

# Vision With Attitude

**Medicals International**

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## WELCOME TO 2008!

Dear Valuable Customers, Partners and Friends,  
Happy new year to all of you and best wishes for a healthy and prosperous 2008;

The calendar watch is ticking; yes, it is already 13 years since our first encounter with you. Yes, it has been that long since that day when single handedly we came to you and promised you of a dream resolve that shall turn around our livelihood in a struggling industry frustrated from cheap competition to something of more significance. We promised ourselves and you of a mission that will involve advanced science, sophisticated trading, transparent partnership that shall lead our industry to service happier, healthier and more content human beings.

Have we lived up to that commitment? It is really up to you to judge!

However, my job, and especially at this time of the year, is to renew my team and my personal commitment & resolve to you and to everyone around us that our determination remains intact. We are still as excited, and as ever committed, to that first morning encounter when we came to you and discussed things that were beyond our humanly available resources and our possibilities and capabilities; then that late afternoon call when we promised you: that we will together lead a sweeping campaign, a land sliding move that will change our

potential & prospective future and consequently our well being.

Medicals International holds up today as ever before to the promise of our 13 years old history to remain a company dedicated to your cause; suppliers, customers and staff. It is a company with an expansionist mission and positive spirit dedicated to the health care industry with both a horizontal and vertical expansion plan that is summed up in more countries to service and more products' offerings at a more responsible level.

I close my appeal with a promise to you all on various channels; supply, service or beneficiaries that we will emerge slowly but surely leaders in our industry on both the commercial and economic level and more so on the methodology followed to ensure the final outcome benefits first our valued patients then all of us working on that exercise.

Happy New Year and thanks for a trust well placed I promise.

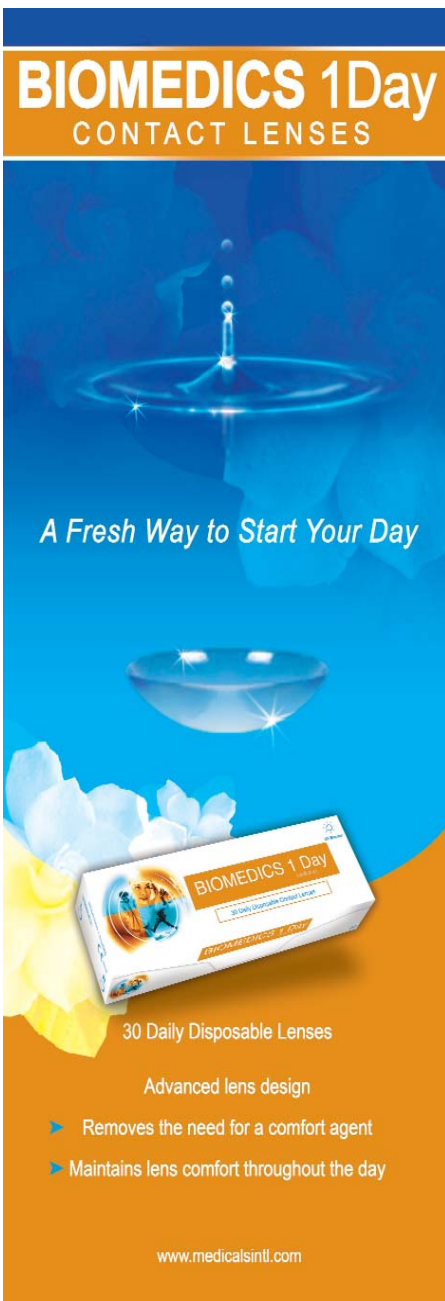
Your colleague and Partner,  
Walid G. Barake  
President and Founder.



MEDICALS INTERNATIONAL IS PROUD TO ANNOUNCE THE LAUNCHING OF ITS NEW WEBSITE. PLEASE VISIT: [www.medicalsintl.com](http://www.medicalsintl.com)

## BIOMEDICS ONE DAY NOW IN DUBAI

## BIOMEDICS 1Day CONTACT LENSES



**BIOMEDICS 1Day**  
CONTACT LENSES

*A Fresh Way to Start Your Day*

30 Daily Disposable Lenses

Advanced lens design

- ▶ Removes the need for a comfort agent
- ▶ Maintains lens comfort throughout the day

www.medicalsintl.com

Medicals International L.L.C was pleased to launch last October 2007 the all New Biomedics 1Day throughout the United Arab Emirates. The launching involved a series of seminars and presentations specific to chains as well as open events intended for all eye care practitioners in the United Arab Emirates.

Mr. Walid Barake, President and Founder of Medicals International went through the clinical and economic benefits of the 1 Day segment to each practice in the U.A.E. "Raising awareness on the benefits of the 1 Day contact lens segment is key in our region". Mr Barake explained the quoted data from various international sources on the penetration level of the 1 Day segment in the CL wearers population in various parts of the world.

Mireille Gemayel Bou Chahine, Sales Manager, UAE introduced the Biomedics 1 Day. "Biomedics is a leading contact lens brand in our region known for its advanced clinical benefit and superior comfort. The 1 Day is no different. Coopervision / Ocular Sciences worked on specific design features such as the shaping of the edge of the lens, and the automated quality control to ensure the All New Biomedics 1 Day continues to be the best engineered contact lens in the industry".

"Our Biomedics ALL NEW 1 DAY is now offered in a consumer friendly attractive packaging and responds to our valued wearers base needs by having a new easy to open blister" Mrs Bou Chahine added. The events were followed by lunch in a very comfortable and friendly atmosphere.

Mireille Gemayel Bou Chahine  
Sales Manager  
U.A.E.



## THE ALL NEW BIOMEDICS 1DAY PRODUCT SPECIFICATIONS

*The newly designed pack & patient friendly blister.*



## BIOMEDICS 1Day CONTACT LENSES

### **Biomedics 1-Day**

|                          |   |
|--------------------------|---|
| <b>Material:</b>         | Ocufilcon B; with visibility handling tint & UV inhibitor |
| <b>Diameter:</b>         | 14.2 mm   |
| <b>Center Thickness:</b> | 0.07 mm   |
| <b>Base Curve:</b>       | 8.7 mm  |
| <b>Water Content:</b>    | 52%   |
| <b>Power Range:</b>      | -10.00 to +6.00   |
| <b>Packaging:</b>        | 30 blisters per box                                       |



## GROWING YOUR CONTACT LENS BUSINESS

MI sales force visit literally thousands of customers (optic shops, hospitals, clinics) every single day, not only preaching about the Features and Benefits of our products, but also looking to improve and grow the contact lens business in our region which is still suffering from a low percentage of prescribing compared to Europe and North America.

From a macro perspective, the eye care industry is flat and mature, however if we look at the other side of the flip, we know (and I am sure that you will agree when you look in your files) that a low average of your patients uses contact lenses as a corrective medium. With three out of four at best of your patients not currently wearing contact lenses, this represents a huge opportunity to grow this segment. Furthermore, the more patients you fit with contacts - either full-time or even part-time- the higher your revenue per patient becomes.

