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KUSHER: Reading e-Periodicals

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Abstracts, Editorial, Historical Review, Hyde Park Editorial

Paul E. Romano, MD, MSO
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* Statistical Analysis of Results Mandatory. But give "exact" probability values (i.e., p = .06). Do not use relative p values (i.e., p < .05). The term "statistically significant", defined traditionally as a p < .05, is a totally arbitrary and unscientific term and should not be used (J Lab Clin Med 1988: 111:501). But do consider whether a result may be "clinically/medically significant".

rev 22(1)-PER
D. BRIAN STIDHAM MEMORIAL LECTURESHIP

LECTURE to be published annually in

Binocular Vision and Strabismus Quarterly

Donations Solicited to Fund Lectureship

To the Editor:

The Pediatric Ophthalmology community lost a great doctor last October 6, 2005, with the death by murder of D. Brian Stidham.

I am attempting to create an endowed lectureship to remember Brian in our community and within pediatric ophthalmology, and wonder if I could ask you to consider helping in this regard. I know that your journal concentrates on strabismus and binocular vision, but could I interest you in publishing the "Stidham Lecture in Pediatric Ophthalmology and Strabismus" that will hopefully be given on a yearly basis? I would work with the presenter to make certain that a manuscript would be produced that would be of acceptable quality. Having a target journal for the presentation would be a great carrot to draw top speakers to Tucson on a yearly basis to give such a talk.

We have raised $14,000 towards a target of $50,000 endowment that would ensure that the lecture would be perpetuated. I am committed to continue fundraising until the goal is met. If Binocular Vision and Strabismus Quarterly would serve as the publisher of the named lecture, I feel certain we will be able to both attract top speakers and donors to remember Brian in the years ahead, and to provide a great lectureship in pediatric ophthalmology and strabismus to our professional community which would enjoy greater readership and distribution.

Joseph M. Miller, M.D., MPH
Head, Ophthalmology and Vision Science
University of Arizona, Tucson, Arizona

In reply:

We are honored to be asked and will most definitely be pleased to publish this lecture each year. We would encourage our readership to donate to this fund: Checks should be made payable to The University of Arizona Foundation with memo of "Stidham Endowment" and sent to Dr. Miller at U AZ, Ophthalmology, 655 N. Alvernon Way, Ste 108, Tucson AZ 85711. - PER

ADVICE for authors submitting papers to Binocular Vision & Strabismus Quarterly©

1. READ & FOLLOW INSTRUCTIONS FOR AUTHORS! In addition:

Reviewing the literature: A proper review of the literature starts with a review of current and appropriate textbooks, especially the latest edition (currently the Sixth of von Noorden's Binocular Vision and Ocular Motility by Mosby, and Duane's loose-leaf text Clinical Ophthalmology. Anticipating a future requirement, it will only be to your credit now to specifically state what was included in your literature search, i.e., the topics or subjects and the sites searched. For any article submitted here that should include at a minimum, Index Medicus (Medline) from 1966 to the present, Index Binoclus Primeus, 1985 to the present, and the Internet for the American Orthoptic Journal.

Acceptable TERMINOLOGY not acceptable
AHP Abnormal Head Postures:3 face turn head turn chin up/down head up/down Head tilt
retroequatorial myopexy Fadenoperation posterior fixation suture suspension-recession hang back, hang loose three step test Bielschowsky Head Tilt Test strabology, ist Strabismology, ist exact p values "Statistically significant"

Re: “lost followup” - Avoid this at all costs; First it raises the possibility that the patient had a (=) bad result or was otherwise so unhappy with their care that they never came back – or went elsewhere or went nowhere out of fear or dissatisfaction. If they are “lost followup” you cannot refute the possibility that one those very unhappy things happened! Second it is inexcusable - medicolegally. Third: It reflects poorly on you as both a health care professional and as a scientist and Fourth: under the worse of circumstances suggests or indicates that you may discriminate against those of lower socio-economic status (research findings).

WRITING STYLE IS IMPORTANT TOO:
(from Investor's Business Daily Nov. 26, 1997 by Morey Stettner)
"Make Dry Data Come Alive in Your Reports ... tips on making your technical writing come alive:
1. Remember that less is more. ... simplify your language and prune extra words. Eliminate jargon, and keep your sentences and paragraphs short. ‘If you write in little bites, you break down lots of information for the readers so it’s easier to absorb,’ said Carolyn Mulford, president of The Writing Coach. ...
2. Write in the active voice. ... For example, write ‘When you review the data, you will note these trends’. Avoid saying ‘These trends were noted upon a review of the data.’ Another example: Write ‘We will examine’, not, ‘This has been examined’, ...
3. Insert ‘talking subheads’. ... unbroken text can intimidate any reader, ... organize your writing in sections with each carrying an easy to understand subhead ... a talking subhead ... alerts the reader of what you’re about to discuss ... for instance, instead of heading a section with ‘Cost of Scanners’ try ‘Rising Cost of the Next Generation of Scanners’. subheads should average 5 words.
4. Run a test. ... ask someone in your audience group to read it. TABLES: Don’t forget the crowding phenomenon. It works in Tables too. We prefer spaces to lines to separate the items in a Table. You can also get more material within whatever size limits you may have, using spaces instead of lines, especially vertical lines. Horizontal lines are less of a sin. -PER 22(4)
SURGICAL MANAGEMENT OF STRABISMUS

A Practical and Updated Approach, 5th edition

EUGENE M. HELVESTON, M.D.

Review by David K. Coats, M.D., Houston, Texas

Six pounds of pure muscle; no fat or byproducts here! That's what the 5th edition of Surgical Management of Strabismus packs. Quintessential strabismologist Eugene Helveston has done it again.

This classic textbook is once again jam-packed from cover-to-cover with all the information that the strabismologist needs to properly plan and execute the management of both simple and complex strabismus disorders.

The text is wonderfully illustrated with step-by-step instructions on how to perform all contemporary procedures that should be in the armamentarium of any serious strabismologist. One of my favorite "extras" in this textbook is a chapter that colorfully explores the history of strabismus surgery from its beginning. What most separates this edition of the textbook from previous editions is the inclusion of an extensive array of case examples complete with histories, clinical photographs, and details of surgical planning. While a few case examples were included in earlier versions, expansion of the case example section in this edition is so extensive that virtually any condition can now be reviewed in detail with a front row seat through the eyes of this world-renowned expert.

Space should be reserved for Surgical Management of Strabismus, 5th edition, in the bookcase of every ophthalmic surgeon. Undoubtedly this reserved space will be vacant most of the time, as this book is most likely to remain open and in constant use on the surgeon's desktop.

THE BOOK

The HISTORY OF STRABISMOLOGY is the first monograph devoted entirely to the development of strabismology in different regions of the world. Each of the co-authors has been assigned a special chapter in which his or her knowledge of the material is particularly profound. The origins of strabology go back to the beginning of medicine, thousands of years ago. The story how this specialty evolved from quackery and superstition in ancient times to its present state of sophistication is a fascinating one. It should be of more than passing interest, not only to those specialized in this field but also to others with an interest in the history of ophthalmology.

The book consists of approximately 400 pages and is abundantly illustrated with fine reproductions of old documents, engravings, drawings and historic instruments, many of which are from ancient and rare manuscripts. Printed on deluxe art paper THE HISTORY OF STRABISMOLOGY is bound by hand and gold embossed on book plate and spine.

THE AUTHOR

Gunter K. Von Noorden is a world-renowned author and strabologist. His expertise in the entire field of strabismus is documented in his textbook (now in its 6th edition) and uniquely qualify him to organize and edit a book on the history of strabology.

