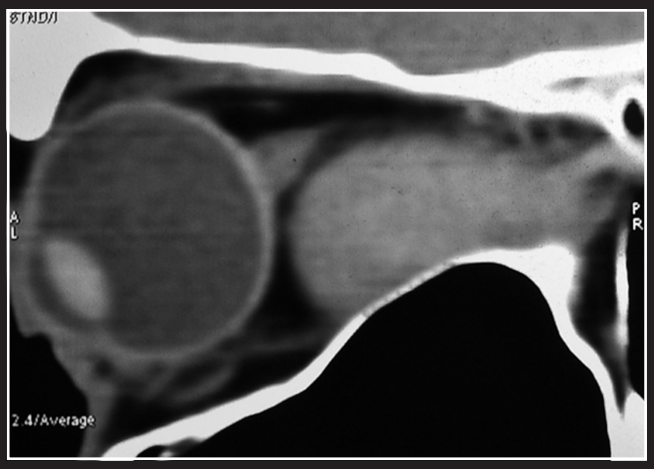
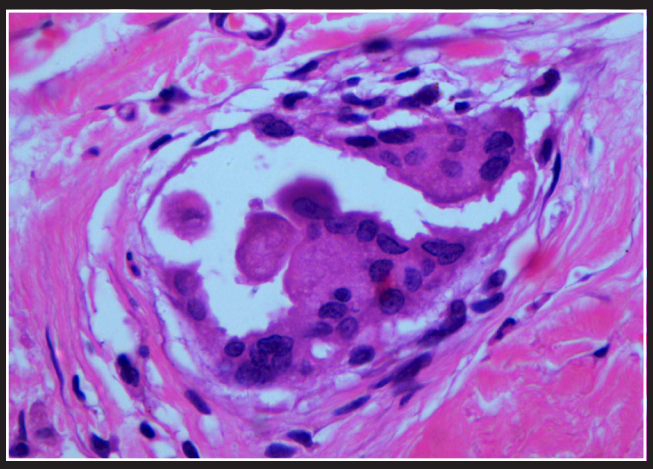


Oculoplastic Surgery and Orbit



Oculoplastic Surgery and Orbit

Basic Level Goals:

A. Cognitive Skills

General

1. Perform preoperative and postoperative assessment of patients with common oculoplastic disorders.**

Eyelid

1. Describe basic anatomy and physiology (eg, orbicularis, meibomian glands, Zeis glands, orbital septum, levator muscle, Müller muscle, Whitnall ligament, Lockwood ligament, preaponeurotic fat, scalp, face).**
2. Describe basic mechanisms and indications for treatment of eyelid trauma (lid margin sparing, lid margin involving, canaliculus involving).**
3. Describe mechanisms and indications for treatment of ptosis.**
4. Describe mechanisms and indications for treatment of upper and lower eyelid retraction.**
5. Describe mechanisms and indications for treatment of entropion.**
6. Describe mechanisms and indications for treatment of ectropion.**
7. Identify floppy eyelid syndrome and its systemic associations.**
8. Identify blepharospasm and hemifacial spasm.**
9. Describe history and examination findings for benign and malignant lid lesions.**

Lacrimal

1. Describe basic anatomy and physiology (eg, puncta, canaliculi, lacrimal sac, nasolacrimal duct, endonasal anatomy, lacrimal glands).**
2. Identify dacryocystitis.**
3. Describe mechanisms of tearing.**
4. Describe mechanisms and indications for treatment of congenital and acquired nasolacrimal duct obstruction.**
5. Recite the differential diagnosis of lacrimal gland mass (eg, inflammatory, neoplastic, congenital, infectious).**

Orbital

1. Describe basic anatomy (eg, orbital bones, orbital foramina, paranasal sinuses, annulus of Zinn, arterial and venous vascular supply, nerves, extraocular muscles).**
2. Identify normal orbital and relevant nasal and paranasal sinus anatomy on imaging studies (eg, computed tomography, magnetic resonance imaging).**
3. Describe basic mechanisms and indications for treatment of orbital trauma (eg, medial wall and floor fractures, retrobulbar hemorrhage).**
4. Describe the pathophysiology of thyroid eye disease.**
5. Recite the differential diagnosis of common orbital tumors in children and adults.**
6. Recite the differential diagnosis of proptosis in children and adults.**
7. Describe typical features of orbital cellulitis.**