Why are practitioners not recommending contact lenses at least as a part-time vision correction alternative? The most common reply to this question I've heard after many years in the field and in many countries is: There is no money in contact lenses, contact lenses just aren't a good option for most of my patients and/or contact lenses are too expensive for my patients.

So, the next big question is how do you increase the penetration of contact lens fits?

My answer is: Make it a priority. Be proactive by recommending contact lenses, an upbeat, positive recommendation from a trusted professional (you) carries a lot of weight, and have great impact.

Patients want your professional recommendations, not just a list of

their options. Ask every patient if they want to try contact lenses. Make this part of your exam SOP.

Educate your patients on the benefits of contact lenses. The more people you educate, the better your business gets. Another tactic would be to deploy displays, educational/ promotional signs/ pamphlets/ posters, in your shop/clinic to raise contact lens awareness.

From our side Medicals International provide all kind of tools for practitioners to prescribe contacts: A wide variety of FDA approved products with all the different wearing modality; a full customer satisfaction guarantee when prescribing our products, a super flexible "goods exchange" policy to keep you- our customers- on the safe side, a supple credit facility, in addition to consistent reminders about our products specifications to improve the wearers' education process.

When facing many alternatives, patients look for your advice.

A focused contact lens strategy will help increase revenue per patient, bottom-line profitability.



Joseph Nachawaty, MBA  
Sales Manager, CL  
Medicals International

## PRESENTATION ON THE ROSE K LENSES TO GRAND OPTICS (ALPHA)

Keratoconus is a widely spread eye disease in our region. In Jordan the situation is no different. Ala'a Meqdadi engaged a good part of his time in 2007 to giving small group presentations to various optometrists practicing in different parts of Jordan with the goal of spreading awareness on the Rose K lens system and its easy fitting steps which present a viable alternative and a successful one in dealing with a keratoconus case.

"This time around my audience included 23 optometrists practicing at Grand Optics, better known as Alpha, divided on four groups". "We all learned I believe from each other and my hope is that tomorrow those talented practitioners will move on and give a needy patient the gift of life" - Ala'a concluded.

Ala'a Meqdadi, B.Eng.  
Territory Manager,  
Medicals Jordan



## INTRODUCTION TO BONE GRAFT MATERIAL

As we know, one of the success criterions in dental implantology is the volume of bone around the fixtures to support the osseointegration. In the opposite case, the surgeon will go for bone augmentation. The word graft means to add or to transplant. So the bone graft procedure consists of grafting or adding natural or synthetic bone to the jaw, and waiting for the grafted material to integrate with the existing bone (usually it takes up to 6 month). It's worth to mention that many references categorize the bone in different ways, for example by shape, we have 5 types of bones: long, short, flat, irregular and sesamoid.

In the human body, we have 2 major types of bones. Cortical bone, also known as Compact bone. Cortical bone is dense and forms the surface of bones, contributing 80% of the weight of a human skeleton. It is extremely hard, formed of multiple stacked layers with few gaps.

The other major type of bone is Trabecular or Cancellous bone; it is spongy and makes up the bulk of the interior of most bones, including the vertebrae. Its main function is to support the body, protect organs, provide levers for movement, and store minerals.

In the jaw, 4 different types of bone quality are defined. Bone Quality relates to the degree of bone density. Type 1, comparable to oak wood, is very hard and dense, and provides great cortical anchorage, but limited vascularity. Type 2 bone is the best bone for osseointegration of dental implants. It provides good cortical anchorage for primary stability, yet has better vascularity than Type 1 bone. Figure 1 presents the different bone quality types.

Types 3 and 4 are soft bone textures with the least success in type 4 bone (compared to Styrofoam)

So as we mentioned up till now, Bone Graft is bone transplanted from a donor site to a recipient site, without anastomosis of nutrient vessels; bone can be transplanted within the same person (i.e., autograft) or between different people (i.e., allograft). Bone Graft Material is the material other than the human bone placed into spaces between or around broken bone (fractures) or holes in bone (defects) to aid in healing; such as bovine or synthetic bone.

There are three ways in which a bone graft can help repair a defect. The first is called osteogenesis, the formation of new bone by the cells contained within the graft. The second is osteoinduction, a chemical process in which molecules contained within the graft (bone morphogenetic proteins) convert the patient's cells into cells that are capable of forming bone. The third is osteoconduction, a physical effect by which the matrix of the graft forms a scaffold on which cells in the recipient are able to form new bone.

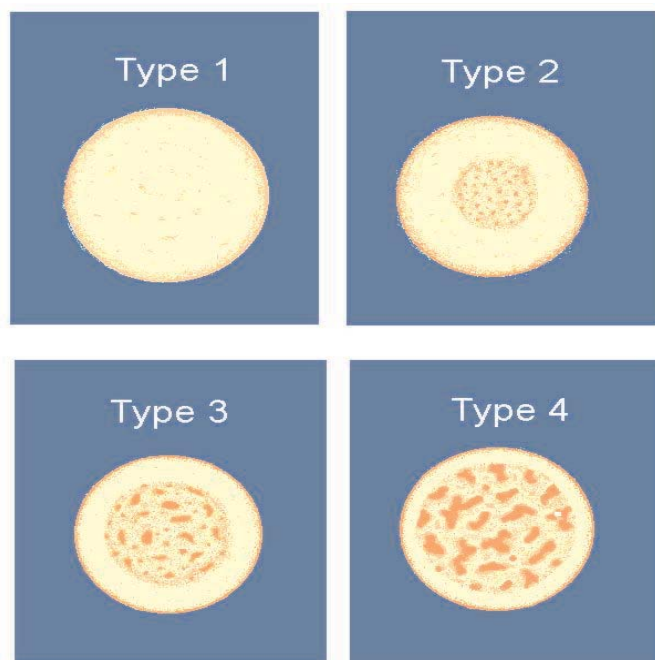


Figure 1: Bone Quality (Source: Implant Dentistry of Washington)

Usually bone graft material is either from human bone, from animals (bovine) or totally synthetic. The material itself can be produced in different shapes and volume; the most common are the particles or granules. Some suppliers like ACE, have answered particular needs for dentists, by producing other shapes like membranes, foams, plugs and tapes. The granules are either for cortical or cancellous bone.

References:

Bone Graft Materials: An Overview of the Basic Science. Clinical Orthopaedics & Related Research, February 2000. Bauer, Thomas W. MD, PhD; Muschler, George F. MD

<http://www.teeth-usa.com>

<http://www.seattle-implants.com>



Bassam Khoury  
Medicals International  
Kuwait

## INTRODUCTION TO ACE - NuOss



Surgical Supply Co. We are now the sole distributors of their bone material in the Middle East and Gulf Countries.

ACE is the only multi-disciplinary surgical supply company in the United States, and now reaching all Europe through ACE Europa with HQ in Lisbon, Portugal.

In addition to all sort of dental instruments and implants, ACE is offering a state of the art repair services for all its customers.