THE AUTHORS

The authors are prominent strabologists from different parts of the world, internationally known for their contributions. Indeed many have actually played an active part in shaping the history of strabismology during the second half of the 20th century. They are joined by a comprehensive ophthalmologist who is also an ophthalmic historian of international reputation and by one of the leaders of the orthoptic profession. The following contributed to this book: Henderson C. Almeida, MC, Shinobu Awaya, MD, Alberto Brown-Limon, MD, William E. Gilles, MD, Eugene M. Helveston, MD, Joseph Lang, MD, Emma Limon de Brown, MD, Gunter K von Noorden, MD., Hans Rmeky, MD, Geraldo Ribeiro de Barros, MD, and Gill Roper-Hall, DBOT, CO, COMT.
MULTIMEDIA REVIEWS
LEE M. JAMPOL AND ANGELO P. TANNA, EDITORS


To quote Dr. Kushner, “Many roads lead to orthophoria.” The treatment of strabismus, that “art form” with scientific underpinnings, can be the bane or the joy, or more likely both, of the ophthalmologist’s existence. For those of us in pediatric ophthalmology, it is our “bread and butter” and the source of endless discussions and debates. There is enough science to provide a logical approach, and enough art to make things really interesting.

This book is a compilation of 68 cases published over 17 years in the journal Binocular Vision and Strabismus in its “Grand Rounds” section, edited by Dr. Kushner. The cases are presented in a standardized format, including summary of the therapeutic problem, history, eye exam, and final diagnosis. Dr. Kushner states that he was not attempting to solve a clinical problem for a specific patient but rather presenting an intellectual exercise with input from respected colleagues. Indeed, he does not present his own opinion, nor the actual results following treatment on most of the cases. Several experts in the field present opinions on the diagnosis and treatment. Each case is followed by the editor’s perspective which highlights the issues raised. The cases cover clinical topics from nonparalytic vertical strabismus to cataract. There were 249 different individuals who served as discussants for one or more cases. This provides a broad perspective covering many schools of thought.

The cases are numbered and have descriptive titles such as “A Case of ‘V-pattern’ Esotropia with Exycyclotropia after Bilateral Superior Oblique Tucks.” These allow for easy selection of cases for clinical purposes or teaching. The cases are interesting and informative analyses of complicated problems, primarily involving strabismus. However, although it is useful to have these case reports, previously published in a journal, collected together in one volume, it would have been more useful to have included outcomes and follow-up. Nonetheless, the compilation provides a thought-provoking read, an aid to clinical problem-solving, and a stimulating jumping-off point for teaching sessions.

Marilyn B. Mets, MD
Chicago, Illinois, USA

these beautiful books! are all permanently

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A History of this scientific periodical, *Binocular Vision & Strabismus Quarterly.*
A Celebration of Our 22nd Anniversary

The year was 1984. Parks’ sub-specialty of pediatric ophthalmology, which had absorbed the previously free standing, but much less marketable subspecialty of ocular motility/strabology, in the United States, for sure, was growing rapidly. This was the era before managed care intruded. It was the very last of the good years to be a physician and/or an academician.

Our sole subspecialty periodical was the *Journal of Pediatric Ophthalmology and Strabismus* which had been founded as the *Journal of Pediatric Ophthalmology* (only) by Editor Samuel V. Abraham in 1964 (the very first year your Editor started his ophthalmology training!). With the advent of the American Association for Pediatric Ophthalmology (and [later] strabismus) in the early ‘70s it was now fully owned by its New Jersey publisher, Slack. With the requirement of submission of all papers from the annual AAPOS meetings, the waiting time in 1984 for publication of an article in the JPOS was two and a half years! Even though the journal was subsidized by the AAPOS, Slack would not enlarge the journal enough or even at all to handle this demand, in spite of significant profits from the journal. No solution to this dilemma was apparent from Slack, or elsewhere.

At that time your founding editor (FE) was running the Pediatric Ophthalmology and Strabismus Service at the University of Florida in Gainesville. Another member of the faculty there, Frank Pollack, who ran the Cornea Service, had recently started a new journal entitled "Cornea" with the help of the American, New York, arm of the French publisher, Masson.

At a departmental party at his home, he proudly showed us his new computer and office for running his journal. Realizing that our subspecialty could certainly use some help with regard to publishing that backlog of 2 ½ years for the JPOS, we mentioned our problem to Pollack. He said he would talk to Pierre LaHaye, at Masson in New York, who was in charge of the eye journals.

Pierre said they were very interested in another eye subspecialty journal. We agreed on undertaking the job of assembling an Editorial Board and soliciting articles as the first Editor. It didn't take long to put together an outstanding, large, international Editorial Board. Alberto Ciancia and Joseph Lang were especially helpful. Everyone agreed it was a good idea. Only my old mentors refused an invitation to join the Ed Board! (I guess taking a job working for a former student is not a high priority!) They still thought it was a good idea. Excellent scientific articles were quickly volunteered by many Ed Board members. We started putting the first issue together with the help of Alvin Fayman who was to be our production manager at Masson.

Only one person in our professional community objected to BVQ, because he thought we were already publishing enough articles about strabismus and he didn't want to read any more. He wrote to our entire professional community in an effort to stop our efforts, but no one seconded his singular sentiments.

We titled the journal "Binocular Vision" because BV is what the study and treatment of strabismus is really all about. "BV" is also the first term of the title of our mentor von Noorden's esteemed textbook "Bible", so it had to be OK. 

"BV", we intended, would compliment and fit in with the "JPOS", both literally and figuratively. It would not sound like a direct competitive threat - which too many of our associates were all too ready to assume anyway!

To be sure, we further staked out our strabology area by adding as a subtitle "eye movements, strabismus, and amblyopia".

We called it a "quarterly", because that was our intended publication schedule for starting, and because we think the name of a periodical, when it takes a common term for a title, needs to have another word in the title so the periodical is not confused with, and does not have to be additionally separated from, the clinical item; (i.e., when you refer to periodicals like *Ophthalmology* or *Retina* or *Cornea*, don't you often find yourself adding, "the journal" so your listener knows that you are referring to a periodical and not to a piece of anatomy or a science? But "journal" is only French for "daily", so we called it "Quarterly" which it truly is).

In early 1985 as the first issue was about to go to press, in April, Masson suddenly decided to close its American branch and sell all of its scientific periodicals, "lock, stock and barrel", to Raven Press in New York. (We suddenly felt like a professional athlete getting "traded" without choice or input.) The President/owner of Raven Press, Dr. Alan Edelson, PhD, invited us to journey to their New York offices to discuss the future of BVQ with him.

On arrival, Edelson first told us that Tom France, then President of the AAPOS, had just visited him only the day before seeking a publisher to replace Slack, who would not permit the needed expansion of the JPOS.

Edelson suggested that France and the AAPOS and we could and should combine the two publications into one Raven publication.

Tom and I presented this idea to both of our Editorial Boards. But our board members were most enthusiastic about having a separate journal devoted specifically to strabismus and binocular vision and only by remaining separate could we do so. Nor did sharing their journal with us go over very well with Tom France, the JPOS Editorial staff, or the AAPOS.
That left Dr. Edelson and Raven with just us, BVQ. Edelson said that BVQ did not justify his efforts financially. Since BVQ had not even printed its first issue yet, Edelson felt no obligation to me, BVQ, or its Editorial Board members. Therefore, he said, that he would not publish BVQ but rather would simply abandon/cancel BVQ and just let us die, evaporate or whatever.

Neither I nor our Editorial Board liked that at all. After further discussions Dr. Edelson agreed to "give" the ownership and rights to BVQ to your FE. He said we could try to publish it ourselves, on our own. We had to contractually agree to do it all by ourselves and not seek or use the assistance of, or sell BVQ to, any (other) publishing house for at least five years.

So we became owner, publisher and Editor.