B. Technical/Surgical Skills

Eyelid

1. Describe indications for and perform the basic office examination techniques for the most common eyelid abnormalities (eg, margin reflex distance, palpebral fissure height, levator function, lagophthalmos, lid crease, lid laxity assessment, brow height, dermatochalasis, eversion, double eversion).**
2. Perform minor lid and conjunctival procedures (eg, repair of small eyelid laceration including marginal, removal of benign eyelid lesions, chalazion curettage or excision, conjunctival biopsy).**
3. Treat complications of minor operating room procedures (eg, incision and drainage of chalazia, excision of small eyelid lesions).
4. Identify and treat trichiasis (eg, epilation, cryotherapy, surgical therapy).
5. Describe indications for and perform a temporary tarsorrhaphy.**
6. Describe indications for and perform everting sutures (Quickert sutures).**
7. Describe indications for and perform a lateral canthotomy/cantholysis.**

Lacrimal

1. Describe indications for and perform the basic office examination techniques for the most common lacrimal abnormalities (eg, Schirmer test, dye disappearance test, punctal position, punctal dilation, canalicular probing, lacrimal probing and irrigation).**
2. Describe indications for and perform an incision and drainage of the lacrimal sac.**
3. Perform punctal plug insertion or removal.

Orbital

1. Describe indications for and perform the basic office examination techniques for the most common orbital abnormalities (eg, Hertel measurement, inspection, palpation, auscultation).**
2. Identify indications for and perform the basic anophthalmic socket assessment (eg, types of implants, implant movement, socket health, socket surface, socket volume, fornices, prosthesis type and fit).

Standard Level Goals:

A. Cognitive Skills

General

1. Perform preoperative and postoperative assessment of patients with simple and more serious oculoplastic disorders (eg, multidisciplinary procedures).

Eyelid

1. Describe more advanced eyelid anatomy and physiology (eg, lymphatics).
2. Describe the mechanisms of and indications for eyelid reconstruction.**
3. Described the genetics (where known), clinical features, evaluation, and treatment of congenital eyelid deformities (eg, coloboma, distichiasis, epicanthus, telecanthus, blepharophimosis, ankyloblepharon, epiblepharon, euryblepharon, cryptophthalmia, Goldenhar syndrome, Treacher-Collins syndrome, Waardenburg syndrome).
4. Describe clinical features, evaluation, syndromic association and management of congenital ptosis (eg, simple, blepharophimosis-ptosis-epicanthus inversus syndrome [BPES], jaw wink, congenital fibrosis).**
5. Describe the genetics (when applicable), clinical features, evaluation, and treatment of acquired myogenic ptosis (eg, oculopharyngeal muscular dystrophy, mitochondrial myopathies, myotonic dystrophy, myasthenia gravis).
6. Describe the clinical features, evaluation, and treatment of acquired neurogenic ptosis (eg, third nerve palsy, Horner syndrome).**
7. Describe the mechanisms and indications for treatment of more advanced eyelid trauma (eg, chemical burns, thermal burns, canthal avulsions, eyelid avulsions).
8. Describe features, evaluation, and treatment of preseptal cellulitis versus orbital cellulitis.**

Lacrimal

1. Describe more advanced lacrimal anatomy and physiology (eg, lacrimal pump theories).
2. Describe the mechanisms and indications for treatment of more advanced lacrimal trauma (eg, nasolacrimal duct obstructions resulting from facial fractures).
3. Describe features, evaluation, and treatment of more complicated cases of nasolacrimal duct obstruction, canaliculitis, dacryocystitis, and acute and chronic dacryoadenitis.
4. Describe the genetics, clinical features, evaluation, and management of lacrimal dysgenesis.

Orbital

1. Describe more advanced orbital anatomy and physiology (eg, vascular anatomy, neural anatomy, orbital septa).
2. Describe the clinical features, evaluation, and management of congenital orbital deformities (eg, anophthalmia, microphthalmia, hypotelorism, hypertelorism versus telecanthus).
3. Describe the genetics, clinical features, evaluation, and management of common craniosynostoses and other congenital malformations (eg, Crouzon syndrome, Apert syndrome).
4. Describe the mechanisms and indications for treatment of more advanced orbital trauma (eg, zygomaticomaxillary complex fractures, naso-orbital ethmoid fractures, Le Fort fractures).
5. Identify, evaluate, and treat thyroid ophthalmopathy (eg, epidemiology, symptoms and signs, associated systemic diseases, orbital imaging, differential diagnosis, surgical, medical, and radiation indications, side effects of treatment).**
6. Identify, evaluate, and treat nonspecific orbital inflammation (eg, symptoms and signs, orbital imaging, differential diagnosis, biopsy indications, choice of treatments).**

B. Technical/Surgical Skills

Eyelids

1. Describe indications for and perform more advanced examination techniques for less common eyelid abnormalities (eg, decreased blink, orbicularis weakness, contour abnormalities, marginal entropion).
2. Describe indications for and complications of, and perform more complicated minor lid procedures (eg, larger benign skin lesions, recurrent chalazia).
3. Describe indications for and complications of, and perform more complicated eyelid surgery (eg, upper blepharoplasty, lower lid tightening).
4. Describe indications for and complications of, and

perform more advanced eyelid reconstruction (eg, wedge/pentagonal block resection).

