

An artful blend of vision, function and appearance

Balancing the need to preserve vision, function and appearance, Bascom Palmer oculoplastic surgeons are in a unique position.

Oculoplastics, one of the newest subspecialties in the field of ophthalmology, covers a broad range of procedures that can improve both the function and appearance of the eyes. At Bascom Palmer Eye Institute, three full-time oculoplastic physicians treat patients ranging in age from birth to more than 100 years old. Oculoplastic surgeons train first as ophthalmologists, and second, as specialists in the field of ophthalmic plastic and reconstructive surgery. They perform procedures to address problems of the orbit (eye socket), eyelids, tear drainage system and the face, as well as conditions ranging from orbital tumors and congenital defects to fractures and clogged tear ducts. In addition, these physicians perform a variety of procedures that can cosmetically enhance a patient's appearance.

"What we do is quite different from what general plastic surgeons do," says David T. Tse, M.D., professor of ophthalmology and director of Bascom Palmer's ophthalmic plastic, orbital surgery and oncology service. "We are first and foremost ophthalmologists, balancing the need to preserve vision, eyelid function and cosmesis [the surgical correction of a disfiguring defect or scar]."

In fact, Bascom Palmer's oculoplastic surgeons have unique abilities to perform a host of delicate procedures around the eyes, such as eyelid repair following accidents, tissue destruction by skin cancers, orbital decompression for thyroid eye disease, removing blind, painful eyes, and making an opening on the optic nerve lining.

Novel Treatments for Eye Cancers

Bascom Palmer is at the forefront of treating a variety of orbital cancers and skin cancers around the eye. "The goals in the management of any malignant eyelid lesion are to establish an early accurate diagnosis, to effect total tumor removal and to preserve or restore eyelid function and appearance of the eye," says Tse. "Our surgeons work closely with a Mohs' surgeon, who is a dermatologist. Using a system of mapping, tumor excision is continued until the margins are all clear of cancer cells. The eyelid defect is then reconstructed by the oculoplastic surgeon on the same day. This interdisciplinary, collaborative team approach allows two unbiased specialists to offer their shared expertise in achieving the best surgical outcome for the patient," explains Tse.

For patients with skin cancer around the eyelid, extensive eyelid reconstruction is often necessary following tumor removal. Bascom Palmer's surgeons use novel surgical techniques they developed for reconstruction. These same surgeons use highly specialized tools and the most advanced techniques in the field for safe removal of tumors behind the eye. Because the eye socket is surrounded by important structures, Bascom Palmer's oculoplastic surgeons have fostered a very productive working relationship in conjoint treatment of trauma and cancer with many other physicians and surgeons in the University of Miami Miller School of Medicine's clinical services, including otolaryngology, dermatology, neurosurgery, radiology, radiation therapy, pathology and medical oncology.





Drs. Thomas Johnson, Wendy Lee and David Tse provide comprehensive oculoplastic services that preserve vision, function and appearance. They provide a shared expertise in discussing complex cases.

In addition, he says researchers and physicians at the institute work together to study disease process. “At Bascom Palmer, we are engaged in translational research – translating scientific discovery into clinical reality in terms of diagnostics and therapies for oculoplastic and orbital diseases,” says Tse. “We look at the molecular genetics of the tumor to better understand how it is formed and why it behaves so aggressively.” By unraveling the disease at a molecular level, physicians can design therapies to target cancer at its most vulnerable point.

Earlier this year, Tse was credited with a major advance in the treatment of a lethal orbital cancer. A technique that he developed to treat patients with a deadly form of lacrimal (or tear) gland cancer received national attention in the *American Journal of Ophthalmology*, the profession’s most rigorously peer-reviewed journal. The technique involves infusing a high concentration of chemotherapy into the artery that supplies the lacrimal gland through a catheter inserted in the groin. The new protocol has been proven to improve the five-year survival rate for this aggressive form of cancer from less than 45 percent to more than 83 percent. More importantly, Tse and his colleagues introduced microdissection genotyping analysis as a new diagnostic platform to search for molecular clues to better understand the biological behavior of this tumor.

Tse collaborated with Pasquale Benedetto, M.D., a professor at the Sylvester Comprehensive Cancer Center of the University of Miami Miller School of Medicine, on the study. Tse calls the new treatment protocol one of his most rewarding professional accomplishments – because it saves lives.

A Wide Variety of Cases

“There is an extraordinarily broad spectrum of oculoplastic disorders we see, many of which require a creative management approach,” says Wendy W. Lee, M.D., M.S., assistant professor of ophthalmology. “It is quite a diverse specialty.”

Like her colleagues, Lee’s clinical interests include the full spectrum of lacrimal, eyelid and orbital reconstructive surgeries due to disease or injury, as well as orbital oncology, thyroid-related eye conditions and optic nerve disorders. Her practice emphasis is in aesthetic and rejuvenative procedures.