The first major hurdle was to get the OK of our boss, the University of Florida Ophthalmology Professor and Chairman who was himself, with his wife, a medical publisher (Triad Publishing, Gainesville). Fortunately, our non compete contract with Raven would not allow him to require that BVQ be published by his company, Triad.

We found a local printer in town, Ewing Press, who printed the football programs for the University of Florida football program, (Go Gators!) and with the help of a free lance local typesetter we set about publishing the journal. Your FE did the old cut and paste wax layout routine.[Can you remember that?!] The first issue was actually completed, printed and mailed out near the end of 1985. Volume 1 was initially called "1985" because we still had high hopes of somehow making that year our first full year of publication. However, that was not to be and the first full year of the journal was actually 1986, denoted Vol. 1, "1985-1986".

Within that first year we were also to have the first of many recurring changes with printers. Ewing Press was bought out by another local printer, Marsh, and we had to break in another set of layout, typesetters and press operators.

Volume 2 was then calendar year 1987. In 1988 (Volume 3), half way through it our printer, Mr. Marsh, passed away and the firm closed down. We then went to our third local Gainesville printer in three years, Storter.

In early 1989, after leaving UF, and thanks to computers we took over in house production of BVQ. Fortunately, "desktop publishing" on computers had just reached the point where one did not have to be a computer engineer-whiz to do it.

So we plunged in full time, purchasing a 286-12! desktop (for about $1800!) and an HP Laser Printer (for another $1400!), which, believe it or not, has just been retired after 14 years of service although it has required repair from time to time. Unbelievably? that printer also had about 100,000 road miles on it as we trucked it back and forth between Florida and Colorado every 3 months for five years (until we moved here in 1995). We certainly have seen a number of computers (?12+) come and go, and almost as many copy and fax machines as well during this same 14 year period. But we still use our original word processing software WordPerfect 5.0 because that is all we needed then and now.

Your FE, because of his ancient artistic bent, (alternate careers at one point were architecture and industrial or automotive design) continued as the layout man and became also the typesetter while his "better half" became chief typist as well as both the managing editor and the business manager, which included doing just about everything else except the printing. She is in fact really "the publisher."

We learned a lot and fast. In those days, it took two months of our time, truly full time, both of us, to turn out each issue. That gave us a few weeks to breath and catch up on other things in between issues. (We have gotten a lot quicker at it, but it still takes the better part of a month.)

At the end of 1989, Storter decided they suddenly needed a lot more of our money just to print the journal since we were no longer paying them for layout and typesetting. So we searched for another printer which we finally found down in Kissimmee, (near Orlando), Cody Publications, who was at that time all periodicals. They were great, printing 50 or 60 commercial publications

Also that Spring, on recommendation, we traveled to Washington DC to personally talk to the people at the National Library of Medicine about getting into Index Medicus. It was already longer that we thought it should have been but we were soon to find our expectations not rapidly fulfilled. Nor did our visit to NIH seem to help at all, in spite of our attempt to play Washington politics.

Maybe, we thought, a more impressive title would help, so we became Binocular Vision & Eye Muscle Surgery thinking that "surgery" in the title might be a key to entry to the NLM as we could claim to be the only journal devoted to strabismus SURGERY.

Just a year later, in 1991, Mr. Cody retired and closed his printing business. One of his salesmen, a Mr. Willis, opened his own company and tried to service Cody's customers. However, as good as he was as a salesman, he was not a good printer's agent and after a couple of difficult issues, we again sought printing elsewhere.

This time we found it in the F.M.A., the Florida Medical Association. We turned to their printer in Jacksonville, Centurion Press. They did a nice job on the monthly Florida Medical Journal and they did a nice job for us. But once again, after just a few good years, the Florida Medical Association, which had created Centurion Press to print their journal, closed it and turned the printing over to a for-eign printer. [early out-sourcing!] Some employees at Centurion, who had been most helpful to us, found themselves new printing jobs
and us too a new, and our current, printer in Jacksonville, Economy Printing. We have been with them ever since even though we are now retired to Colorado. Fed Ex and UPS and faxes make it easy.

In 1995, following the introduction of a European journal entitled simply Strabismus two years earlier, our Board felt we should change our name replacing the "Surgery" in our title to become what we still are today, Binocular Vision and Strabismus Quarterly. We also finally officially retired from Florida and clinical practice, to the Rocky Mountains.

The last major chapter in our history to date, was our admission, finally, after 14 years, to Medline and Index Medicus in the middle of 1998. This was followed almost immediately by admission to Excerpta Medica and EM Base. This was at least largely the result of the good offices of BV&SQ Editorial Board members Larry Tychsen and David Guyton.

[For the most complete index, however, of what has appeared in BVQ over the past 17 years, including the dozen before we made the NLM grade we still compose and publish our own Index Binoc In cases with its. We shall continue to do so because the NLM is only interested in indexing scientific articles, and only according to the relatively general (for us) MESH keywords. A great deal of the material in BVQ such as meeting reports, book reviews, news, and editorial followup type material is therefore not NLM indexed. Index Binoculus also indexes scientific articles with more detailed and specific terms than MESH, facilitating your retrieval of information.]

Last year in the first issue of 2002, we updated and wrote here: "Now in 2002, we enter yet another phase. A combination of events has contributed:
1. This "mom and pop" operation, successful for 17 years, is finding it harder and harder to keep up with the latest advances in the use of computers, (no thanks to Bill [the fraud] Gates) and the new on line services provided by large publishers.
2. There have been in the last two years, several exciting medical problems for your editor, which have left him unimpaired but which have made him realize that he's not going to be around forever, and it is time to look for a permanent home for BV&SQ, while I am still able to do so. 3. The journal has enjoyed cooperative efforts of co-promotion with Swets & Zeitlinger, the Dutch publisher of Strabismus. Now they are interested in merging the two journals in the near future.

Keep being a subscriber, but keep tuned for future events! (Continued)
Since the last printing of this history two years ago, with the help of Marcia Youngdahl, owner of our local print shop, we did get that book of Burt Kushner's 68 editions of his Grand Rounds published last year. We were all quite happy with the way it turned out. We did the best we could to copy the gorgeous cover style of Jean Paul Wayenborgh's History of Ophthalmology, but in a rich red rather than his royal blue.

Everything else continues unchanged in the lives of your FE and his publisher-orthoptist-wife. She put out Burt's book virtually single handed last year. [P.S. But who would have thought that Slack would continue publishing the JPOS, or that so many AAPOS members would be so willing to help them do so considering how poorly they treated the AAPOS and its membership for all those years? Who would have thought we could have not just one but FOUR scientific periodicals servicing our subspecialty — and surviving?]

Amazingly this is our twentieth volume and our twentieth year of publication. We plan to celebrate the completion of our twentieth year during the annual AAPOS meeting about this time next year, which will be held just five miles from our home and offices, up the road at the Keystone ski resort.

- PER

**Update 2007 BV&SQ 22(1)**

That 2006 AAPOS meeting next door was most successful but our 9500 foot altitude was not well tolerated by too many participants (see Dr. Mims III's report published in our pages in the Q2 summer issue page 102) so a repeat is not likely. There are, however, many good ski resorts available in the more comfortable 8000 or so foot range like our neighbor Vail.

At that meeting I found out that our recent myopia collaborator-contributor Michael Chang was limiting his periodical subscriptions to those available on the internet. That did start us thinking about what you see culminating, thanks to a host of factors, including many advantages, in this first issue for 2007 conversion to an electronic internet version (see Editorial in 22(1), pages 15-16).

- PER

**Update 2008 BV&SQ 23(1)**

Conversion exceeded our expectations in many ways: very well received by virtually all subscribers but Bill Gates requires us to contribute two or three times as much time to editing, typesetting, proofing of BV&SQ than our old semi-cut and paste. That includes upgrading our know-how from 1987 WP 5.0 to MS Office, WP 10.0, Adobe PDFs, etc. Thank God we are retired so we could work FT for a year+ on it !!

