

# Exhibit 4



Engineering Design & Testing Corp.

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June 29, 2023

## Report

**Via Email Transmittal**

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**SUBMITTED TO:** Mr. John Richardson, Esq.  
Richardson Law Firm, LLC  
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**FROM:** Richard T. Edwards,, P.E.  
Certificate of Authorization: 1708

**REFERENCE:** Evaluation of Femoral Ball Head and Acetabular Liner -  
Pamela A. Ahmed v. Johnson & Johnson Healthcare Systems, Inc., et al  
Location of Incident: Mobile, Alabama  
Date of Incident: November 4, 2020  
File Number: 900-2021-12  
Case Number: 1:22-cv-00190  
EDT Case Number: BHM10620-70811



A Total Hip Arthroplasty (THA) failed less than three months after Ms. Pamela Ahmed's implant surgery, due to a dislocated (dissociated) cross-linked Altrx® acetabular liner (liner). During the repair/revision surgery, it was discovered that the liner had dissociated from the Pinnacle® acetabular cup. The liner and Bilox® femoral head (head) were examined at Engineering Design & Testing (EDT) facilities in Birmingham, Alabama for the purpose of determining the causes and contributing factors that led to the liner's dissociation that were attributable to the liner. Figures 1–10 are included to enhance the narrative of this 12-page report. Three appendices are included in accordance with Federal Rules of Evidence.

The conclusions and opinions stated herein are based on information available to the investigation as of this writing. It is conceivable that additional information may be forthcoming,

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*Engineering services in New York and North Carolina provided through the associated firm, EDT Engineers, P.C.*

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which bears on these conclusions and opinions. Therefore, the right is reserved to review and modify all conclusions and opinions at any future time should, in fact, additional information become available. Any repair recommendations provided in this report are general in nature and the preparation of detailed plans and specifications is beyond the scope of this project and report. All repairs shall be completed in accordance with manufacturer's specifications and the applicable building code(s), including modifications by governing jurisdictions.

For ease of reading and convenience in presentation, this report has been divided into the following sections:

- A. Background Information and Work of Investigation
- B. Examination and Observations
- C. Discussion
- D. Conclusions

Figures 1-10 are included to amplify and clarify the following narrative.

Appendices:

- I Curriculum Vitae of Richard T. Edwards, P. E.
- II Trial and Deposition List of Richard T. Edwards, P. E.
- III Fee Schedule for Richard T. Edwards, P. E.

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## A. Background Information and Work of Investigation

The Pinnacle® acetabular cup system went to market around the year 2000. The literature indicates that the Altrx® liner has been used in the market as early as 2007 or sooner. The cup has been used with metal, ceramic, and polyethylene liners. Metal inserts are no longer in widespread use and cross-linked polyethylene liners are employed most today, due to their lubricity, low coefficient of friction, and low wear rates. Ms. Pamela Ahmed's THA employed DePuy components including the Pinnacle® cup, a BioloX® ceramic head and an Altrx® cross-linked polyethylene liner®.

Ms. Pamela Ahmed had a Total Hip Arthroplasty (THA) at age 61 to provide relief from pain that she had been experiencing. The surgery was conducted on November 4, 2020. Ms. Ahmed went home after a postoperative stay where she was evaluated and discharged to home on November 11, 2020 (Bates # Engerson/(NPS) 00236-00237). Physical therapy began November 10, 2020 and regular therapy visits occurred through December 17 of 2020. On Christmas Day, Ms. Ahmed heard a pop while with family. She visited the Orthopedic Group (Dr. Keith Varden) on December 28, 2020. On January 25, 2021, she told her doctor that the hip pops and locks up sometimes. Ms. Ahmed fell just prior to February 24, 2021. On February 25, 2021, her doctor noted that she needed a "right hip poly exchange" (Engerson 00182). X-rays were taken, and a decision was made for revision surgery. On March 1, 2021, a new femoral head and acetabular liner were replaced during the surgery. Ms. Ahmed has had more surgery for infection and two added dislocations of the right hip.

During the course of this investigation, the following work and documents have been performed or reviewed and are referred to in this report by number:

1. Dr. Todd Engerson deposition and exhibits.
2. Visual, nondestructive examination of the Altrx® plastic liner and BioloX® ceramic femoral head at EDT facilities in Birmingham, Alabama.
3. Thickness measurements of the liner.

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  6. *National Joint Registry, 18<sup>th</sup> Annual Report, 2021*, NJR Editorial Board and Contributors, ISSN 2054-183X
  7. *National Joint Registry, 19<sup>th</sup> Annual Report, 2022*, NJR Editorial Board and Contributors, ISSN 2054-183X
  8. American Joint Replacement Registry, *Annual Report 2022, The Ninth Annual Report of the AJRR on Hip and Knee Arthroplasty*; American Academy of Orthopedic Surgeons
  9. Goyal, T.; Paul, S.; Choudhury, A. K.; Gupta, T.; *Assessment of Acetabular Component Anteversion after Total Hip Arthroplasty: Comparison of Anteroposterior and Cross-Table Lateral Radiographs with Computed Tomography Scans*; *Clinics in Orthopedic Surgery* 2021;13:329-335, <https://doi.org/10.4055/cios20274>; December 28, 2020
  10. DePuy Synthes Joint Reconstruction, *Pinnacle Hip Solutions Polyethylene Surgical Technique*, DSUS/JRC/0414/0026 EO 5/14
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  12. Mervinosario, P. M.; Madhukar, J. T.; *CT Based Study of Version of the Acetabular Cup after Total Hip Arthroplasty and Correlation with functional Outcome*, *Journal of Research in Medical and Dental Science* 2021, Volume 9, Issue 11, pp. 269-272
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  15. Jolles, B. M.; Zanagger, P.; Leyvraz, P. F.; *Factors Predisposing to Dislocation A, after Primary Total Hip Arthroplasty, A Multivariate Analysis*; *Journal of Arthroplasty*, Volume 17, No. 3, 2002
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  17. Jaeger, S.; Uhler, M.; Schroeder, S.; et al. *Comparison of Different Locking Mechanisms in Total Hip Arthroplasty: Relative Motion between Cup and Inlay*; *Materials*, March 2020
  18. Ciolli, G.; Silva, R.; DeSantis, G.; et al. *Liner dissociation in total hip arthroplasty: a systematic review*; *European Review for Medical and Pharmacological Sciences* 2022; 26: 138-150
  19. Stryker Corporation, *Trident Acetabular System, PSL Surgical Protocol*; TRIDEN-SP-3 12/14, 2014
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  21. Biolog® TS Delta brochure, DePuy 9068-81-070, version 2, issued: 11/12
  22. DePuy Synthes Surgical Techniques; CA#DPEM/ORT/1112/0366(2) Issued:10/14
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-

