Vol 8, No. 2

Cornea Society News

Spring 2012

A Cornea Society Publication

Cornea Day 2012 promises excitement

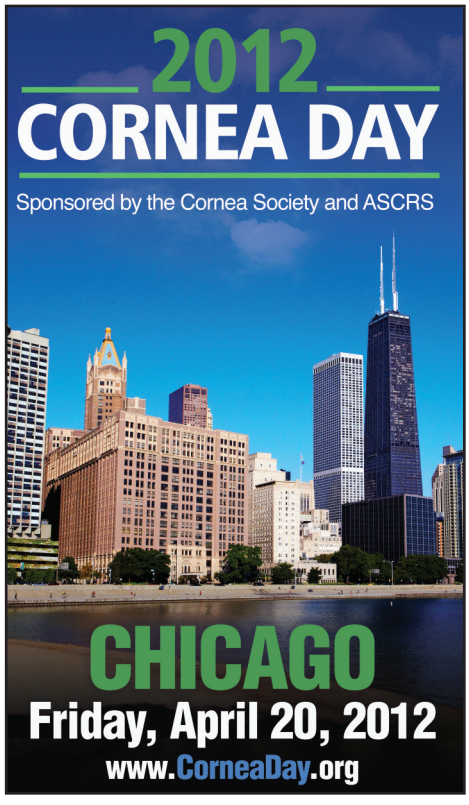
Attendees expecting the tried-and-true podium presentations at this year's Cornea Day will be pleasantly surprised, promised **Terry Kim, MD**, Planning Committee co-chair. Cornea Day, sponsored by the Cornea Society and ASCRS, is being held this year on Friday, April 20, the day before the official start of the ASCRS•ASOA Symposium & Congress.

"We've done a few things this year to shake it up a bit," Dr. Kim said. "We've made a concerted effort to appeal to both the general ophthalmologist and the corneal specialist." To easily differentiate the two for attendees, the program is including asterisks to identify those topics Dr. Kim and the rest of the committee felt were more appropriate for corneal specialists.

Great debates

"Other than the content, the way we're running the various programs is quite different," said Donald Tan, FRCS, president, the Cornea Society. "We'll be having some really interesting approaches—including a battle of the experts. A great example is DSEK vs. DMEK, with **Mark Terry, MD**, and **Frank Price, MD**, arguing for their techniques."

Cornea Day will feature "several point-counterpoint arguments, but this year we've asked people to argue for the counterpoint of their comfort zone. So, for instance, we've asked **Sonia Yoo, MD**, who does not believe phakic IOLs are a more appropriate choice than LASIK in post-PK eyes, to argue for the motion, and **Jose Guell, MD**, who is known to be pro-phakic IOL, to argue against the motion. It's counter to what people are used to seeing up on the podium, and I think it will add a dynamic we've never seen before," Prof. Tan said.



Controversies in corneal and ocular surface transplantation

In lieu of presentations with limited time for audience participation, both co-chairs noted the first session alone will be a "game-changer." The co-chairs invited top experts in the field to discuss penetrating keratoplasty (PK) versus deep anterior lamellar keratoplasty (DALK), versus combined femtosecond PK/DALK.

"Then we move right into what I think will be a heated discussion on Descemet's stripping endothelial keratoplasty versus Descemet's membrane endothelial keratoplasty," Dr. Kim said, echoing Prof. Tan's sentiments. "Immediately after that, we'll argue the virtues of limbal stem cell transplant versus keratoprosthesis." In each of the presentations, the presenter will have only 5 minutes to argue his point before a discussion period begins.

"Controversy and a lively debate will be the focus of this year's program," Prof. Tan said. "These are challenges for surgeons where there is no right answer."

Prof. Tan added he is particularly interested in hearing about corneal challenges for the cataract surgeon, which includes presentations on cataract surgery in patients with previous refractive surgery, if premium IOLs are appropriate for patients with corneal disease or corneal transplants, and how to manage iris defects.

"I'm hoping to learn a lot from this session. We've got a great panel of people who can address these issues that we see every day in surgery," Prof. Tan said.