- PER, now IT Tech
# 2008 Pertinent Meeting Calendar

<table>
<thead>
<tr>
<th>DATE</th>
<th>PLACE</th>
<th>NAME OF MEETING</th>
<th>SPONSOR</th>
<th>CONTACT</th>
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<tbody>
<tr>
<td>March 18 (Tuesday)</td>
<td>Tucson Arizona</td>
<td>Brian Stidham</td>
<td>University of Arizona Dept Ophthalmology</td>
<td>Joseph Miller, MD Tel: 520-321-3667 FAX: 520-321-3665 <a href="mailto:jmiltri@eyes.arizona.edu">jmiltri@eyes.arizona.edu</a></td>
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<tr>
<td>April 2-6 (Wednesday-Sunday)</td>
<td>Washington D.C. USA</td>
<td>AAPOS</td>
<td>Amer Assn for Pediatric Ophthalmol and Strabismus</td>
<td>Maria Schweers, CO Tel: 515-964-7835 FAX: 515-964-7831 <a href="mailto:maschweers@mchsri.com">maschweers@mchsri.com</a></td>
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<tr>
<td>April 27-May 2 (Sunday-Friday)</td>
<td>Ft Lauderdale Florida USA</td>
<td>ARVO</td>
<td>The Association for Research in Vision and Ophthalmology</td>
<td>Joanne Angle Tel: 240-221-2900 Fax: 240-221-0370 <a href="http://www.arvo.org">www.arvo.org</a></td>
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<td>June 28-July 2 (Saturday-Wednesday)</td>
<td>Hong Kong CHINA</td>
<td>WCO (former ICO)</td>
<td>World Congress of Ophthalmology</td>
<td><a href="http://www.woc2008hongkong.org">www.woc2008hongkong.org</a></td>
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<td>September 7-10 (Sunday-Wednesday)</td>
<td>Munich GERMANY</td>
<td>ESA</td>
<td>European Strabismological Association</td>
<td><a href="http://www.esa2008.org">www.esa2008.org</a></td>
</tr>
<tr>
<td>November 8-11 (Saturday-Tuesday)</td>
<td>Atlanta Georgia USA</td>
<td>AAO/AACO</td>
<td>American Academy of Ophthalmology &amp; American Association of Orthoptists</td>
<td>AAO FAX: 415-561-8575 <a href="mailto:customer_service@aoa.org">customer_service@aoa.org</a> AAO: Ron Biemacki CO 518-262-2502 <a href="mailto:ronald.j.biemacki@vanderbilt.edu">ronald.j.biemacki@vanderbilt.edu</a></td>
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**Future AAO Meetings:**
- 2009 San Francisco, California April 17-21, 2008
- 2010 Orlando, Florida April 14-18, 2008

**Future ARVO Meetings:**
- 2009 Fort Lauderdale, Florida May 3-7, 2009

**World Ophthalmology Congress**

The name World Ophthalmology Congress was approved last year and will replace the former and traditional "International Congress of Ophthalmology". Therefore the 2006 World Ophthalmology Congress corresponded to the 30th edition of the ICO.

**Future Meeting Dates:**
- 2010 - Berlin, Germany June 6-10, 2010 www.woc2010.de (combined meeting with AAO)
- 2012 - Chicago, USA November 10-13, 2012

**International Strabismological Society**

Next meeting:
- 2010 - Istanbul, Turkey early September, 2008 www.ishhome.org

**XI International Orthoptic Congress** will be held in Antwerp, Belgium in May. For information visit: www.ioacongress2008.org
EYE MUSCLE SURGERY FOR NYSTAGMUS


To the Editor:

We read with great interest the paper, “Outcome Study of Two Standard and Graduated Augmented Modified Kestenbaum Surgery Protocols for Abnormal Head Postures in Infantile Nystagmus” by Chang et al (1). The authors stated that the results for the correction of abnormal head turns in INS using a modified (6-7-6-7 mm) protocol were equivalent to the Parks’ method. While we agree with the authors’ results, which are consistent with our observations and predictions, we wish to point out that these positive changes were not the result of either specific formula but of the general broadening effect caused by detaching and reattaching the extraocular muscles (four-muscle tenotomy procedure).

Dell’Osso and Flynn (2) showed in 1979 that the Anderson-Kestenbaum procedure had an accompanying therapeutic effect. The null (i.e., the range of low-nystagmus, high-acuity gaze angles), after this null-moving procedure, was broader than pre-surgically. The three patients studied had the following nystagmus (±strabismus) surgeries: 1) Kestenbaum procedure on the fixating right eye (5 mm medial rectus recession and 6 mm lateral rectus resection); 2) Parks procedure (5-6-7-8) followed by an extra Anderson procedure (2 mm recession of the left lateral rectus and 3 mm recession of the right medial rectus) for a total of 7-6-10-8; and 3) Kestenbaum procedure on the fixating left eye (8 mm medial rectus recession and 7 mm lateral rectus resection). Note that the binocular patient required additional surgery from the original Parks formula so the final numbers for each muscle in each case were merely the total required rotation (in mm) / 2. The muscle recessions and resections were only responsible for the null movement and it was hypothesized that the four-muscle tenotomies embedded in the Kestenbaum procedure produced the secondary beneficial broadening effects; this was demonstrated in subsequent studies (3-5).

These beneficial effects of tenotomy explained the historically high success rate of the Kestenbaum procedure despite different formulae used by different surgeons. The broadening effect of tenotomy made their exacting calculations and specific formulae unimportant. As long as the null is moved to near primary position, the broadening effect will decrease the nystagmus intensity for straight-ahead viewing and therefore, diminish the need for an abnormal head position. Therefore, it was recommended that the amount of total muscle movement (determined by the null position) be split in equal amounts on the lateral and medial rectus muscles (2). This ensures that the muscles are at a more homeostatic state post-surgically (i.e., the changes in innervational levels to both the agonist and antagonist muscles required to bring the eyes back to primary position are equal). The 6-7-6-7 procedure advocated by Chang et al (1) adheres to this finding but should only be used for patients needing 13 mm of total eye repositioning; if applied to patients needing more, a secondary head turn of lesser amount may become necessary and later evident (giving rise to the myth of the returning null).

Although theirs was a retrospective study, Chang et al (1) seemed to put forth the premise that one single formula should be used for all infantile nystagmus patients, and suggested that their modified formula was equivalent to Park’s. As Dell’Osso and Flynn (2) demonstrated, the first assumption is therapeutically problematic, since infantile nystagmus is highly idiosyncratic and optimal therapy needs tailoring to each individual’s null angle/head turn (±strabismus). As demonstrated in Figure 7 of their 1979 paper, the total amount of muscle movement should be determined by the null position of a patient; thus, there is no “one-size-fits-all” formula for this type of surgery and although all putative formulae are
essentially equivalent, none are universally applicable.

Recent studies have demonstrated the effectiveness of the tenotomy procedure and its multiple therapeutic benefits (6-9). Neurophysiological evidence has also revealed that a hypothesized proprioceptive feedback loop that controls the steady-state muscle tension enables tenotomy’s effectiveness (10,11). This loop appears to receive sensory input from the palisade proprioceptive endings at the distal ends of the slow switch fibers (these endings are irritated during the tenotomy surgery by sutures and scarring). The reduced steady-state tension produces the overall damping of post-tenotomy nystagmus. The post-surgical reduction affects only the nystagmus slow-phase amplitude, not other ocular motility functions (7).