5. Identify indications for and complications of, and treat blepharospasm and hemifacial spasm.
6. Identify histopathological features of common eyelid conditions.

Lacrimal

1. Identify indications for and perform more advanced lacrimal assessment (eg, interpretation of dye testing, canalicular probing in trauma).
2. Describe indications for and complications of, and perform basic lacrimal procedures (eg, lacrimal drainage testing [irrigation, Jones Dye Tests 1 and 2], lacrimal probing, lacrimal intubation, incision and drainage of lacrimal sac abscess).
3. Identify indications for and interpret lacrimal imaging (eg, scintigraphy, cystography).
4. Identify histopathological features of common lacrimal conditions.

Orbit

1. Describe indications for and perform more advanced assessment of the orbit (eg, hypoglobus, facial asymmetry, enophthalmos, proptosis).**
2. Describe indications for and complications of, and perform enucleation and evisceration.**
3. Identify indications for and perform more advanced socket assessment (eg, extrusion of implants, anophthalmic socket complications).
4. Identify common orbital pathology (eg, orbital fractures, orbital tumors) on imaging studies (eg, magnetic resonance imaging, computed tomography, ultrasound).**
5. Treat common presentations of orbital cellulitis.**
6. Identify histopathological features of common orbital conditions.

Advanced Level Goals:

A. Cognitive skills

General

1. Perform preoperative and postoperative assessment and coordination of care of patients with more advanced or complex oculoplastic-related disorders (eg, systemically ill patients, multidisciplinary procedures).

Eyelid

1. Describe the most advanced eyelid anatomy and physiology.
2. Describe the etiology, evaluation, and medical and surgical treatment of the following eyelid diseases:
   a. Complex ectropion (eg, congenital, paralytic, involutional, cicatricial, mechanical, allergic)
   b. Complex entropion (eg, involutional, spastic, cicatricial, congenital)
   c. Complex myogenic ptosis (eg, myasthenia gravis, chronic progressive external ophthalmoplegia [CPEO], oculopharyngeal muscular dystrophy [OPMD], myotonic dystrophy)
   d. Upper eyelid retraction
   e. Lower eyelid retraction
   f. Benign, pre-malignant, or malignant eyelid tumors (eg, papilloma, seborrheic keratosis, epidermal inclusion cyst, molluscum contagiosum, verruca vulgaris, keratoacanthoma, actinic keratosis, basal cell carcinoma, squamous cell carcinoma, sebaceous cell carcinoma, melanoma)
   g. Single or recurrent inflammatory lesions (eg, recurrent chalazion or its mimics)
   h. Facial nerve palsy with exposure keratopathy (eg, tarsorrhaphy, gold weight, lower lid tightening/elevation)

Lacrimal

1. Describe the most advanced lacrimal anatomy and physiology.
2. Describe the etiology, evaluation, and medical and surgical treatment of the following lacrimal diseases:**
   a. Punctal stenosis**
   b. Canalicular stenosis**
   c. Common canalicular stenosis**

Orbital

1. Describe the most advanced orbital anatomy and physiology.
2. Describe the etiology, evaluation, and medical and surgical treatment of the following orbital diseases:**
   a. Orbital trauma
      i. All orbital fractures
      ii. Retrobulbar hemorrhage**
      iii. Orbital foreign bodies
   b. Orbital neoplasms
      i. All benign
      ii. All malignant
   c. Orbital inflammation
      i. Infectious
         1. Bacterial
         2. Fungal
         3. Mycoplasma

ii. Noninfectious
   1. Thyroid eye disease
   2. Sarcoidosis
   3. Wegener granulomatosis
   4. Nonspecific orbital inflammation

3. Describe epidemiology, clinical features, evaluation, and management of fetal alcohol syndrome.

B. Technical/Surgical Skills

Eyelid

1. Describe indications for and perform more complicated and advanced "in office" examination techniques for less common but important eyelid abnormalities.
2. Perform more complicated lid procedures, including:
   a. Frontalis sling
   b. Lateral tarsal strip
   c. Eyelid reconstruction

Lacrimal

1. Describe indications for and perform more complicated and advanced "in office" examination techniques for less common but important lacrimal abnormalities.
2. Perform more advanced lacrimal assessment (eg, intraoperative and postoperative testing, more complex trauma to lacrimal system).
3. Describe management of and treat lacrimal system abnormalities, including surgeries (eg, lacrimal probing, dacryocystectomy, dacryocystorhinostomy).

