SELECTED PUBLISHED CLINICAL EVIDENCE LIST

Prevent Reherniation. Preserve Disc.
PUBLISHED PEER-REVIEWED JOURNAL MANUSCRIPTS WITH BARRICAID® DATA

   Can Prevention of A Re-Herniation Be Investigated?: Establishment Of A Herniation Model And Experiments With An Anular Closure Device
   HJ Wilke, L Widmann, F Heuer, N Graf, S Rath

   The High-Risk Discectomy Patient: Prevention Of Reherniation In Patients With Large Anular Defects Using An Anular Closure Device
   GJ Bouma, M Barth, D Ledić, M Vilendecić

   Primary Limited Lumbar Discectomy with an Annulus Closure Device: One-Year Clinical and Radiographic Results from a Prospective, Multi-Center Study
   M Lequin, M Barth, C Thomé, GJ Bouma

   Protecting Facet Joints Post-Lumbar Discectomy: Barricaid Annular Closure Device Reduces Risk of Facet Degeneration
   M Trummer, S Eustacchio, M Barth, PD Klassen, S Stein

   Cost Savings Associated with Prevention of Recurrent Lumbar Disc Herniation: A Multi-Center Prospective Cohort Study
   SL Parker, G Grahovac, D Vukas, D Ledić, M Vilendecić, MJ McGirt

   Clinical Outcomes In Patients After Lumbar Disc Surgery With Anular Reinforcement Device; Two-Year Follow Up
   D Vukas, D Ledić, G Grahovac, Z Kolić, K Rotim, M Vilendecić

   Effect of Anular Closure on Disk Height Maintenance and Reoperated Recurrent Herniation Following Lumbar Discectomy: Two-Year Data
   D Ledić, D Vukas, G Grahovac, M Barth, GJ Bouma, M Vilendecić

   R Bostelmann, H-J Steiger, JF Cornelius

   Effect Of A Novel Annular Closure Device (Barricaid®) On Same Level Recurrent Disc Herniation And Disc Height Loss After Primary Lumbar Discectomy: Two-Year Results Of A Multi-Center Prospective Cohort Study
   SL Parker, G Grahovac, D Vukas, M Vilendecić, D Ledić, MJ McGirt, EJ Carragee

    Use of Annular Closure Device (Barricaid®) for Preventing Lumbar Disc Reherniation: One-Year Results of Three Cases
    BS Hahn, GY Ji, B Moon, DA Shin, Y Ha, KN Kim, DH Yoon

    A multicenter, prospective, randomized study protocol to demonstrate the superiority of a bone-anchored prosthesis for anular closure used in conjunction with limited discectomy to limited discectomy alone for primary lumbar disc herniation
**PUBLISHED CONFERENCE PROCEEDINGS**

MRI-changes in patients 2 years after sequestrectomy alone versus sequestrectomy with anulus closure
A Carolus, K Schmieder, C Thomé, GJ Bouma, M Barth

Preliminary Two-Year Safety Data for an Anular Closure Device: German Experience from a Multicenter, Prospective, Randomized Clinical Trial
M Czabanka, A Kursumovic, R Bostelmann, M Barth, V Heidecke, M Mehdorn, A. Hegewald, S Fröhlich, H.-P. Köhler, PD Klassen

Can Anular Closure Device Improve the Outcome of Discectomies? Clinical and Real World Experience with Anular Closure at a Single Site
A Kursumovic, S Rath

Recurrent Lumbar Disc Herniation: Treatment with a Bone- Anchored Anular Closure Device
A Kursumovic, R Hes, GJ Bouma, M. Barth, V Heidecke, A Hegewald, F Martens, C Thomé, J Kienzler, PD Klassen, S. Rath

Early Two-Year Safety Data for an Annular Closure Device: Interim Results from a Multicenter, Prospective, Randomized Clinical Trial
J Kienzler, J Fandino, F Martens, R Hes, GJ Bouma, Anular Closure RCT Study Group, PD Klassen

**SCIENTIFIC PROCEEDINGS**

17. 16th European Congress of Neurosurgery (EANS), Athens, Greece, 4-8 September 2016
Discectomy with and without Anular Closure for High-Risk Disc Herniation Patients: Complete Early Readmission and Delayed Discharge Analysis from a Multicenter, Prospective, Randomized Study
C Thome, H-P Köhler, M Arts, PD Klassen, Barricaid® Anular Closure RCT Study Group

18. 16th European Congress of Neurosurgery (EANS), Athens, Greece, 4-8 September 2016
Clinical and real world experience with anular closure at a single site
A Kursumovic, S Rath