Recently, she operated on a 13-month-old child from Jamaica who was born without any eyelids. In addition to performing the delicate surgical procedure to create new eyelids for the young patient, Lee will determine if the child's vision can be saved. The case is one of the many challenging cases referred to the institute's renowned oculoplastics service; a service which Thomas E. Johnson, M.D., professor of clinical ophthalmology, believes is "one of the busiest and most comprehensive in the nation."

Johnson has a keen interest in pediatric orbital tumors. His most memorable patient at Bascom Palmer is an 18-month little girl who presented with bulging of her left eye and bruising of her eyelids. He discovered that she had a metastatic neuroblastoma, a malignant tumor behind the eye associated with a primary cancer in the abdomen. An aggressive surgical approach, aided by collaboration with a pediatric oncologist and general surgeon, resulted in complete regression of her tumors. "The statistical survival rate for this particular neoplasm was only 11%, but she is alive, well, and a straight-A student 8 years later," explains Johnson. "I still see her every six months, and she remains tumor-free and healthy, with excellent vision in both eyes. It is the best reward a doctor can obtain to see what a difference he or she can make in a patient's life."

Surgical Procedures to Correct Common Problems

Among the more common problems treated by Bascom Palmer's oculoplastic surgeons are disorders related to the lacrimal drainage system, more commonly known as tear ducts. These problems may occur in children who are born with an underdeveloped or blocked tear duct system or in adults as an acquired condition. "A blocked tear duct is not a vision threatening situation," says Johnson. "But it is very bothersome and a source of constant aggravation for the patient."

Another common encounter, he says, is *ptosis*, or droopy eyelids, a condition that may affect one or both upper eyelids. In addition to affecting a person's appearance, ptosis may limit an individual's field of vision and cause symptoms such as eye-strain and forehead fatigue from constantly raising the eyebrows in an effort to keep the eyelids raised. At Bascom Palmer, surgery for ptosis is performed on an out-patient basis under local anesthesia. Sutures remain in the eyelids for about one week, and recovery time is quite short.

Similarly, excess eyelid skin is a common problem encountered by the oculoplastic surgeons. Because eyelid skin is the thinnest skin on the body, it tends to stretch with age. As the skin stretches in the upper eyelid, it can limit a person's peripheral or upper vision and create a heavy sensation on the eyelids. The excess skin can also cause 'bags' to form in the lower eyelids.

The procedure for removing excess eyelid skin is called *blepharoplasty*. In upper eyelid blepharoplasty, also known as an eyelid lift, a surgeon removes the excess skin and fat to restore and to widen the functional visual field. The lower eyelid blepharoplasty procedure reduces the bulging orbital fat and excess skin, diminishing the appearance of 'bags' and giving a patient a more energetic, refreshed look. The procedures for removing redundant eyelid skin are often performed under local anesthesia in an out-patient setting.

Oculoplastic surgery is a subspecialty in which there can be no substitute for experienced and skilled observations in diagnosis and management. An oculoplastic surgeon is keenly aware of the complex interplay of eyelid anatomy and physiologic requirements of the eye. "The advantage of having a blepharoplasty performed by an oculoplastic surgeon is that we have spent years studying the eye and are very familiar with the anatomy of this organ and its surrounding structures," says Lee. Knowledge of eyelid anatomy is important to the successful outcome of any surgeries around the eye. "We deal with the eyelids on a daily basis, and we are trained to respond to eye emergencies, should vision-threatening intraoperative complications supervene," adds Johnson.

Ectropion, the sagging and turning outward of the lower eyelid margin and lashes usually due to aging,



Before

After

While it may appear that the child photographed in the "before" picture merely has his eyes closed, this is a child with *blepharophimosis syndrome*, a condition characterized by droopy eyelids, redundant skin fold by the corner of the eye, and a widened intercanthal (from medial corner of one eye to the medial corner of another) distance. Correction of this condition required seven procedures; three procedures on each eye and one procedure to harvest tissues from the leg used to suspend the eyelids. The post-operative photo was a transformative moment for the child.

Continued on page 6

Aesthetic center balances surgical science and beauty

As individuals age, skin loses its elasticity and overall appearance can change significantly. At Bascom Palmer's new aesthetic center, a division of the oculoplastics service, a variety of surgical and non-surgical options allows patients to take advantage of opportunities to cosmetically enhance their appearance.

In addition to restoring drooping eyelids and removing excess eyelid skin, Bascom Palmer's skilled oculoplastic specialists offer forehead and brow lifts to restore a more youthful and refreshed look above the eyes. Among the procedures offered to lift the forehead and brow at the center are: a small incision endoscopic technique; *transblepharoplasty*, which uses absorbable implants; and a *coronal brow lift*, a more involved and effective technique for elevating the eyebrows to a higher position.