Dr. Kim said he's particularly interested in hearing about using the femtosecond laser in softening the lens for presbyopia, listening to the debate on hysteresis, getting an update on the latest in corneal mechanics, and learning about corneal crosslinking for infectious keratitis.

"I can't think of a better way to kick off ASCRS than this year's Cornea Day program," Dr. Kim said. "We want to encourage everyone to attend."

"This year's presentations have been balanced so there are in-depth topics for corneal specialists and sessions for general ophthalmologists or

continued on page 2

The Cornea Society

Spring 2012

Dear Colleagues,

As the Cornea Society strives to be truly international, you may note the progressive increase in our representation within the scientific programs of various major regional and international meetings, the most recent being our involvement in organizing no less than four cornea sessions (encompassing keratoconus, dry eye, corneal replacement surgery, and eye banking) at the World Ophthalmology Congress held in Abu Dhabi in February. I am further pleased to report that the Society's international calendar for 2012 is replete with more educational activities. Our Society is being represented at several major ophthalmic congresses this year, including the Asia-Pacific Academy of Ophthalmology (APAO) Annual Meeting in Busan, Korea (April); the Refractive Online/S.I.C.S.S.O Meeting in Rome (June); the EuCornea Meeting in Milan, Italy (September); and the Asia Cornea Society (ACS) Scientific Meeting in Manila, Philippines (November). In addition, the Society will be organizing for the first time the VISTA Scientific Conference at ARVO this year, in Fort Lauderdale, Fla., in May. I am hoping that members will come forward to participate actively in many of these programs this year.

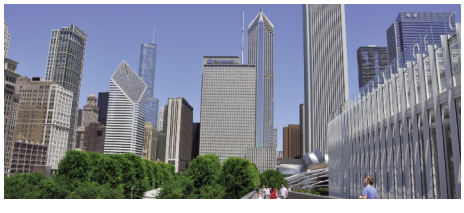
This is a culmination of the tireless efforts from the various Board members, and I wish to acknowledge their unflagging passion and devotion in organizing all of these sessions. Having the Society so well represented at so many diverse educational and scientific platforms reaching local, regional, and international ophthalmological communities around the world belies the Society's pursuit of its mission as an international society promoting the exchange of information in our field.

Being president of both the Cornea Society and the Asia Cornea Society affords me the unique opportunity to bring the two societies closer together in a linkage that will surely enhance the Cornea Society's presence in the Asia-Pacific region. I am most pleased to annouce the first of these collaborations already in the pipeline: Our two societies have committed to co-organize a Cornea Day immediately preceding the 26th Annual Meeting of the Asia-Pacific Association of Cataract and Refractive Surgeons (APACRS) in July 2013 in Singapore, which incidentally is also co-organized by ASCRS. This event in some respects will emulate Cornea Day at ASCRS, but in the heart of Asia and with a distinctively diversified scientific program put together by a joint organizing committee comprising representatives from the Boards of both societies.

Finally, I would like to highlight the scientific program of the upcoming 2012 Cornea Day at ASCRS, structured by the Cornea Day Planning Committee co-chaired by Terry Kim, MD, with novel and unique formats covering diverse topics, including Corneal Challenges for the Cataract Surgeon, Controversies in Corneal and Ocular Surface Transplantation, Advances in Diagnostics, Therapeutics, and Corneal Imaging, as well as Innovation and Dilemmas in Refractive Surgery—all which should not be missed.

Donald TH Tan, FRCS
President

Cornea Day continued from page 1



residents," Prof. Tan said. "It will be a program for everybody."

The Cornea Day planning committee includes the following ASCRS members: **Terry Kim, MD**, **Donald Tan, MD**, **Anthony J. Aldave, MD**, **W. Barry Lee, MD**, **Marian S. Macsai, MD**, **Francis S. Mah, MD**, **Neda Shamie, MD**, and **David T. Vroman, MD**.

2013 Joint APACRS Meeting in Singapore planning underway

The Asia Cornea Society is currently planning the Joint APACRS Meeting in Singapore, scheduled for July 11-14, 2013. The meeting will bring together for the first time the Asia Cornea Society, APACRS, ASCRS, and the Cornea Society.