Do trial inclusion/exclusion criteria exclude real world patients? - anular closure device (ACD) registry patients screened against trial criteria for the ACD randomized trial
A Kursumovic, S Rath

A randomized superiority study of anular closure for lumbar discectomy: The initial German experience
S Jadik, S Rath, M Barth, A Hegewald, R Bostelmann, P D Klassen

21. 27th Annual Meeting Spine Society of Australia, Melbourne, 7-10 April, 2016
A prospective, randomized clinical trial investigating an anular closure device: Interim safety analysis
C Thome, GJ Bouma, R Hes, Anular Repair RCT Study Group, J Fandino

22. 27th Annual Meeting Spine Society of Australia, Melbourne, 7-10 April, 2016
Lumbar discectomy patients at high risk of reherniation: Massive defects in a primary lumbar discectomy population
C Thome, F Martens, A Kursumovic, Anular Repair RCT Study Group, PD Klassen

23. International Society for the Advancement for Spine Surgery (ISASS), Las Vegas, NV, 6-8 April, 2016
Interim Results from a Prospective, Randomized Clinical Trail Investigating an Anular Closure Device
GJ Bouma, PD Klassen, F Martens, J. Fandino, Anular Closure RCT Study Group
24. 10th Annual Meeting of the German Spine Society (DWG), Frankfurt, Germany, 10-12 December 2015
   Langzeiterfahrung mit einem Anulusverschlußsystem (ACD) in der alltäglichen Praxis
   A Kursumovic, S Rath

25. 10th Annual Meeting of the German Spine Society (DWG), Frankfurt, Germany, 10-12 December 2015
   Perioperatives Sicherheitsprofil einer lumbalen Diskektomie mit und ohne Anulusverschluß: Erfahrungen aus Deutschland im Rahmen einer randomisierten klinischen Studie
   P Vajkoczy, A Hegewald, S Jadik, H-P Kohler, S Frohlich, PD Klassen

   Treating Lumbar Discectomy Patients at High Risk of Reherniation: Does Anular Closure Affect Outcomes?
   R Assaker, PD Klassen, GJ Bouma, A Kursumovic, F Martens, J Fandino

27. Europ. Assoc. Neurological Surgeons (EANS), Madrid, Spain, 18-21 October 2015
   Risk factors for early reherniation after lumbar discectomy with or without anular closure: Results of a multicenter randomized controlled study
   J Kienzler, J Fandino, C Thomé, R Hes, R Bostelmann, F Martens, GJ Bouma, M Barth, P Vajkoczy, PD Klassen

   Perioperative Demographics, Intraoperative Findings and Complications in Lumbar Microdiscectomy: Comparison of Anular Closure to Discectomy Alone
   J Kienzler, J Fandino, C Thomé, R Hes, R Bostelmann, F Martens, GJ Bouma, M Barth, P Vajkoczy, PD Klassen

29. ISASS/IITTSS September Course & Meeting, Boston, MA, 18-20 September, 2015.
   Barricaid Anular Closure: Clinical Need, Patient Selection and Outcomes
   A Kursumovic

   Barricaid Anular Closure
   S Garfin

   Confirming the Carragee Massive-Defect Results: Lumbar Discectomy Patients at High Risk of Reherniation
   A Kursumovic, F Martens, C Thomé, PD Klassen, J Fandino

   Clinical and Real World Experience with Anular Closure at a Single Site
   A Kursumovic, G Cantone, S Rath

33. International Society for the Advancement for Spine Surgery (ISASS), San Diego, CA, 15-17 April, 2015
   Confirming the Carragee Massive-defect Results: Lumbar Discectomy Patients at High Risk of Reherniation
   GJ Bouma, A Kursumovic, J Kienzler, C Thomé, R Bostelmann

34. International Society for the Advancement for Spine Surgery (ISASS), San Diego, CA, 15-17 April, 2015
   Early Readmissions Following Lumbar Discectomy with and without Anular Closure: Interim Data from an RCT
   J Kienzler, G Lesage, R Hes, PD Klassen, Anular Closure RCT Study Group

35. 26th Annual Scientific Meeting Spine Society of Australia, Canberra, Australia, 10-12 April, 2015
   Lumbar microdiscectomy and placement of an annular closure device. Initial experience.
   MJ Day

36. 5th International Congress Biotechnologies for Spinal Surgery (BioSpine), Berlin, Germany, 8-11 April, 2015
   Current And Possible Future Options For Anular Closure
   C Thomé

