

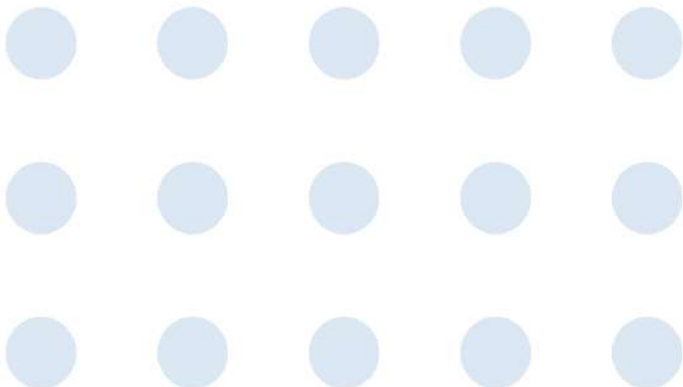


**DNP**  
Capstone Project



**SAMPLE**

# Management of Autoimmune Side Effects with Steroid Therapy



It is a well-known fact that autoimmune side effects may be a consequence of extended hospital stays. In Baylor Hospital alone, of the over 4,523 patients admitted in one quarter, about 34% of them experienced at least once serious autoimmune complication due to either their procedure, medication, or unknown cause previously not disclosed on the patient medical record (Trombetta, 2017). Such instances can lead to complications in continued treatment, especially for patients requiring long-term consistent medication. In these circumstances, physicians and others on the medical team must weigh the benefits and consequences of letting the autoimmune reaction run its course versus terminating or halting potentially lifesaving treatment. The mitigation of these types of symptoms are still currently unclear, but it will take a combination of preventative and preparatory steps in order to improve patient outcomes given manifestations of autoimmune symptoms.

The range of severity of autoimmune symptoms can range from mild to severe, rated on a subjective scale based on a questionnaire judging pain and mobility as assessed by the physician. The mildest of symptoms can simply be a rash or mild swelling, while more serious complications can include organ destruction. Interestingly, although many patients on the same treatment may experience autoimmune symptoms, often times the symptoms range in severity and duration. Clinicians have learned to treat even the mildest of symptoms as an indication of a potential adverse reaction, and it has already been mandated by the Association of Physicians in 2005 that all autoimmune signs must be clearly noted on patient records for clinical trials and hospital stays (Frankin, 2016). The data from these trials and information on the circumstances leading up to the allergic reaction could prove very valuable for assessing various possibilities of how these symptoms arise and how to best prepare to treat them.

Treatment of autoimmune disease is tricky, given that the source of the auto-reactivity must be identified in order to truly control symptoms. This is especially true of the more severe autoimmune manifestations, such as organ destruction and sepsis. Although the most common autoinflammatory agent given in hospitals is a steroid to dampen the immune response, long-term immunodepressant treatments are unfeasible and render the patient unable to leave the hospital. As such, most clinicians will also halt whatever treatment the patient was previously on in order to wait for the inflammation to subside.

However, in many diseases, this hold on treatment can prove detrimental, or even fatal. For bacterial diseases treated with last-line antibiotics, rashes are a common side effect, but in case of allergies, the recommended action is to start the patient on steroids while discontinuing use of the antibiotic. However, the combined immunosuppression and lack of selective agent can allow the bacterial infection to continue uninhibited, while at the same time developing antibiotic resistance. This is an extremely risky circumstance for hospitals, where many patients are immunosuppressed and opportunistic infections can easily take hold and start small epidemics (Rosalind, 2010). In this case, the use of steroids at the risk of deadly infections should be carefully evaluated by the caregiver.

Steroids themselves are a potent immunosuppressive agent, capable of dampening the immune response to self as well as to bacteria. In recent days, specialized steroids have emerged, some of which target certain cell populations more specifically than others. With these in the treatment arsenal, it becomes even more imperative to perform comprehensive pathological and histological evaluations of patients to determine the severity of their autoimmunity as well as the cell populations implicated in such a reaction. Only then can the drugs used to combat autoimmunity be carefully selected as to minimize additional side effects, as well as possibly being synergistic with ongoing treatment in order to allow patients to receive the care that they need while minimizing discomfort. Many of these new-line steroid therapies have already prove effective in managing post-operational autoimmunity while not interfering with other medications that the patient is on. In this way, physicians will be able to maximize benefit from these new line drugs while minimizing the risk to the patient's treatment schema.

While discontinuing steroid use is unimaginable in a hospital setting, the use of steroids for relieving everything from mild autoimmune diseases to patient discomfort is probably unnecessary and even detrimental. Mild discomfort and pain can be better managed through pain medications, including NSAIDS which have a natural mild anti-inflammatory effect.

Additionally, the constant use of steroids, although bringing temporary relief, is unsustainable in the long run. New-line steroids designed to target specific components of the immune reaction may be better agents for managing autoimmunity and thus allow for better management of patient wellness in a hospital setting.

## Works Cited:

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