Central serous retinopathy or “CSR” is a retinal disorder, which affects the macula. It was first described in ophthalmology more than one hundred years ago although the precise cause is unknown. CSR is associated with a detachment of the macula due to leakage of fluid from the circulation behind it (choroidal circulation). The leakage occurs through a defect in the tissue layer known as the retinal pigment epithelium. The retinal pigment epithelium is a single–celled layer that lies between the retina and the choroid (see diagram below). This layer normally serves to prevent fluid from the choroidal circulation from leaking under the retina. In CSR there is a leakage beneath the retina, which elevates it to produce a macular detachment, which distorts vision.

Patients usually present with a disturbance in central vision, either a blind spot in the central field or waviness in the central portion of the vision. On clinical examination, the ophthalmologist may find one or more small blister–like elevations to the retinal pigment epithelium. In the acute stages, there is an overlying elevation of the retina. Occasionally, patients who have detachments of the retina are asymptomatic, simply because the bubble of fluid does not involve the center of the macula or the foveal region. Signs of previous detachments of the retina can often be detected by the clinician. These are pigmented areas on the retina. When the retina is elevated, it is displaced from its normal source of nutrition, the choroidal circulation.
An important part of the diagnosis of CSR relies on the fluorescein angiogram. In the typical case, a leak can be demonstrated at the level of the retinal pigment epithelium as the fluorescein dye gradually passes under the retina.

Some severe variants of the disease are seen in patients who have certain systemic diseases such as severe hypertension, collagen vascular disorders, blood dyscrasias, and organ transplant. The use of corticosteroids may also be a risk factor for CSR.

**Treatment**

Most ophthalmologists urge patients to modify their behavioral patterns, to take a more relaxed or mellow approach to life. Trials of tranquilizers, antihistamines, non-steroid anti-inflammatory medications, and beta-blockers have not been successful. The leak can be identified by fluorescein angiography and treated with laser. For a leak that is away from the centre of the macula, it is still reasonable to wait three to four months before considering laser treatment. When the leak is close to the center of the macula, a more conservative approach to management is usually recommended. Laser treatment of such leaks has the risk of inadvertent damage to the center of the macula or hemorrhage. These are rare complications, but there is a greater risk of a noticeable blind spot in the central visual field corresponding to the treatment site. When considering the potential risks and the potential benefits of laser treatment, the main reason for treatment is the possibility of progressive loss of vision from prolonged detachment of the macula. Resolution of the detachment often occurs more rapidly following treatment of the leak with laser. Each case must be approached individually. For example, in a patient who has had a previous detachment that has resulted in scarring of the macula, earlier treatment of a leak in a further detachment should be considered. The longer the detachment the greater the risk of permanent damage of the macula.

**Prognosis**

The prognosis for visual recovery in CSR is generally good. Usually, the pigment epithelial leak closes spontaneously and the detachment resolves over a period of weeks to months. Most patients (greater than 90%) will retain vision of 20/30 or better in the affected eye. Although many patients may manifest subtle clinical findings in the opposite eye, most patients (greater than 80%) do not develop bilateral symptoms. Despite good acuity, some of these patients may still note some mild permanent abnormalities in the vision of the affected eye such as decreased contrast sensitivity, mild distortion and decreased night vision. Weeks, months or even years later, new detachments may occur. Reported recurrence rates are 20–30%.