"What we've done this year is a bit different," said Donald Tan, FRCS, director, Singapore National Eye Centre, and president, Asia Cornea Society. "We're making it essentially a global anterior segment meeting. Cataract and refractive is clearly anterior segment, and we're adding cornea into it in a big way."

The Singapore meeting will hold its own 1-day, comprehensive Cornea Day, brought together by the Cornea Society and the Asia Cornea Society.

"The Cornea Society is really an international society, so the ability of the Cornea Society to reach out and interact with the Asia Cornea Society and the other corneal societies around Asia will be [an] invaluable process toward getting everyone to work together," Prof. Tan said.

More information on the Joint APACRS Meeting in Singapore will be available during the ASCRS•ASOA Symposium & Congress in Chicago in April.

A new *International Journal of Keratoconus and Ectatic Corneal Diseases*

The first issue of the *International Journal of Keratoconus and Ectatic Corneal Diseases* has been published. The journal is published by Jaypee Brothers. The editor-in-chief is Adel Barbara, and the editorial board includes outstanding internationally recognized authorities in this field. The journal will be published three times a year.

The *International Journal of Keratoconus and Ectatic Corneal Diseases* is a peer-reviewed journal and intends to cover keratoconus and other ectatic corneal diseases, including pellucid marginal degeneration, Terrien's marginal degeneration, keratoglobus, and iatrogenic keratoconus, such as post-LASIK ectasia.

The journal will deal with new treatment modalities, such as collagen corneal crosslinking, intrastromal corneal rings, anterior lamellar keratoplasty, deep anterior lamellar keratoplasty, and the applications of femtosecond lasers in penetrating keratoplasty and corneal surgery. In addition, the journal will cover the use of the excimer laser in corneal surgery. Special interest is drawn to contact lenses and their use in keratoconus and ectatic corneal diseases.

The journal aims to publish articles arising out of original research, specialized topics, review articles, editorials, and descriptions of new diagnostic and therapeutic techniques and technologies. In addition, the journal will include pictorial reviews, letters to the editor, book reviews, and notices of meetings and courses.

The first issue introduced by Renato Ambrosio and Michael Belin includes an editorial from Dr. Barbara, an additional guest editorial by Thomas Mauger and Cynthia Roberts, and 14 articles, which include reviews, original research articles, case reports, and case series reports. View the website of the journal at www.ijkecd.com and the complete list of the editorial board members at www.ijkecd.com/Eboard.aspx.

Dr. Barbara told the Cornea Society that keratoconus is emerging as a new subspecialty in ophthalmology as a result of the huge advancements in corneal imaging and the new treatment modalities, and he hopes that the journal will provide a forum for discussion and stimulation of new developments in clinical practice and research in its field.

A "meeting of the minds" in Manila

Donald Tan, FRCS, hopes the 3rd Biennial Scientific Meeting of the Asia Cornea Society is a meeting of the minds, so to speak, working toward solving the specific issues facing Asia-based cornea specialists. Prof. Tan is director of the Singapore National Eye Centre and president of the Asia Cornea Society, which will hold its next conference on Nov. 27-29, in Manila, Philippines.

"Manila is a fantastic place," Prof. Tan said. "Delegates are looking forward to an interesting, fun-filled city."

Manila, the capital of the Philippines, is known for its vibrant nightlife, historic Spanish architecture, and unique street food. But the meeting location isn't the only draw. Prof. Tan is extremely pleased with the symposia content, which highlights eye banking, dry eye related to meibomian gland dysfunction, and corneal infections.

"There's probably more corneal infections in Asia than anywhere else in the world," Prof. Tan said. "Reasons are very diverse. Drugs are different, bugs are different. Something quite interesting [we] will be looking at [is] the theories of epidemics we're seeing in Asia and how [they] influence what the clinicians and scientists are doing in the region to tackle this problem."

Eye banking is an international issue that's particularly relevant to Asia. The Association of Eye Banks of Asia has organized a symposium on the progress and challenges of international eye banking to be held Wednesday, Nov. 28, at 8 a.m.

