

## Interstitial Cystitis (IC)

The cause or causes of IC are unknown, although there are several popular theories among urologists. In most individuals with IC a damaged urinary tract lining is evidenced. It is uncertain whether there is some genetic defect in the epithelium of the urinary tract, or if the damage is the result of whatever the cause of IC may be. Bacterial infection has been ruled out as a primary cause, but individuals with IC may have symptoms exacerbated by any tendency to urinary tract infections.

IC is always associated with elevated mast cells --- (excess mast cells are indicated by a red Dermographics reaction in your NUTRI-SPEC Testing). The mast cells release histamine, increase inflammation, and prevent healing of the inflamed urinary tract epithelium.

There is a Parasympathetic connection to IC. The first connection here is that elevated mast cells (and eosinophils) are typical of a Parasympathetic Imbalance. Secondly, neurogenic sensitivity of the bladder is a Parasympathetic phenomenon since the Parasympathetic nervous system controls the bladder. Quercetin is a powerful mast cell inhibitor (and is found in your Oxy D, but particularly in your Complex P). Some patients may benefit from quercetin supplementation beyond what is contained in NUTRI-SPEC supplements.

IC most often occurs in individuals who also suffer from ImmunoNeuro-Endocrine stress as evidenced by fibromyalgia, chronic fatigue, irritable bowel syndrome, and several of the autoimmune diseases.

Maintaining normal microbiota is critical in IC patients for several reasons. First, the maintenance of normal microbiota will decrease any tendency to immune system reactivity, whether from autoimmunity, allergy, or mycotoxins. Second, a healthy microbiota will decrease the tendency to urinary tract infections of either bacterial or yeast origin, which, if not a cause of IC, are certainly a common irritant. Finally, apart from any specific microbiota-associated pathologies, an abnormal microbiota is a powerful immune trigger that increases inflammatory cytokines in a non-specific way, which would almost certainly exacerbate IC symptoms.

IC tends to occur in association with excess estrogen and/or insufficient thyroid. It is not known whether the estrogen stress or thyroid insufficiency are causes of IC, but there is a definite correlation that needs to be considered. There is a strong correlation between IC and endometriosis in women.

The following have been identified as irritants in IC:

- potassium in concentration --- a challenge with potassium chloride was once a common test to elicit symptoms and facilitate the diagnosis of IC
- coffee, tea, green tea, and soda (and it is not just the caffeine because decaf is also an irritant)
- all fruits and all juices, but especially citrus fruits, berries, and cranberries
- alcoholic beverages
- vitamin C
- peppers
- foods containing oxalates. There is an IC support group that advocates the total elimination of oxalate-containing foods from the diet. They have many success stories to tell, one of whom was a past patient in our office who experienced a miraculous cure of IC upon eliminating oxalates from the diet, and immediate excruciating pain anytime she inadvertently consumed oxalates. --- High oxalate foods include cashews, most nuts, most berries, leafy greens, beets, and cocoa/chocolate.

Occasionally, we hear of women with IC being warned about complications during pregnancy. There is no basis for such concern. Mild to moderate cases of IC do not increase during the first two trimesters of pregnancy, but do increase, but only slightly in the third trimester. In cases of increased symptoms of IC symptoms during pregnancy, it is almost always the frequency of urination that increases, but not the pain. Patients with severe IC symptoms prior to pregnancy actually have an improvement of their symptoms for most of pregnancy, with only a slight increase in frequency but no increase in pain in the third trimester.

Antidepressants have long been prescribed for IC. The rationale seems to be that IC pain is neurogenic inflammatory and that the antidepressant calms down the neurogenic pain. The literature shows, however, that the only antidepressant that consistently benefits symptoms of IC is amitriptyline/Elavil. Since amitriptyline has gone out of fashion and been replaced by SSRIs, that is what most IC sufferers are now given, even though there is no substantial evidence that the SSRIs do any good.

IC can be associated with almost any of the NUTRI-SPEC Imbalances (--- with almost any source of ImmunoNeuroEndocrine stress). There is either bladder tissue Acidosis or Alkalosis associated with the pain sensitivity. If you are fortunate to be able to test the patient without the influence of drugs commonly given for this condition, you should do quite well. Look for a chance to administer Oxy Tonic, Oxy D+, sodium bicarbonate, or Phos Drops. In other words, if you can correlate the pHs, particularly the urine pH, with the severity of pain, use that information for pain control.