Treatment of eosinophillic rhinitis:

Removal of the offending irritants surgical removal of the polyps, avoidance of aspirin and use of antihistamines and topical steroids.
Mixed cellular rhinitis

This represents up to 50% of chronic types of rhinitis.
M.C.R is characterized by rhinorrhea, congestion and an inflamed mucosa. The nasal smears contain mixed lymphocytes, plasma cells and eosinophils. There is normal serum IgE level and skin test results are negative.
Nasal mastocytosis
There is a rare condition found mostly in adult’s characterized by rhinorrhea and congestion without Pruritus.
There is an idiopathic increase in mucosal mast cell content from a normal value of 200 to 400 cells/col to 2000 Cells/ cumm.
There are few eosinophils, skin test results are negative and serum IgE levels are normal.
Approximately 15% of patients afflicted with nasal mastocytosis have a medical history of cluster headaches and a 15% have associated rhinitis with alcohol ingestion.
Recumbency Rhinitis

Post laryngectomy or tracheostomy rhinitis.
History : The history should include the onset, frequency, duration, character and severity of symptoms.
Any precipitating factors such as allergens, irritants, weather changes and medications be identified.
Associated symptoms

Hyposmia, anosmia, disturbed sleep, mouth breathing with dry mouth, snoring, fatigue and irritability
The efficacy or failure of previous treatment modalities.
Specific injury as to hypertension, diabetes, thyroid dysfunction, pregnancy, estrogen therapy, endocrine abnormalities, autonomic nervous system abnormalities
A detailed family history of asthma, rhinitis, hayfever, atopic dermatitis
Physical examination:

Complete otolaryngologic head and neck examination
Conjunctiva inspection – chest auscultation - skin inspection – external nose nose inspection – rhinoscopy
The characteristics of the mucosa are noted:

Pale, boggy, gray mucosa is seen in nonallergic rhinitis and hypothyroidism
Engorged, reddened mucosa may be seen in rhinitis.
Thin, crusted mucosa is characteristic of atrophic rhinitis medicamentosa and may be associated with a foul odor (ozena)
Size of turbinates:

One must not forget that sarcoidosis may mimic chronic hyperplastic rhinitis.
Paranasal sinus radiography
Fiberoptic nasopharyngoscopy
Laboratory evaluation:

A nasal mucosa biopsy and electron microscopy will be necessary for the diagnosis of immontil cilia syndrome or sarcoidosis
Serum IgE levels – estrogen levels – a total eosinophil count – thyroid hormone level – ESR – skin test
The treatment of non allergic rhinitis:

Avoidance of the offending irritants, hormone medications
includes symptomatic treatment
use of antihistamines oral vasoconstrictors cromolyn sodium anticholinergic agents corticosteroid nasal spray
Antihistamines:

Selectively block H1 receptors and suppress those symptoms medicated by histamine.
Antihistamines also exert an anticholinergic like effect orrhinorrhea.
Side effects:

drowsiness, dry mouth, irritability, dizziness

In larger doses:
delirium, hallucination, ataxia, muscle twitching, fever, convulsions, death
Sympathomimetic agents:

stimulate alpha , adrenergic receptors, constrict vessels, decongest mucous membranes and provide an overall decrease in nasal airway resistance
They are also felt to increase (CAMP) and inhibit release of mediators.
Pseudoprophrereine phenylpropanolamine oxymethazoline are the first line drugs used for symptoms of nasal congestion.
Side effects:

- nervousness
- insomnia
- irritability
- difficulty urinating

In elderly men, an increase in diastolic blood pressure in patients with labile or overt hypertension or in individuals taking (MAO) inhibitors may be noted.
These agents have a marked short term effect followed by rebound congestion and rhinitis medicamentosa after prolonged use.
Anticholinergic agents: propantheline and belladonna may be effective in reducing the rhinorrhea of vasomotor rhinitis.
These drugs should be avoided in patients with tachy arrhythmias, obstructive uropathy, and narrow-angle glaucoma.
As noted secretions are controlled by other mediators in addition to acetylcholine hence anticholinergic Agents should not be expected to be as effective in controlling the symptoms of rhinitis.
Topical steroids:

1- suppress the local inflammatory response caused by the release of vasoactive mediators.
2- T.S reduce the sensitivity of irritant receptors (thus diminishing the sneeze response)

3- reduce the reactivity of acetylcholine receptors with some decrease in rhinorrhea and decrease the total basophil and eosinophil count.
The topical steroid preparations in common use are beclomethasone dipropionate and flunisulide. There are effective in allergic as well as in nonallergic rhinitis including vasomotor rhinitis and nasal polyposis.
Side effects of topical steroids include mucosal edema, mild erythema, burning, drying, epistaxis, occasionally stinging sensation, candidiasis.
Cromolyn sodium:
Prevents mast cell degranulation and inhibits the release of histamine. This medication may be of some benefit in IgE–mediated allergic rhinitis.
Surgical management of nonallergic rhinitis:

Anatomic abnormalities including the removal of tumors and polyps and surgical debulking of chronic turbinate hypertrophy.
This end stage chronic hypertrophic rhinitis may be managed by a number of surgical techniques including intra turbinate steroid injection. Turbinate out fracture, cauterization, cryosurgery, laser vaporization, submucous resection of conchal bone, partial inferior turbinate resection and total inferior turbinectomy.
Thank you