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25. Dennis, D. A.; Smith, G. H.; Phillips, J. L. H.; Ennis, H. E.; et al. *Does Individualization of Cup Position Affect Prosthetic or Bone Impingement Following Total Hip Arthroplasty?*; Journal of Arthroplasty, 38 (2023) S257-S264, Proceedings 2022

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**B. Examination and Observations**

Two THA components by DePuy/Johnson & Johnson were received for examination. The components consist of the liner and the BioloX® femoral head (head). Overall appearance of the liner and head is represented in Figures 1 –10.

The original liner that was removed during the March 2020 revision surgery was an AltrX® +4 lateralized, crosslinked polyethylene acetabular liner (liner) with a face-changing lip made by DePuy (Johnson & Johnson). The liner's inner diameter was about 32 millimeters (mm) and the outer diameter was about 42 mm. Lateralized means that the liner's dome is 4 mm thicker than the side wall (near the equator) of the liner's hemispherical shell. As the liner exhibited a larger lip at the equator than a nominal neutral liner, it was determined from examination and Dr. Engerson's deposition that the liner was a lateralized lipped liner. A lip is used to restrict range of motion and extends about 4 mm higher (above the acetabular metal shell) as compared to a neutral liner (DePuy brochure). On a neutral liner, the lip only extends about 1 mm beyond the edge of the cup. The face-changing, lipped profile liner also changes the effective anteversion and abduction/adduction of the acetabular assembly, depending on the surgeon's orientation or positioning of the liner at installation.

Measurements of the liner thickness are shown in Figure 5. Laboratory measurements of the liner confirmed the presence of a lateralized shell. The measurements did not indicate the presence or absence of the face-changing interior morphology, but printed markings seen in Figure 10 identify the liner's provenance. The lip was visible and measurable by taking a negative impression of the liner exterior with a silicone putty. Extension of the liner shell past the anti-rotation tabs on the liner confirmed the use of a lipped liner. The DePuy lipped liner changes the face angle by 15 degrees (Engerson, p. 65, Ref. 1).

Damage to the liner consists of significant permanent deformation of the lip and the liner's anti-rotation tabs. Five of six anti-rotation tabs are sheared off. Striations that are oriented from the pole toward the equator indicate the direction of movement and shear on the liner's outer surface. Rotation in two orthogonal planes is noted. The first plane is aligned with the

hemispherical axis. The second is at a right angle to the axis that effectively rolled the liner out of the metal acetabular shell. The majority of the striations and shear lines are oriented at right angles to the liner's equator. Photography of white plastic is difficult due to lack of contrast, but the striations may be seen in Figures 6 – 10.

DePuy literature and several authors call the locking technique the “locking mechanism”, but there are no moving parts. The locking method is termed as a “taper lock” and seems to represent an interference fit between the liner's outer diameter and rim of the acetabular cup. As the cup was not replaced during the revision surgery, the effectiveness of the interference fit or press fit as a locking method could not be evaluated. However, the DePuy locking method or technique was evaluated by Jaeger & Associates (Ref. 17) where they found that the retaining strength of the DePuy Pinnacle® system between the acetabular cup and liner was much less than the Zimmer Biomet® system or the Braun Aesculap® system. (Ref. 17, Figure 6).



View of an Assembled Pinnacle® cup, liner, and femoral ball (from Altrx® brochure)

As seen above, it is noted that the DePuy Pinnacle® acetabular cup has a ring at the cup's equator that has 12 openings with a sinusoidal shape. New liners exhibit six anti-rotation tabs that rest within the cup's retaining ring openings to prevent relative polar rotation of the liner within

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the acetabular cup. The sloped side of the anti-rotation tabs provide a mechanical advantage for the tabs to shear off when the liner is forced to rotate (Yun, 4) (Kagan, 16). The anti-rotation tabs on Ms. Ahmed's liner were sheared off at right angles to a polar rotation. The rotation in Ms. Ahmed's liner was about an equatorial axis. It is clear that more material, oriented perpendicular to the pole-equator direction, is needed in the anti-rotation tabs.

According to DePuy literature, the range of motion is diminished by about 15 degrees when comparing the neutral liner to the lipped liner. Test manipulation with the ball and liner indicates the femoral head +5 extension does not impinge on the lip of the acetabular liner. Therefore, impingement occurred between the metal femoral stem and the liner lip.

