

Psychoneuroimmunology (PNI)

One of the more fascinating intersections of modern immunology and contemplative science. The field that studies this is called **psychoneuroimmunology (PNI)**, and the evidence for emotional and spiritual influences on Natural Killer (NK) cell activity is quite compelling.

How emotional states influence NK cells

Chronic stress is perhaps the most well-documented suppressor of NK cell activity. When the body sustains elevated cortisol and catecholamines (adrenaline, noradrenaline), NK cells are literally suppressed — their cytotoxic function diminishes, and their numbers in circulation can drop. This is clinically relevant in oncology, as NK cells are a primary line of defense against tumor surveillance and viral clearance.

Conversely, positive emotional states — joy, love, social connection, laughter — have been shown to upregulate NK cell activity. Landmark studies by Dr. Janice Kiecolt-Glaser and her husband Ronald Glaser demonstrated that loneliness, marital conflict, and psychological distress measurably impair immune function, including NK activity, while social support and positive affect have the opposite effect.

Depression and grief are also significant suppressors. Bereaved individuals show marked reductions in NK cell cytotoxicity, sometimes for extended periods.

Spiritual inputs and NK cell function

This is where it gets particularly interesting. Several research threads connect spiritual and contemplative practices to enhanced NK activity:

Meditation and mindfulness — Studies of experienced meditators have found higher baseline NK cell counts and activity than in controls. Jon Kabat-Zinn's mindfulness-based stress reduction (MBSR) research and follow-on studies demonstrated increases in NK cell activity following meditation training. The mechanism appears to involve reduced cortisol, lower sympathetic nervous system tone, and increased parasympathetic (vagal) activity.

Loving-kindness and compassion practices — These specific meditation forms, which cultivate states of benevolence and connection, appear to have particularly pronounced immunological effects, likely because they simultaneously reduce threat-based neural activation while increasing positive affect and social bonding circuits.

Purpose and meaning — Research on *eudaimonic* wellbeing (a sense of purpose, meaning, and contribution — which has a strongly spiritual dimension for many people) shows favorable effects on inflammatory markers and immune function. Viktor Frankl-type meaning-making appears to buffer immune suppression even in the context of significant physical illness.

Prayer and ritual — Some studies suggest that religious practice, community worship, and intercessory prayer correlate with better immune outcomes, though it is difficult to isolate spiritual practice from social support effects.

The biological pathways

The primary routes of influence are:

The **HPA axis** (hypothalamic-pituitary-adrenal) — emotional and spiritual states modulate cortisol output, which directly affects NK cell proliferation and function.

The **autonomic nervous system** — vagal tone, elevated through contemplative practices and positive emotional states, has downstream immune benefits including NK enhancement.

Neuropeptides and neurotransmitters — receptors for dopamine, serotonin, endorphins, and oxytocin are expressed on NK cells. This means NK cells literally "listen" to the emotional and neurochemical state of the body.

Practical implications

For anyone managing serious illness — particularly cancer — this is not peripheral or "soft" information. The bidirectional relationship between mind-state and NK function suggests that emotional healing, meaning-making, stress reduction, and spiritual practice are not merely complementary to treatment — they are physiologically active interventions. Some integrative oncology programs are now formally incorporating this into care protocols.

The ancient intuition that inner peace supports healing turns out to have a molecular substrate. Your NK cells are, in a very real sense, downstream of your inner life.

To learn more about RCM Health services and how we assist Clients with complex issues:

647-350-5500

info@rcmhealth.ca

Raymond Rupert
CEO RCM Health
www.rcmhealth.ca