REFERENCES


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Cleveland, Ohio
lfd@case.edu

(From the Daroff-Dell’Osso Ocular Motility Laboratory, the Louis Stokes Cleveland Department of Veterans Affairs Medical Center and CASE Medical School; the Department of Neurology and Biomedical Engineering; Case Western Reserve University and University Hospitals Case Medical Center. This work was supported in part by the Office of Research and Development, Medical Research Service, Department of Veterans Affairs.)
Re: Reading new electronic version of BV&SQ

From: Burton Kushner
To: Binocular Vision
Subject: Re: Personal subscription "Newsletter": BV &SQ 22- Fourth Digital Issue V.22(4)

Paul and Judy

I am curious what feedback you have gotten on the switch to digital only for BV&SQ. I personally do not find it a very good modality. I do not like to read on screen, and printed loose pages is not the same for me as a journal.

What have others said?

From: "Paul Romano" <perxbvq@colorado.net>
To: "Burton Kushner"

DEAR BURT: YOU ARE NOT ALONE.

But over 95% of our individual subscribers have or have had no complaints with the electronic issues. And while our library subscribers are happy with BV&SQ online - they are asking for IP access to facilitate distribution. (We’re working on that.)

Re discomfort reading computer text on screen:
Have you tried a free trial of “Pivot Pro” from Portrait.com and used Adobe full screen to present a full vertical page to read? Please try that. We have found vertical screens so much better for almost everything we do (and especially email and web browsing) that we have converted all our laptops to external monitors using the screen image turned vertically with this software (see also Editorial in BV&SQ 22(3) last year).

This portrait presentation has another big advantage over landscape, even widescreen landscape. If you frequently use “Print Screen” to save quickly just the page you are looking at, instead of ordering a print of what often turns out to be an unexpectedly long document (as on ebay, for example!), you will get much more of what you are looking at as you will print out a full vertical page instead of that tiny half page you get in landscape mode.

A really big external monitor can also help especially if you are presbyopic. My main monitor is a 21" diagonal 4X3 (i.e. NOT widescreen) turned vertically with Pivot Pro. The screen on this monster is almost 13" horizontally x 17" vertically, magnifying a full 8.5 x 11 page image and all the text on it by over 50% (=150%) without zooming the image at all. I got it on ebay for $150. And the prices are going lower daily. I am a -2 D myope and I use no specs at all when I work on it.

If you don’t have an external monitor or desktop monitor that you can easily rotate ninety degrees, you can get a good idea how that pivot software works just by downloading a 30 day free trial of Pivot Pro and turning your laptop on its side to see what a vertical screen looks like. If you liked it, just leave it cockeyed on your laptop and just leave your laptop parked vertically on its side!

If the vertical portrait mode monitor/ screen doesn’t make reading BV&SQ more tolerable and comfortable, you can also make your own real bound copy of each issue by copying our download of the issue from your computer on to a CD or flash drive, taking that to Kinko’s or your local copy shop, have them print/copy it on to 11"x17" sheets and then fold it in half and staple it just like our old hard copy version or any journal or magazine. Our local copy shop charge is quite reasonable for such. If you can settle for no color copies, just black and white copying, a full 64 page issue should cost you not much more than the new postage to send the eight ounce copy to you.

Actually we are doing this for contributors and a couple of subscribers who, like you, really want a bound printed version. Our regular charge is $47 per issue for such hand made hard copies in addition to the cost of the electronic subscription. Such copies are available only to subscribers to the electronic version, plus shipping outside the U.S.A.

Regards, P & J
EDITORIAL: Due to TV? Critiques and Moral Changes in Our Society; e-Publishing; Binocular Vision Vertical Fusion; Unique Esotropia; Papilledema and Cystinosis.

In the last issue we published a Letter to the Editor by Sandra Brown, MD concerning some scientific colleagues and fellow Editors taking liberties with semantics and the English language to exaggerate their accomplishments.

Since then we came across, not in our scientific journals but in the lay press, a couple of editorial opinions criticizing our scientific efforts, in even broader terms; like this, from Business Week. The original study was published in JAMA so we can still say we medical scientists are still trying to do the right thing! As we are coming to realize today, thanks to lawyers profiting so well from protecting us from our fellow man, human beings everywhere are quite fallible and education and degrees do not prevent people from making errors - in any profession. Too bad our society has become so competitive, so vicious, so fault finding, so arm chair general-ing. I blame the rise of TV media and all its talk shows, and their life and death need for attracting eye balls for lowering our morals and society for the worst.

Things have changed. I can think back to my very first efforts 40 years ago at critiquing someone else's work, and
how fearful I was of alienating the recipient, and maybe lots of collateral damage, and how carefully we went about it. Today, on TV, there’s no holds barred! And even scientists are not the gentlemen warriors they used to be. Heck, just go directly for the jugular.

In THIS ISSUE

First if you didn’t already go there, go back and read our correspondence section. There’s an important letter from a recognized expert on nystagmus and its surgery regarding an article in the last issue of last year. Also a complaint from great supporter and ex-Grand Rounds Editor B.J.Kushner about e-periodicals like BV&SQ. Our reply as to how to alleviate the changes due to the new format should be useful to all you readers.

Since I finished that reply to Burt, my first bargain 21” LCD computer monitor died but it has been replaced by a Samsung Syncmaster (rotating screen) 213T (= 21.3” diagonal) LCD monitor we won on ebay for $300 - it is worth it!- new, it cost over $1000!

The 2x area magnification over 15” laptop screens has cured my residual (-2D myope) presbyopia completely! My ultimate cure for the often microscopic type displayed on any computer screen is software recommended by WSJ’s computer expert Walter Mossberg, available for a small fee from WebEyes.com, that can enlarge the font size alone per se on any website without magnifying the background (like Bill Gates’ magnification aid does.). Elsewhere in 23(1):

Kim JK, Hayden AM, Sadun EA, Dustin LD, Sebag J, Sadun AA. Response Pattern Asymmetry of Binocular Vision Vertical Fusion Amplitudes in a Normal Population. Binocul Vis Strabismus Q 2008; 23:23-30. To more quickly grasp this research, one has to escalate your previous ideas about measurement of fusional amplitudes. There’s nada in our books about their technique and only one prior paper in the literature, their reference 11. They measure two ways instead of one: once starting with the left eye target higher and once with the right eye target higher. It is in the comparison of the responses to these two different measurments that they found, unexpectedly, asymmetry.

Obha M, Kawata H, Ohguro H, Fukushi N. An Unusual Case of Adult Progressive Esotropia Caused by High Myopia. Binocul Vis Strabismus Q 2008; 23:31-35. This is a unique well illustrated first case report of this remarkable patient with an extraordinary surgical result.

Parnes A, Wassner SJ, Weinstein JM. A Case of Intracranial Hypertension and Papilledema Associated with Nephrotic Cystinosis and Ocular Involvement. Binocul Vis Strabismus Q 2008; 23:37-40. The importance of this report lies in their consideration and discussion of what is ostensibly an idiopathic papilledema in an 11 year old child and their proposal and hypothesis of its pathophysiology.

Don’t miss the Abstracts or Hyde Park editorial with other interesting news on the eye business. To the discussion of insurance in that last feature, we would add a telling semantic clue to the motivations of the health insurance industry: They express their profits as their “medical LOSS ratio”, i.e., the ratio between their premiums and the medical care they pay for! In their eyes, what you are doing as a doctor, is creating a LOSS for them, denying them further profit by rendering unfree and implied wrongful or bad medical care!