"There's no point in sorting out all the nice procedures and techniques if there aren't enough corneas to transplant," Prof. Tan said. "So we're meeting up with all the eye banking specialists, discussing all the solutions with particular relevance to Asia but [that] could have relevance to any part of the world."

As with any meeting, surgical techniques are a major focus. The Asia Cornea Society, however, will hone in on major developments and new paradigm shifts in corneal transplantation.

"Essentially, we're doing selective lamellar keratoplasty, whether it's DALK or the newer forms of endothelial keratoplasty like DMEK or DSAEK," Prof. Tan said.

Other scheduled talks include corneal imaging, corneal refractive surgery, and corneal dystrophy. Registration is open from now until the last day of the meeting. Online-only early bird rates are valid until September 30, after which onsite registration rates will apply.

"We've got many internationally renowned corneal specialists from around the world presenting," Prof. Tan said. "It's going to be a nice conglomerate of corneal specialists from around the world."

For more information about the Manila meeting, as well as a copy of the preliminary program, visit www.asiacorneasociety2012manila.com.

Friday, November 9, 2012
Chicago, IL
8:30 am–4:30 pm

Call for Submissions Opens June 2012

Registration Opens June 2012

Cornea Society/EBAA Fall Educational Symposium

www.corneasociety.org
www.restoresight.org

The Cornea Society

EYE BANK ASSOCIATION of AMERICA

EuCornea's success is based on collaboration and scientific excellence

Harminder S. Dua
President, EuCornea

The 2nd EuCornea (European Society of Cornea and Ocular Surface Disease Specialists) Congress in Vienna attracted close to 700 delegates who packed the lecture rooms for all of the sessions. There were 99 free papers and over 100 posters presented at the meeting. Delegates came to the congress not only from Europe but from all over the world. The 3rd EuCornea Congress in Milan, Italy, this year is expected to match or surpass the success of the Vienna meeting.

The latest in anterior lamellar and endothelial transplantation, new developments and applications of lasers in corneal surgery, a showcase symposium on new scientific research in cornea and ocular surface, collagen crosslinking, keratoprosthesis, and artificial corneas are among the hot topics that will be discussed. In addition, a highlight at the congress in Milan will be the 3rd EuCornea Medal Lecture. The 3rd EuCornea Congress will take place alongside the XXX ESCRS Congress.

Although corneal, cataract, and refractive surgeons distinguish themselves in relation to the primary area of their specialization, the cornea, lens, and eye do not. In real terms, these tissues relate to each other in their physiology (transparency) and function (refraction and transmission of light). Each impacts on the other, and several pathologies are interrelated. Hence there is considerable scope for all ophthalmologists to share their expertise and learn from each other's knowledge and experience. At the meeting in Milan, there will be special joint symposia with ESCRS and the World Congress of Pediatric Ophthalmology and Strabismus (WCPOS), which should be big attractions.

EuCornea will take place from September 6-8, 2012, in the MiCo, Milano Congressi, Piazzale Carlo Magno 20149, Milan, Italy.

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DUREZOL®
(difluprednate ophthalmic emulsion) 0.05%

HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all of the information needed to use Durezol® safely and effectively.
See full prescribing information for Durezol.

DUREZOL® (difluprednate ophthalmic emulsion) 0.05%

Initial U.S. approval: 2008

----------INDICATIONS AND USAGE----------

Durezol is a topical corticosteroid that is indicated for the treatment of inflammation and pain associated with ocular surgery. **(1)**

----------DOSAGE AND ADMINISTRATION----------

Instill one drop into the conjunctival sac of the affected eye(s) 4 times daily beginning 24 hours after surgery and continuing throughout the first 2 weeks of the postoperative period, followed by 2 times daily for a week and then a taper based on the response. **(2)**

----------DOSAGE FORMS AND STRENGTHS----------

Durezol contains 0.05% difluprednate, as a sterile preserved ophthalmic emulsion for topical ophthalmic use only. **(3)**