37. 5th International Congress Biotechnologies for Spinal Surgery (BioSpine), Berlin, Germany, 8-11 April, 2015
   Principles And Biomechanical Challenges Of Anulus Sealing
   HJ Wilke

   Initial Two-Year Safety Data for an Annular Closure Device: Interim Results from a Prospective, Multicenter, Randomized Control Trial
   J Kienzler, J Fandino, F Martens, R Hes, GJ Bouma, Anular Closure RCT Study Group, PD Klassen
39. Congress of Neurological Surgeons (CNS), Boston, USA, 18-22 October 2014
   Discectomy Patients at High Risk of Reherniation: Confirming the Carragee Large-Defect Results
   GJ Bouma, PD Klassen, J Fandino, F Martens, R Hes

40. Congress of Neurological Surgeons (CNS), Boston, USA, 18-22 October 2014
   Early Two-Year Safety Data for an Anular Closure Device: Interim Results from a Multicenter, Prospective, Randomized Clinical Trial
   J Kienzler, J Fandino, F Martens, R Hes, GJ Bouma, Anular Closure RCT Study Group, PD Klassen

41. Europ. Assoc. Neurological Surgeons (EANS), Prague, Czech Republic, 13-16 October 2014
   The Barricaid annular prosthesis: Two-year clinical data and interim safety results of a multicenter RCT
   GJ Bouma

42. DGNC Spine Section, Innsbruck, Austria, 19-20 September 2014
   Reoperation rate and revision strategies of failed lumbar discectomy with and without anular closure
   C Thomé, GJ Bouma, F Martens, J Fandino, PD Klassen

43. DGNC Spine Section, Innsbruck, Austria, 19-20 September 2014
   Endplate changes observed on CT following lumbar discectomy: Interim analysis from the discectomy-only cohort of a post-marketing, multicenter, prospective study
   M Barth, C Thomé, PD Klassen, J Fandino

44. DGNC Spine Section, Innsbruck, Austria, 19-20 September 2014
   Führen große Anulusdefekte zu höherem Risiko für Rezidiv-Bandscheibenvorfälle bei Patienten nach lumbaler Diskektomie?
   A Kuršumović, F Martens, GJ Bouma, C Thomé, PD Klassen, J Fandino

45. National Congress of the Society of Spine Surgery SICV & GIS, Milan, Italy, 15 - 17 May 2014
   24 Month Safety Data from a Prospective, Randomized Clinical Trial Evaluating an Anular Closure Device
   R Hes, PD Klassen, F Martens, GJ Bouma, A Kuršumović, Anular Closure RCT Study Group

46. German Society of Neurosurgery Annual Meeting, Dresden, Germany, 11-14 May, 2014
   Bone-Anchored Anular Closure Device Following Limited Discectomy For Primary Lumbar Disc Herniation: Biomechanical Testing, Surgical Technique, And Preliminary Clinical Results
   NG Rainov, J Einhorn, V Heidecke

47. 1st EUROSPINE Spring Speciality Meeting, Prague, Czech Republic, 8-9 May 2014
   24 Month Safety Data From A Prospective, Randomized Clinical Trial Evaluating An Anular Closure Device: An Interim Review
   A Kuršumović, PD Klassen, F Martens, R Hes, Anular Closure RCT Study Group, GJ Bouma

48. Spine Society of Australia Annual Scientific Meeting, Brisbane, Australia, 10-12 April 2014
   24 Month Safety Data from a Prospective, Randomized Clinical Trial Evaluating an Anular Closure Device: An Interim Review
   A Kuršumović, PD Klassen, F Martens, R Hes, Anular Closure RCT Study Group, GJ Bouma

   Initial Two-Year Safety Data for an Anular Closure Device: Interim Results from a Multicenter, Prospective, Randomized Clinical Trial
   PD Klassen, F Martens, R Hes, GJ Bouma, A Kuršumović, Anular Closure RCT Study Group 6

50. 19. Forum Wirbelsäulenchirurgie, St. Anton am Arlberg, Austria, January 16-18, 2014
   Darf’s Ein Bisschen Mehr Sein? (Anulusverschluss U.Ä)
   PD Klassen

51. 3. Wirbelsäulenchrmerzkonferenz, Munich, Germany, November 23, 2013
   Rezidivbandschreibenvorfall, Kann Man Ihn Verhindern? (Reherniation, Can It Be Avoided?)
   M Trummer

