

## **Chemotherapy treatments enter the new millennium; Patients can go about their daily activities while they are receiving treatment**

EVANSTON, IL - With the advent of technology brought to the U.S. from France, having to postpone, even stop, regular life activities to go to a chemo ward to receive chemo treatments, may be a thing of the past. Utilizing a portable, computerized pump that can fit in a fanny pack, patients are able to receive their chemotherapy at a time when it will be most effective and least toxic.

“Every drug has an optimal time when it is least toxic and most effective.” says cancer specialist Keith Block, MD, who brought this technology to the U.S, and is a member of the National Cancer Institute’s PDQ Cancer CAM Editorial Board. “For cancer treatment, this is determined by several factors, including the biological uniqueness of the particular drug being given, the time when the specific type of cancer cells divide the most, when the normal healthy cells of the patient generally divide the least, the patient’s circadian clock and individual rest-activity cycles, and even the time zone the person resides in.”

“Using a portable, computerized pump to deliver chemotherapy is revolutionary and has demonstrated in large randomized trials its potential to improve survival,” states Dr. Block, cofounder and Medical Director of the Block Center for Integrative Cancer Treatment, and Director of Integrative Medical Education at the University of Illinois, Chicago. “We have found that often patients receiving their chemotherapy this way reduce what would have been recurring side effects of nausea, vomiting, diarrhea, and fatigue. This is important because the debilitation caused by chemo can cause patients to reduce or even stop treatments that could otherwise help them win their battle with cancer.” In fact, current research shows that up to 1/3 of chemotherapy patients abandon treatments prematurely due to the side effects.

So why isn’t this technology, known as chronomodulated chemotherapy, or chronotherapy, used more widely?

One of the main problems has been logistics – figuring out how to deliver chemotherapy in exactly timed doses. “Portable infusion pumps may hold the answer,” explains Gerald Sokol, MD, an oncologist with the division of oncology in FDA's Center for Drug Evaluation and Research.

Chronotherapy is being widely researched around the world:

There are over 62,000 references in PubMed (the National Institute of Health’s archive of biomedical and life sciences journal articles) about chronobiology (how biology is affected by timing) and over 500 scientific articles specifically about chronotherapy. The National Cancer Institute's Office of Cancer Complementary and Alternative Medicine (OCCAM) devoted an entire web cast for doctors on chronotherapy.

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The Block Center for Integrative Cancer Treatment, located in Evanston, Illinois, was founded in 1980 by Penny and Keith Block, MD. The Center's research-based treatment integrates an innovative approach to the best of conventional medicine with scientifically sound complementary therapies – therapeutic nutrition, botanical and phytonutrient supplementation, prescriptive exercise, and systematic mind-body strategies – to enhance the recovery process.

Dr. Block is Director of Integrative Medical Education at the College of Medicine at the University of Illinois, Chicago, and a member of the National Cancer Institute’s PDQ Cancer Complementary and Alternative Medicine (CAM) Editorial Board in Bethesda, MD,. The Block Center regularly participates in industry-sponsored clinical trials of new drugs, large-scale drug

monitoring studies, and research on medical communication and patient perception. The Center's research staff has participated in laboratory and clinical research projects with investigators from a number of universities and clinical centers, including the University of Illinois at Chicago, Bar-Ilan University in Israel, M.D. Anderson Cancer Center, and the Karolinska Institute in Stockholm. The Block Center is currently the only private North American medical center using chronomodulated chemotherapy.