----------CONTRAINDICATIONS----------

Durezol, as with other ophthalmic corticosteroids, is contraindicated in most viral diseases of the cornea and conjunctiva including epithelial herpes simplex keratitis (dendritic keratitis), vaccinia, and varicella, and also in mycobacterial infection of the eye and fungal diseases of ocular structures. **(4)**

----------WARNINGS AND PRECAUTIONS----------

- Intraocular pressure (IOP) increase - Prolonged use of corticosteroids may result in glaucoma with damage to the optic nerve, defects in visual acuity and fields of vision. If this product is used for 10 days or longer, IOP should be monitored. **(5.1)**
- Cataracts - Use of corticosteroids may result in posterior subcapsular cataract formation. **(5.2)**
- Delayed healing - The use of steroids after cataract surgery may delay healing and increase the incidence of bleb formation. In those diseases causing thinning of the cornea or sclera, perforations have been known to occur with the use of topical steroids. The initial prescription and renewal of the medication order beyond 28 days should be made by a physician only after examination of the patient with the aid of magnification such as slit lamp biomicroscopy and, where appropriate, fluorescein staining. **(5.3)**
- Bacterial infections - Prolonged use of corticosteroids may suppress the host response and thus increase the hazard of secondary ocular infections. In acute purulent conditions, steroids may mask infection or enhance existing infection. If signs and symptoms fail to improve after 2 days, the patient should be re-evaluated. **(5.4)**
- Viral infections - Employment of a corticosteroid medication in the treatment of patients with a history of herpes simplex requires great caution. Use of ocular steroids may prolong the course and may exacerbate the severity of many viral infections of the eye (including herpes simplex). **(5.5)**
- Fungal infections - Fungal infections of the cornea are particularly prone to develop coincidentally with long-term local steroid application. Fungus invasion must be considered in any persistent corneal ulceration where a steroid has been used or is in use. **(5.6)**

To report SUSPECTED ADVERSE REACTIONS, contact Alcon Laboratories, Inc. at 1-800-757-9195 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

See 17 for PATIENT COUNSELING INFORMATION.

Revised date: March 2010

FULL PRESCRIBING INFORMATION: CONTENTS*

*Sections or subsections omitted from the full prescribing information are not listed.

FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

Durezol (difluprednate ophthalmic emulsion) 0.05%, a topical corticosteroid, is indicated for the treatment of inflammation and pain associated with ocular surgery.

2 DOSAGE AND ADMINISTRATION

Instill one drop into the conjunctival sac of the affected eye(s) 4 times daily beginning 24 hours after surgery and continuing throughout the first 2 weeks of the postoperative period, followed by 2 times daily for a week and then a taper based on the response.

3 DOSAGE STRENGTHS

Durezol contains 0.05% difluprednate as a sterile preserved emulsion for topical ophthalmic administration.

4 CONTRAINDICATIONS

The use of Durezol, as with other ophthalmic corticosteroids, is contraindicated in most active viral diseases of the cornea and conjunctiva including epithelial herpes simplex keratitis (dendritic keratitis), vaccinia, and varicella, and also in mycobacterial infection of the eye and fungal disease of ocular structures.

5 WARNINGS AND PRECAUTIONS

5.1 IOP Increase

Prolonged use of corticosteroids may result in glaucoma with damage to the optic nerve, defects in visual acuity and fields of vision. Steroids should be used with caution in the presence of glaucoma. If this product is used for 10 days or longer, intraocular pressure should be monitored.

5.2 Cataracts

Use of corticosteroids may result in posterior subcapsular cataract formation.

5.3 Delayed Healing

The use of steroids after cataract surgery may delay healing and increase the incidence of bleb formation. In those diseases causing thinning of the cornea or sclera, perforations have been known to occur with the use of topical steroids. The initial prescription and renewal of the medication order beyond 28 days should be made by a physician only after examination of the patient with the aid of magnification such as slit lamp biomicroscopy and, where appropriate, fluorescein staining.

5.4 Bacterial Infections

Prolonged use of corticosteroids may suppress the host response and thus increase the hazard of secondary ocular infections. In acute purulent conditions, steroids may mask infection or enhance existing infection. If signs and symptoms fail to improve after 2 days, the patient should be re-evaluated.