The original femoral head was a ceramic head of 32 mm diameter with a +5 mm extension neck. The +5 extension indicates that the center of rotation is extended 5 mm with a conical addition to the base of the femoral head sphere. The spherical head is attached to the femoral prosthetic stem with a press fit, tapered sleeve. The taper is specified by the "12/14" markings on the head. The head is comprised of a ceramic spheroid that is coated with the BioloX® coating. The purpose of such coatings is for wettability, lubrication, and bacterial control.

Damage to the femoral head consists of coating damage on one side of the head. Visible shape change has not occurred (Figures 1–4). The coating was scratched off of the head by moving contact with the Pinnacle® cup.

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### C. Discussion

The BioloX® ceramic head was not broken or cracked. Its coating was scratched and abraded by the metal shell of the Pinnacle® acetabular cup. As the coating on the BioloX® ceramic head or ball was not designed for rubbing against hard metal surfaces, the coating damage does not constitute a failure. In addition, the coating failure did not exacerbate Ms. Ahmed's condition. Based on the examination of the BioloX® ceramic head, there is no manufacturing or design defect in the femoral head ball known as the BioloX® head.

The prevalence of sheared anti-rotation tabs indicates a problem with the anti-rotation design. Also, the indicated rotation from pole to equator, indicates that rotation is not restrained in that plane. Pole to equator rotation is necessary in the THA for proper function as is to be expected. Shearing of the anti-rotation tabs in the pole to equator direction shear in this direction when the liner is not seated in the acetabular cup. As the liner dissociates from the cup, the anti-rotation tabs are sheared off. More tabs and/or larger tabs could serve to retain the liner within the cup, preventing dissociation. Rotation and motion between the liner and the acetabular cup will create wear/erosion which will destroy the interference fit that locks the liner into the acetabular cup in the first place. Friction between the ball and liner has to be greater than friction and restraining features in order to move the liner within the acetabular cup. There is a low incidence of liner dissociations among the Pinnacle® acetabular system. Different authors arrive at different values, but most estimates are less than 0.7%. At more than one million THAs per year, the number of liner dissociations is in the thousands.

By noting the high surface finish on the acetabular cup interior and the liner exterior, friction between the liner and cup is minimal. Lubrication by synovial fluid further decreases friction. The geometry of the femoral head (smaller diameter) and the lowered contact area inside the liner serves to increase the friction available between the femoral head and the liner. Wettability and coating tribology parameters for the BioloX® coating indicates that friction force generation is more a matter of geometry than material properties (Ma, Ref. 23).

The outside diameter of the AltrX® liner is about 42 mm. Compared to the length of the

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femur at approximately 400-450 mm, Body weight, acting through the femur from the knee, has a mechanical lever advantage of about 10:1 or more. One hundred pounds of force at the knee at an angle that endeavors to pry the ball from the acetabular cup, will generate about 200 newton-meters (1800 inch-pounds) of torque/moment. This value seems excessive and would result in dislocation of the femoral head and/or dissociation of the liner. Based on this analysis and the damage to the Altrx® liner, it is concluded that rotational forces are overcoming the locking method and the anti-rotation tabs as the probable mode of failure.

Registry reports do not specify liner dissociations but classify problems such as dislocation/instability, “mechanical complications”, and “other”, so a precise determination of liner dissociation fraction is difficult to assess (Ref 6, 7, 8; AJRR, NJR) .

The anteversion or version is the angle that is forward of the plane that separates the body into front and back halves. Abduction refers to the angle downward from the horizontal plane through the patient’s center of gravity (near the navel). Documents such as the surgical instructions and research white papers generally agree that the preferred mean angles for installation are 45 degrees abduction and 15-20 degrees anteversion (Ref. 22, DePuy). Dr. Engerson indicates that he lined up the acetabulum angles in accordance with recommendations by the manufacturer, Depuy (Engerson deposition, p57; Exhibit 2, pp239-241)

Anti-rotation tab shearing is prevalent on liner dissociations. The number of tabs and their cross-section size can be increased to diminish the incidence of shearing. (Ref. 5, Yun)

Impingement is a fact of life among THA patients. At least one study has identified impingement in 56 percent of well-functioning hip replacements (Shon, et al, Ref. 24). When the impingement enables liner rotation and motion in the acetabular cup, the liner can dissociate. Without the liner, excessive motion and metal on metal wear takes place, as in the case of Ms. Ahmed.

Although the femoral head ball exhibited surface wear on the coating, there was no

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manufacturing defect. Regarding design, it appears that the +5 mm extension of the ball/stem mounting may increase the chances of impingement by limiting the range of motion further. Figures 8 and 9 show that impingement was taking place and deforming the liner lip. Figure 8 also shows that the head extension did not contact the lip but rotated inside of the liner lip.

Range of motion can be defined as the angle from impingement to impingement on the opposite side. The need for the head extension enables minor corrections in leg length, so the contradiction in sacrificing range of motion for matching leg length appears to be desirable to the medical community. While the compromise in design objectives is real, this does not constitute a design defect.

Based on the testing results of researchers, the locking method for the DePuy liners needs to be more robust and comparable to or better than its competitors.

Oxidation of polyethylene, cross-linked or otherwise, takes time. Heavily oxidized polyethylene becomes friable and brittle. The extensive deformation and shearing of the cross-linked polyethylene in the Altrix® liner does not suggest oxidation. The plastic's behavior plus the short time of implantation, indicates that testing for oxidation is not necessary. Given its processing, time of service and its post service mechanical behavior, the cross-linked polyethylene in the liner is not degraded by oxidation.

As the acetabular cup and femoral stem were not damaged or revised (replaced) during the surgery of March 1, 2021; this report does not evaluate those items, other than to assess their effects on the liner.