We are going to miss next month’s AAPOS meeting in Washington, D.C. It should be a great meeting. Hope to have a report of it in our next issue. If you are making a presentation there, PLEASE CONSIDER SUBMITTING IT FOR CONSIDERATION FOR PUBLICATION HERE IN BV&SQ IF IT IS A POSTER THAT IS NOT MANDATORY FOR SUBMISSION TO THE JAAPOS -OR IF A FORMAL PRESENTATION, IF IT IS NOT ACCEPTED ON SUBMISSION TO THE JAAPOS. WE WILL CONSIDER NON-STRABOLOGY PEDI. OPHTHALMOLOGY PAPERS AS WELL. Thanks-per
Response Pattern Asymmetry of Binocular Vision Vertical Fusion Amplitudes in a Normal Population

JANET K. KIM, B.S.¹, ASHLEY M. HAYDEN, M.D.¹,
ELVIO A. SADUN, B.S.³, LAURIE D. DUSTIN, M.S.¹,
J. SEBAG, M.D.¹,² and ALFREDO A. SADUN, M.D., Ph.D.¹

from the ¹Doheny Eye Institute, Keck School of Medicine of the University of Southern California, Los Angeles, California, ²Vitreous, Macula & Retina (VMR) Institute, Huntington Beach, California and ³Massachusetts Institute of Technology, Boston, Massachusetts.

ABSTRACT:  Purpose: To compare the maximum vertical fusion amplitudes in vertical directions (response pattern by respective higher eye), to investigate for possible asymmetry.  

Methods: Vertical fusion amplitude (VFA) was measured in one hundred normal adults with normal single binocular vision using a computer-based device that produced a gradually increasing, symmetric binocular vertical disparity in units of 0.35 prism dipters for each eye at a convergent near but optically distant test distance. Vertical fusion amplitudes in the vertical left-over-right (L/R, elevation of the left eye above the right eye) pattern direction were compared to the vertical fusion amplitudes in the vertical right-over-left direction pattern (R/L).  

Results: The mean VFA was 4.08 ± 1.01 prism dipters, with vertical fusion amplitudes of 4.40 ± 1.44 prism dipters in the L/R direction and 3.75 ± 1.19 prism dipters in the R/L direction. There was no association between ocular dominance and the direction of greater VFA. Asymmetry in the vertical fusion response was found, with 77/100 subjects showing greater than a 10% difference between the means of the L/R and R/L measurements. The group with asymmetry had 17% greater mean VFA than the symmetric group.  

Conclusion: Normal adults frequently have asymmetric directional vertical fusion amplitudes. The asymmetry appears to be due to the contribution of the direction with the greater VFA, rather than the result of both alternatives. These results are intriguing and bear further investigation. Possible explanations may be asymmetry of orbital anatomy or functional asymmetry of either muscular or neuronal origin. They do not appear to be due to relative ocular dominance. Inherent VFA asymmetry should therefore be considered in all forms of vergence testing in the vertical direction.

Received for consideration August 19, 2007; accepted for publication October 23, 2007.

Acknowledgments: This research was supported by funding from the VMR Institute.

Competing interests: Authors AMH, EAS, AAS and JS have proprietary interest in the vertical fusion amplitude measuring device described in the study.


Correspondence/reprint requests to: Dr. Alfredo A. Sadun, Doheny Eye Institute, USC Keck School of Medicine, 1450 San Pablo St, Ste 5802, Los Angeles CA 90033-1026. Fax: 323-442-6407. Email: asadun@usc.edu
INTRODUCTION

Image fusion in binocular vision is a viewer's percept and response to image disparity, which consists of an oculomotor (vergence) component and a non-motor central component (1). In the presence of retinal image disparity between the right and left eyes, vergence movements are spontaneously initiated to maintain single binocular vision. Through vertical, horizontal, and/or rotational adjustments, the necessary degree of binocular alignment is maintained despite internal and external factors that may perturb the oculomotor system.

Previous studies have measured vertical fusion amplitudes (VFA) and vertical vergences in normal adults (1-3). However, there is a paucity of research comparing the relative differences of vertical fusion amplitudes in each of the two vertical directions possible in the test. Most studies measured VFA in only one direction, or, if both directions were measured, only the summed total fusion VFA was reported.

Clinical observations using vertical prism bars (in increments of 1 or 2 prism diopters) have shown that not only is there wide variation in VFAs among subjects, but there is also variability within an individual when comparing opposite directions, i.e. right-eye-elevated-over-left (R/L) and left-eye-elevated-over-right (L/R). To further investigate these variations, we systematically measured vertical fusion responses to disparate stimuli for each direction.

The purpose of this study was to measure and compare the VFAs in the two vertical directions, right-over-left and left-over-right, for normal adult individuals using a simple, clinically practical test with a measurement resolution better than the one prism diopter increments on prism bars. We also sought to determine whether there were any differences in VFAs based on age, sex, or sighting ocular dominance.

MATERIALS, SUBJECTS, & METHODS

Subjects

One hundred (100) adults over 18 years of age were recruited for the study and provided informed consent. The study was approved by the University of Southern California Institutional Review Board and conducted at the VMR Institute in Huntington Beach. Subjects were office staff members or normally-sighted family members and caretakers of patients. In addition, six subjects were recruited from the Keck School of Medicine of the University of Southern California. All subjects had normal single binocular vision at near and had best corrected visual acuity of 20/20 in both eyes. Subjects wore their corrective lenses as needed to see the target clearly at the testing distance.

Exclusion criteria were central visual field defects, prior orthoptic treatment, and any strabismus.

Sighting ocular dominance was determined by asking the subjects to extend their arms and position their two hands together to create a small aperture. Subjects looked through the opening at a distant object and alternately closed each eye separately to determine which eye was fixed on the object.

There were 53 women and 47 men ranging in age from 24 to 83 years, with a mean age of 51.9 years (see Figure 1, overleaf, for age distribution).

Visual display and test software

See Figures A and B, facing page>. Subjects looked through a set of plus 12 diopter lenses (focal distance 8 cm) affixed in a frame standing 8 cm above and from the surface of a tabletop computer screen (model 700Y, Xenarc Technologies, Santa Ana, California). The screen itself was a normal LCD display, but with a couple of modifications to the monitor so that it could be used placed flat on a table surface. These modifications were: 1) stabilizing the backside of the monitor so that it would lay flat on the tabletop; and 2) placement of a thin sheet of plastic over the LCD screen so that we could put the stereo viewer directly over the images without damaging the screen. The same image was presented binocularly through the stereo viewer, allowing the targets to be presented separately to each eye. The stereo viewer had circular apertures which allowed viewing of only the intended image for each eye, but limited peripheral vision. This isolated the images, so that each eye saw only the corresponding image for that side. The test screen was connected to a laptop computer (IBM ThinkPad T30, Pentium 4m) with proprietary software. This generated the screen image of a thin white bar on a
Figure A (Kim JK et al) ABOVE: Test equipment setup. Note the two images of the target on the LCD monitor, position controlled by the computer software (available from the corresponding author). These targets are misaligned in a left over right direction.

Figure 2 (Kim JK et al): RIGHT -> Subject performing test. Note her right hand is on the “button” to be pressed to record the end point of each trial, diplopia, or doubling of the images when vertical fusion failed.
Figure 2 (Kim JK et al): Target image. The target image was originally designed to allow two possible stimulus heights (top vs. bottom lines). For this experiment, subjects were instructed to focus on the top thin line (arrow). This thin bar subtended one degree of visual angle and had a length of about 30 degrees at 80 mm distance from the subject. The actual top thin line was 3-4 pixels tall.

Measuring Vertical Fusion Amplitudes (VFA)

Initially, the bars were aligned at the vertical midline, and the subject perceived a single bar. The bars were then vertically separated away from mid-line in opposite directions. Each bar moved in equal increments of 0.345 diopters per second in opposite directions for a rate of separation of 0.69 prism diopters per second. The subject was provided with a button to press when fusion was disrupted and a doubled image was perceived. Appropriate calibration of the test software was confirmed by comparison testing under the same conditions using a vertical prism bar. The assessment was repeated in successive measurements to test if it was reproducible.
Each subject was tested five times in each direction in succession, alternating between left eye up / right eye down (L/R) and right eye up / left eye down (R/L) for a total of 10 measurements. Each measurement was completed in less than 60 seconds. The maximum VFA was recorded as one increment of disparity less than the reported breakpoint. For each direction, the five measurements were averaged to obtain mean R/L VFA and mean L/R VFA. Also, to allow comparison with earlier studies that measured VFA only in one direction, a mean VFA was determined for each individual by averaging all 10 measurements.