The first product that we will begin marketing is NuOss; a brand new bone graft material of bovine nature used in many applications like the augmentation of the alveolar ridge, sinus lift and many others. NuOss has macro and microscopic structures very similar to the human bone. It is delivered in vials of different sizes, ranging from 0.25 grams till 2.0 grams with particle size of 0.25 till 1.0 mm. In addition to the particles,

We are very excited to announce the new association of Medicals International with ACE

ACE has provided different kind of membranes since it's clinically known that the use of barrier membrane will give improved results. So we will be offering in addition to the particles: RCM (Resorbable Collagen Membrane), RCP (Resorbable Collagen Plug), RCF (Resorbable Collagen Foam) and RCT (Resorbable Collagen Tape).

We will be working as well with AlIOss; a mix of collagen and allograft. AlIOss is also manufactured in the United States. It is processed and sterilized to the highest standards set by the American Association of Tissue Banks (AATB) and by the FDA. AlIOss is available in both particle and blocks.

We had the pleasure of meeting with ACE representatives earlier in December 2007, and we're sure that our partnership will be one the best in the region. We are positive that NuOss and AlIOss will infiltrate the markets in the most efficient and fastest way.

Bassam Khoury  
Business Manager - Dental Division





## EUROPEAN ASSOCIATION OF OSSEOINTEGRATION EAO - BARCELONA



The 16th Annual Scientific Meeting of the European Association of Osseointegration was held in Barcelona, Spain, from October the 25th till the 27th 2007. The scientific focus was contemporary Oral Implant Practice.

The congress took off by the opening Ceremony on the 25th of October 2007 initiating a series of plenary sessions and Satellite Industry Symposia that lasted for 3 days. Also there was a clinical research competition included in this event.

The subject tackled by the plenary series were:

- Factors determining the success/failure of an implant-based rehabilitation
- Implant supported prostheses: New challenges.
- Factors influencing the results in the aesthetic zone.
- Adjunctive surgical techniques.
- The role of implants in the multidisciplinary oral rehabilitations: Ask the experts.
- Interdisciplinary management of implants in the aesthetic zone: Data on strategy, systematic outcome and complications.



The congress was held in the "Center Convencions Internacional Barcelona" occupying 3 levels where the auditorium occupied Level-1 along with the posters and editors. Level 0 hosted a huge Exhibition floor and Level 1 was occupied by the manufacturers' hospitality suites and conference rooms.

Astra Tech Dental was one of the Gold Sponsors of the EAO 2007 along with 5 others manufacturers and 1 editor (Blackwell Munksgaard) and ACE Surgicals was a Silver Sponsor. The huge exhibition area included spaces for 66 dental manufacturers most of them in the implants' industry.

Furthermore, The Astra Tech Inspirational Center (Astra Hospitality Suite, Level 1) invited delegates to attend interesting lectures and discussions, while learning from and exchanging experiences with colleagues from all over the world.

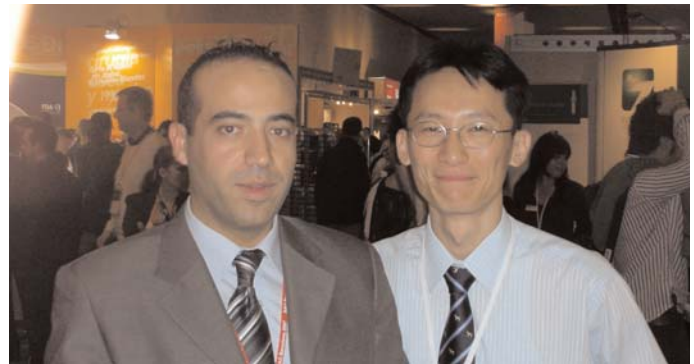
On the 26th of October, Astra organized a course "A good Evening with Astra" where the main scientific theme of the Show was Astra

Tech BioManagement Complex™ and its clinical implications. More than 750 people attended this nice event, which was hosted and moderated by Dr. Sverker Toreskog.



Dr Georges Eid in Astra Inspirational Center

In the scientific program the internationally renowned clinicians and scientists Professor Mariano Sanz from Spain, Dr Fernando Rojas Vizcaya, USA; Pr. Tord Berglundh, Sweden, Pr. Lyndon Cooper, USA, presented scientific data and clinical experience, with Astra Tech BioManagement Complex™ in focus.



The event was not purely scientific, but there were many appearances for the artist Carola Becker (an Astra patient!!!) who performed many beautiful songs with her band getting the attention and the appreciation of the audience!



Carola Backer and her band

This article is prepared by Bassam Khoury, MBA  
Business Manager - Dental  
Acting Managing Director - Kuwait

## A SELLING TIP

**Sales Concepts says you really need to get your prospects 'MAD' before you can close a deal. Why?????**

A key part of every salesperson's responsibilities is to keep their respective sales funnel full of potential opportunities. The opportunities can be new; some can be from existing business. Either way based on the prospecting you have done to drive business.

Whether you are at a trade show, over the phone, or face-to-face at a customer's facility, you will need to quickly determine a prospect's legitimacy. Of course, selling is not that simple and the challenge of identifying the legitimate prospect is part of the fun and excitement of selling.

The best way to identify a legitimate prospect is to ask questions to see if your prospect is really MAD. No, we don't mean whether or

not he is angry with you, but whether he is MAD enough to buy from you. In sales, MAD means the prospect has the Money, Authority and Desire to buy.



Selim Abdul Razzak  
Jr. Territory Manager  
Jeddah KSA

## WHY ROUND EDGES?

A range of edge designs—rounded, chiseled and knife-point—currently exists among the various contact lenses available. Some designs, such as those with sharper edges, interact more with the ocular surfaces than others. The result: mechanically-induced signs and symptoms such as indentation, corneal staining and discomfort.

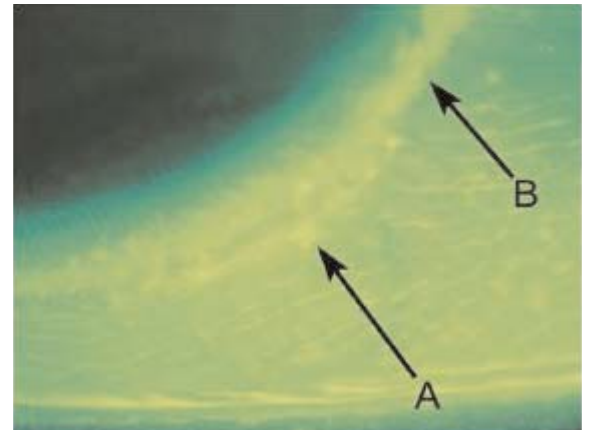
Edge effects and High modulus materials (found in silicone hydrogel contact lenses) are implicated in "mechanical-based" observations, such as asymptomatic Conjunctival indentation, staining to conjunctival epithelial flaps and the more significant and symptomatic contact lens-induced papillary conjunctivitis (CLPC).