The author is awaiting receipt of the post operative X-rays. Opinions on the version and abduction of the THA are withheld until such time as that data can be made available. Dr. Engerson testified that he took precautions to get the correct angles, mentioning assessment of stability as a guide. Dr. Engerson identified the recommended angles in his testimony. (Engerson, p.59, Ref. 1)

**D. Conclusions**

1. There is no manufacturing or design defect in the BioloX® femoral head.
2. The recurring incidence of liner dissociation indicates that the locking mechanism between the AltrX® liner and the Pinnacle® acetabular cup is inadequate to hold the liner in place during impingement and extremes of range of motion. This lack of restraint between the cup and the liner is a defect in either manufacturing or design.
3. The anti-rotation tab design is defective. Sheared anti-rotation tabs indicate a design defect. The anti-rotation tabs on the liner can be made larger and/or increased in number to as many as twelve.
4. The shape of the anti-rotation tabs can be changed to remove the mechanical advantage of the sloped sides. Sloping the ring openings and the tabs' sides makes it easier to shear the anti-rotation tabs off of the liner.
5. Given its processing, time of service, and its post service mechanical behavior, the cross-linked polyethylene material in the AltrX® liner is not degraded by oxidation.

## **FIGURES**

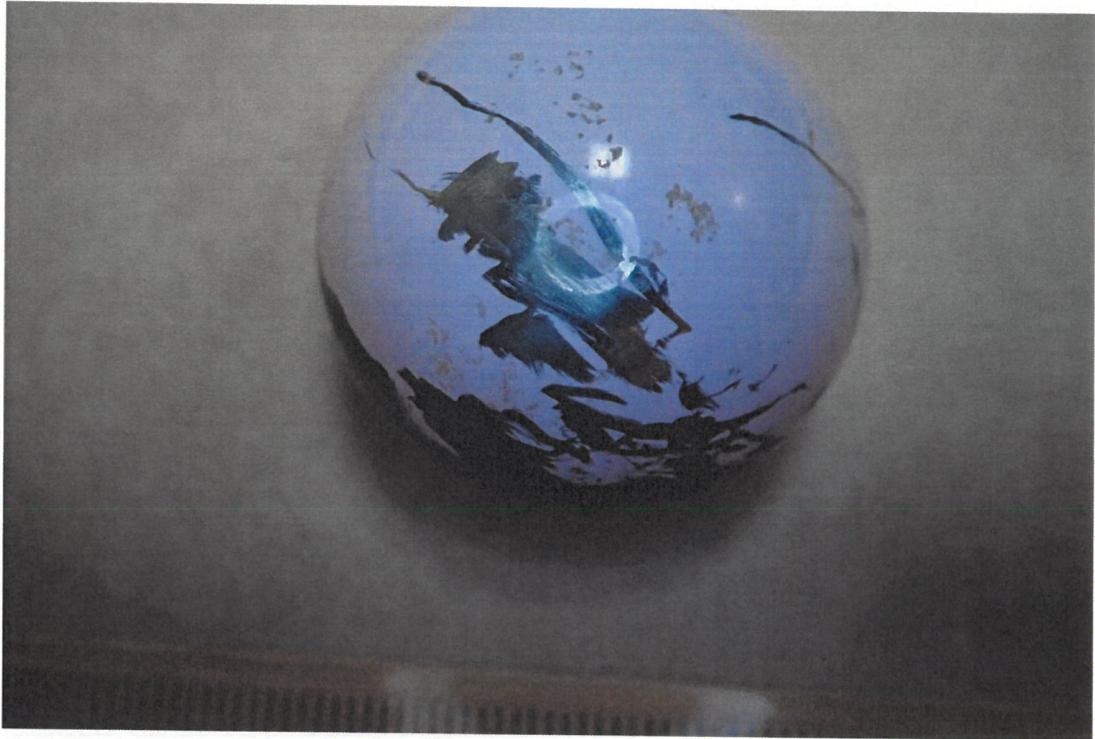