Contour threads, a self-anchoring thread technology, uses barbed threads to provide a minimally invasive way to lift the brows, midface, jowls and neck. Surgeons at Bascom Palmer are among the first in the nation to be certified to perform this technique designed to produce a relaxed, fresh appearance while preserving the natural contours of the face. This is a relatively new technology, and long-term efficacy has not been determined.

Non-surgical cosmetic enhancements offered at the aesthetic center, including *Botox*®, dermal fillers and photorejuvenation, can address the problem of wrinkles associated with aging. The use of Botox as a wrinkle reduction procedure can minimize or soften the wrinkles on the upper third of the face. The treatments, which consist of a series of tiny injections, act to temporarily relax facial muscles. Because of their understanding of the eyelids, brows and orbit, Bascom Palmer's oculoplastic subspecialists are uniquely qualified to administer these treatments. In fact, botulinum was first introduced by an ophthalmologist in early 1980 to treat crossed eyes. The subsequent application in treating eyelid spasms led to the fortuitous observation of wrinkle disappearance, giving rise to the current popularity in cosmetic use.

Dermal filler, a substance injected into the skin, may restore volume and fullness to the skin to correct facial wrinkles and folds. Bascom Palmer aesthetic surgeons use several types of dermal fillers to enhance volume, particularly in the lips and lower face. These fillers also can

be used around the eyes in selected patients to minimize the appearance of aging lines or dark circles.

Photorejuvenation using *Intense Pulsed Light*™, a non-invasive process that delivers light to the skin in precise pulses to stimulate the formation of new collagen, is also



Dr. Wendy Lee explains how aesthetic procedures enhance the skin's appearance.

offered. The process treats age spots and sun damage as well as vascular blemishes, brown pigmentation, birthmarks and scars. The therapy can also provide permanent hair removal.

Bascom Palmer's new aesthetic center combines beauty and superb medicine to attain cosmetic enhancements for patients.

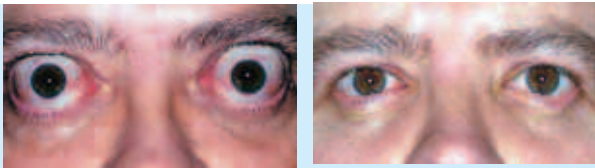
**For more information on our new
Aesthetic Center, call 305-482-4888 and
request a free brochure.**

and *entropion*, a condition which occurs when the eyelid margin turns inward, are also among the common problems seen at the institute. Simple outpatient surgical procedures are used to address these anatomical problems, which in turn will alleviate tearing, irritation and scratchiness patients generally experience. Tse developed a surgical technique that is commonly used to correct severe ectropion.

Treating Other Eye Conditions

Certain conditions, such as thyroid eye disease, require a multispecialty approach which includes oculoplastic expertise. The thyroid-related disorder causes inflammation of the eye muscles, which enlarge within the eye socket. Patients often present with bulging and/or staring eyes, eyelids that cannot close, or a dry, uncomfortable eye surface. The swollen muscles can exert pressure on the optic nerve and, if left untreated, can lead to vision compromise. These signs and symptoms are due to a discrepancy between too much expanded tissue behind the eye and not enough room within the fixed volume of the bony orbit to house them.

When other therapies fail to reduce muscle swelling, oculoplastic surgeons relieve the pressure on the optic nerve by removing part of the bony wall and floor of the eye's socket. By doing so, they create additional space for swollen muscles, thus relieving compression on the optic nerve. Additionally, oculoplastic surgeons often reconstruct the eyelids of these patients to ensure the cornea is protected and to improve the patient's appearance.



Before

After

A thyroid-related disorder may cause inflammation of the eye muscles causing bulging eyes that may lead to vision loss. By relieving pressure on the optic nerve, removing part of the eye socket and reconstructing eyelids, vision can be retained and appearance can be improved.

Individuals losing vision in both eyes due to increased intracranial pressure may also benefit from the specialized expertise of Bascom Palmer's oculoplastic surgeons. This condition occurs most frequently in obese women of child-bearing age. Working closely with neuro-ophthalmologists, the surgeon creates a "window" in the lining of the optic nerve sheath, a delicate procedure called *optic nerve sheath fenestration*. The procedure effectively releases built-up fluid pressure within the nerve, thereby improving the ability of the optic nerve to function properly.

"The surgery is challenging because you are working in a confined space behind the eye. Traumatizing the optic nerve can cause blindness," says Johnson. "The procedure is analogous to cutting a hole on the insulation of a live electrical wire," adds Tse.