52. Looking at the Future of the Spine Surgery based on the past experience, Venice, Italy, November 7-9, 2013
   Closing The Anulus After Lumbar Discectomy: Indications, Technique And Results With Barricaid® Bone Anchored Prosthesis
   S Eustacchio

53. 62° Congresso Nazionale Società Italiana Neurochirurgia (SINch), Palermo, Italy, October 10-12, 2013
   Anular Closure Device: A Real World Experience
   A Kuršumović, S Rath
Utilizzo Di Una Protesi Anulare Discale Come Complemento Intraoperatorio Del Trattamento Chirurgico Dell’enia Discale Lombare: Risultati Preliminari
F Barone, N Alberio, M Fricia, M Passanisi, P Seminara (Catania)

How Does Intradiscal Pressures Respond To Annulotomy And Annular Closure? – An In Vitro Biomechanical Study Of The Lumbar Functional Spinal Unit (Fsu)
R Bostelmann, JF Cornelius, HJ Steiger, M Leimert

A Multicenter, Prospective, Randomized Study To Demonstrate The Superiority Of A Bone-Anchored Prosthesis For Annular Closure Used In Conjunction With Limited Discectomy To Limited Discectomy Alone For Primary Lumbar Disc Herniation
PD Klassen, R Hes, GJ Bouma, M Barth, S Rath, H M Mehdorn, V Heidecke, R Bostelmann, C Thomé, P Vajkoczy, HP Köhler, F Martens

Three Years Experience With An Anular Closure Device
A Kuršumović, S Rath

58. Congresso Nazionale Società Italiana Di Chirurgia Vertebrale E Gruppo Italiano Scoliosi (GIS). May 16-18, Bologna, Italy
Lumbar Discectomy With An Annular Closure Prosthesis: Two-Year Clinical And Radiographic Results From A Prospective, Multicenter Study
S Eustacchio, M Barth, GJ Bouma

59. Congresso Nazionale Società Italiana Di Chirurgia Vertebrale E Gruppo Italiano Scoliosi (GIS). May 16-18, Bologna, Italy
Effect of Annular Defects on Intradiscal Pressures in the Lumbar Spine - An In Vitro Biomechanical Study of Discectomy and Annular Closure
R Bostelmann, JF Cornelius, TM Kinfe, HJ Steiger, M Leimert

60. ISASS. Vancouver, Canada. April 2-5, 2013
Comparative Effectiveness and Cost-utility of a Novel Annular Closure Device for Prevention of Recurrent Disc Herniation Following Lumbar Discectomy: A Prospective Cohort Study
SL Parker, G Grahovac, D Vukas, D Ladic, M Vilendecic, MJ McGirt

Limited Lumbar Discectomy with an Annular Closure Device: Initial 24 Month Clinical and Radiographic Results from a Prospective, Multinational, Multi-Center Study
PD Klassen, C Thomé, GJ Bouma, M Barth

Disc preservation after discectomy and annular closure: investigation of modic changes
M Barth, M Vilendecic, D Ladic, GJ Bouma

63. DWG 2012. Stuttgart, Germany. December 6-8, 2012
Bandscheibenschonung durch Annulusverschluss – Radiografische Veränderungen nach Diskektomie
M Trummer, M Vilendecic, D Ladic, GJ Bouma, M Barth (Mannheim), S Eustacchio

64. DWG 2012. Stuttgart, Germany. December 6-8, 2012
Effect of Annular Defects on Intradiscal Pressures in the Lumbar Spine - An In Vitro Biomechanical Study of Discectomy and Annular Closure
R Bostelmann, JF Cornelius, H-J Steiger, M Leimert

65. ÖGNC. Graz, Austria; October 4-6, 2012
Two-Year Benefits of Annular Defect Closure After Limited Discectomy
PD Klassen, C Thome, GJ Bouma, T Marinovic, D Ladic, M Barth

66. ÖGNC. Graz, Austria; October 4-6, 2012
Real World Experience with an Anular Closure Device
A Kuršumović, S Rath
67. ÖGNC. Graz, Austria; October 4-6, 2012
Cost Effectiveness of Anular Closure: Same-Site Comparison to a Primary Discectomy Population
S Eustacchio, D Ledic, T Marinovic

68. DGNC-Spine Section. Köln, Germany; September 14-15, 2012
Kommt es zur Veränderung des intradiskalen Druckes nach Diskektomie und nach Anulusverschluß? - Eine in vitro biomechanische Untersuchung
R Bostelmann, JF Cornelius, HJ Steiger, M Leimert