These symptoms could be also seen in some Hydrogel CL that may have high modulus, and a non rounded edge; especially with extended wear schedule. BM55 evolution with its hydrogel material (Ocufilecon D), and its new rounded edges, aims to be the healthier, comfortable, and best vision provider as well it seems to be the best solution for CEF.

<http://www.clspectrum.com/article.aspx?article=12869>

<http://www.revoptom.com/index.asp?ArticleType=SiteSpec&page=osc/105239/lesson.htm>

Ayman Ala  
Jr Territory Manager  
Jeddah, KSA



## AL BACHAWRI JEDDAH OPEN HOUSE



Our commitment and the partnership we offered to all our valuable clients in the past 13 years were behind our success. We have employed all the resources we have to ensure that the business of our customers prospers. On the 21st of November 2007 Medicals sponsored three days of free eye examination and Biomedics Evolution trials distribution at Al Bachawri Optical Jeddah in four branches. Al Bachawri Optical are considered the pioneers in the optical business in KSA, and they have shaped this business with proficiency in the past years and became an elite reference in Jeddah. The event was very successful and all patients who tried the Biomedics Evolution with its Aspheric cut and round edges expressed full satisfaction from both the comfort and vision.



Fady Badran, MBA  
Sales Manager  
Saudi-Arabia



## THE PRODUCTION OF SPECTACLE LENSES IS OUR BUSINESS!

As suppliers of high-quality spectacle lenses, we are well aware that the market demands optimum quality and absolute flexibility. This is why we are always on the lookout for innovative solutions to satisfy the ever-increasing expectations of the market. Moreover, it is our consistent aim to meet individual customer requirements at fair market prices. In order to achieve this we operate the latest technology, strict quality control and proven business logistics.

Our key people form the backbone of the company and form an effective team. In addition to technical expertise, we put great value on integrity, continuity, social skills and willingness to achieve. Our customers are personally acquainted with our key people and consider our company to be consistent and fair.

Switzerland is our home market - and therefore also a vital cornerstone. However, the name Optiswiss is already well known far beyond the Swiss borders. In countries like France, Germany, Austria, Italy, Holland, Finland and Denmark, etc., we are continually expanding our export activities. Our customers abroad appreciate Swiss-made products. Our international business has afforded us a wealth of experience that we can implement in Switzerland. Basel has proven to be an ideal location, situated as it is near the French and German borders and the Basel/Mulhouse/ Freiburg European Airport.

Optiswiss is a pioneer among the companies in the Swiss ophthalmic lens sector. Founded in 1937 in Basel as the Flemming Company, the business operations were subsequently taken over in December 1981 by the newly founded Optiswiss Thaler AG. Thanks to sustained growth over decades Optiswiss is the leading producer of spectacle glass in Switzerland today.

Igor Merhar  
Head of International Sales  
Optiswiss AG



## A GOLDFISH'S VIEW OF THE WORLD

You may remember reading about SEIKO P-1SY progressive lenses in Vision with Attitude during 2006. These lenses benefit from having all of the worked power and the progressive curves on the inside surface of the lens, nearest the eye. The benefit of this technology to wearers, when compared to 'front surface moulded' lenses, is that they have a wider field of view, like a goldfish. In addition customers experience fewer distortions.

This new technology has taken a few years to catch on, but now the word has spread and inner surface progressive lenses are becoming increasingly popular. We believe that within the next 10 years a significant majority of progressive lenses sold will be of the inner surface, freeform manufactured type.

SEIKO invented freeform manufacturing technology 10 years ago and has unrivalled experience in this field. As a result SEIKO can now offer a wide range of P-1SY inner surface progressive lenses in a variety of indices and with Transitions V variable tints. P-1SY lenses can be up to 50% thinner and 45% lighter than ordinary progressive lenses. Those of you who want to offer your customers the absolute best in eye care may be interested in learning more about the SEIKO progressive lens range

including the individualised Super P-1 Neo family of lenses.

For more details please contact Elyse El-Choueifaty at [echoueifaty@medicalsintl.com](mailto:echoueifaty@medicalsintl.com)

David Nicoll  
International Sales  
SEIKO Optical UK



## COATING A NEW GENERATION: SEIKO SUPER CLEAN

"The water has trickled down -Everything is super clean".



Many customers think that coated spectacles lenses become dirtier than others. They are mistaken. What is true, however, is that dirt on coated lenses is visible more easily, because it has a negative effect on reflection. It is therefore the leading lens manufacturer's goal to make the lens surface so smooth that dirt cannot cling to the surface in the first place. This is achieved through special coatings.

Through cohesive force between its molecules, a drop of water takes a round shape. If however, the adhesive force between the lens and the

drop of water is bigger than the cohesive force, the water molecules cling to the lens -the drop loses its round shape and spreads out. This is where Seiko's new super clean coating comes in-with substantially improved flow properties minimizing the adhesive force. Consequently the cohesion of the water molecules is bigger than the power of gravitation. The result: "the drop keeps its round shape and simply trickles down like on the feathers of a water bird".

Up to now no coating in the world can keep spectacle lenses 100% clean. Whether that will ever be possible, only time can tell... but one can facilitate the cleaning of the lenses to a large extent. Persistent stains that are usually hard to remove, such as finger prints, grease or oil can be easily removed from coated lenses in no time.

Tests have shown that clearly fewer movements are needed to clean lenses with super clean coating. This is an advantage which every spectacle wearer will surely appreciate. It goes without saying that the lenses are coated on both sides.

In order to guarantee safe handling for the lab technician and prevent axis rotation during edging, Seiko optical therefore provides two special semi-transparent films (shields) free of charge as well as short "instructions of use" sheet together with every lens.

Elyse Choueifaty  
Medicals International, Beirut

## IF YOU CAN NOT SEE IT; HEAR IT - AN EXCITING NEW ADDITION



Funny is to coin that sight seems to be the only gate to fixing sight. Ophthalmologists need to see the pathology in for di-agnosing and treating it. A retinal tear, invisible because of a dense cataract is a common example. If it is not possible to see it, why not trying to hear it.

Today, I am delighted to announce that **Ellex** starting the active promotion of the **EyeCubed** device outside the American continent. A short while ago, Ellex, the leading ophthalmic lasers manufacturer, completed the acquisition of **Innovative Imaging**, the world leader in Ophthalmic Ultrasonography.

**EyeCubed** is the first non laser product that **Ellex** produce and the first specialized diagnostic equipment **Medicals International** promote.

Today, I guarantee to you that you will have a very interesting first encounter.

EyeCubed is an ophthalmic ultrasound made to image complex ocular structures. The main features that justifies its supe-rior image quality include:

### HIGHEST SIGNAL-TO-NOISE RATIO

A signal to noise ratio of 80 dB is made possible by the unique amplifier and probe. Due to the noise canceling effect, the system is able to sense even finest ocular structures, like blood and inflammatory cells.

### HIGH-SPEED IMAGING

EyeCubed uses the movie standard frame rate of 25 frames per second. This is by far the fastest in the industry. With an image acquisition of the sort, the EyeCubed no only pictures ocular structure but also records their movements in real time e.g. Blood cell movement and membrane behavior. This is of paramount importance in the diagnosis of ocular tumors.

