



Exponent®
Engineering & Scientific Consulting

Naomi Cherne, Ph.D.

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Professional Profile

Dr. Cherne helps improve usability and use-related safety and efficacy of products, including medical devices and combination products, through the application of human factors research. She employs methods across a product's lifecycle, from design management activities to post-market usability troubleshooting.

Dr. Cherne is experienced in formative research that iteratively shapes a product's design, labeling, and packaging, and in human factors validation research for inclusion in regulatory submissions. She develops and formalizes human factors activities relevant to design management, including establishing a product's users, uses, and use environments; constructing use-related risk analysis; determining known use errors; evaluating design usability via expert review; and formatting human factors activities for submission to regulatory bodies (e.g., FDA). Dr. Cherne leverages her 20 years of experience conducting research on factors that shape human behavior, including visual attention, associative memory, habit development, cognitive control, and information processing.

Academic Credentials & Professional Honors

Ph.D., Psychology, University of California, Los Angeles (UCLA), 2011

M.A., Psychology, University of California, Los Angeles (UCLA), 2007

Sc.B., Cognitive Neuroscience, Brown University, 2002

B.S., Cognitive Neuroscience, Brown University, 2002

Prior Experience

Director, Core Human Factors, 2017-2021

Research Associate, Core Human Factors, 2015-2017

Senior Scientist, Exponent, 2013-2015

Scientist, Exponent, 2011-2013

Graduate Student Researcher, University of California Los Angeles, 2005-2011

Research Assistant, Massachusetts Institute of Technology, 2004-2005

Research Assistant, Brigham & Womens Hospital, Harvard Medical School, 2002-2005

Publications

Cherne, N., Moses, R., Piperato, S. M., & Cheung, C. (2020). Research: How Medical Device Instructions for Use Engage Users. *Biomedical instrumentation & technology*, 54(4), 258–268.

Edwards, E., Kessler, C., Cherne, N., Dissinger, E., & Shames, A. (2018). Human factors engineering validation study for a novel 0.1-mg epinephrine auto-injector. In *Allergy & Asthma Proceedings* (Vol. 39, No. 6).

Kenner, N. M., Mumford, J. A., Hommer, R. E., Skup, M., Leibenluft, E., & Poldrack, R. A. (2010). Inhibitory motor control in response stopping and response switching. *Journal of Neuroscience*, 30(25), 8512-8518.

Wolfe, J. M., Horowitz, T. S., Van Wert, M. J., Kenner, N. M., Place, S. S., & Kibbi, N. (2007). Low target prevalence is a stubborn source of errors in visual search tasks. *Journal of experimental psychology: General*, 136(4), 623.

Kenner, N. M., & Oliva, A. (2005). Rapid goal-directed exploration of a scene: The choice between a direct and a pragmatic scan path. *Journal of Vision*, 5(8), 438-438.

Wolfe, J. M., Horowitz, T. S., & Kenner, N. M. (2005). Rare items often missed in visual searches. *Nature*, 435(7041), 439-440.

Wolfe, J. M., Horowitz, T. S., Kenner, N., Hyle, M., & Vasan, N. (2004). How fast can you change your mind? The speed of top-down guidance in visual search. *Vision research*, 44(12), 1411-1426.

Publications

Cherne, NM, Andersen P. Case Studies and Considerations for Representing Training and Memory Decay in Simulated-Use Human Factors Validation Testing. Poster presentation, Human Factors and Ergonomics in Health Care, Chicago, IL, 2019.

Kenner N, Mumford J, Poldrack R. Associative learning in striatal subregions using high resolution fMRI. Poster presentation, 17th annual meeting of the Organization for Human Brain Mapping, Quebec City, Canada, 2011.

Kenner NM, Mumford JA, Lenartowicz A, Hommer RE, Skup M, Leibenluft E, Poldrack RA. Comparing networks involved in stopping and changing motor responses. Poster presentation, 15th annual meeting of the Organization for Human Brain Mapping, San Francisco, CA, 2009.

Kenner NM, Mumford JA, Hommer RE, Skup M, Liebenluft E, Poldrack RA, 2008. Stopping and changing motor responses engages partially overlapping networks. Poster presentation, Annual meeting of the Society for Neuroscience, Washington, DC, 2008.

Kenner NM, Oliva A. Rapid goal-directed exploration of a scene: The choice between a direct and a pragmatic scan path. Poster presentation, Vision Sciences Society, Sarasota, FL, 2005.

Kenner, NM, Wolfe, JM. How exact is exact? In visual search a re-sized, re-oriented, or mirrored cue is just as effective as an exact cue. Poster presentation, Vision Sciences Society, Sarasota, FL, 2004.

Kenner, NM, Wolfe, JM. An exact picture of your target guides visual search better than any other representation. Poster presentation, Vision Sciences Society, Sarasota, FL, 2003.

Additional Education & Training

Human Factors for Medical Devices training program, AAMI University, 2017

Peer Reviews

AAMI Biomedical instrumentation & technology