

*Module 6, Lesson 3 Handout:*

**Common Drugs for Autoimmune Diseases**

Even if you don't prescribe medications, it's important for health practitioners to be aware of common medications their clients might be taking. That way you'll be prepared to help your clients navigate some of the unpleasant side effects of their meds (think appetite suppression, nausea or weight gain) and come up with a lifestyle plan that takes their whole picture of health - including meds - into consideration. With autoimmune diseases, the most commonly prescribed meds will be nonsteroidal anti-inflammatory drugs (NSAIDs) or corticosteroids, but there are other types of drugs out there too. Let's go over the need-to-knows about these drugs and what this means for you.

**Nonsteroidal Anti-Inflammatory Drugs (NSAIDs)**

Many of the inflammatory symptoms that come with autoimmune diseases are going to be managed with over the counter NSAIDs. This is a class of drug that works by blocking the action of the enzymes cyclooxygenase-1 (COX-1) and COX-2. Blocking these enzymes prevents the body from making prostaglandins, which reduces swelling and pain. This class of drugs includes several well known over the counter brand names, including:

<b>Generic Name</b>	<b>Brand Name</b>
Aspirin	Aspirin
Ibuprofen	Advil®, Motrin®
Naproxen	Aleve®, Naprosyn®
Nabumetone	Relafen®

Most people tolerate NSAIDs well, but they can cause nausea, vomiting, constipation and diarrhea in some people, and long term use can also lead to GI distress with things like bleeding and ulcers. There's typically no need to adjust a plan for someone who takes an NSAID, and there are no short term side effects of these types of painkillers. They can be an effective temporary tool for relieving pain and reducing swelling. Remind clients to check with the prescribing doctor regularly to make sure there are no hidden bleeding or ulcers if they are taking NSAIDs regularly over a prolonged period of time.

## **Corticosteroids**

Corticosteroids are commonly prescribed in autoimmune diseases. You may also see the term glucocorticoids which is a specific class of corticosteroids. These are drugs that mimic the effects of natural cortisol made in the adrenal glands and work by decreasing inflammation and reducing the activity of the immune system. Basically, these drugs bind to specific receptors and inhibit cellular signaling pathways, regulating the expression of inflammatory cytokines and chemokines.

Corticosteroids include cortisone, dexamethasone, prednisolone, betamethasone, hydrocortisone, methylprednisolone and most commonly prednisone. These drugs are immunosuppressant, meaning they lower resistance to other infections, so people should not be on corticosteroids for long periods of time. Corticosteroids can also cause nausea, vomiting, blood sugar control issues, gastrointestinal ulcers and bleeding and bone damage. Some clients may also retain water and complain of bloating, though that is more anecdotal. The adverse effects of prolonged usage are a major concern for long-term use, so most clients will get short term low doses.

## **Disease-Modifying Anti-Rheumatic Drugs (DMARDs)**

Disease-modifying anti-rheumatic drugs (DMARDs) are a class of drugs with different chemical structures developed to reduce inflammation in autoimmune diseases. A few notable DMARDs include:

- Methotrexate, which is an antagonist of folic acid. This drug inhibits the activity of folate-dependent enzymes and prevents production of purine and pyrimidine, which are needed to make DNA and RNA. This suppresses the production of pro-inflammatory cytokines, reducing inflammation.
- Leflunomide, which blocks the enzyme dihydroorotate dehydrogenase, inhibiting production of specific nucleotides that ultimately suppresses the production of pro-inflammatory cytokines.
- Other DMARDs include gold compounds, sulfasalazine, azathioprine, cyclophosphamide, antimalarials, d-penicillamine and cyclosporine.

## **Anti-TNF Biologics**

Tumor necrosis factor (TNF) is a pro-inflammatory cytokine that plays a big role in autoimmune inflammatory diseases. Anti-TNF biologics are drugs designed to block the function of TNF. This class of drugs includes infliximab, etanercept, adalimumab, golimumab, and certolizumab pegol.

Unfortunately, not everyone responds to this treatment, and about 40% of people with autoimmune disease have no response to anti-TNF treatment. There are also several possible side effects including susceptibility to infections such as tuberculosis and pneumonia, increased risk of cancer and congestive cardiac failure.

### **Other Biological Drugs for Autoimmune Inflammatory Diseases**

Without getting into a lot of details, other types of drugs that may be used with autoimmune diseases include Abatacept (Orencia), Tocilizumab (Actemra), Anakinra (Kineret), Ustekinumab, Rituximab and Secukinumab. Many are considered complementary and alternative biological treatment.

### **Putting it into Practice**

Unless you're a doctor, you won't be prescribing these medications so you're not expected to have this all down pat. The most important thing is to be aware that medications will often have side effects and carry the potential for nutrient-drug interactions, so you need to know what your clients are on. What they can handle physically may also be affected and taken into consideration. Ask about medications during intake (this is a section on the Level 1 intake form) and remind your client to fill you in if they start anything new.

Once you know what meds the client takes, do some more research on what the side effects are and work with the client to tailor their plan if needed. Because so many of these drugs are immunosuppressive, always double down on the importance of handwashing, staying away from sick people, cooking foods to proper temperatures, and other general tips to avoid illness.