**Statistical methods**

Statistical analysis was performed using SAS software. Two-sample t-tests were performed to determine if there was any difference in VFA based on sex or ocular dominance. Analysis of variance was done to judge whether there was any difference in amplitude based on age. The test for binomial proportion was applied to see if the number of subjects with greater amplitude on one side was disproportionately distributed. A chi-square test was used to determine whether there was any association of VFA asymmetry with ocular dominance. P-values less than 0.05 were considered to be “statistically significant” per tradition.

**RESULTS**

At the start of the measurement session, all subjects confirmed single binocular vision at zero vertical disparity. Based upon 10 measurements (5 in each direction, alternating R/L and L/R endpoint: end point subjective diplopia) for each subject the average VFA was $4.08 \pm 1.01$ prism diopters. Mean VFA in the left-over-right direction was $4.40 \pm 1.44$ prism diopters and in the right-over-left direction, $3.75 \pm 1.19$ prism diopters. **Figure 3 below** shows the distribution of subject amplitudes included in the mean VFA. The findings show an approximately normal distribution.

**Figure 3 (Kim JK et al):** Distribution of vertical fusion amplitudes. Vertical fusion amplitude (VFA) is normally distributed. For each individual, the mean VFA represents the average of 5 measurements in the L/R direction and 5 measurements in the R/L direction.
There was a high level of intrasubject reproducibility, with average standard deviations of 0.58 ± 0.29 prism diopters and 0.52 ± 0.30 prism diopters, respectively, for individual L/R VFA and R/L VFA. On the other hand, there was considerable intersubject variability with mean VFAs ranging from 1.97 and 6.88 prism diopters.

VFA did not vary significantly with age or sex. For age analyses, subjects were divided into quartiles by age (24 to 39 years, 40 to 53 years, 54 to 63 years, and 64 to 83 years). Analysis of variance showed no “statistically significant” difference in mean VFA among age quartiles (p=0.85). When examining age as a continuous variable, there was not a “statistically significant” correlation between mean VFA and age (Pearson correlation coefficient = -0.08, p = 0.45). The average mean VFA for the 53 women and the 47 men were (respectively) 4.09 and 4.07 prism diopters. There was no “statistically significant” difference between the two sexes in mean VFA (p=0.53), L/R VFA (p=0.59), and R/L VFA (p=0.67).

There was, however, asymmetry in the results with higher fusion amplitudes in one vertical direction than in the other direction. The average percent difference between the L/R VFA and the R/L VFA was 33.6%. Figure 4 below shows the L/R vertical fusion amplitude plotted against the R/L vertical fusion amplitude for each individual, with the diagonal line representing the points at which VFA L/R equals VFA R/L. Using a ±10% difference as the threshold beyond which a subject was considered to be asymmetric, only 23% of subjects showed symmetry. Of the 77 subjects, -

**Figure 4 (Kim JK et al): Comparison of L/R VFA to R/L VFA for symmetry. The L/R VFA is plotted against the R/L VFA for each subject. The diagonal line (y=x) represents the points at which VFA L/R equals VFA R/L (=symmetry). Notably, only 23% of subjects fell within a 10% difference.**
...(77%) demonstrating asymmetry, 51 of these 77 (66.2%) had greater vertical fusion amplitude in the L/R direction (test for binomial proportions, p=0.001). Accordingly, the mean L/R vertical fusion amplitude (4.40 prism diopters) was significantly larger than the R/L VFA (3.75 prism diopters; p<0.001 by paired t-test). Interestingly, the group of 77 showing asymmetry had 17% greater mean VFA than the group with symmetry (p=0.001, t-test). However, when comparing the weaker directions for asymmetric individuals to those of symmetric individuals, there was no “statistically significant” difference between their amplitudes (p=0.48, t-test).

Among the asymmetric subjects, no “statistically significant” difference was found in the amplitudes of the direction of greater fusion ability, regardless of whether the subject had higher R/L or L/R VFA (p=0.68, t-test). There was no difference in the occurrence or degree of asymmetry related to age or sex. Also, there was no association found between the direction of greater amplitude and sighting ocular dominance (chi-square p-value = 0.29).

DISCUSSION

The measured total vertical fusion amplitudes of the present study concur with the results of previous investigations. Normal maximum VFA has been cited as 3-6 prism diopters (4). Past studies reported a range of normative values as a result of variations in testing parameters. Smaller stimulus height (1,5), greater degree of convergence (6,7), and smaller rate of disparity introduction (8) all result in an increased ability to fuse vertical image disparity.

The present study tested VFA at near, with convergence of 25 prism diopters and a stimulus height subtending 1° of visual angle. Disparity was introduced at 0.69 prism diopters per second. Consistent with studies using similar testing parameters, the average total VFA in our study was 4.08 ± 1.01, with 4.40 prism diopters in the L/R direction and 3.75 prism diopters in the R/L direction. Bharadwaj et al. (6) used increments of 0.05 prism diopters with 25 prism diopters of convergence and found mean VFA to be 4.86. Mottier and Mets (9) found mean VFA to be 4.85± 1.25 using a synoptophore. As in the study by Sharma and Abdul-Rahim (10), there was no association of gender or age with VFA magnitude.

Earlier studies provided only limited information on whether there was a difference between the fusion amplitudes in opposite vertical directions. Ulayt et al. (11) measured vertical fusion amplitude at four target distances and mentioned that no significant differences were found between the values obtained during base-up or base-down measurements. In a study examining the effect of horizontal vergence on vertical fusion, Hara et al. (7) observed that eight out of twelve subjects had greater fusion amplitude in the left-over-right direction in near viewing. Not much additional discussion of the relative contributions of vertical fusion amplitudes in each direction exists in the literature, and there has not been a study specifically determining the level of symmetry.

The results of the present study show that these directional VFAs are frequently asymmetric. The majority (77%) of subjects had greater amplitude of fusion in one direction (L/R or R/L) by at least a 10% difference. On average, asymmetric subjects had a 17% higher average VFA than symmetric subjects (P = .001). The amplitudes for the direction of lower ability in asymmetric individuals were not significantly different from the VFA of symmetric subjects. This suggests that any increase in average VFA in the asymmetric group was due to the contribution of the direction with the greater vertical fusion amplitude.

Vertical prism adaptation is unlikely to have affected fusion amplitude as each measurement was completed over a short period of time. Ogle and Prangen (12) observed larger binocular VFAs after vertical prism adaptation, which occurs with longer periods of exposure to image disparity. In our experiment the vertical vergence stimulus was increased every second, with each measurement taking less than 60 seconds, thus providing minimal opportunity for short-term adaptation. Across these repeated measurements, subjects had low standard deviations averaging 0.58 and 0.52 for L/R and R/L directions, respectively. Successive measurements in either direction showed no increasing trend in vertical fusion amplitude.

Though hyperphoria may have accounted for some of the VFA, it is unlikely that it was the primary cause of asymmetry. Such hyperphoria might be secondary to either anatomical
asymmetries or to imbalances in muscle forces. Statistically, phoria would have been expected to be approximately evenly distributed among right and left eyes in all subjects and thus be balanced out upon calculation of the sample's mean directional VFAs. In our results, the mean L/R fusion amplitude was significantly higher than the mean R/L fusion amplitude. In addition, a significantly larger number of subjects had greater L/R fusion amplitude, which cannot be explained solely by the presence of an idiopathic hyperphoria.