Figure 1 Polar view of the Biolox® femoral head

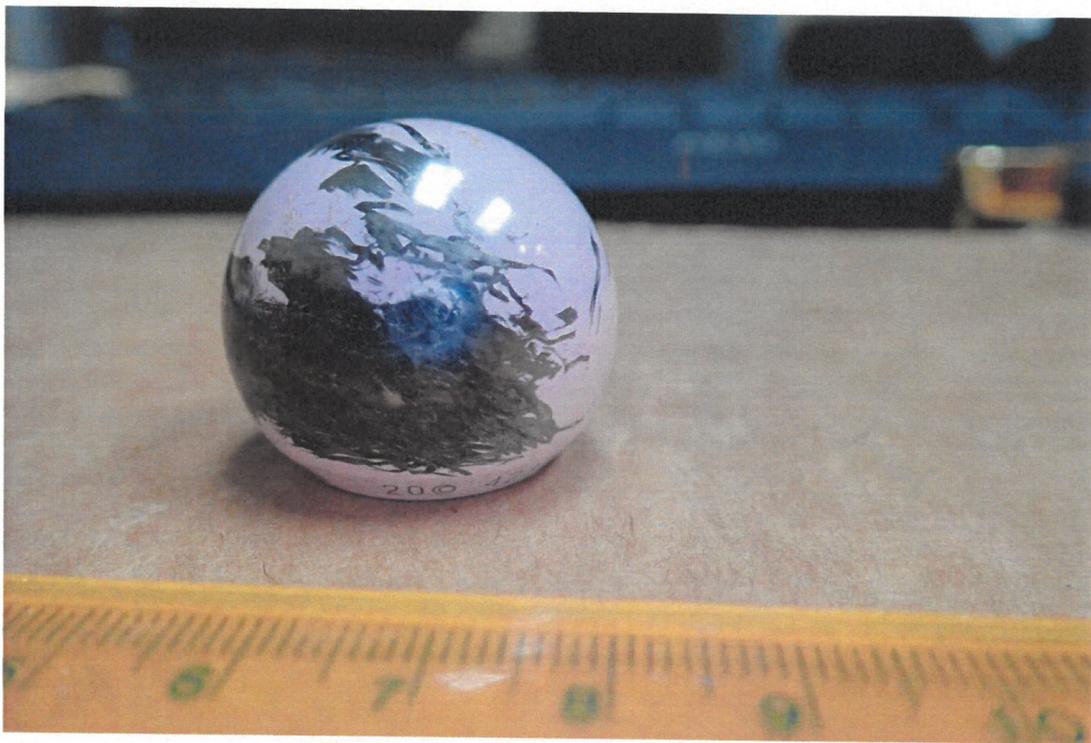


Figure 2 Equatorial view of the Biolox® femoral head

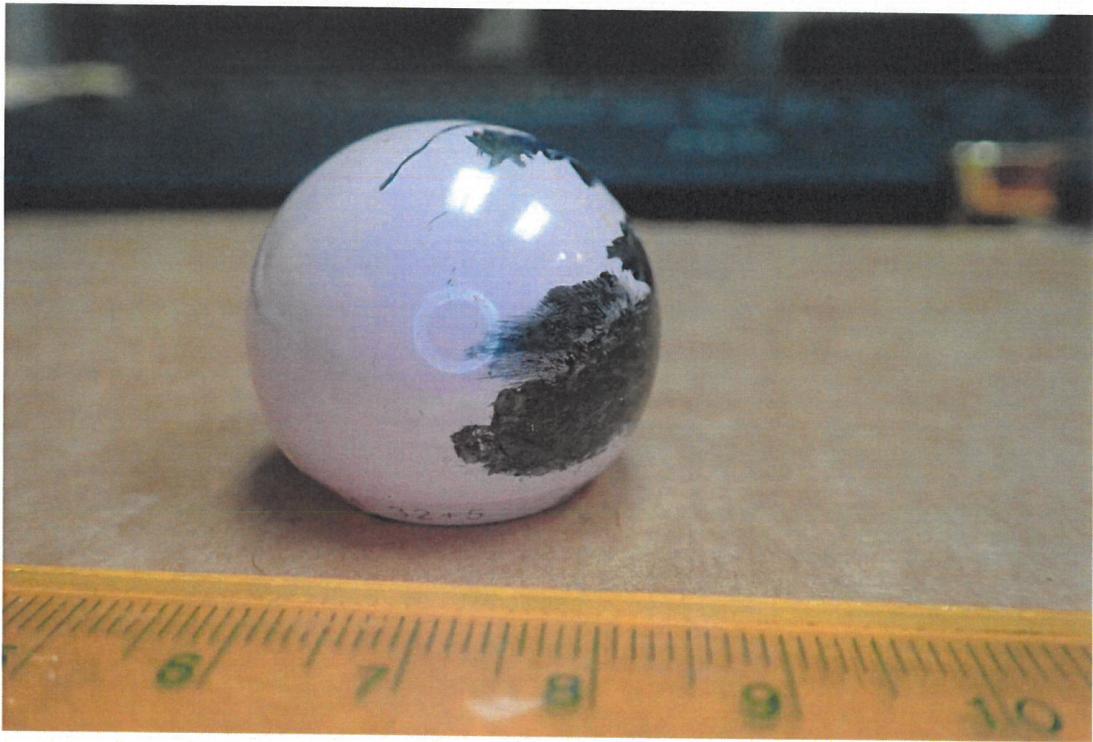


Figure 3 Equatorial view of the BioloX® femoral head

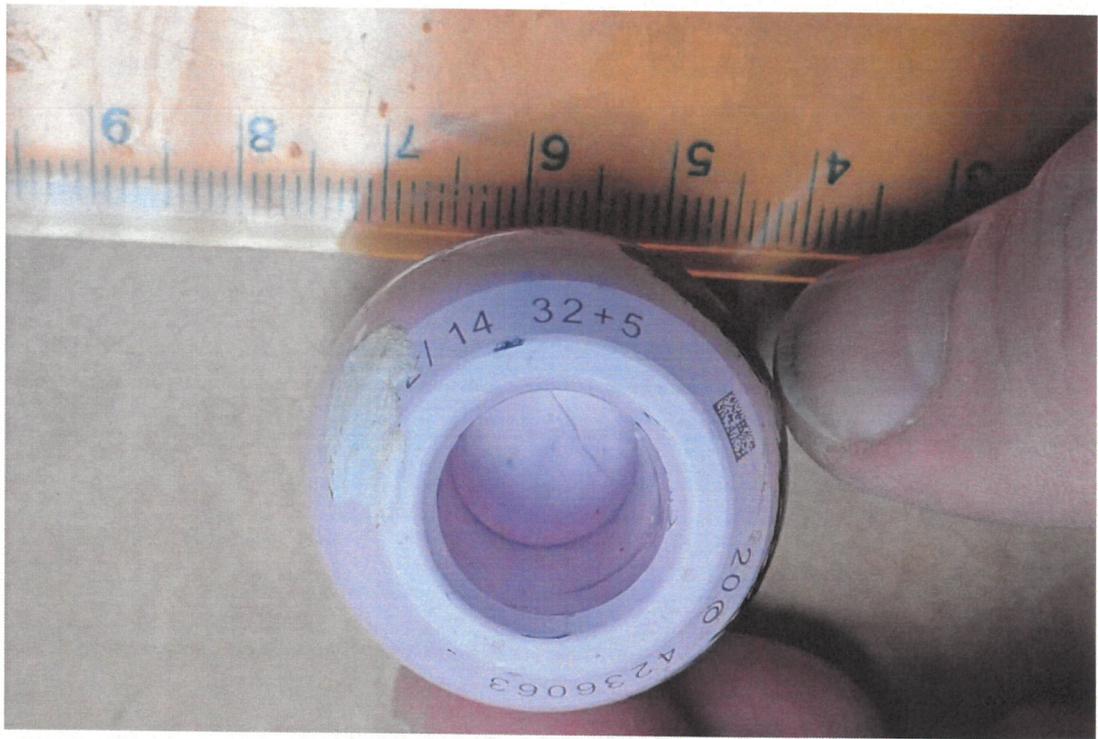


Figure 4 "South pole" of the BioloX® femoral head with manufacturer's markings

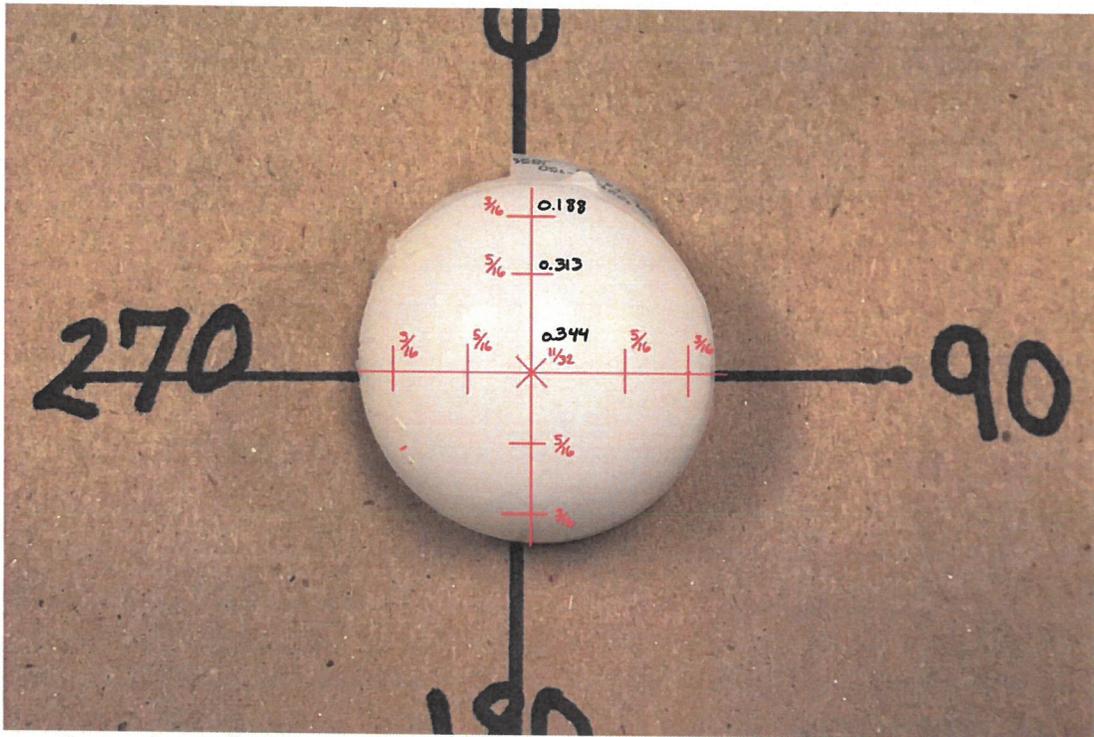


Figure 5 Thickness measurements on the Altrx® liner from Ms. Ahmed's THA

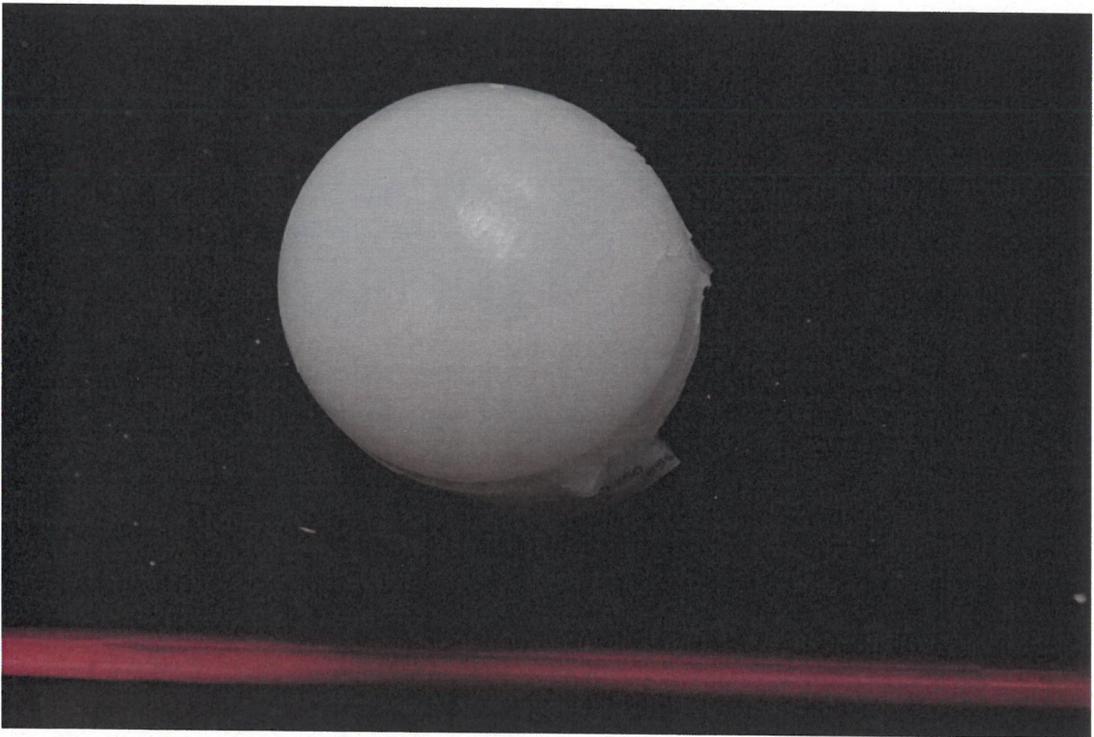


Figure 6 Polar view of the damaged liner



Figure 7 Equatorial view of the damaged liner



Figure 8 Head in the liner showing the conformance of the stem to the divot in the liner lip