Orbital

1. Describe indications for and perform more complicated and advanced "in office" examination techniques for less common but important orbital abnormalities (eg, forced duction testing).
2. Describe typical and atypical features and describe the differential diagnosis, clinical features, and treatment of more complicated orbital diseases, including:
   a. Complex orbital infections (eg, orbital cellulitis, mucormycosis, aspergillosis**
   b. Congenital tumors (eg, dermoid)
   c. Fibro-osseous disorders and tumors (eg, fibrous dysplasia, osteoma, chondrosarcoma, osteosarcoma, Paget disease)
   d. Vascular tumors (eg, capillary hemangioma, cavernous hemangioma, hemangiopericytoma, lymphangioma, Kaposi sarcoma)
   e. Xanthomatous tumors (eg, xanthelasma, juvenile xanthogranuloma)
   f. Lacrimal gland tumors (eg, benign mixed tumor, adenoid cystic carcinoma, malignant mixed tumor, lymphoma)
   g. Neural tumors (eg, optic nerve glioma/meningioma, neurofibromatosis, neuroblastoma, schwannoma)
   h. Sarcomas (eg, rhabdomyosarcoma, leiomyosarcoma, liposarcoma, osteosarcoma)
   i. Lymphoid lesions (eg, lymphoid hyperplasia, lymphoma, leukemia)
   j. Metastatic lesions (eg, from breast, prostate, lung, colon)
   k. Thyroid eye disease
   l. Nonspecific orbital inflammation
   m. Trauma (eg, fractures, foreign body, retrobulbar hemorrhage, traumatic optic neuropathy)
3. Describe indications for and complications of basic orbital skills and procedures, including:
   a. Anterior orbitotomy for tumor biopsy/excision
   b. Orbital floor fracture repair
4. Describe indications for and complications of different orbital approaches and incisions (eg, Kronlein, Caldwell-Luc, transconjunctival, transnasal).**
5. Describe indications for and interpret orbital ultrasound, computerized axial tomography (CT or CAT) scan, and magnetic resonance imaging (MRI) scan (eg, orbital trauma, orbital lesions, tumors). **

Very Advanced Level Goals: Subspecialist

A. Cognitive Skills

General

1. Perform preoperative and postoperative assessment and counseling of patients with cosmetic oculoplastic concerns.
2. Describe regional anatomy including graft donor sites frequently used (eg, cranial bone, ear, nose, temporal area, mouth and neck, abdomen, buttocks, legs, supraclavicular area, arm).
3. Describe the fundamentals of ocular and orbital anatomy, chemistry, physiology, microbiology, immunology, and wound healing.
4. Order and interpret imaging techniques.
5. Describe indications for more advanced imaging studies (eg, CT, MRI, magnetic resonance angiogram [MRA], positron emission tomography [PET]-CT, bone scan, arteriography, ultrasound).
6. Explain the principles of plain films, CT, MRI, and ultrasound imaging relating to the head and neck with particular emphasis on the orbit.
7. Describe indications for the type of scan/imaging to order given the clinical setting, and be able to read the film or scan.

8. Interpret ocular and periocular pathology and dermatopathology.

Eyelid

1. Describe the clinical features, evaluation, and management of congenital syndromes, inflammation, trauma, ectropion, entropion, trichiasis, blepharoptosis, eyelid retraction, epiblepharon, dermatochalasis, blepharochalasis, eyelid tumors, blepharospasm, facial nerve palsy, eyebrow, midface and lower face function; and aesthetics, histology, and pathology of the facial skin.
2. Describe ocular surface pathology, including cicatricial processes affecting the bulbar and palpebral conjunctiva, management of corneal and conjunctival exposure, and relationship of the lids, midface, and brow to ocular exposure.
3. Describe the assessment of eyebrow position for brow ptosis and paralysis, and determine its relation to upper eyelid dermatochalasis.
4. Assess facial paralysis and evaluate the effects of upper eyelid lag and midface cicatricial, paralytic, and involutional changes on lower eyelid position.
5. Describe complex eyelid trauma.
6. Describe complex eyelid reconstruction (eg, Hughes flap, free tarsal grafts, local flaps, skin grafts, Cutler-Beard procedure).

