Laura Hillenbrand spoke up about her debilitating illness in several public interviews, describing how her own suffering has given her greater connection to Louis Zamperini, the man whose inspiring story she recounts in her bestselling book, *Unbroken*.

The author of this acclaimed book about triumph over unimaginable adversity suffers from myaligic encephalomyelitis (ME), and as result, has spent much of her adult life too ill to leave her home or even sit up to read or write.

Millions in the world have become ill with what begins as a bad case of the flu and then becomes a disabling chronic illness. Instead of getting well over the normal course of a couple of weeks, individuals find themselves completely incapacitated by vertigo; nausea; painful headaches, joints, and nerves; gastrointestinal distress; swollen lymph glands; chronic infections; cognitive impairment; and difficulty moving or even remaining upright. This illness may continue for months, years, or a lifetime. Despite decades of searching for answers, most doctors are still unable to help patients regain their previous levels of health.

Researchers at Whittemore Peterson Institute are using deep sequencing to help identify unique immune deficits in subgroups of ME patients. Their recently published work found distinct inflammatory differences between Gulf War illness and ME. They have also found novel differences between patients and controls in a particular set of immune cells called pDCs. As they move forward, they will expand on these findings in an effort to understand why diseases, such as ME and GWI, become chronic.

Another area of promising research involves the energy producing organelles or mitochondria. Dr. Beatrice Golomb of UCSD reported that mitochondria are faulty in those with GWI. Some believe that a similar process is taking place in ME.

Like a faulty battery, mitochondria can become damaged or unable to recharge even when rested. Mitochondria are critical to immune function as well as to the production of energy for all cells of the body. Damaged mitochondria are thought to be involved in many different diseases from muscular dystrophy to Alzheimer's disease to HIV. Sadly, there are few treatments to address mitochondrial disorders. Like ME, most mitochondrial disorder treatments are supportive or symptomatic in nature. However, some physicians use well known therapies to address their patient's recurrent infections and poor immune function.

Various drugs once used to stem the onslaught of infections accompanying HIV, including antiretroviral and antiviral medications, antibiotics, antifungals, and immune supportive therapies, have proven to bring significant relief to those who suffer from the chronic infections and immune deficiencies associated with ME. However, none of these medications work in all cases of ME, suggesting that a positive response to treatment also depends upon the individual's unique genetic makeup.

Interestingly, immune altering drugs that have been used for years as cancer therapies are beginning to show promise in treatment trials for autoimmune diseases such as lupus and MS and for some with ME. Rituximab, a cancer drug used in cases of lymphoma, has been shown to cure individuals with severe ME, despite being ill for years. Ampligen, an immune altering drug, has proven over many years, to be an effective treatment for some of the most severely ill, but has yet to be approved by the FDA. Other new drugs, such as Edison's EPI-743, which is currently in clinical trials for use in inherited mitochondrial diseases, may prove to be effective in ME and GWI, due to its positive effect on cellular energy.

We are deeply grateful to Laura for her recent interviews with the press in which she describes ME as a very serious and disabling illness. Just as our scientific search for answers can lead to more effective therapies, awareness of Laura's struggles can bring positive change to the way the world understands and cares for those who suffer from ME.

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