Figure 9 Stem angle matching the deformation of the remaining lip portion

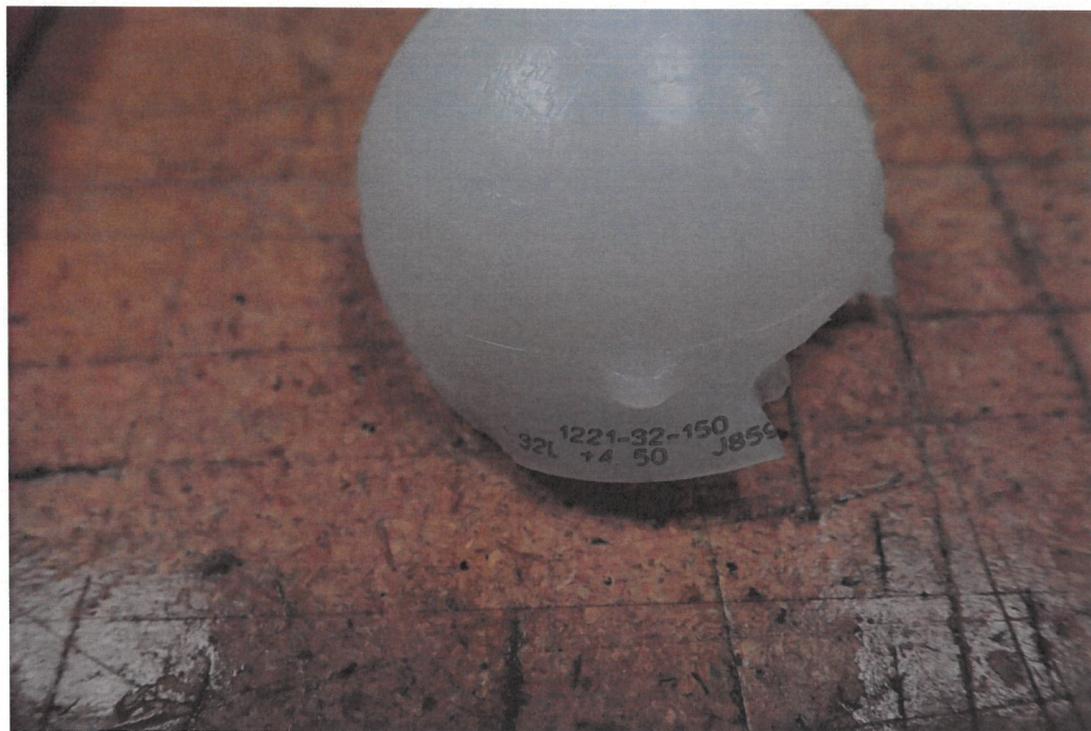


Figure 10 Liner markings

## **APPENDIX I**

### **Curriculum Vitae of Richard T. Edwards, P. E.**



**RICHARD T. EDWARDS, P.E.**  
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## **EDUCATION**

1980-1983      **Post Baccalaureate Studies, Mechanical Engineering Graduate Program**  
North Carolina State University

1980            **Bachelor of Science, Materials Science and Engineering**  
North Carolina State University, Raleigh, North Carolina

## **EXPERIENCE**

April 1997  
to Present      **Engineering Design & Testing Corp.**  
**Birmingham, Alabama**  
*Consulting Engineer*  
Failure analysis of materials, including polymers, metals and ceramics. Medical equipment assessment and failure analysis. Machinery problems and fractures. HVAC evaluations. Metallurgical analysis and processing. Industrial incident investigation and reconstruction. Cause and origin of fuel gas explosions and fires. Corrosion modes analysis and evaluative testing. Marine surveying. Crane stability assessments. Crane and lifting equipment evaluations. Wire rope failure analysis. Mechanical systems failure analysis. Product testing for litigation.

May 1988  
to April 2018      **Accident Reconstruction Analysis**  
**Raleigh, North Carolina**  
*Senior Staff Engineer*  
Failure analysis of materials and structures, including physical, chemical and mechanical testing. Aircraft accident reconstruction and aircraft component failure analysis. Accident reconstruction in all modes of transportation. Technical analysis of machinery accidents in industrial settings. Cause and origin investigation of explosions and chemical/incendiary fires. Marine surveying. Inspection, failure analysis and reconstruction of elevator accidents. Crane and aerial lift accident reconstruction.

March 1983  
to May 1988      **United States Navy**  
*Officer on Fleet Ballistic Missile Submarines*  
Description Maintenance and repair supervision of shipboard power generation and transmission equipment, atmospheric control equipment including oxygen generators, carbon dioxide scrubbers, carbon monoxide burners and combustible gas indicators. Coordination and supervision of damage control preparation, training and execution during onboard emergencies such as firefighting, flooding, and ship repairs.  
  
Retired from reserves service in June 2004.