5.5 Viral Infections

Employment of a corticosteroid medication in the treatment of patients with a history of herpes simplex requires great caution. Use of ocular steroids may prolong the course and may exacerbate the severity of many viral infections of the eye (including herpes simplex).

5.6 Fungal Infections

Fungal infections of the cornea are particularly prone to develop coincidentally with long-term local steroid application. Fungus invasion must be considered in any persistent corneal ulceration where a steroid has been used or is in use. Fungal culture should be taken when appropriate.

5.7 Topical ophthalmic use only

Durezol is not indicated for intraocular administration.

6 ADVERSE REACTIONS

Adverse reactions associated with ophthalmic steroids include elevated intraocular pressure, which may be associated with optic nerve damage, visual acuity and field defects, posterior subcapsular cataract formation, secondary ocular infection from pathogens including herpes simplex, and perforation of the globe where there is thinning of the cornea or sclera. Ocular adverse reactions occurring in 5–15% of subjects in clinical studies with Durezol included corneal edema, ciliary and conjunctival hyperemia, eye pain, photophobia, posterior capsule opacification, anterior chamber cells, anterior chamber flare, conjunctival edema, and blepharitis. Other ocular adverse reactions occurring in 1–5% of subjects included reduced visual acuity, punctate keratitis, eye inflammation, and iritis. Ocular adverse events occurring in < 1% of subjects included application site discomfort or irritation, corneal pigmentation and striae, episcleritis, eye pruritis, eyelid irritation and crusting, foreign body sensation, increased lacrimation, macular edema, scleral hyperemia, and uveitis. Most of these events may have been the consequence of the surgical procedure.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Teratogenic Effects

Pregnancy Category C. Difluprednate has been shown to be embryotoxic (decrease in embryonic body weight and a delay in embryonic ossification) and teratogenic (cleft palate and skeletal) anomalies when administered subcutaneously to rabbits during organogenesis at a dose of 1–10 µg/kg/day. The no-observed-effect-level (NOEL) for these effects was 1 µg/kg/day, and 10 µg/kg/day was considered to be a teratogenic dose that was concurrently found in the toxic dose range for fetuses and pregnant females. Treatment of rats with 10 µg/kg/day subcutaneously during organogenesis did not result in any reproductive toxicity, nor was it maternally toxic. At 100 µg/kg/day after subcutaneous administration in rats, there was a decrease in fetal weights and delay in ossification, and effects on weight gain in the pregnant females. It is difficult to extrapolate these doses of difluprednate to maximum daily human doses of Durezol, since Durezol is administered topically with minimal systemic absorption, and difluprednate blood levels were not measured in the reproductive animal studies. However, since use of difluprednate during human pregnancy has not been evaluated and cannot rule out the possibility of harm, Durezol should be used during pregnancy only if the potential benefit justifies the potential risk to the embryo or fetus.

8.3 Nursing Mothers

It is not known whether topical ophthalmic administration of corticosteroids could result in sufficient systemic absorption to produce detectable quantities in breast milk. Systemically administered corticosteroids appear in human milk and could suppress growth, interfere with endogenous corticosteroid production, or cause other untoward effects. Caution should be exercised when Durezol is administered to a nursing woman.

8.4 Pediatric Use

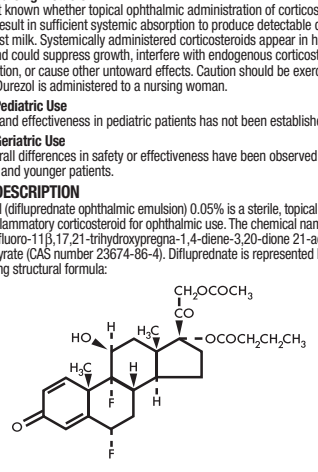
Safety and effectiveness in pediatric patients has not been established.

8.5 Geriatric Use

No overall differences in safety or effectiveness have been observed between elderly and younger patients.

