The orbit or eye socket is the small, bony cavity in the skull that houses the eye and surrounding structures including the muscles that move the eye, the lacrimal (tear) glands and the bones of the skull that protect the eye.

Diseases of the orbit range from minor discomforts to life-threatening conditions and can arise from within the socket itself or as part of a systemic illness affecting multiple organs. Orbital-disease symptoms can include eyeball protrusion, pain, double vision, loss of vision and numbness around the eye.

The Orbital Disease Center of the UCLA Stein Eye Institute has been a leader since 1992 in the treatment and study of orbital disease arising from inflammation, cancer, infection and trauma. UCLA is one of only a handful of institutions to offer a dedicated orbital-disease center.

Management of orbital diseases

Mild cases of orbital disease can often be managed conservatively with artificial tears or lubricating opthalmic ointment, or with no therapy at all. Treatment of more severe cases may involve corticosteroid medications, external-beam radiation or a combination of treatments. Not infrequently, surgical intervention is indicated.

“"The Orbital Disease Center of the UCLA Stein Eye Institute strives to offer the highest level of care to patients with disorders of the eye socket," says Daniel Rootman, MD, assistant professor of orbital and ophthalmic plastic surgery.

"The treatment team performs procedures that are not usually available in the community, including orbital decompression microsurgery, vascular tumor management and reconstruction to address traumatic or congenital defects. The Center also has an active program for patients with Graves' disease and is conducting outcomes research to evaluate new surgical techniques.

"Having seen as many of this group of patients as any orbital center in the world, UCLA receives referrals and requests for second opinions from around the globe," says Dr. Rootman. "The more complicated the case, the more likely an individual is to end up here and the more privileged we feel to be able to work with these patients."
Thyroid eye disease — Inflammation of the orbit can be limited to the eye, or may be a symptom of a larger disorder. Although only about 20 percent of patients with Graves’ disease — a hyperthyroid disorder — develop orbital inflammation severe enough to require medical attention, thyroid eye disease accounts for approximately one-third of all orbital diseases.

Management of patients with this disease is often multidisciplinary and includes endocrinologists, internists, ophthalmologists and oculoplastic surgeons.

Orbital inflammation — Inflammatory conditions that affect only the eye include scleritis (inflammation of the sclera or white portion of the eye), myositis (inflammation of the eye muscles) and dacryoadenitis (inflammation of the tear gland). Inflammation limited to the orbit usually requires biopsy and blood tests to reach a diagnosis and help guide therapy, although no specific cause is found in over half of cases.

Orbital tumors — Orbital tumors can be malignant or benign and can originate in the orbit or spread to the area behind the eye from other areas of the body. Often, patients will present with a bulging eye, a palpable mass, pain or double vision. Lymphoid tumors account for about half of orbital tumors. The lacrimal gland is the most common site. Surgical biopsy or complete removal of the tumor is often required, and external-beam radiation with or without chemotherapy may be indicated as well.

Orbital infection — Orbital infection affects the eyelid and soft tissues around the eye and is characterized by acute eyelid redness and edema (swelling). The infection can result from the spread of an upper respiratory tract or sinus infection, external ocular infection or following eyelid trauma.

While orbital infection is generally treated medically, surgery may be required to drain the abscess or to relieve pressure in the orbital space around and behind the eye.

Orbital trauma — Orbital trauma to the eyelids and bony orbit often results from car accidents or sports injuries. Not all fractures need to be repaired, although for optimal functional and aesthetic results, trauma frequently requires surgical restoration by an oculoplastic surgeon.

Innovation and national recognition

Each of the orbital diseases is considered rare or relatively rare, and because they are often related to systemic conditions, a high level of coordination, resources and collective experience is required to manage these conditions. A collaborative approach among UCLA ophthalmologists, neurologists, oncologists, endocrinologists, radiation oncologists, craniofacial (head and neck) surgeons and other specialists provides seamless continuity of orbital-disease evaluation and treatment.

UCLA has developed orbital protocols that are now taught and practiced internationally, including less invasive treatments for eye and orbital cancers, new surgeries for thyroid eye disease and tearing problems and safer, minimally invasive aesthetic surgeries.

UCLA Stein Eye and Doheny Eye Institutes are consistently ranked number five in the nation and best in the Western United States by U.S. News & World Report for Ophthalmology.