

# Lupus *Treatment Options*

Today, doctors have more choices to help patients manage lupus effectively because the range and effectiveness of treatments have increased in recent decades. Current treatments and medications include:

## **Nonsteroidal anti-inflammatory drugs (NSAIDs)**

Nonsteroidal anti-inflammatory drugs (NSAIDs), which decrease inflammation, are often used to treat people with joint or chest pain, fever and swelling. Some NSAIDs, like ibuprofen and naproxen, are available over the counter, while others require a doctor's prescription. They may be used alone or in combination with other types of drugs under a doctor's direction.

## **Antimalarials**

While antimalarial drugs prevent and treat malaria, they're also useful for lupus. A common antimalarial for lupus, hydroxychloroquine, may be used alone or in combination with other drugs to treat fatigue, joint pain, skin rashes and lung inflammation. Clinical studies have found that regular use of antimalarials may prevent flares from recurring.

## **Corticosteroids**

Corticosteroids are a family of drugs related to cortisol, a natural anti-inflammatory hormone. Rapidly suppressing inflammation, corticosteroids are potent drugs with side effects, so doctors will seek the lowest dose to achieve the desired benefit or use them in combination with less potent drugs.

## **Immunosuppressives**

Immunosuppressive therapy restrains the overactive immune system by blocking the production of immune cells. The risk for side effects increases with the length of treatment.

## **B-lymphocyte stimulator (BLyS-specific inhibitors)**

In 2011, the U.S. Food and Drug Administration (FDA) approved belimumab (Benlysta®), a Blymphocyte stimulator (BLyS) protein inhibitor, for patients with lupus receiving other standard therapies. Given by IV infusion, belimumab may reduce the number of abnormal B cells thought to be a problem in lupus.

In July 2017, belimumab was approved by the FDA as a self-injectable (subcutaneous) formulation for people with systemic lupus erythematosus (SLE) being treated with standard therapy. The new formulation allows patients to administer the drug to themselves as a onceweekly injection.

In April 2019, the FDA approved intravenous Benlysta (belimumab) to treat children with lupus who are five years old or above.

In December of 2020, the FDA approved belimumab as the first-ever treatment specifically indicated for lupus nephritis (LN) in adults. One of the most common and serious complications of systemic lupus erythematosus, lupus nephritis is inflammation in the kidneys. Too often, this damage necessitates regular dialysis or a transplanted organ to do the work of the kidneys in filtering wastes from the body.



## Voclosporin

On January 22, 2021, the U.S. Food and Drug Administration (FDA) approved voclosporin (LUPKYNIS™). Voclosporin is the first and only FDA-approved oral medication specifically indicated for the treatment of lupus nephritis. It has been proven in clinical trials to help control lupus nephritis and protect the kidneys from further damage without high-dose steroids.

## Type I interferon receptor antibody

In August 2021, the U.S. Food and Drug Administration (FDA) approved anifrolumab-fnia (Saphnelo™), a first-in-class type I interferon receptor antagonist indicated for adults with moderate to severe systemic lupus erythematosus (SLE). The approval represents the first new treatment for generalized SLE in more than a decade and is the result of significant seminal research funded originally by the Lupus Research Alliance.

Given by intravenous infusion, anifrolumab-fnia works by blocking immune system molecules called type I interferons that are one of the main factors that leads to tissue damage and disease symptoms. Type I interferons are a family of 17 similar molecules that help protect us from infections. Research has shown that the vast majority – 60-80 percent of adults – have high levels of type I interferons.

The Lupus Research Alliance has invested \$16 million in 40 studies on type I interferons, including pioneering work identifying a unique combination of genes that had been switched on by type I interferons in lupus patients; these results galvanized research into the molecules' role in the disease. AstraZeneca plc led its further development.

## Related medications

In addition to treatments for lupus itself, patients may also take additional medications to treat lupus-related problems such as high cholesterol, high blood pressure or infection.