

# Bridge and the Immune System



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## Key to Stronger Immunity May Lie in the Cards

I have a cold. My daughter has a cold. Her piano teacher, whose name, rather aptly, is Melody, suggests we try zinc, but I am thinking we should maybe play cards.

Playing cards boosts the immune system. So a UC Berkeley biologist suspects, after a study that enlisted the help of 12 card playing seniors.

A round of applause for the Orinda, California women's bridge club. Its members agreed to get stuck with needles before and after the lively sets of bridge, and all for the greater good of science.

For years, the study's author, Marian Cleeves Diamond, had been trying to figure out how the mind can influence the body and boost immunity. There is evidence that it can.

By why study bridge, for heaven's sake? Why not prayer, say, or the effects of meditation while listening to soaring, inspirational melodies by Yanni?

Turns out that there is method in Diamond's madness. Prior studies of hers have suggested that the mind's ability to affect the immune system involves a part of the brain that is active when people sort cards.

And so, with the help of an old college roommate, who knew the Orinda gals and a grad student, who had been trained as a phlebotomist, Diamond analyzed samples of the bridge player's blood before and after a game.

Here is what she found and presented last week at a giant annual shindig for neuroscientists in New Orleans. A class of key immune cells, CD4 T-cells, were elevated in the blood taken after a lively set of bridge compared with the blood taken

before a set.

Given the way I play cards, I am glad to read that losers and winners experienced boosts in these immune system cells. But enough of cards. Let us talk about sex and the immune system.

Sex, we read in the journal Science, could be driving the very evolution of that immune system of ours. So say scientists at the University of Virginia, after comparing the sexual antics and blood composition of 41 types of primates. And you thought jabbing bridge players with needles was a fun research project.

Promiscuous monkeys have oodles of germ-fighting white cells in their blood, the scientists found, whereas less wanton monkeys have fewer. Species that pair for life have the fewest of all, together suggesting that sexually profligate behavior might have driven species to evolve more potent immunity to ward off sexually transmitted diseases.

Guess what? We humans, immune-system-wise, are similar to the more monogamous monkeys. Are family values behind this cold of mine?

Booster Shots  
By: Rosie Mestel



**Orange County Register**  
**Health and Science**  
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Forget exercise, Forget chicken soup. Forget sleep, vitamins and heredity.

Want to stay healthy? Play bridge. A new study by a University of California, Berkeley, researcher indicates that playing contract bridge leaves people with higher numbers of immune cells.

"People are aware that voluntary activities like positive thinking and prayer work to keep us healthy, but no one has had a mechanism," said Marian Cleeves Diamond, a professor of integrative biology at Berkeley.

Daimond's study presented in New Orleans this week at a meeting of the Society for Neuroscience, could be the first evidence that the human cortex, which is subject to voluntary control, can play a role in stimulating the immune system.

"These data, though preliminary, show that brain activity affects the immune system, and support the possibility of us learning to voluntarily control the level of white blood cells to help combat disease and other illnesses," she said.

Diamond's study is founded on some 15 years of research into rat and mouse brains in which researchers have sought to identify a specific area of the cortex that might play a role in the body's immune response.

For the human element of the research, she selected players in women's Bridge Club in Orinda.

Bridge was selected as the game because it was seen as likely to stimulate an area of the brain, the dorsolateral cortex, that might influence the immune system.

"Contract bridge was ideal for what we were after," she said.

"Bridge players plan ahead, they use working memory, they deal with sequencing, initiation and numerous other higher order functions with which the dorsolateral cortex is involved."

Diamond and her team divided the 12 women, all in their 70s and 80s, into three groups, and had each group play 90 minutes of bridge.

In blood samples taken both before and after the games, the subjects all revealed changes in the levels of CD-4 positive T-cells, the white blood cells that patrol the body in search of viruses and other invaders.

Diamond said that in two of the groups, the levels of these T-cells increased significantly. The third group showed only a slight increase, not enough to be statistically significant. The rise in the number of CD-4 cells was the only change visible in all of the blood tests.

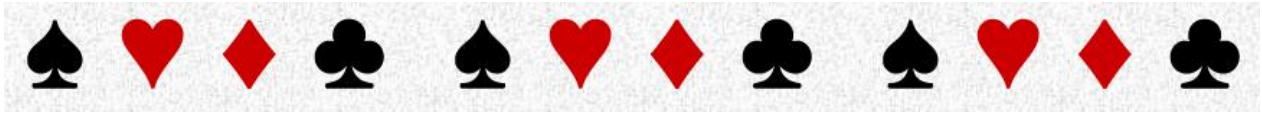
Diamond cautioned that her findings were preliminary, and said that more research needed to be done to nail down the relationship between the cerebral cortex and the human immune system. But she added that, as preliminary findings go, these were both encouraging and exciting.