### ADVANCED MOVIE TECHNOLOGY

The advanced movie technology greatly improves the diagnostic process. The EyeCubed stores the captured movies on an internal hard drive for convenience. The movie features include:

\* Capture up to 10 seconds of high res footage

- \* Recall stored movies in full or as single frames for detailed analysis
- \* Manipulate images (change gain), Video editing capabilities will ensure that they the frames are optimized for the pur-pose of the diagnosis
- \* Movie sharing through easy common media card slots built in the system

### A Scan Modes

The A Scan modes allow comprehensive IOL power calculation (4 different formulas are built in). In the A Scan mode, the EyeCubed captures up to 5 seconds movies with the highest ever image acquisition rate of 50 frames per second. The Measurement accuracy is astoundingly 50µm inherent/100µm clinical. The A Scan modes also allow custom velocity set-tings; pre-programmed, adjustable and independent velocities.

### B Scan Modes

The B Scan modes of the EyeCubed allows capturing and storing movie sequences up to 10 seconds, adjustable. The aforementioned advanced movie functions are all available for use in the B Scan modes. Also, it allows 2 sets of meas-urement calipers with variable velocities in order to achieve the industry leading resolution.

### OTHER FEATURES

The EyeCubed features list extends further to include:

- \* High resolution image viewing on internal display with 256 gray shades or external color monitor
- \* Electronic storage capability: up to 40 GB
- \* Network ready: can be integrated into existing clinic networks
- \* USB 2.0 ports for memory sticks and peripherals
- \* Integrated multimedia reader
- \* Windows XP operating system
- \* Systems can be customized with any of the four modes to your needs
- \* Other modes /probes can be added at a later time

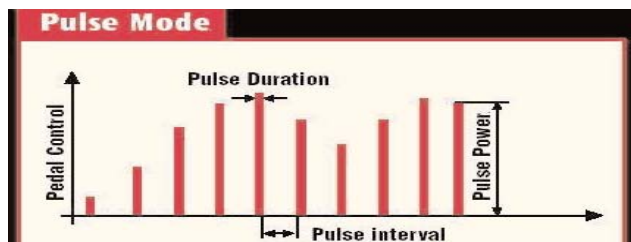
Have you been seduce with this first encounter, wait for the future issues where further details articles on the clinical rele-vance of these will be featured.

Salah G.Malek  
Vice President Ophthalmology  
Medicals International

## PHACO POWER MODULATION

After a decade of fluidics improvement with giant efforts from phaco manufacturers to enhance tubing compliance, vacuum sensing and the machine response after occlusion, the past few years have witnessed the introduction of a noteworthy phaco technologies that enables cataract surgeons to reduce the ultrasound energy delivered to the eye by emphasizing on the emulsification effect of the phaco power.

Actually the understanding of the phaco pulse components and the role of each part in the process of the phaco emulsification was the first step in the heralding of what we called the phaco power modulation .



### Phaco power with modified duty cycle

It has started with a new software that gives the surgeons the ability to modify the Pulse ON/OFF ratio to increase the cooling period ( OFF period), and reduce the heat generation. this was the introduction of bimanual phaco, which offers the surgeons the ability to get rid of the infusion sleeve surroundings the phaco tip without any fear of wound burn. It has been noticed that this large OFF period gives the phaco tip the time to strongly hold the lens fragment with vacuum force to gain the maximum benefit of the short ultrasound pulse.

With the controlling of the pulse ON/OFF ratio and increasing the number of pulses, it becomes applicable to obtain pulse width as short as less than 10 Msec.

### Programmed phaco power modes

All the new systems offer the ability to employ a combination of different power modulation to be applied with different lens densities or different stages of the cataract removal.

For example; with sculpting the surgeon can use high number of pulses with long cooling ratio, this will act like continuous ultrasound but the EPT will

drop dramatically with this settings. After cracking you can apply long pulse and long OFF time to reduce the repellent force and give the chance for better engagement to the tip, for the cortical removal a little ultrasound ( like 20%) with hyperpulsing will be better for fast and safe removal of the cortex and epi nucleus. With soft cataract hyperpulsing could be applied to reduce the EPT very much.

| Mode   | Power | Pulse  | Cooling   | Vacuum   |
|--------|-------|--------|-----------|----------|
| Pulse  | 40 %  | 10     | 70%       | 350 mmHg |
| OCC-M: |       |        | 0.3       |          |
| Burst  | 60 %  | 50Msec | Max pedal | 250 mmHg |

This reduction in the effective phaco time with a slight compromising in the cutting power, has helped also in reducing possible damage in the endothelial cells and the alteration in the aqueous blood barrier to allow for a better and safer cataract surgery.

the uses of the power modulation have exceeded the Bimanual phaco application to be used with the regular coaxial phaco and new application of the micro coaxial phaco.



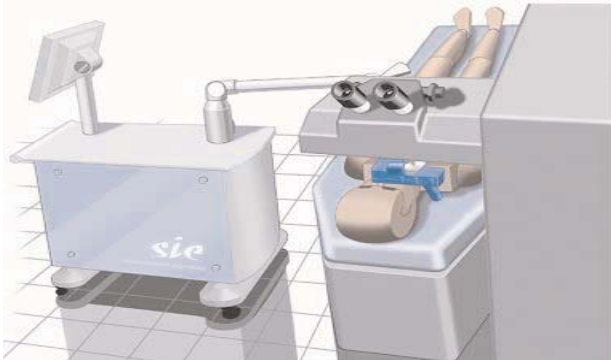
Ahmad Tabaga, B.Eng.  
SM. Ophthalmology  
Egypt



## UPDATES ON FEMTO-SECOND TECHNOLOGY

Laser technology is used more and more in the medical field, especially in ophthalmology where many types of lasers are used.

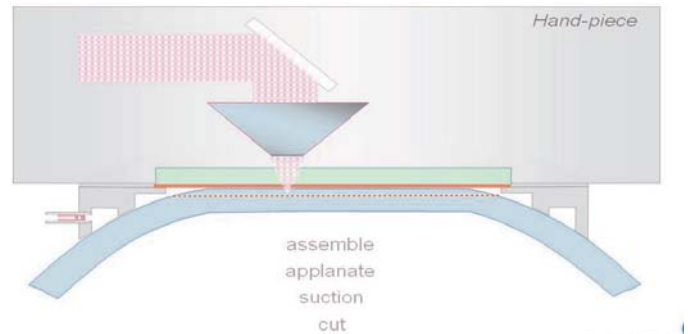
The latest innovation is the introduction of the Femto-second laser to do the intra-stromal cuts for LASIK and other corneal surgeries.



Up to mid 2007 there was only one Femto-second Laser manufacturer in the market. With the advancement of laser technology worldwide, Ziemer group Switzerland, introduced a new Femto-second laser LDV (Leonardo Da Vinci). LDV is different from any other Femto-second laser systems available on the market by being the only mobile Femto-second laser having a one stage laser power engine.

