

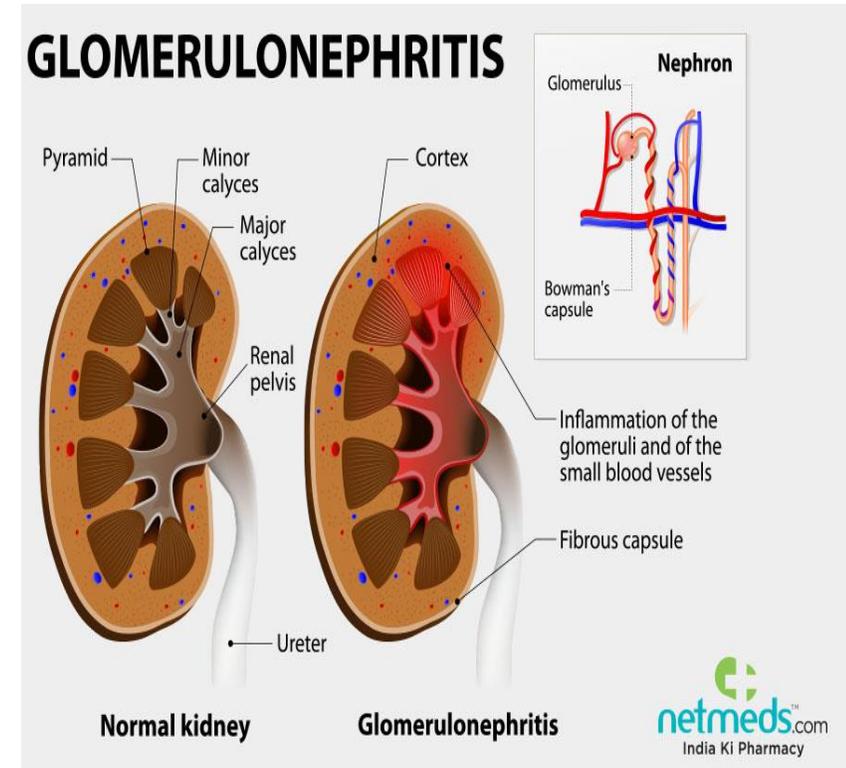
# CHRONIC GLOMERULONEPHRITIS



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# DEFINITION

Chronic glomerulonephritis is a kidney disorder caused by slow, cumulative damage and scarring, usually by inflammation, of the tiny blood filters in the kidneys.





# CAUSES

- Strep Throat
- Bacterial or viral infections
- Diseases of the immune system such as lupus, immune lung disorder, Good pasture's syndrome, etc.
- Polyarteritis
- Diabetic kidney disease
- Focal segmental glomerulosclerosis (causes scarring of the
- glomeruli)

# PATHOPHYSIOLOGY

## Injury to the Glomeruli

Acute  
glomerulonephritis

Secondary to systemic  
diseases, such as lupus  
erythematosus

Chronic glomerulonephritis

Accumulation of precipitated antigen-antibody complexes in the  
glomerular membrane.

inflammation, progressive thickening of the membranes

invasion of the glomeruli by fibrous tissue

Loss of glomerular functions -----> less filtration -----> renal failure



# SIGNS & SYMPTOMS

- Blood in the urine (dark, rust-colored, or brown urine)
- Foamy urine
- Facial puffiness in the morning
- Swelling of the legs or ankles or other parts of the body, due to fluid accumulation (edema)
- Shortness of breath during exertion due to anemia
- Decreased alertness
- Drowsiness, somnolence, lethargy
- Confusion, delirium
- Coma





# SIGNS & SYMPTOMS

- Decreased sensation in the hands, feet, or other areas
- Decreased urine output
- Easy bruising or bleeding
- Fatigue
- Frequent hiccups
- General ill feeling (malaise)
- Generalized itching
- Headache
- Increased skin pigmentation -- skin may appear yellow or brown
- Nausea and vomiting



# SIGNS & SYMPTOMS

- Muscle cramps
- Muscle twitching
- Need to urinate at night
- Seizures
- Unintentional weight loss
- Blood in the vomit or stools
- Excessive urination
- High blood pressure
- Nosebleed



# DIAGNOSTIC EVALUATION

## Physical examination

- Hypertension
- Jugular venous distention (if severe volume overload is present)
- Pulmonary rales (if pulmonary edema is present)
- Pericardial friction rub in pericarditis
- Tenderness in the epigastric region or blood in the stool (possible indicators of uremic gastritis or enteropathy)
- Decreased sensation and asterixis (indicators of advanced uremia)





# DIAGNOSTIC EVALUATION

## Laboratory tests and examination

- Chest x-ray
- Kidney or abdominal CT scan
- Kidney or abdominal ultrasound
- IVP
- Urinalysis
- A kidney biopsy may show one of the forms of chronic glomerulonephritis or scarring of the glomeruli.





# DIAGNOSTIC EVALUATION

## Laboratory tests and examination

- **Urinalysis:** The presence of dysmorphic red blood cells (RBCs), albumin, or RBC casts suggests glomerulonephritis as the cause of renal failure.
- **Urinary protein excretion:** Urinary protein excretion can be estimated by calculating the protein-to-creatinine ratio on a spot morning urine sample. The ratio of urinary protein concentration (in mg/dL) to urinary creatinine (in mg/dL) reflects 24-hour protein excretion in grams.
- **CBC:** Anemia is a significant finding in patients with some decline in the GFR.
- **Serum chemistry:** Serum creatinine and urea nitrogen levels are elevated. Hyperkalemia, hyponatremia, and low serum bicarbonate levels are diagnosed. Impaired vitamin D-3 production results in hypocalcemia, hyperphosphatemia, and high levels of parathyroid hormone. Low serum albumin levels may be present if uremia interferes with nutrition or if the patient is nephrotic.





# MEDICAL MANAGEMENT

- Antihypertensive drugs may be prescribed to reduce high blood pressure.
- Diuretics may be prescribed to reduce excess fluid retention and increase urine production.
- Corticosteroids, immune suppressives, or other medications may be used to treat some of the causes of chronic glomerulonephritis.
- Dietary restrictions like low-protein, low-salt and iron or vitamin supplements.
- Steroid medication or immunosuppressive drugs may be prescribed for some patients.
- In severe cases where kidney failure occurs, dialysis may be necessary. Dialysis performs the functions of the kidney by removing waste products and excess fluid from the blood when the kidney cannot (Renal Failure, Chronic).
- A kidney transplant is an alternative to dialysis in cases of kidney failure.





# NURSING MANAGEMENT

## Nursing Assessment

- **Physical examination.** Obtain complete physical assessment
  - **Assess weight.** Monitor daily weight to have a measurable account on the fluid elimination.
  - **Monitor intake and output.** Monitor fluid intake and output every 4 hours to know progressing condition via glomerular filtration.
  - **Assess vital signs.** Monitor BP and PR every hour to know progression of hypertension and basis for further nursing intervention or referral.
  - **Assess breath sounds.** Assess for adventitious breath sounds to know for possible progression in the lungs.
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# NURSING MANAGEMENT

## Nursing Diagnosis

- Ineffective breathing pattern related to the inflammatory process.
- Altered urinary elimination related to decreased bladder capacity or irritation secondary to infection.
- Excess fluid volume related to a decrease in regulatory mechanisms (renal failure) with the potential of water.
- Risk for infection related to a decrease in the immunological defense.
- Imbalanced nutrition less than body requirements related to anorexia, nausea, vomiting.
- Risk for impaired skin integrity related to edema and pruritus.
- Hyperthermia related to the ineffectiveness of thermoregulation secondary to infection.

