) since 2002

Spanish Hip Surgery Society (SECCA) since 2008

2. Editorial Member:

• International

The Journal of Arthroplasty Elite Reviewer since January 2023

Reviewer:

The Journal of Bone and Joint Surgery British Volume since 2010

Journal of Orthopaedics and Traumatology since 2010

Clinical Orthopaedics and Related Research since 2015

Bone and Joint Research since 2015

EFORT Open Reviews since 2016

Injury since 2019

Revista Asociación Argentina de Ortopedia y Traumatología since 2020

Orthopaedics & Traumatology: Surgery & Research since 2021

- National
Associated Editor: Revista Española de Cirugía Ortopédica y Traumatología since 2014
Reviewer: Revista Española de Cirugía Ortopédica y Traumatología since 2009

3. Other Professional/Scientific Activities:

- **Stavros Niarchos Foundation Complex Joint Reconstruction Center's 2019 Acetabular Bone Loss Symposium.** New York June 21, 2019. (Prof T Sculco)
- **AO Recon Faculty** since August 2022
- Host request for Mark Paterson Travelling Fellowship 2019. Hospital Universitario La Paz (Prof E Gil-Garay and E.Garcia-Rey)
- EHS Ambassador (October 2019)
- EOTEP Task Force 2020 (classifying the existing material from past congresses (since 2012) available in the e-science library of the EFORT Website).
- **Awards** (First Author):

Best article International Journal “Premio SECOT 2010”
Best Oral Presentation Spanish Hip Society Congress (SECCA) 2011, 2013, 2021
Certificate of Special Mention Oral Presentation of the Poster EFORT Congress 2022
- Member of **Centro de Investigación Biomédica en Red (CIBER) in the subject area of Bioengineering, Biomaterials and Nanomedicine (CIBER-BBN). Research Group CB06/01/0008 (Ministry of Science and Innovation):** www.ciber-bbn.es.

Other Relevant Information

Other Professional activities:

International

- **2nd Vice-President European Orthopaedic Research Society (EORS) since September/2022**
- **Educational Committee European Hip Society (EHS) Member since November/2017**
- **Selected Fellow for the American Association of Hip and Knee Surgeons (AAHKS) Guest Society Fellowship 2017** - From the European Hip Society (Approved to visit Duke University (Durham, North Carolina), AAHKS Annual Meeting, and

Rothman Institute (Philadelphia, Pennsylvania)

- **Expert in Medical Device Regulations:**

Scientific Committee of the 1st **EFORT European Consensus**
on Medical & Scientific Research Requirements for the Clinical
Introduction of Orthopaedic Joint Replacement Devices 2021

National

- **Executive Committee: General Secretary of the Spanish Hip Society** (SECCA) since 2018

- **Expert in Medical Device Regulations:**

Spanish Agency of Medicinal Products and Medical Devices
(AEMPS): Expert Notified Body since/April 2016