

between the lower border of the iris and the lower eyelid, with the eyes in the primary position. Proptosis can be measured using an exophthalmometer. In severe cases, proptosis may cause corneal exposure and damage, especially if the lids fail to close during sleep. Periorbital edema, scleral injection, and chemosis are also frequent. In 5–10% of patients, the muscle swelling is so severe that diplopia results, typically, but not exclusively, when the patient looks up and laterally. The most serious manifestation is compression of the optic nerve at the apex of the orbit, leading to papilledema; peripheral field defects; and, if left untreated, permanent loss of vision.

The “NO SPECS” scoring system to evaluate ophthalmopathy is an acronym derived from the following changes:

- 0 = **N**o signs or symptoms
- 1 = **O**nly signs (lid retraction or lag), no symptoms
- 2 = **S**oft tissue involvement (periorbital edema)
- 3 = **P**roptosis (>22 mm)
- 4 = **E**xtraocular muscle involvement (diplopia)
- 5 = **C**orneal involvement
- 6 = **S**ight loss

Although useful as a mnemonic, the NO SPECS scheme is inadequate to describe the eye disease fully, and patients do not necessarily progress from one class to another; alternative scoring systems (e.g., the EUGOGO system developed by the European Group on Graves’ Orbitopathy) that assess disease activity are preferable for monitoring and treatment purposes. When Graves’ eye disease is active and severe, referral to an ophthalmologist is indicated and objective measurements are needed, such as lid-fissure width; corneal staining with fluorescein; and evaluation of extraocular muscle function (e.g., Hess chart), intraocular pressure and visual fields, acuity, and color vision.

Thyroid dermopathy occurs in <5% of patients with Graves’ disease (**Fig. 384-1B**), almost always in the presence of moderate or severe ophthalmopathy. Although most frequent over the anterior and lateral aspects of the lower leg (hence the term *pretibial myxedema*), skin changes can occur at other sites, particularly after