The LDV utilizes a hand-piece applied on the patient eye in a similar way as the traditional mechanical Micro-keratome under the Excimer laser Microscope and it is interfaced to the cornea using an inter-shield spacer and a suction ring included in the patient procedure pack. The H.P is applied on the cornea using a suction ring and vacuum controlled source from the laser unit.

The laser is then applied on the aplanated cornea at a very high repetition rate (in the MHz rate) (more than 300 times faster than other Femto-second laser) with a very small spot size around 2 Microns. (5 times less than other lasers).



Due to the high repetition rate of the laser, spots can be positioned and overlapped resulting in an easy to remove flap and a very smooth bed.

Finally the very low energy used will result in minimal air bubble formation (due to laser photo-disruption) as well the air bubbles are immediately absorbed by the stroma and not interfering with the Excimer laser eye tracker. As well the low energy used by the LDV will reduce to minimum corneal complication such as TLSS, DLK, OBL,...

The final patient outcome is:

- \* Smooth Surface cut of stromal bed
- \* Smooth edges for optimal flap closure
- \* Thin flaps with even thickness
- \* Rapid healing and visual recovery.
- \* Excellent visual outcome.

On the other hand, from the technical side, the laser is very stable (as its laser source is one stage laser) as opposed to other systems which are two stage where the laser source is pulsed from one module and then amplified in another module which make those systems unstable and hard to repair.

The LDV is fully computer controlled to the extent that even laser mirror are controlled by the software and the service engineer can access and align the laser from its touch screen. This will give the LDV unmatched ease of repair and Minimum down time.

I hope you enjoyed reading the above, for more details about LDV please do not hesitate to contact your nearest Medicals International representative engineer, who will help supplying any needed information.



Michel Kleib  
VP Engineering and Product Development  
Medicals International

## POST-ISO

Yes, for those of you who do not know it yet, we are an ISO-Certified company & we are proud of it. What does this really mean? The first thing that comes up on my mind is that we now have a bigger responsibility in ensuring that our clients are satisfied from the services we are providing them.

If you find the previous sentence too broad, here is an overview of what it actually means:

1. We are after building a mutual profitable business relationship with our clients, after all we know that their success will lead to ours
2. We are ready to be held accountable for meeting clients' expectations in terms of delivering the right product in the right time frame
3. We are after offering professional, reliable & advanced technical support to help our clients in succeeding in their practices
4. Most importantly, we will be doing the above with an attitude that we want to improve our services in order to live up to our clients' expectations.

tations. This is being done through continual staff training & education as well as research to acquire successful products & advanced technical know-how in our industry.

I would like to end this note by thanking our clients for their trust & encouraging them to fill up a claim whenever they feel that we failed to meet their expectations so that we can improve our services even better; believe me it will make a difference.



Joe Mourad  
Sr Internal Office Manager  
Medicals International Beirut

## INCIDENCE AND SEVERITY OF KERATOCONUS IN ASIR PROVINCE, SAUDI ARABIA

A A ASSIRI, B I YOUSUF, A J QUANTOCK, P J MURPHY



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**Aim:** To assess the incidence and associated signs and symptoms of patients with keratoconus in Asir Province, Saudi Arabia.

**Methods:** 125 new keratoconus patients (51 male, 74 female; mean age 18.5 (SD 3.8) years; range 8-28 years) were recruited from referrals to the department of ophthalmology, Assir Central Hospital, over a 1 year period. Age, visual acuity, and keratometry were recorded along with clinical signs and symptoms.

**Results:** The incidence of keratoconus in Asir Province is 20 cases per 100 000 population. Also, the disease severity is high, as indicated by an early mean age (17.7 (3.6) years) with advanced stage keratoconus. Visual acuity, with either spectacles or rigid contact lenses, was 6/12 or better in 98% of eyes measured. Just over half (56%) of patients had atopic ocular disease. 16% of patients had a positive family history of the disease and 16% had atopic dermatitis (eczema and/or vitiligo).

**Conclusion:** The incidence and severity of keratoconus in Asir Province, Saudi Arabia, is high with an early onset and more rapid progress to the severe disease stage at a young age. This might reflect the influence of genetic and/or environmental factor(s) in the aetiology of keratoconus.

**Keratoconus** is a non-inflammatory, acquired ectasia that causes progressive, changeable, myopic astigmatism. Mostly it occurs bilaterally but develops asymmetrically, with an onset at puberty and progression over a period of 7-20 years. Incidence ranges from 1.4 to 600 cases per year per 100 000 population. Most reports have considered white populations, with some studies suggesting an influence of ethnic origin on the incidence and age at onset.

Previous studies on Keratoconus in Saudi Arabia are very limited. This paper reports a prospective study that assesses the incidence rate and associated signs and symptoms of patients with keratoconus in Asir Province, Saudi Arabia.

**Methods:** All patients attending the department of ophthalmology, Assir Central Hospital, Saudi Arabia, between May 2001 and April 2002, who were suspected of having keratoconus, were recruited, as were patients newly diagnosed with Keratoconus but attending other tertiary hospitals in Asir Province. In total, 125 patients (240 eyes) were recruited, comprising 51 males and 74 females (mean age 18.5 (SD 3.9) years; range 8-28 years). All subjects were examined for case history, visual acuity, keratometry, refraction, and ocular signs. Diagnosis was made on the basis of changes in best corrected visual acuity, familial keratoconus, an irregular surface evidenced by distorted corneal curvature, keratometry, scissoring of the retinoscopic reflex, or irregularity in the red reflex on direct ophthalmoscopy. Clinical signs included at least one of the following: central corneal thinning, apical stromal scarring, Vogt's striae, Fleischer's ring, and Munson's sign. Unusual cases for which a diagnosis could not be established with confidence were excluded. All data were analysed using the statistical software package SPSS 12 (SPSS Inc, USA).

**Results:** The incidence of Keratoconus in Asir Province was calculated using the area population for those aged between 5 and 29 years (654 163), because the disease usually develops within this age range, and because the study's age range was also of this order (8-28 years). With this calculation, the incidence was 20 cases per 100 000. Mean age at diagnosis was 17.7 (3.6) years for males (range 8-24 years) and 19.0 (3.8) years for females (range 12-28 years) (fig 1).

Visual acuity measurements indicated that uncorrected vision decreased with increasing disease severity and was classified on the basis of average keratometry reading (table 1). As corneal astigmatism and curvature increased vision decreased. However, visual acuity (VA) values were variable even for patients at the same disease stage. The data also show that the overall steepening of the cornea produces a greater change in VA than does any increase in astigmatism (fig 2).

Depending on the stage of the disease, VA was improvable for 108 eyes with spectacles, and 132 eyes with rigid contact lenses (table 2). With spectacles, 33% of eyes achieved a corrected VA of 6/6 or better, with 100% achieving 6/12 or better. With rigid contact lenses, 93% of eyes achieved 6/6 or better, and 97% 6/12 or better.