11 DESCRIPTION

Durezol (difluprednate ophthalmic emulsion) 0.05% is a sterile, topical anti-inflammatory corticosteroid for ophthalmic use. The chemical name is 6α,9difluoro-11β,17,21-trihydroxypregna-1,4-diene-3,20-dione 21-acetate 17-butyrate (CAS number 23674-86-4). Difluprednate is represented by the following structural formula:



Difluprednate has a molecular weight of 508.56, and the empirical formula is C27H34F2O7. Each mL contains: ACTIVE: difluprednate 0.5 mg (0.05%); INACTIVE: boric acid, castor oil, glycerin, polysorbate 80, purified water, sodium acetate, sodium EDTA, sodium hydroxide (to adjust the pH to 5.2 to 5.8). The emulsion is essentially isotonic with a tonicity of 304 to 411 mOsm/kg. PRESERVATIVE: sorbic acid 0.1%.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

Corticosteroids inhibit the inflammatory response to a variety of inciting agents that may delay or slow healing. They inhibit edema, fibrin deposition, capillary dilation, leukocyte migration, capillary proliferation, fibroblast proliferation, deposition of collagen, and scar formation associated with inflammation. There is no generally accepted explanation for the mechanism of action of ocular corticosteroids. However, corticosteroids are thought to act by the induction of phospholipase A2 inhibitory proteins, collectively called lipocortins. It is postulated that these proteins control the biosynthesis of potent mediators of inflammation such as prostaglandins and leukotreines by inhibiting the release of their common precursor arachidonic acid. Arachidonic acid is released from membrane phospholipids by phospholipase A_2. Difluprednate is structurally similar to other corticosteroids.

12.3 Pharmacokinetics

Difluprednate undergoes deacetylation in vivo to 6α,9-difluoroprednisolone 17-butyrate (DFB), an active metabolite of difluprednate. Clinical pharmacokinetic studies of difluprednate after repeat ocular instillation of 2 drops of difluprednate (0.01% or 0.05%) QID for 7 days showed that DFB levels in blood were below the quantification limit (50 ng/mL) at all time points for all subjects, indicating the systemic absorption of difluprednate after ocular instillation of Durezol is limited.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, and Impairment of Fertility

Difluprednate was not genotoxic in vitro in the Ames test, and in cultured mammalian cells CHL/IU (a fibroblastic cell line derived from the lungs of newborn female Chinese hamsters). An in vivo micronucleus test of difluprednate in mice was also negative. Treatment of male and female rats with subcutaneous difluprednate up to 10 µg/kg/day prior to and during mating did not impair fertility in either gender. Long term studies have not been conducted to evaluate the carcinogenic potential of difluprednate.

13.2 Animal Toxicology and/or Pharmacology

In multiple studies performed in rodents and non-rodents, subchronic and chronic toxicity tests of difluprednate showed systemic effects such as suppression of body weight gain; a decrease in lymphocyte count; atrophy of the lymphatic glands and adrenal gland; and for local effects, thinning of the skin; all of which were due to the pharmacologic action of the molecule and are well known glucocorticosteroid effects. Most, if not all of these effects were reversible after drug withdrawal. The NOEL for the subchronic and chronic toxicity tests were consistent between species and ranged from 1–1.25 µg/kg per day.

14 CLINICAL STUDIES

14.1 Postoperative Ocular Inflammation and Pain

Clinical efficacy was evaluated in 2 randomized, double-masked, placebo-controlled trials in which subjects with an anterior chamber cell grade ≥ "2" (a cell count of 11 or higher) after cataract surgery were assigned to Durezol or placebo (vehicle) following surgery. One drop of Durezol or vehicle was self instilled either 2 (BID) or 4 (QID) times per day for 14 days, beginning the day after surgery. The presence of complete clearing (a cell count of 0) was assessed 8 and 15 days post-surgery using a slit lamp binocular microscope. In the intent-to-treat analyses of both studies, a significant benefit was seen in the QID Durezol-treated group in ocular inflammation and reduction of pain when compared with placebo. The consolidated clinical trial results are provided below.

