

NAME ;		POSITION TITLE		
Andrew B. Newberg		Professor of Emergency Medicine and Radiology		
INSTITUTION AND LOCATION		DEGREE	YEAR(s)	FIELD OF STUDY
University of Pennsylvania		MD	1988-1993	Medicine
Graduate Hospital, Philadelphia, PA 19104		Intern	1993-1994	Internal Medicine
Graduate Hospital, Philadelphia, PA 19104		Resident	1994-1996	Internal Medicine
Graduate Hospital, Philadelphia, PA 19104		Chief	1996-1997	Internal Medicine
Hospital of the University of Pennsylvania		Fellow	1997-1998	Nuclear Medicine

A. Personal Statement

The goal of the proposed research is to evaluate the feasibility and efficacy of NET in cancer patients with distressing recollections. This is an important topic of public health interest due to the large number of patients with stress and the widespread use of complementary and alternative medicine (CAM) practices for these symptoms. My primary research focus has been involved with the study of various complementary and alternative medicine practices including meditation, acupuncture, and natural products. I have also been involved in Phase I studies of a variety of compounds for diagnostic and therapeutic interventions. In addition, much of my work has also helped to establish the mechanisms by which different CAM treatments might exert their effects. My background in the study of CAM treatments, their potential mechanisms of action, and the evaluation of their safety, provides substantial expertise in order to perform this study.

B. Positions and Honors

7/94-6/97	Assistant Instructor, Department of Internal Medicine, University of Pennsylvania Medical Center, Philadelphia, PA 19104
7/98-11/99	Staff Physician, Nuclear Medicine Service, Veterans Affairs Medical Center, Philadelphia, PA 19104
7/98-11/99	Clinical Assistant Professor of Radiology, University of Pennsylvania Medical Center, Philadelphia, PA 19104
12/99-6/06	Assistant Professor of Radiology, University of Pennsylvania Medical Center, Philadelphia, PA 19104
12/99-10/10	Nuclear Medicine Attending, Division of Nuclear Medicine, University of Pennsylvania Medical Center, Philadelphia, PA 19104
6/03-10/10	Assistant Professor of Psychiatry, University of Pennsylvania Medical Center, Philadelphia, PA 19104
6/06-10/10	Associate Professor of Radiology, University of Pennsylvania Medical Center, Philadelphia, PA 19104
10/10-present	Professor of Emergency Medicine and Radiology, Thomas Jefferson University and Hospital, Philadelphia, PA 19104
10/10-present	Director of Research, Myrna Brind Center of Integrative Medicine, Thomas Jefferson University and Hospital, Philadelphia, PA 19104

C. Selected Peer-reviewed Publications (Selected from over 100 peer-reviewed publications)

Most relevant to the current application

1. Anastasi MW, Newberg AB. A preliminary study of the acute effects of religious ritual on anxiety. *Journal of Alternative and Complementary Medicine* 14(2):163-5, 2008.
2. Khalsa DS, Amen D, Hanks C, Money N, Newberg A. Cerebral blood flow changes during chanting meditation. *Nuclear Medicine Communications* 30(12):956-61, 2009.
3. Newberg AB, Wintering N, Khalsa DS, Roggenkamp H, Waldman MR. Meditation Effects on Cognitive Function and Cerebral Blood Flow In Subjects with Memory Loss: A Preliminary Study. *Journal of Alzheimer's Disease* 20(2):517-26, 2010.
4. Moss AS, Monti DA, Newberg AB. Complementary and alternative medicine therapies in mood disorders. *Expert Reviews in Neurotherapeutics* 11(7):1049-1056, 2011.
5. Moss AS, Wintering N, Roggenkamp H, Khalsa DS, Waldman MR, Monti DA, Newberg AB. Effects of an eight week meditation program on mood and anxiety in patients with memory loss. *Journal of Complementary and Alternative Medicine* [in press].