Removing Eyes that Cannot Be Saved

In some instances, eyes cannot be saved. Occasionally eyes are lost to severe trauma, such as a gunshot wound, auto accident, severe facial burn or domestic abuse. In other instances, end-stage glaucoma or an old trauma may result in complete loss of sight and excessive pain. In these cases, surgeons must carefully remove the diseased or damaged eye and a new prosthetic eye is custom-made for the patient by the Bascom Palmer ocularist. "Losing an eye is quite a traumatic event for the patient," says Tse. "The patient goes through a gamut of emotions and endures a long period of adjustment. With the aid of a skilled ocularist, a person proficient in the design, fabrication, and fitting of artificial eyes and in the making of prostheses associated with the appearance or function of the eyes, we can help in the healing process by restoring appearance and the patient's self esteem."

The eye of one of his patients, an eleven-year-old girl with a rare form of orbital cancer, could not be saved. When surgery, radiation and chemotherapy failed to stop the cancer, Tse removed the eye, all the contents in the orbit and both eyelids – all necessary to save her life. A special facial prosthesis, including an artificial eye, eyelids and eyelashes was created to fill the cavity in her socket and restore the young girl's appearance.

Finding Solutions

"We deal with so many different conditions; our practice crosses over to many disciplines," says Tse. "We are constantly challenged to find solutions to complex patient problems and to innovate. The clinical challenges, the stimulating collegial atmosphere, and the opportunity to work with a high-octane intellectual group of Bascom Palmer scientists dedicated to vision research, are reasons to get up on time each morning to go to work."

To schedule an appointment with an oculoplastic surgeon, please call 1-888-845-0002, or visit us online at bascompalmer.org

Tragic loss opens patient's heart

When Patricia Kearns lost her eye to a bottle rocket 18 years ago, she made an important decision—a decision that would change her life. “I was upset. I was angry,” she recalls. “But you have to decide, are they going to get my eye or everything else too.” Mrs. Kearns only gave into the loss of her eye and embarked on a journey that she calls the start of her ‘lifetime love affair’ with Bascom Palmer Eye Institute.

Mrs. Kearns was just 38 when, at the end of a Memorial Day party at home, she finally sat down for a moment to enjoy the string quartet hired to entertain for the evening. That’s when a bottle rocket, launched by children across the canal, made a direct path to her eye.



Dr. Tse with patients, Patricia Kearns and Kenyetta (Keekee) English, both shining examples of grace and courage in the face of adversity.

“Patricia Kearns’ strong character leaves her essentially without peers with regard to humility, compassion, forgiveness and tolerance.” —David T. Tse, M.D.

“I was bleeding and in shock,” she recalls. Doctors at her local emergency room in Fort Lauderdale stabilized Mrs. Kearns for the ambulance ride to Bascom Palmer. Her husband Tom, a trustee and long time supporter of the University of Miami, knew the institute and its founder, Edward Norton, well.

At Bascom Palmer, David T. Tse, M.D., professor of ophthalmic plastic and reconstructive surgery, began the delicate attempt to save Mrs. Kearns’ eye and reconstruct her severely damaged eyelids. Five hours later, she awoke to find that despite the successful eyelid repair, her eye could not be saved—something she had suspected all along.

As devastating as was the news, Tse assured Mrs. Kearns that she could carry on a normal life. “You can do anything you want,” he told her. He was right. Within days, Mrs. Kearns was relearning simple tasks like going up and down stairs and pouring a glass of milk. Within months, she was fitted for a prosthetic eye, and by year’s end, she was driving once again.

“Her vibrant personality shines through and she chose to get on with her life,” says Tse. “Her strong character leaves her essentially without peers with regard to humility, compassion, forgiveness and tolerance.”

During one of her visits to Bascom Palmer, Mrs. Kearns overheard a woman telling Dr. Tse that she could not afford to pay for a prosthetic eye for her son. Mrs. Kearns saw an opportunity to help and offered to pay for the \$700 prosthesis. It was just the beginning of a long history of support for the institution. Shortly thereafter, Mrs. Kearns and her husband made a major donation to Bascom Palmer, funding the oculoplastics clinic and creating an endowment to help children whose parents could not afford prosthetic eyes.

“When God closes a door, He always opens a window,” Mrs. Kearns says. “I feel this incident really opened my heart.”

Over the years, Mrs. Kearns and her husband have continued their support of the department, providing significant funds to advance research and education at the institute and to help preserve the sight and repair the eyes of countless children.

“Patricia suffered a tragic personal loss,” says Tse. “This galvanic event opened her heart to kids losing an eye and she is deeply committed to helping them recover. Her charity, kindness and generosity are exemplary.”

“It’s important for people to know I consider all this part of my recovery,” says Mrs. Kearns. “Bascom Palmer has helped me more than I have helped them.”