69. DGNC-Spine Section. Köln, Germany; September 14-15, 2012
Do Trial Inclusion/Exclusion Criteria Exclude Real World Patients? - Anular Closure Device (ACD) Registry Patients Screened Against Trial Criteria For The ACD Randomized Trial
A Kuršumović, S Rath

Preventing Facet Degeneration After Discectomy With An Anular Closure Device
M Vilendecic, D Ledic, GJ Bouma, M Barth, S Eustacchio, S Stein

Would You Ride Your Bicycle With A Puncture In The Tire? Two-Year Benefits Of Anular Defect Closure After Lumbar Discectomy
GJ Bouma, M Barth, M Vilendecic, D Ledic, R Bartels, EA Al-Kahlout

Real World Experience With An Anular Closure Device
A Kuršumović, S Rath

Can Lumbar Discectomy With The Barricaid Endoprosthesis Bring Benefit To Patients With Back Pain Greater Than Leg Pain?
GJ Bouma, M Barth, M Vilendecic, M Gorensek, P Varga, D Ledic, S Eustacchio

Preventing Reherniations With An Anular Closure Endoprosthesis
GJ Bouma, M Barth, M Vilendecic, D Ledic, R Bartels, E Al-Kahlout

Preventing Disc Height Loss And Reherniation After Discectomy: One-Year Data From An EU Post-Marketing Study Of An Anular Closure Technology
GJ Bouma, M Barth, R. Bartels, E. Al-Kahlout, M. Vilendecic, M. Gorensek, P. Varga, D. Ledic, S. Eustacchio

The Spine Journal Vol. 11, Issue 10, Supplement, Pages S148-S149:
Can Herniation Be Prevented? Establishment of a Herniation Model and Experiments with an Annulus Reconstruction Implant
HJ Wilke, L Widmann, N Graf, F Heuer

Preventing Disc Height Loss and Reherniation After Discectomy: One-Year Data From an EU Post-Marketing Study of an Anular Closure Technology
GJ Bouma, M Barth, RH Bartels, T Beems, E Al-Kahlout, M Vilendecic, M Gorensek, P Varga, D Ledic, S Eustacchio

Reconstructing the Anulus: Complete One-Year and Initial Two-Year Results From the Intrinsic Therapeutics Barricade Endoprosthesis Pilot Study
M Vilendecic, D Ledic, G Grahorac, D Vukas, P Varga, S Eustacchio, M Gorensek
DEFINING THE NEED
(DISCECTOMY OUTCOMES ARE NOT PERFECT)

Clinical Outcomes After Lumbar Discectomy for Sciatica: The Effects of Fragment Type and Anular Compentence.
Carragee, et al.

A Prospective Controlled Study Of Limited Versus Subtotal Posterior Discectomy: Short-Term Outcomes In Patients With Herniated Lumbar Intervertebral Discs And Large Posterior Anular Defect.
Carragee, et al.

Reoperations After Lumbar Disc Surgery: A Population-Based Study Of Regional And Interspecialty Variations.
Keskimäki, et al.

Repeat Surgery After Lumbar Decompression For Herniated Disc: The Quality Implications Of Hospital And Surgeon Variation.
Martin, et al.

Reoperation Rates Following Lumbar Spine Surgery And The Influence Of Spinal Fusion Procedures.
Martin, et al.

Recurrent Disc Herniation And Long-Term Back Pain After Primary Lumbar Discectomy: Review Of Outcomes Reported For Limited Versus Aggressive Disc Removal.
McGirt, et al.

Risk Of Multiple Reoperations After Lumbar Discectomy: A Population-Based Study.
Osterman, et al.
   The Swedish Spine Register: development, design and utility.
   Strömqvist, et al.

   An Evidence-Based Review Of The Literature On The Consequences Of Conservative Versus Aggressive
   Discectomy For The Treatment Of Primary Disc Herniation With Radiculopathy.
   Watters, et al.

   Prospective, Multi-Center, Randomized, Controlled Study of Anular Repair in Lumbar Discectomy: Two-Year
   Follow-Up.
   Bailey, et al.

   Reoperation Rate After Surgery For Lumbar Herniated Intervertebral Disc Disease: Nation-Wide Cohort Study.
   Kim, et al.

97. Eur Spine J, DOI 10.1007/s00586-014-3734-8
   Endplate Changes Following Discectomy: Natural History And Associations Between Imaging And Clinical
   Data.
   Weiner, et al.

98. J Spinal Disord Tech  Volume 28, Number 10, December 2015
   Preoperative Risk Factors for Recurrent Lumbar DiskHerniation in L5–S1
   Kim, et al.