Ocular Inflammation and Pain Endpoints (Studies Pooled)

	Durezol QID (n = 107)		Vehicle (n = 220)	
Day	8	15	8	15
Anterior Chamber cell clearing (% subjects)	24 (22%)*	44 (41%)*	17 (7%)	25 (11%)
Pain free (% subjects)	62 (58%)*	67 (63%)*	59 (27%)	76 (35%)

*Statistically significantly better than vehicle, $p<0.01$

16 HOW SUPPLIED/STORAGE AND HANDLING

Durezol (difluprednate ophthalmic emulsion) 0.05% is a sterile, aqueous topical ophthalmic emulsion supplied in an opaque plastic bottle with a controlled drop tip and a pink cap in the following size: 5 mL in a 5 mL bottle (NDC 42826-601-05).

Storage

Store at 15-25°C (59-77°F). Do not freeze. Protect from light. When not in use keep the bottles in the protective carton.

17 PATIENT COUNSELING INFORMATION

This product is sterile when packaged. Patients should be advised not to allow the dropper tip to touch any surface, as this may contaminate the emulsion. If pain develops or if redness, itching, or inflammation becomes aggravated, the patient should be advised to consult a physician. As with all ophthalmic preparations containing a preservative, patients should be advised not to wear contact lenses when using Durezol.

Revised: March 2010

References:

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5. Fingertip Formulary. November 2010.

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BECAUSE inflammation HAPPENS

Make DUREZOL® Emulsion your steroid for post-op care.

Unique molecular design optimizes potency and penetration[1-4]

Covered on more than 82% of national formularies[5]

IMPORTANT SAFETY INFORMATION:

Indications and Usage: DUREZOL® Emulsion is a topical corticosteroid that is indicated for the treatment of inflammation and pain associated with ocular surgery.

Dosage and Administration: Instill one drop into the conjunctival sac of the affected eye(s) 4 times daily beginning 24 hours after surgery and continuing throughout the first 2 weeks of the postoperative period, followed by 2 times daily for a week and then a taper based on the response.

Contraindications: DUREZOL® Emulsion, as with other ophthalmic corticosteroids, is contraindicated in most active viral diseases of the cornea and conjunctiva including epithelial herpes simplex keratitis (dendritic keratitis), vaccinia, and varicella, and also in mycobacterial infection of the eye and fungal diseases of ocular structures.

Warnings and Precautions:

- *Intraocular pressure (IOP) increase* – Prolonged use of corticosteroids may result in glaucoma with damage to the optic nerve, defects in visual acuity and fields of vision. If this product is used for 10 days or longer, IOP should be monitored.
- *Cataracts* – Use of corticosteroids may result in posterior subcapsular cataract formation.
- *Delayed healing* – The use of steroids after cataract surgery may delay healing and increase the incidence of bleb formation. In those diseases causing thinning of the cornea or sclera, perforations have been known to occur with the use of topical steroids. The initial prescription and renewal of the medication order beyond 28 days should be made by a physician only after examination of the patient with the aid of magnification such as slit lamp biomicroscopy and, where appropriate, fluorescein staining.
- *Bacterial infections* – Prolonged use of corticosteroids may suppress the host response and thus increase the hazard of secondary ocular infections. In acute purulent conditions, steroids may mask infection or enhance existing infection. If signs and symptoms fail to improve after 2 days, the patient should be re-evaluated.
- *Viral infections* – Employment of a corticosteroid medication in the treatment of patients with a history of herpes simplex requires great caution. Use of ocular steroids may prolong the course and may exacerbate the severity of many viral infections of the eye (including herpes simplex).
- *Fungal infections* – Fungal infections of the cornea are particularly prone to develop coincidentally with long-term local steroid application. Fungus invasion must be considered in any persistent corneal ulceration where a steroid has been used or is in use.

Adverse Events: Ocular adverse reactions occurring in 5-15% of subjects in clinical studies with DUREZOL® Emulsion included corneal edema, ciliary and conjunctival hyperemia, eye pain, photophobia, posterior capsule opacification, anterior chamber cells, anterior chamber flare, conjunctival edema, and blepharitis.

Please see full prescribing information on adjacent page.

DUREZOL®
(difluprednate ophthalmic emulsion) 0.05%

Alcon®

 12/10 DUR11500JAD U.S. Patent No. 6,114,319