Additional recent publications of importance to the field (in chronological order)

1. Newberg AB, Alavi A, Baime M, Pourdehnad M, Santanna J, d'Aquili EG. The measurement of regional cerebral blood flow during the complex cognitive task of meditation: A preliminary SPECT study. *Psychiatry Research: Neuroimaging* 106: 113-122, 2001.
2. Newberg A, Pourdehnad M, Alavi A, d'Aquili E. Cerebral blood flow during meditative prayer: Preliminary findings and methodological issues. *Perceptual and Motor Skills* 97: 625-630, 2003.
3. Newberg AB, Amsterdam JD, Wintering N, Ploessl K, Swanson RL, Shults J, Alavi A. 123I-ADAM binding to serotonin transporters in patients with major depression and healthy controls: A preliminary study. *Journal of Nuclear Medicine* 46(6):973-977, 2005.
4. Peres JF, Newberg AB, Mercante JP, Simao M, Albuquerque VE, Peres MJ, Nasello AG. Cerebral blood flow changes during retrieval of traumatic memories before and after psychotherapy: a SPECT study. *Psychological Medicine* 1-11, 2007.
5. Newberg A, Amsterdam J, Shults J. Dopamine transporter density may be associated with the depressed affect in healthy subjects. *Nuclear Medicine Communications* 28(1):3-6, 2007.
6. Amsterdam JD, Newberg AB. A preliminary study of dopamine transporter binding in bipolar and unipolar depressed patients and healthy controls. *Neuropsychobiology* 55(3-4):167-170, 2007.
7. Crits-Christoph P, Newberg A, Wintering N, Ploessl K, Gibbons MB, Ring-Kurtz S, Gallop R, Present J. Dopamine transporter levels in cocaine dependent subjects. *Drug and Alcohol Dependence* 98(1-2):70-6, 2008.
8. Newberg AB, Wintering N, Waldman MR, Amen D, Khalsa DS, Alavi A. Cerebral blood flow differences between long-term meditators and non-meditators. *Consciousness and Cognition* 19(4):899-905, 2010
9. Newberg AB, Ray R, Scheuermann J, Wintering N, Saffer J, Schmitz A, Freifelder R, Karp J, Lerman C, Divgi C. Dosimetry of 11C-carfentanil, a mu-opioid receptor imaging agent. *Nuclear Medicine Communications* 14(8):903-10, 2009.
10. Wang DJJ, Rao H, Korczykowski M, Wintering N, Pluta J, Khalsa DS, Newberg AB. Cerebral blood flow changes associated with different meditation practices and perceived depth of meditation. *Psychiatry Research: Neuroimaging* 191(1):60-67, 2011.

D. Research Support

Ongoing Research Support

R01-AG028688-01A2
NIH

Newberg, Andrew (PI)

2008-2012

Evaluation of a Novel Amyloid Plaque SPECT tracer for Diagnosing AD

To evaluate the novel radiopharmaceutical, ¹²³I IMPY, that binds to the amyloid plaque in patients with Alzheimer's Disease.

Role: PI

Fetzer Institute
Fetzer Institute

Newberg, Andrew (PI)

2011-2013

Neurophysiologic Changes of Participants in a Meditation Retreat Experience

To create an entirely new understanding of the individual's spiritual life and how meditation can be incorporated into their everyday life.

Role: PI

The Marcus Foundation Grant

Monti, Daniel (PI)

2010-2013

Phase II Pilot Study in Pancreatic Cancer and a Phase II Pilot Study in Metastatic Renal Cell Carcinoma

Role: Co-investigator

Completed Research Support

5-RO1 CA111832-02 (NIH/NCI)

Monti, Daniel (PI)

2005-2011

"MBAT: A novel psychosocial cancer intervention"

Role: Co-investigator

R01-AT004921-01A1 (NIH)

Cohen, Debbie (PI)

2009-2014

Lifestyle Modification and Blood Pressure Study (LIMBS)

To determine the effects of yoga on blood pressure by measuring 24 hour ambulatory BP, changes in cerebral blood flow using function MRI and psychometric testing.

Role: Co-investigator

5 R34 MH070753-03
NIH/NIMH

Amsterdam, Jay (PI)

2005 – 2009

SPECT Brain Imaging as a Bio-Marker of Major Depression

We propose to conduct a preliminary study to examine whether increased striatal DAT levels in MDE represent a putative state-dependent bio-marker of depression.

Role: Co-investigator

5 R34 MH077580-03
NIH/NIMH

Amsterdam, Jay (PI)

2007 – 2010

Effect of Psychotherapy on Brain Serotonin Activity

This grant seeks to determine if reduced midbrain and cortical serotonin activity represents a state-dependent bio-marker of major depressive episode that is reversed after successful cognitive behavioral therapy.

Role: Co-investigator