Aryeh Kashdan, MS

Forensic Expert
Biomechanics & Premises Liability

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EDUCATION

MS — **Master of Science in Kinesiology, Exercise Science Option**
California State University, Long Beach, 2019
Thesis: Effects of an Overhead Target on Lower Extremity Mechanics During a Vertical Drop Jump

BS — **Bachelor of Science in Biopsychology**
University of California, Santa Barbara, 2014

EMPLOYMENT HISTORY

Jan 2023 – Present — **Aperture, LLC** – Long Beach, CA
Forensic Expert – Biomechanics & Premises Liability
Conduct investigations and analyses of injury-causing events. These assessments include vehicle/site inspections, premises analyses, and necessary biomechanical calculations. Perform ongoing research to evaluate the human biomechanics response and injury potential for vehicle occupants, slips, trips, and falls, and humans conducting other activities. Have received training on the retrieval of data from automobile event data recorders (EDR). Conduct biomechanical analysis and provide forensic consultation for purposes of litigation including kinematics, force exposure, and injury potential. Perform tribometer testing to assess available traction of various surfaces. Manage company-wide tribometer validation program. Designed and built a modular elevated walkway integrated with force plates for the purposes of biomechanical gait and movement testing.

Feb 2021 – Jan 2023 — **Aperture, LLC** – Long Beach, CA
Case Analyst
Compiled information related to accident reconstruction and biomechanics to facilitate forensic consultation for the purposes of litigation. Conducted case-related research on accident reconstruction and biomechanics-related topics including vehicle occupant kinematics and injury tolerance values. Assisted with documentation and data collection during vehicle and site inspections.

Jan 2020 – Feb 2021 — **University of California, Los Angeles**
Rehab Aide
Conducted data collection sessions for clinical projects assessing the effects of spinal cord neuromodulation in individuals with spinal cord injury. Coordinated participant and lab staff schedules for all clinical studies. Performed data processing, visualization, and analyses. Oversaw patient database and screened potential research participants. Managed lab supply inventory and lab equipment. Managed IRB regulatory binders required for auditing. Assisted with fMRI and intra-operative data collection sessions.

Aug 2017 – May 2018 — **California State University, Long Beach**
Biomechanics Graduate Assistant
Operated biomechanics hardware and software, including motion capture, force plates, and EMG sensors, during data collection for various student research projects. Performed data collection and lab demonstrations for undergraduate and graduate level classes.

NOT FOR EXPERT DESIGNATION

Aug 2016 – Feb 2017	**Physical Therapyworks** **Physical Therapy Aide** Led patients through exercises in a one-on-one outpatient setting. Progressed or regressed exercises while modifying volume and intensity as needed for each patient.

PUBLICATIONS

Kazmierczak, A., Umale, S., Visalli, A., Webb, E. et al., "*Aggregation of Cervical Loads in Rear Impact Crash Tests and Comparison to Activities of Daily Living*," SAE Technical Paper 2025-01-8708, 2025, doi:10.4271/2025-01-8708.

Kashdan, A., Umale, S., Kazmierczak, A., Kasselik, J. et al., "*Aggregation of Lumbar Loads in Rear Impact Crash Tests*," SAE Technical Paper 2023-01-0647, 2023, doi:10.4271/2023-01-0647.

CONTINUING EDUCATION, CERTIFICATIONS, AND TRAINING

June 2026	**ASTM International Committee F13 Meeting** – *Dallas, TX*
March 2026	**Certified English XL Tribometrist (CXLT) Program** – *Tampa, Florida*
January 2026	**ASTM International Committee F13 Meeting** – *Virtual*
June 2025	**ASTM International Committee F13 Meeting** – *Toronto, Canada*
May 2025	**Advanced Photogrammetry for Collision Reconstruction** – *Signal Hill, CA*
Jan 2025	**ASTM International Committee F13 Meeting** – *Virtual*
Oct 2024	**Bosch Crash Data Retrieval (CDR) Tool Operator/Technician Course** – *Irvine, CA*
July 2024	**ASTM International Committee F13 Meeting** – *Virtual*
May 2024	**Injury Biomechanics and Traffic Crash Reconstruction** – *Naperville, IL*
Jan 2024	**ASTM International Committee F13 Meeting** – *Virtual*
Jun 2023	**Slips, Trips, and Falls International Conference** – *Toronto, Canada*
May 2023	**ASTM International Committee F13 Meeting** – *Toronto, Canada*
April 2023	**WCX SAE World Congress Experience** – *Detroit, MI*
July 2022	**Photography for Accident Reconstruction, Product Liability, and Testing –** *Oxnard, CA*

RESEARCH AND TESTING

Aug 2025	Designed, developed, and assembled an elevated walkway integrated with Kistler force plates for the purposes of biomechanical gait testing. Oversaw the full lifecycle including conception, design, and construction. Designed the wooden structure in Autodesk Inventor and built it via precision woodworking techniques. The completed walkway allows for biomechanical testing to facilitate both case-specific and broader research applications.
April 2024	Participated in ASTM F13 Super Interlaboratory Study (Super-ILS) in Baltimore, MD. Assisted with tribometry testing on multiple samples of three different ceramic tile surfaces. Facilitated data collection conducted using English XL and BOT-3000e tribometers.

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PRESENTATIONS

"*Updates to ASTM F2508 – Standard Practice for Validation of Walkway Tribometry Using Research-Based Reference Materials*", presented at Aperture Institute Meeting, Signal Hill, California, May 19, 2025.

"*Aggregation of Lumbar Loads in Rear Impact Crash Tests*," SAE Paper 2023-01-0647, presented in the Occupant Protection for Multiple Crash Modes technical session of the 2023 SAE World Congress Conference, Detroit, Michigan, April 19, 2023.

MEMBERSHIPS

American Society of Biomechanics (ASB)

ASTM International

Committee F13 on Pedestrian/Walkway Safety and Footwear

Society of Automotive Engineers (SAE)

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