The severity of Keratoconus was assessed from keratometry reading, in the worse affected eye, and patient's age at diagnosis. Based on the keratometry results, the keratoconus population was divided into three groups; early <48, moderate 48-54, and advanced >54D (fig 3).

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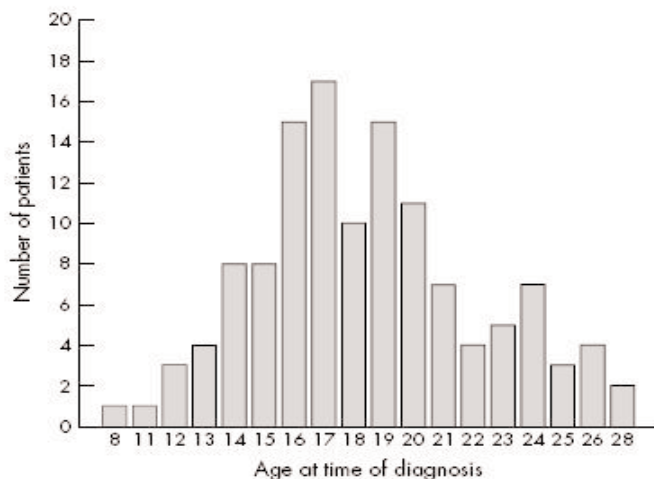


Figure 1. Age distribution of the patients enrolled in the study at the time of ophthalmological diagnosis.

Table 1. Vision varies with severity of keratoconus, but is influenced by the degree of astigmatism and myopia

| Visual acuity | Average K reading |          |       |
|---------------|-------------------|----------|-------|
|               | <48 D             | >48-54 D | >54 D |
| <6/24         | 57                | 21       | 2     |
| >6/24 <6/60   | 34                | 68       | 18    |
| >6/60         | 3                 | 13       | 24    |
| Overall       | 94                | 102      | 44    |

Twenty of 125 (16%) patients had eczema, asthma, and/or vitiligo. Another 20 patients had a family history of Keratoconus. There was no evidence of tapeto-retinal degeneration or Reiger's anomaly. Further, we encountered no systemic diseases such as Down's, Marfan's or Ehlers-Danlos syndromes. Seventy of 125 (56%) patients had a positive ocular history for one or more of the following keratoconus associated factors: eye rubbing ocular allergy, tearing, ocular redness, or vernal keratoconjunctivitis (fig 4). Five patients between the ages of 6 and 12 years reported all five symptoms, and three of these also had a family history of Keratoconus.

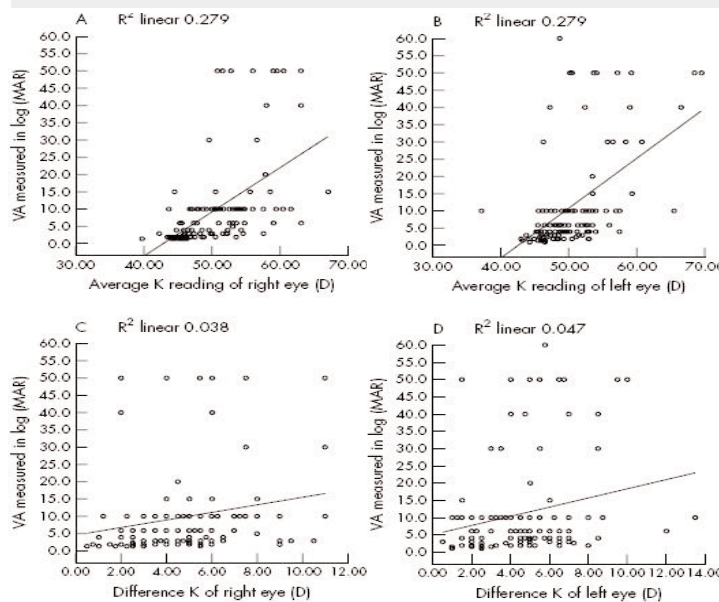
**Discussion:** The ability to describe the incidence of a disease is important for predicting current and future clinical needs, and for establishing disease characteristics in a particular population. This study found an incidence of Keratoconus in Asir Province, Saudi Arabia, to be 20 per 100 000 based on referrals to the provincial, tertiary level specialist clinics. This compares with 1 per 100 000 in the United Kingdom, 2 per 100 000 in Minnesota (USA), 2.2 per 100 000 in Finland, 2.5 per 100 000 in Holland, and 50 per 100 000 in New Zealand.

The incidence of Keratoconus in our cohort is comparable to that of 20-25 per 100 000 in Asian populations living in the United Kingdom but higher than British white people.

Environmental influences for these groups will presumably be similar and the higher number of consanguineous marriages among Muslims has been proposed as a cause of the increased incidence. Previous reported incidences for a family history of Keratoconus in white populations are 6%, 8.8%, and 23.5%, compared to 16% in this study. In one family reported here, of seven children, four had Keratoconus in at least one eye.

We should consider the possibility that environmental or geographical factors may have contributed to the incidence and severity of Keratoconus found in this study. Asir Province is a mountainous region and the majority of patients in our study (95%) live at an altitude of 3000 meters on average. Here, people are likely have a greater exposure to Ultraviolet, given that levels increase with altitude by approximately 10% for every 1000 meters of elevation. Ultraviolet light has previously been linked to Keratoconus.





**Figure 2.** Scatter plot illustrating vision against keratometry measurements. (A,B) Vision decreases with increasing corneal curvature ( $r^2=0.28$ ). (C,D) Vision decreases with increasing corneal astigmatism, although with only a weak relation: right eye ( $r^2=0.04$ ) left eye ( $r^2=0.05$ ).

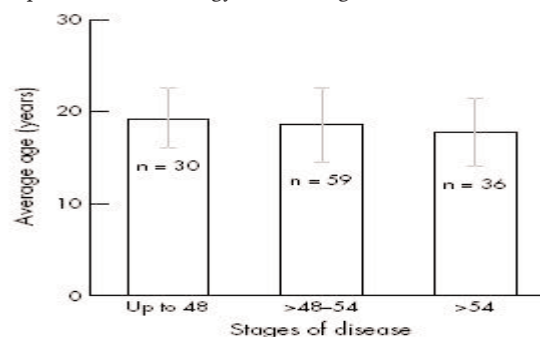
**Table 2** Distribution of corrected visual acuity with spectacles and rigid contact lenses

| Visual acuity level | With spectacle correction |            | With rigid contact lenses |            |
|---------------------|---------------------------|------------|---------------------------|------------|
|                     | No (eyes)                 | Cumulative | No (eyes)                 | Cumulative |
| 6/4.5               | -                         | 0%         | 7                         | 5.3%       |
| 6/5                 | -                         | 0%         | 6                         | 9.85%      |
| 6/6                 | 36                        | 33.3%      | 110                       | 93.18%     |
| 6/7.5               | 8                         | 40.7%      | -                         | 0%         |
| 6/9                 | 22                        | 61.1%      | -                         | 0%         |
| 6/12                | 42                        | 100%       | 5                         | 96.97%     |
| 6/15                | -                         | 0%         | 3                         | 99.24%     |
| 6/18                | -                         | 0%         | 1                         | 100%       |
| Total               | 108 eyes                  | 100%       | 132                       | 100%       |