"Since we know the function of this particular area of the brain, through voluntary control we may perhaps learn to change our immune system positively," she said in an interview. "That is what is causing the excitement."

Health: Researcher find it can stimulate mental activity and aid the immune system.

By Andrew Quinn - Reuters

San Francisco



## NEWTICKER - Germany

Neurophysiologie  
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### Bridge spielen ist gesund - Teile des Hirncortex aktivieren das Immunsystem

Bridge, ein populäres Kartenspiel, kann vor allem bei älteren Menschen das Immunsystem aktivieren, sagte die Biologin Marian Cleeves Diamond von der Universität von Kalifornien in Berkeley an der Konferenz der Gesellschaft für Neuroscience in New Orleans, Louisiana. Diamond vermutet, dass spezifische Areale des vorderen Gehirnlappens die Produktion von Immunzellen ankurbelt. Damit wäre erstmals gezeigt, dass Teile des Cortex das Immunsystem beeinflussen.

Diamond ließ zwölf ältere Frauen zwischen 70 und 90 Jahren eineinhalb-Stunden lang Bridge spielen. Vor und nach dem Spiel wurde allen Teilnehmern Blut entnommen, welches die Immunologen Peter Schow und Stan Grell untersuchten. Dabei stellten sie fest, dass die Damen nach dem Spiel deutlich mehr weiße Blutkörperchen des Typs der CD-4 positiven T-Zellen hatten als vorher. Auch fand Diamond, dass Bridge einen bestimmten Teil des Gehirns beansprucht, von dem sie schon aus früheren Versuchen an Ratten vermutete, dass er das Immunsystem anregt. Vor allem die Thymusdrüse, die T-Zellen produziert, werde dabei stimuliert.

Viele würden glauben, dass positives denken oder beten gesund sei, sagte Diamond. Doch konnte bis jetzt niemand einen Mechanismus dafür aufzeigen. Da sei ihre Studie zwar ein vielversprechender Anfang, doch noch weitere Untersuchungen würden benötigt, um eine Beziehung zwischen Gehirnrinde und Immunsystem zu belegen.

Judith Tackett



## Health Benefits Of Playing Bridge

A study by Berkeley University showed that there are significant health benefits from learning to play bridge.

Back in 2000, Professor Marian Diamond showed that playing bridge boosts the immune system. Bridge requires concentration and while you are playing your brain is kept active and stimulated. It seems that this boosts your immune system.

Professor Diamond wanted to find out if it was possible to use the dorsolateral cortex to boost your immune system. He enlisted the help of twelve ladies in their 70s and 80s. He took blood samples and then asked them to play bridge for an hour and a half. After that, their blood was tested again. A staggering two thirds of these ladies had increased levels of T cells in their bodies – the cells used to fight infection.

Many people find that as they get older their brain seems to slow down. Like muscles, your brain needs to be used to keep it functioning well. People are living longer and many people are concerned about helping their brains to stay active and alert so they can enjoy this longer life to the full.

Playing bridge regularly stimulates your brain and helps keep your memory active and your brain alert. It requires you to use maths, strategy and concentration. There is an old saying “use it or lose it” – playing bridge helps you to “use it”. While you are playing a game of bridge your brain is kept fully active, working out your hand, working out your best approach to bidding, following your partner’s bidding and working out how their hand fits with yours. Finally, when you are actually playing the hand, working out the best strategy for maximising the number of tricks won by you and your partner.

Many beginning bridge players concentrate on learning the bidding and forget that learning strategies for play can make a big difference to your overall score. This part of the game is one of the biggest mental challenges, requiring you to concentrate and stay focused long after the actual bidding has finished.

Are there any other health benefits to playing bridge? Of course there are. You will be meeting people and enjoying an active social life. Instead of sitting at home feeling miserable and lonely and with no-one to talk to, you will be engaging in conversations and getting out and about – which will help keep you physically active too.

Nearly a year after I first wrote about why playing bridge is good for your health, I noticed this article by Barbara Lynch Hill <http://www.journalscene.com/article/20130822/SJ11/130829835/1149/a-bridge-game-over-troubled-waters>

Barbara writes about meeting a lady called Doris who enjoyed playing bridge but had been housebound while she recovered from an illness. She discovered that she could play bridge online and quickly made friends with a group of bridge players. After a few years, they took to meeting up regularly. [Playing bridge online](#) had given Doris an interest to alleviate the boredom whilst she was ill and enhanced her social life when she recovered.