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On Cancer

# Deep Understanding of Immunotherapy Helps Patients Cope with Side Effects

By Julie Grisham, Thursday, April 16, 2020



Medical oncologist Michael Postow specializes in treating people with immunotherapy drugs called checkpoint inhibitors.

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## Summary

Because immunotherapy works in a different way than more traditional cancer treatments, it can lead to new kinds of side effects. MSK has experts who know how to treat them.

**Immunotherapy** has changed the outlook for many people with cancer. It offers long-term control or even a cure for tumor types that don't respond well to other treatments. But because immunotherapy works in a different way than more traditional cancer treatments, such as **chemotherapy** and **radiation**, it can lead to new kinds of side effects.

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Checkpoint inhibitors work by releasing a natural brake on your immune system so that it recognizes and attacks tumors.

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Memorial Sloan Kettering is a leader in developing immunotherapy approaches, including drugs called **checkpoint inhibitors**. These drugs work by taking the brakes off immune cells and allowing them to go after cancer. But sometimes the immune system becomes *too* active and attacks healthy tissue. This reaction, called an immune-related adverse event, occurs in about one-third of people taking these drugs. As pioneers in immunotherapy, MSK care providers have rich experience in managing and easing these side effects. This enables most people to complete their cancer treatment and increases the chances that it will ultimately be successful.

The most common immune-related adverse events caused by checkpoint inhibitors are skin problems, such as rashes, and inflammation of the gastrointestinal tract, which causes problems like diarrhea. Less frequent but potentially serious side effects include inflammation in the heart, liver, kidneys, lungs, and endocrine glands. Overactive immune cells can also affect the joints. This can lead to a painful condition similar to rheumatoid arthritis.

## A Leader in Clinical Trials

Some of the earliest clinical trials of checkpoint inhibitor drugs were headed by MSK physician-scientist [Jedd Wolchok](#). From the beginning, Dr. Wolchok and his colleagues — including Alyona Weinstein, a nurse practitioner who works in Dr. Wolchok’s clinic — began seeing immune-system reactions in their patients that looked like autoimmune disorders.

“We’ve known for a long time how to manage the most common side effects from chemotherapy,” such as nausea and reduced blood counts, Ms. Weinstein says. But the side effects from checkpoint inhibitor drugs can be more wide-ranging and unpredictable. “The inflammation caused by an overactive immune system can happen in any part of the body,” she notes. “At MSK, we are careful to screen patients for these side effects early in their treatment so that we can manage them before they become serious.”

**“Our doctors see these problems a lot,  
and they’ve developed deep expertise**

within their areas of specialization.”



**Michael A. Postow**

medical oncologist

## A Growing Community of Specialists

As more people have received checkpoint inhibitors, a cadre of experts in immune-related side effects has naturally grown within MSK’s **Division of Subspecialty Medicine**. Specialists include dermatologists, gastroenterologists, cardiologists, endocrinologists, and more. They focus on health problems other than cancer. But because they work at MSK, they exclusively treat these disorders in people with cancer.

“When patients see the list of potential side effects, they often get very worried,” Ms. Weinstein says. “But in many cases, the appearance of these side effects is an early indication that the drugs are working.” She adds that while some people have no side effects, others may experience more than one serious complication.

“The management of side effects requires supportive services from many areas beyond medical oncology, and MSK has these specialists,” says **Michael Postow**, a medical oncologist who specializes in immunotherapy. “Our doctors see these problems a lot, and they’ve developed deep expertise within their areas of specialization.”

## Focusing on Health and Quality of Life during and after Treatment

MSK dermatologist **Mario Lacouture** treats people with skin-related side effects from immunotherapy and other cancer treatments. He recently received a five-year grant from the National Institutes of Health to study the immune-system-related side effects of immunotherapy. The project is a collaboration with National Jewish Health in Denver, a leading center for immunological disorders.

“The big dilemma is that you want to suppress the side effects of immunotherapy enough that patients feel well but not enough that the cancer therapy is no longer active or that patients have additional side effects from immunosuppressive drugs,” Dr. Lacouture explains. “We plan to use the skin as a model to identify what causes these autoimmune reactions so we can develop better ways to treat side effects without reducing the effectiveness of the cancer treatment.”

**“We are focused on making sure our patients have a good quality of life in addition to successful treatment for their cancer.”**

**Alyona Weinstein**  
nurse practitioner

Other MSK specialists who play a role in treating autoimmune side effects include gastroenterologist [David Faleck](#), cardiologist [Dipti Gupta](#), and endocrinologist [Monica Girotra](#). MSK's team also closely collaborates with specialists at other area hospitals. This includes rheumatologists at the Hospital for Special Surgery, who are studying arthritis caused by checkpoint inhibitors and treat many of MSK's patients.

[Physical and occupational therapists](#), as well as specialists in [integrative medicine](#), can help patients cope with pain and mobility problems. Because the gastrointestinal side effects from checkpoint inhibitor drugs can be difficult to treat with medication alone, MSK also has [nutritionists](#) who can advise people about the best diets for reducing symptoms related to these complications.

“Our hope is that our patients live a long time, and we know that, unfortunately, autoimmune side effects can continue even after they finish their treatment,” Ms. Weinstein concludes. “We are focused on making sure our patients have a good quality of life in addition to successful treatment for their cancer.”

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