

# Minimal Change Disease (MCD)



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## OVERVIEW AND SYMPTOMS

Minimal Change Disease (MCD) is a disorder affecting the filtering units of the kidney (glomeruli) that can lead to symptoms associated with Nephrotic Syndrome. Some symptoms of NS include:

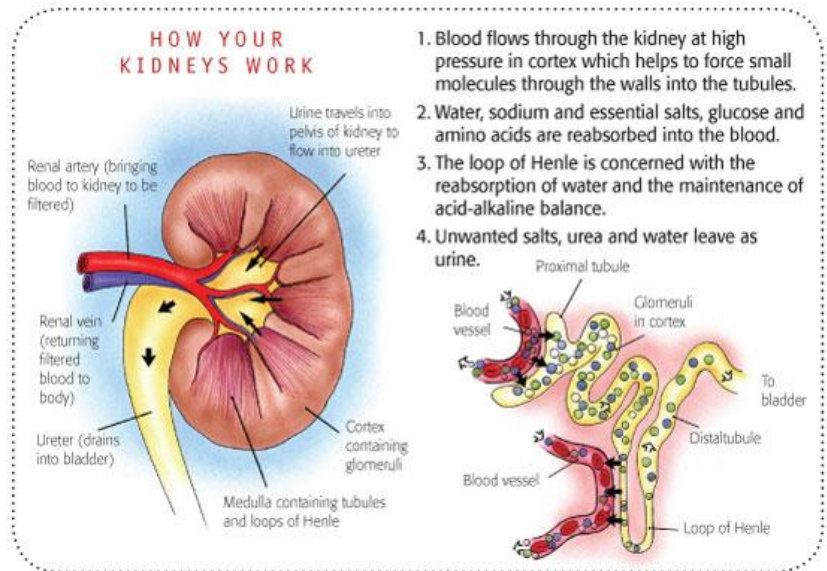
- **Proteinuria**- Large amounts of protein 'spilling' into the urine
- **Edema**- Swelling in parts of the body, most noticeable around the eyes, hands, and feet that can become painful
- **Hypertension** - High blood pressure
- **Hypoproteinemia** - Low blood protein
- **Hypercholesterolemia** - High level of cholesterol

MCD derives its name because this damage is not visible under a regular microscope. It can only be seen when a kidney biopsy is examined under an electron microscope.

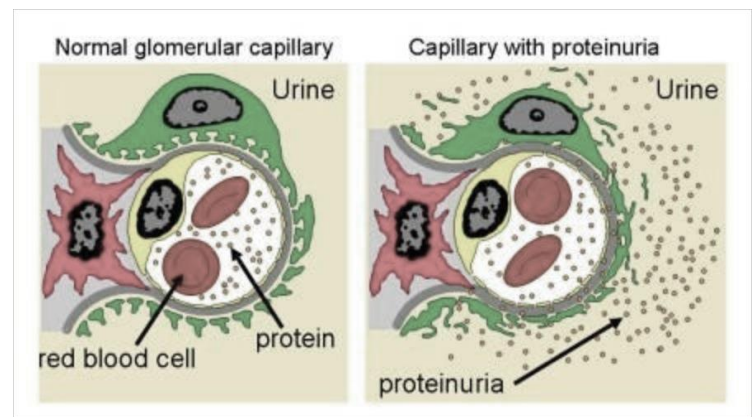
## CAUSES

MCD is "idiopathic," meaning it arises without a known cause, so researchers are actively trying to learn more.

Research studies indicate that MCD could be related to a decreased number of glomeruli within an individual's nephrons. A low glomeruli number is associated with low birth weight. Without an appropriate number of glomeruli, the volume of existing glomeruli must expand to meet the body's blood filtration needs.



**Each person has two kidneys in their lower back. The kidneys continuously filter blood and produce urine to remove waste products, salts and excess fluid. Each kidney is made up of approximately one million filters called "glomeruli". Just as a coffee filter keeps coffee grounds in, glomeruli keep valuable cells and protein in the blood.**



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## FACTS

- MCD is the most common cause of NS in children associated with 80 to 90% of cases.
- It is also seen in adults, but makes up only 10 to 15% of NS cases.
- 20% of adult NS patients are diagnosed with MCD.
- 90% of MCD patients respond to oral steroids and most have complete remission.
- Up to 50% of adult MCD patients that go into remission will relapse.
- Males are twice as likely to have MCD as females.
- If MCD does not recur for three years, there is a good chance that it will not return.

## TREATMENTS

Your nephrologist may recommend:

- Steroids called prednisone or prednisolone to control proteinuria
- Diuretics and low salt diet to help control edema
- Medications that block a hormone system called the renin angiotensin system (e.g. ACE inhibitors or ARBs) to control blood pressure and lower urine protein
- Anticoagulants to prevent blood clots
- Statins to lower the cholesterol level
- Maintaining a healthy diet: proper amounts of protein and fluid intake according to your nephrologist's recommendations
- Exercising
- Not smoking
- Vitamins



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*For information about research seeking the cause and better treatments for NS or to learn about patient education opportunities, please contact us at: [research@nephcure.org](mailto:research@nephcure.org).*