Lacrimal

1. Describe the etiology, evaluation, and medical and surgical treatment of congenital tearing, acquired tearing, and trauma.

Orbital

1. Describe the etiology, evaluation, and medical and surgical treatment of orbital problems of children (eg, congenital anomalies, cellulitis, benign and malignant tumors, orbital inflammations).
2. Describe the etiology, evaluation, and medical and surgical treatment of orbital disorders of adults, including orbital cellulitis, thyroid orbitopathy, idiopathic orbital inflammation, vasculitis, congenital tumors, vascular tumors, neural tumors, lacrimal gland tumors, fibro-osseous tumors, histiocytic diseases, lymphoid tumors, metastatic tumors, blunt and penetrating trauma, orbital and facial fractures, anophthalmic socket problems, and skull base disease.
3. Describe the types of and indications for various biomaterials and orbital implants.

Nose

1. Describe basic anatomy and physiology.

Sinuses

1. Describe basic anatomy and physiology.

Head and Neck as it Relates to the Orbit and Adnexa

1. Describe basic anatomy and physiology.
2. Assess the face in terms of harmonious aesthetic units and evaluate the interrelationships of each.

B. Technical/Surgical Skills

Eyelid

1. Describe indications for and perform medical and surgical treatment of floppy eyelid syndrome.
2. Perform more complicated eyelid procedures, including:
   a. Levator advancement
   b. Retractor reinsertion
   c. Lower eyelid elevation
   d. Upper eyelid recession
   e. Eyebrow elevation
3. Perform complex ptosis repairs (eg, reoperations for height or contour abnormalities).
4. Perform complex lower eyelid procedures (eg, retraction using a spacer, cicatricial entropion using a mucous membrane graft).
5. Perform midface surgery (eg, midface lift for cicatricial and paralytic ectropion).
6. Perform advanced brow elevation techniques (eg, endoscopic, pretrichial, coronal).
7. Perform advanced eyelid reconstruction (eg, Hughes flap, Cutler-Beard procedure, tissue transfer, flaps, grafts).
8. Perform cosmetic upper blepharoplasty.
9. Perform cosmetic lower blepharoplasty.
10. Excise benign and malignant tumors involving the periorbital and adjacent regions.

Lacrimal

1. Describe management of and treat lacrimal system abnormalities, including:
   a. Complex congenital disorders (eg, canalicular stenosis)
   b. Complex trauma (ie, requiring lacrimal intubation)
2. Describe indications for and complications of, and perform intranasal endoscopic examination.
3. Describe management of complex acquired disorders and their treatment (eg, external and endoscopic dacryocystorhinostomy, conjunctivodacryocystorhinostomy with Jones tube).

Orbital

1. Describe indications for and complications of, and

perform basic orbital skills and procedures, including:

a. Socket reconstructions (eg, tissue transfers, grafts, flaps, synthetic implants)
b. Fracture repair of bones involving the periorbital region and orbit (eg, orbital floor, medial orbital wall, Le Fort, zygomaticomaxillary complex [ZMC], naso-orbito-ethmoid [NOE])
c. Orbitotomy for exploration, biopsy, and tumor removal using anterior, lateral, medial, and superior approaches; and orbital reconstruction
d. Enucleation, evisceration, exenteration, and secondary implants of the orbit
e. Complex or difficult socket-related problems and complications (eg, extrusion of implants, contracted socket, anophthalmic enophthalmos)
f. Optic nerve sheath fenestration
g. Orbital decompression for thyroid eye disease

Nasal

1. Describe nasal endoscopy as related to the management of lacrimal and periorbital processes.
2. Describe turbinectomy and nasal surgery as related to the management of lacrimal and periorbital processes.

Sinus

1. Describe sinus surgery and endoscopy as related to periorbital and lacrimal processes.

Head and Neck

1. Describe facial flaps, including temporal, midface, lower face/neck for functional and aesthetic conditions related to the management of periorbital processes.
2. Describe rhytidectomy, including the periorbital and adjacent areas.
3. Repair upper face and brow conditions, including brow ptosis repair.
4. Use neuromodulators (eg, botulinum toxin), dermal fillers, other technologies (eg, laser) and chemical/pharmaceutical agents for the management of contour and skin quality abnormalities (ie, functional and aesthetic).