May 1979  
to September 1979      **Carolina Power and Light Company**  
**Raleigh, North Carolina**  
*Welding Engineering Assistant*

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**REGISTRATIONS and CERTIFICATIONS**

Registered Professional Engineer in Alabama (#21951)  
Registered Professional Engineer in Florida (#64862)  
Registered Professional Engineer in Kentucky (#29767)  
Registered Professional Engineer in Louisiana (#35412)  
Registered Professional Engineer in Michigan (#6201311309)  
Registered Professional Engineer in Mississippi (#19648)  
Registered Professional Engineer in North Carolina (#015502)  
Registered Professional Engineer in South Carolina (#31084)  
Registered Professional Engineer in Tennessee (#118537)  
Registered Professional Engineer in Texas (#115023)  
Examined and Registered in dual disciplines: Metallurgical and Civil Engineering  
National Council of Examiners for Engineering and Surveying (#40437)

**PROFESSIONAL ORGANIZATIONS**

American Society for Metals  
National Association of Corrosion Engineers

**CONTINUING EDUCATION**

2015        Glass Fractography  
              Lessons Learned in Large Loss Work  
2011        Infrared Spectra® Interpretation; Eastern Analytical Symposium, Inc.  
2010        Non-Linear Finite Element Analysis  
2006        Cathodic Protection – PDH  
2004 – 2009 Confined Space Entry Certifications  
2002        Cathodic Protection of Pipelines; Diesel Failure Analysis Investigations  
1989        Instructor, Seminar on Marine Vessel Fire Investigation  
1983        Naval Nuclear Power School, Officer Program  
1980-1983 Graduate Work, Mechanical Engineering, North Carolina State University

## **APPENDIX II**

### **Trial and Deposition List of Richard T. Edwards, P. E.**

**Richard T. Edwards, P.E.**  
**Evidence Rule 26, Trial & Deposition List**

**June 29, 2023**  
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Deposition, Brent Lindsey Crumpton v Joshua David Laning;  
Davidson Lynn Laning; Chris Baggett; Classic Car Motoring,  
Inc.; State Farm Mutual Automobile Insurance  
In the Circuit Court of Jefferson County, Alabama

April 17, 2023

Deposition, Norris Bros. Excavating, LLC, v  
Southern Pipe & Supply Company, Inc.,  
vs Romac Industries, Inc. in the United States  
District Court Eastern District of Tennessee

February 15, 2023

Deposition, Irma Phillips v JRN, Inc.; Bunn-O-Matic  
Corporation; RSI-Restaurant Services, Inc.  
In the Circuit Court of Mobile County, Alabama

February 7, 2023

Deposition, Steven Hoge v Southern Heating and Cooling,  
Inc.: Mountain Air, LLC; Mike Crawford d/b/a/ Mountain  
Air Heating and Cooling; Tri-State Propane Gas, Inc.;  
United Propane Gas, Inc.

September 26, 2022

Deposition, Brent Raines, et al, vs U.S. Craftmaster, et al  
In the Circuit Court of Butler County, Alabama

November 15, 2021

Deposition, James Truss v Michael Nelson, et al.  
in the Circuit Court of St. Clair County,  
Alabama

September 10, 2021

Deposition, Privilege Underwriters Reciprocal  
Exchange, v Bradford White Corporation,  
in the Circuit Court of Mobile County, Alabama

July 22, 2021

Deposition, Justin Brown vs. Contractor Service  
And Fabrication, Inc.; Mistras Group, Inc.; Tricor  
Industrial, Inc., D/B/A Tricor Metals, Inc.,; Addison  
Fabricators, Inc.; Byrd Maintenance Services, Inc., et al.,  
In the Circuit Court of Morgan County, Alabama

March 18, 2021

Deposition, Monica Arangua, Administrator of the  
Estate of Angel Alberto Soto, Deceased vs.  
APAC Mid-South Paving Inc.; H&L Construction, Inc.,  
et al, in the Circuit Court for Lowndes County, Alabama

November 3, 2020

**Richard T. Edwards, P.E.**  
**Evidence Rule 26, Trial & Deposition List**

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Deposition, Kentucky Wesleyan College v.  
Travelers Property Casualty Company of America  
United States District Court Western District of  
Kentucky Owensboro Division

September 17, 2020

Deposition, Justin Brown vs Contractor Service  
and Fabrication, Inc; Mistras Group, Inc.; Tricor  
Industrial, Inc.; D/B/A Tricor Metals, Inc.; Addison  
Fabrications, Inc.; Byrd Maintenance Services, Inc.: et al  
Circuit Court of Morgan County, Alabama

February 17, 2020

Deposition, Danielle Hughes vs MGM Resorts  
Mississippi, LLC d/b/a/ Gold Strike Casino  
Hotel and Resort in the Circuit Court of Tunica  
County, Mississippi

August 29, 2019

Deposition, AIG Property Casualty Company  
v. Brasscraft Manufacturing Company  
in the United States District Court for the  
Northern District of California,  
San Francisco Division

December 10, 2018

Deposition, Alfa Mutual Insurance Company v.  
Dometic Corporation, Dometic AB et.al  
U.S. District Court, Southern District of Alabama

October 24, 2018

Deposition, Sandra Lee Linton, Thomas Lawrence  
Linton, Plaintiffs, v. Coca-Cola Bottling Company  
United, Inc., Coca-Cola Bottling Company United-  
Central, LLC, Coca-Cola Bottling Company United-  
East, LLC, Patrick Zicarelli, et al, in the Circuit Court  
Of Jefferson County, Alabama, Bessemer Division

August 8, 2018

Deposition, Kevin Rawls v. Ryder Truck Rental, Inc.  
And Ryder Truck Rental, LT, United States District  
for the Eastern District of Louisiana

April 19, 2018