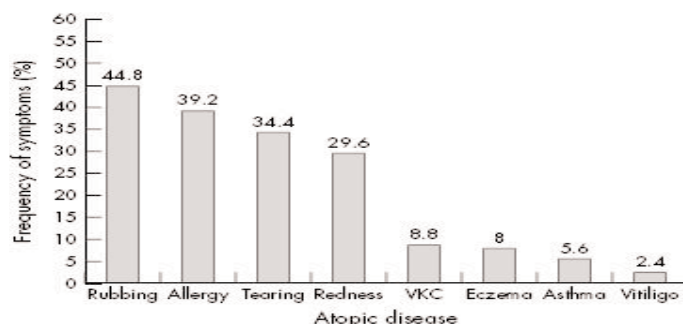
Some investigators have proposed that Keratoconic corneas have underlying defects in their ability to process accumulated reactive oxygen species, and that this might have a role in the disease pathogenesis. The effect of Ultraviolet light has also been used to explain the high incidence of Keratoconus in New Zealand, which has a white population similar to the United Kingdom, but, because the ozone layer is thinner, a greater ultraviolet background. This link, however, could not, be proved definitively since it was not possible to assess actual ultraviolet dosage. Thus, the role of Ultraviolet requires further study before it can be determined as a risk factor for Keratoconus in patients from Asir Province, Saudi Arabia. An early age of onset was recorded in this study (18.5 years) with approximately three quarters of our patients (74.4%) presenting before the age of 20 years (in the Collaborative Longitudinal Evaluation of Keratoconus (CLEK) study only 4% presented by this time). Investigations in white populations have reported a higher age at the time of study (means 27 years) suggesting a later disease onset. Our results are comparable to the mean presentation age in the Asian Keratoconus patients of 20.2 years, 21.5 years, and 22.5 years. Increased disease severity in our subjects is revealed by average keratometry readings, with 94 eyes (39.2%) in the early stage, 102 eyes (42.5%) in the moderate stage. Moreover, 37 eyes in the advanced stage (84%) belonged to subjects 20 years or under, more than the 67% reported elsewhere.

VA decreases as corneal curvature and astigmatism increase (fig 2). However, the correlations are not strong because of the variable influence of the amount, regularity, and obliqueness of the astigmatism, the level of progressive myopia, the scar type, morphology of the cone, and extent of any atopic disease. This indicates that VA of a Keratoconus patient does not present an accurate picture of the progress of the disease. Clinically this is seen when a keratoconic patient presents with an equal bilateral stage of the disease, with a VA in each eye that is manifestly different. Contact lenses generally provided the best means of improving vision, with 93% of eyes achieving 6/6 or better. Only one third of spectacle wearers achieved this level.

Atopic diseases (asthma and atopic dermatitis) have been suggested as aetiological components of Keratoconus. Here, we did not find a strong pattern of association with only 16% of our patients reporting any form of atopy. This compares with an average of 35% reported by others. A link between allergy and eye rubbing has been reported, with atopic patients thought to develop Keratoconus as a result of eye rubbing. Karsersas and Ruben, for example, found a history of eye rubbing in 66% of their keratoconic patients, while Weed and Mc Ghee indicated that 48% of Keratoconus patients rubbed their eyes. In the current study, 49 (39.2%) and 56 (44.8%) patients complained of allergy and rubbing, respectively. In addition, 15 of 30 (50%) patients in the early stage, 32 of 59 (54%) patients in the moderate stage, and 23 of 36 (63.8%) patients in the advanced stage complained of both allergy and rubbing.



**Figure 3.** Age at the time of ophthalmological diagnosis for each keratometry group. Error Bars show mean ( $\pm 1.0$  SD).



**Figure 4.** Percentage of patients with ocular signs and symptoms accompanying keratoconus.

In conclusion, an early onset and increased severity of Keratoconus was found in Asir Province, Saudi Arabia. This may be related to a combination of genetic and/or environmental factors. Clinically, contact lens correction should be considered earlier to maximise visual performance. The results have implications for Keratoconus screening in Saudi Arabia, to improve early detection and treatment.

The work was done in accordance with the ethical rules of the Saudi Ministry of Health and Asir Central Hospital.

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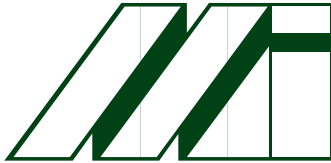
## WHAT A GAME!



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**Medicals International**  
We Think of The Patient First

Few days back, I was having a discussion with my Strategic Management instructor at A.U.D. over the nature of business in general and whether it's really a difficult field or it's just the books and articles that make it seem so. We came up with a conclusion that Business is a game, and what a game it's turning out to be in Dubai.

Business isn't easy. At least it isn't easy at Medicals International – Dubai at the moment. In this crazy bullish economy major challenges - from skyrocketing expenses, manipulative landlords & real estate developers, high competition over high caliber employees, fierce market competition, wide dominance of large scale marketing activities, knowledgeable and price sensitive customers, to mention a few – are eventually eroding our margins drastically in an economy where survival is only for the fittest.

There is no question that business is complex, but complex doesn't mean hard. Business is one of life's greatest games, and it's exhilarating. Especially at Medicals business is not simply a job, it's so much more. It's our goods and services, wins and losses, battles and wars, passion and devotion, commitment, values, visions, and of course exchange. It's a game we are playing with others ...

Today, we are playing "away" in stormy conditions, capitalizing on our long-term partnership relation with our customers as well as our employees' motivation and commitment to the values of our company. We are defying the powers of nature determined to increase our market share aggressively and control our costs to make it through to the shore of safety. Amidst this hurricane, decisions to move to one of the most lucrative and luxurious flats may seem suicidal, but actually this is what makes the game even more challenging and exciting.

Tomorrow, when the sky clears blue again, we'll be better than ever. You know why? Because as Steven Covey says "What's happening today is not good and trends suggest it will get worse before it gets better. But what we are causing to happen is very good as we are better managing our resources. Therefore, we are better than ever".

## UPCOMING EVENTS IN 2008

Medicals International is honored to invite you to visit its booth in the following upcoming regional events:

- *Syriaoptica – Damascus, Syria (February 7th – February 9th, 2008)*
- *Vision X – Dubai, UAE (February 18th – February 20th, 2008)*
- *Saudi Ophthalmic Society – Riyadh, Saudi Arabia (March 2nd - March 5th, 2008)*
- *Egyptian Ophthalmic Society – Cairo, Egypt (March 12th – March 14th, 2008)*
- *Lebanese Ophthalmic Society – Beirut, Lebanon (April 2008)*
- *Syrian Ophthalmic Society – Damascus, Syria (April 2008)*

Medicals International Team is looking forward to meet with you to demonstrate our product and answer your queries.

