



What is NSF/NFD

Nephrogenic systemic fibrosis, or NSF, is a relatively new disease (discovered in late 1996) that experts have linked to gadolinium-based contrast agents—chemical dyes used prior to magnetic resonance imaging (MRI) to enhance results. The Food and Drug Administration first warned medical professionals and the public about this link in June 2006. In May 2007, the FDA asked that labeling of gadolinium-based MRI dyes include the risk of NSF in patients with kidney disease or insufficiencies.

The disease was first thought to be primarily dermatologic (affecting only the skin), and was thus called nephrogenic fibrosing dermopathy, or NFD. However, the autopsy of a man with the disease showed that it was also affecting other bodily systems, such as internal organs. Hence the name change.

As more cases of NSF surfaced, medical experts discerned a direct link between gadolinium-based contrast agents and development of the disease. Numerous reports now show patients who received a gadolinium-based dye prior to an MRI who were subsequently diagnosed with NSF.



Symptoms of NSF/NFD

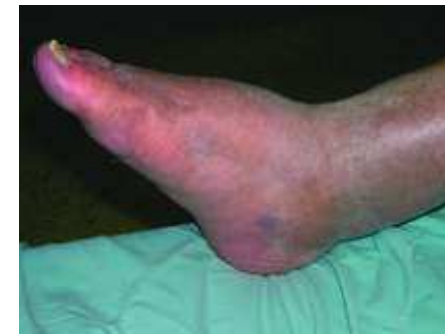
The skin of patients with NSF often swells and tightens on the extremities and sometimes the trunk. The condition may develop over a period of days or months. The skin thickening often inhibits the flexion and extension of joints, resulting in contractures. Severely affected patients may be unable to walk, or fully extend the joints of their arms, hands, legs, and feet. Complaints of muscle weakness are common. About 5% of patients have a rapidly progressive course.

Besides kidney problems, symptoms include:

- Tightening and swelling of the skin, often starting with the legs and/or arms and trunk
- Thickening of the skin around the joints
- Skin texture similar to an orange peel
- Red or dark patches of skin; itching, burning skin
- Fluctuating hypertension preceding the appearance of skin lesions
- Symmetrical skin lesions, often on the ankles, thighs and/or wrists and arms.
- Muscle weakness, deep bone pain
- Fatigue, Vision changes, a metallic taste

* Diagnosis: See Your Doctor *

NSF must first be *diagnosed* in order to be properly treated. Punch biopsy is the gold standard for diagnosing NSF; but it is also possible, and even necessary in some cases, to establish NSF through a clinical diagnosis by a licensed doctor and/or dermatologist.



NSF/NFD Treatment Options

There is currently no FDA-approved cure for NSF/NFD. The good news is that in some patients the progression of the disease can be halted, and in a few cases actually reversed. Several treatment options do exist. Here is a list of eleven of them:

- Improving renal function
- Physical therapy
- Oral steroids
- Ultraviolet therapy
- Extracorporeal photopheresis (ECP)
- Topical Dovonex
- Plasmapheresis
- Pentoxifylline (PXF)
- Plaquenil
- Thalidomide
- Sodium Thiosulfate