

**Group Drumming Boosts Cancer-Killer Cells in Study**

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*Researchers Take Promising First Step Down Road to Potential New Therapies*

CARLSBAD, Calif.—A groundbreaking study due to be published in the January 2001 issue of *Alternative Therapies* links a specific type of group drum playing, known as Composite drumming, with an increase in Natural Killer (NK) cell activity, one of the mechanisms through which the body combats cancer and viral illnesses. These findings reinforce the theory of a mind-body connection that influences the immune system, and may point the way to reversing the “Classic Stress Response” which depresses immune system function.

Led by Barry Bittman, MD, the research team tested a variety of different group drumming protocols and non-drumming control groups made up of healthy adults at the Meadville, PA-based Mind-Body Wellness Center. In their findings, titled *Composite Effects of Group Drumming Music Therapy on Modulation of Neuroendocrine-Immune Parameters in Normal Subjects*, they found that one group drumming method in particular correlated with increases in NK cell activity, Lymphokine-Activated Killer (LAK) cell activity and chemical changes that together signal a strengthening of the body’s natural immune response and a direct connection between the external senses and the natural immune system.

“These results appear to point the way to a very exciting avenue of future research,” Bittman says. “This is the first major controlled scientific investigation of the effect of this specific music-making protocol on activities of specific immune system cells that seek out and destroy cancer cells and virally-infected cells.”

“The beauty of drumming as opposed to other activities is that you can take it anywhere, teach it in only a few minutes and offer it to groups of ill and well people alike,” Bittman adds.

“Composite drumming enables people to enjoy myriad psychological and physical benefits. While

immersed in this form of music making, their tension is rapidly transformed into a joyful, moving and enlivening experience. I believe group drumming should become an integral component of whole person care.”

In modern cancer research, an important goal is to identify therapies that stimulate “cell-mediated” immune responses. This group drumming study appeared to stimulate just such a response: in the group drumming protocol tested by the Bittman team, test subjects showed significant increases in NK cell activity and LAK cell activity, compared to unchanged levels or even actual declines in control subjects. This represents a reversal of the so-called Classic Stress Response, in which stressful activities depress immune function, and suggests that drumming might be a beneficial “stress-buster,” analogous to laughter.

The study also found that the participating drummers improved their ratios of dehydroepiandrosterone (DHEA) to cortisol, a condition beneficial to immune system function, and found similar increases in NK cell activity stimulated by interleukin-2 and interferon-gamma, two examples of substances called “cytokines” that help drive the immune system.

In their research, the study team examined four types of one-hour group drumming sessions: Basic, in which an instructor spent half the time discussing drumming and half the time leading the group in the actual activity; Impact, in which the same drumming technique was used but actual drumming was increased to 80 percent of the time; Shamanic, in which a Mayan shaman led the group and punctuated the drumming with a presentation of spiritual and cultural elements; and Composite.

It was the Composite method that showed the strongest results in preliminary testing and formed the basis for the final experiment. Subjects began their session by passing hand to hand hollow, bead-filled “shaker eggs” around a circle, faster and faster until inevitably they would drop

to the floor. The levity that this produced was followed with an activity in which participants played their drums in rhythm with the syllables of their own names. After periods in which all participants drummed together varying tempo and rhythm, they spent a half-hour drumming along with 2 “guided imagery” themes.

As a check, participants in all the experimental and control groups were asked to attend the sessions at the same time of day and on the same day of the week, and were asked to refrain from alcohol, drug use, sex and other behaviors that might influence their body chemistry. People who played the drums in their everyday lives were excluded, and two psychological tests, the Beck Anxiety Scale and the Beck Depression Scale II, were administered before and after the sessions to eliminate the subjects’ state of mind as a potential wildcard. Control groups listened to drumming music rather than playing, which further helped isolate active drumming as the proposed factor in the team’s findings.

Bittman cautions against oversimplification or exaggeration of the study results. “If someone asked me right now, ‘Is this treatment valuable for cancer patients?’ I would say we have only the first step to say there’s promise, and we need more research,” he says. “Future investigations will study the effects of group drumming on subjects who already have cancer and other diseases. We also need to determine how long the beneficial changes last and the frequency of sessions required to maintain the benefits. Ultimately we will explore the applicability of the therapy outside a controlled clinical environment,” Bittman explains.

Bittman is the CEO of Meadville Medical Center’s Mind-Body Wellness Center, located in Meadville, PA, an outpatient healthcare facility dedicated to exploring and applying integrative programs that supplement traditional medical care by harnessing people’s inner healing resources and enlisting them as active members of their own health care teams. Bittman also serves as the

CEO of ECaP (Exceptional Cancer Patients), hosts a National Public Radio program, *Mind-Body Matters*, and is the author of the book, *Reprogramming Pain* and co-author with Anthony DeFail of *Maze of Life*.

AMC, founded in 1947 and based in Carlsbad, California, is dedicated to promoting music, music making and music education to the general public, and supports a variety of programs highlighting music's benefits for Americans of all ages.

The study was funded by [Remo, Inc.](#), a worldwide leader in drum manufacturing founded in 1957 and based in Valencia, CA. Based in part on Bittman's findings, Remo has founded *HealthRhythms*<sup>™</sup>, a new division devoted to drumming as a means of promoting health and well-being.

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**Note to Editors:** To arrange an interview with Barry Bittman or AMC Executive Director Joe Lamond, please contact Connie Tejeda at Giles Communications at (914) 422-3800 ext. 124.

<http://www.amc-music.com/drumstudy/Bittman%20lead%20release.doc>