



# Retinal pigment epithelial detachment

## Pigment epithelial detachment (PED)

### DESCRIPTION

Retinal pigment epithelium (RPE) detachment appears to result from disorders that disrupt the normal junction between the basement membrane of the RPE and the inner collagenous Bruch's membrane. This disruption may be associated with:

- Thickening of Bruch's membrane, with associated increased resistance to fluid flow from the retina, causing serous fluid accumulation under the RPE
- Choroidal circulation abnormalities leading to accumulation of serous fluid from the choriocapillaris in the sub-RPE space
- Choroidal neovascularisation (CNV) leading to haemorrhagic or fibrovascular RPE detachment.

### ASSOCIATED CONDITIONS

The most common condition associated with RPE detachment is age-related macular degeneration. Other possible associated ocular conditions are listed below. Uncomplicated idiopathic serous detachments of the RPE often resolve spontaneously, however, haemorrhage, CNV, and disciform scarring may affect those detachments associated with other choroidal pathology.

### SYMPTOMS

Patients may be asymptomatic, or if the macula is affected RPE detachment may cause blurred vision, metamorphopsia or positive scotomas.

### SIGNS

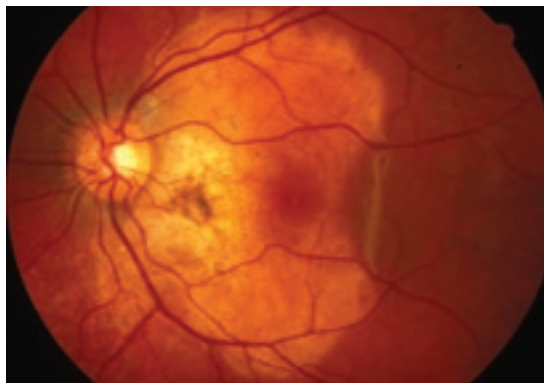
Typically, an RPE detachment is seen as one or more focal, dome-shaped, elevation(s) of the retina and RPE. A serous detachment will often have a paler colour than the surrounding fundus, being a yellow to orange rounded lesion. There may be overlying or marginal pigmentary changes. The extent of the lesion may be anything from a fraction of a disc diameter, to multiple disc diameters in size. Haemorrhage or lipid deposition will indicate a fibrovascular RPE detachment.

### PREVALENCE

The condition is uncommon (approximately 1/1,000) to rare (1/10,000)

### SIGNIFICANCE

RPE detachment in patients over 55 years of age is often secondary to choroidal neovascularisation.



Large chronic RPE detachment

### DIFFERENTIAL DIAGNOSIS

Retinal detachment – exudative, Central serous chorio-retinopathy, Choroidal detachment, Melanoma of the choroid (malignant melanoma), Choroidal metastasis, Best's disease

### SEE ALSO

Age-related macular degeneration, Choroidal neovascularisation, angioid streaks, myopic degeneration, hereditary choroidal degenerations; for example, Gyrate atrophy and Choroideraemia, Ocular histoplasmosis.

### MANAGEMENT

#### Additional Investigations

● Fluorescein angiography will show early hyperfluorescence of the entire RPE detachment, persisting throughout the angiogram and demonstrating late pooling. A concurrent serous retinal detachment may be present if there is evidence of leakage into the sensory retina

● Ocular coherence tomography is useful in distinguishing types of RPE detachments:

- Serous RPE detachment shows a focal elevation of the RPE band over a non-reflective clear space. The detached RPE is slightly more reflective than normal, and the underlying choroid is shadowed
- Haemorrhagic RPE detachments show a moderately reflective area corresponding to blood directly beneath the detached RPE
- Fibrovascular RPE detachment is characterised by less reflective material throughout the entire sub-RPE space down to the level of the choroid
- Visual function testing will often

reveal a deficit: Visual field testing with an 18Hz flickering stimulus can enhance the detection of the visual defect in RPE detachment. Delayed retinal recovery time with the photostress test may be present.

### Review and advice

Review and monitoring may be all that is needed for RPE detachment without evidence of other retinal or choroidal disease. Review interval is dictated by the level of symptoms and visual compromise. Patients may be advised to conduct monocular checks (alternate covering of each eye) and weekly home-monitoring with an Amsler grid.

### Laser surgery

Photodynamic therapy is rarely indicated for chronic non-resolving idiopathic RPE detachment, or that associated with CNV, with the aim of decreasing leakage from the possibly anomalous underlying choriocapillaris circulation or neovascular membrane. Risks with surgery include the risk of RPE rip.

### Prognosis

The prognosis for RPE detachment is related to the patient's age and the presence of choroidal neovascularisation. One study showed final vision of 20/30 or better in all eyes of patients under 50 years of age with avascular lesions, whereas 74 per cent of older patients with vascular lesions had 20/200 or less.

The full series of these articles is available in the book *Posterior Eye Disease and Glaucoma A-Z* by Bruce AS, O'Day J, McKay D and Swann P. £39.99. For further information click on the Bookstore at [opticianonline.net](http://opticianonline.net)

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