The reason for the significantly larger number of subjects with greater L/R VFA rather than R/L VFA is unclear. This bears further investigation and exploration of variables influencing VFAs. However, perhaps an asymmetrical laterality of VFA is not so surprising, considering the presence of other functional asymmetries such as handedness and eye dominance. In support of this idea, there is evidence of inherent functional asymmetry in vergence eye movements. Perlmutter and Kertesz (3) showed that within the vertical fusion response, the relative motor contributions of each eye are not equal. In their study, subjects were presented with a symmetrical vertical disparity, yet the eyes responded at different rates with varying overall compensations. Perlmutter and Kertesz found in one subject that the left eye compensated for 144% of the disparity presented to it, while the other eye compensated for only 66% of its disparity. Tested in the opposite direction, the same subject showed yet again different levels of compensation that varied from the amounts from the first direction. These apparently independent contributions of each eye to vergences are consistent with our observations.

The present study also demonstrated that VFAs can be measured with high precision using a portable and inexpensive computer-based system. The computer system allowed automation in increasing disparity and ease in adjusting variables. In addition, it allowed greater precision than measurement with vertical fusion prism bars, which are limited to increments of 1-2 prism diopters. Though our increments were a fraction of the standard, we were limited from achieving even greater resolution by the pixel pitch of the custom screen. In future studies, greater testing sensitivity may be possible with use of a higher resolution screen. Such measures may be useful for the diagnosis of blowout fracture and a variety of myopathies, as well as for testing the efficacy of orthoptic treatment.

Based on the findings from this study, future studies should take into consideration that the maximum VFA measured in one direction does not necessarily reflect the ability to go in the other direction. The reason is unclear, whether it is a result of functional asymmetry of either muscular or neuronal origin or due to an asymmetry of orbital anatomy. Further prospective study is needed to explore variables affecting the balance of vertical fusion function.

REFERENCES

An Unusual Case of Adult Progressive Esotropia Caused by High Myopia

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ABSTRACT: Background: In progressive esotropia associated with high myopia and axial elongation, eso-hypodeviation of the eyeball occurs due to ocular dislocation and often progresses to complete fixed esotropia in the terminal stage. We report a rare case of this condition in whom manual pushing of the eyeball temporarily moved the ocular dislocation back into the muscle cone. A normal eye position and ocular movement were obtained in subsequent strabismus surgery. To our knowledge, there has been no previous report of such a case. It is uncertain if medial rectus muscle recession should be performed simultaneously with combination of the muscle bellies of the superior and lateral rectus muscles in surgery for progressive esotropia caused by high myopia. We discuss this issue in the context of the current case.

Case Report: The patient was a 60 year old woman with a chief complaint of severe eso-hypotropia of the left eye, for which she requested treatment. Ophthalmologic findings included refractive indices of -5.25 D right eye and left eye -22.0 D, respectively. The left eye position was severely eso-hypotropia and ocular movement was limited in all directions. However, the left eye became capable of abduction when the medial side of the eye was pushed manually by rubbing during attempted levoversion. During levoversion while the patient was pushing the eyeball, the dislocation was reduced on Computerized Tomography imaging. In surgery, left medial rectus muscle recession and combination of the muscle bellies of the left superior rectus muscle and the left lateral rectus muscle were performed. After surgery, the eye position was markedly corrected and the abduction limitation was improved.

Conclusion: We encountered a case of progressive esotropia caused by high myopia in which ocular dislocation could be temporarily reversed. In this disease, pushing of the eyeball (push test) can be used to determine whether dislocation can be temporarily reversed. If this is possible, determination of the degree of abduction may be useful for selection of an appropriate surgical procedure.
INTRODUCTION

In progressive esotropia associated with high myopia and axial elongation, eso-hypodeviation of the eyeball occurs due to ocular dislocation and often progresses to complete fixed esotropia in the terminal stage (1). We encountered a patient in whom manual pushing of the eyeball temporarily moved the ocular dislocation back into the muscle cone, and a normal eye position and ocular movement were obtained in subsequent strabismus surgery.

To our knowledge, there has been no previous report of such a case. It is uncertain if medial rectus muscle recession should be performed simultaneously with combination of the muscle bellies of the superior and lateral rectus muscles in surgery for progressive esotropia caused by high myopia. Investigation of the condition following temporary reduction of ocular dislocation before surgery may be useful for selection of the appropriate surgical procedure, and we discuss this issue in the context of the current case.

CASE REPORT

The patient was a 60 year old woman with a chief complaint of severe eso-hypotropia of the left eye for which she requested treatment. Her past history included eso-hypodeviation of the left eye, which started in her early 50s and slowly progressed with eventual loss of eye mobility. Ophthalmologic findings at the initial examination included right and left visual acuities of 0.25 (1.25x-5.0D) and 0.01 (n.c.), respectively, and refractive errors of -5.25 D and -22.0 D, respectively. The left eye position was severely eso-hypotropic and ocular movement was limited in all directions (Figure 1, above). However, the left eye became capable of abduction (passing the midline) when the medial side of the eye was pushed by rubbing during levoversion,

Figure 1 (Ohba et al): Case Report: Patient’s eye positions in primary and 5 cardinal positions of gaze.

Figure 5 (Ohba et al): After surgery, the eye position was markedly corrected and the abduction limitation was improved.
Figure 2 (Ohba et al): (a: left column): The patient’s left eye became capable of voluntary abduction when the medial side of the left eye was pushed by rubbing during attempted levoversion. (b: right column): The patient’s left eye returned to the fixed in the eso-hypo position after the medial side of the eye was pushed by rubbing during left eye in primary position.

...although eye duction movement was still insufficient (Figure 2-a, above). But, the left eye was fixed and voluntary ocular movement (abduction) was not possible when the eye was pushed by rubbing during primary position (Figure 2-b, above).

The patient reported that for several years she had sometimes pushed the eye herself to move the eye laterally. On funduscopy, staphyloma was present in the posterior pole region of the left eye. Preoperative MRI (Magnetic Resonanace Imaging) detected a markedly adducted position of the left eye in the horizontal section (Figure 3-a, next page), with upper lateral dislocation of the eyeball, nasal shift of the superior rectus muscle, and inferior shift of the lateral rectus muscle in the coronary section (Figure 3-b, next page). During levoversion while the patient was pushing the eyeball, the axial length of the left eye was 31.6 mm and shifts of the superior and lateral rectus muscles were reduced on CT, confirming that the dislocation was reduced (Figure 4, nextpage). Based on the above findings, we diagnosed atypical progressive esotropia caused by high myopia.

In surgery, an 8 mm left medial rectus muscle recession and combination of the adjacent half muscle bellies of the left superior rectus muscle and the left lateral rectus muscle (temporal half of the superior rectus muscle and upper half of the lateral rectus) were performed under general anesthesia, with suturing together at a site about 11 mm from the muscle insertions. Elevation and abduction were limited in a preoperative forced duction test. After surgery, the eye position was markedly corrected and the abduction limitation was improved (Figure 5, see prior page, bottom, for comparison with preoperative condition). On postoperative imaging, the shifts of the lateral and superior rectus muscles and the ocular dislocation were improved (See Figure 6, overleaf).
DISCUSSION

Convergent strabismus fixus is classified into congenital (2-5) and acquired (6-8) types. Acquired fixus may occur as the final result of severe abducens nerve palsy or may progress due to high myopia. In many cases, progressive esotropia caused by high myopia has already progressed to extreme eso-hypotropia at the time of the first visit to an ophthalmology department. Imaging diagnosis indicates that ocular dislocation is involved in progressive esotropia, as reported by Yokoyama et al (1), and it is of interest that some patients can reverse the dislocation by themselves, albeit temporarily, as for orthopedic shoulder dislocation.

In our patient, pushing the eyeball temporarily corrected the dislocation and enabled abduction past the midline. Pushing the eyeball may have generated flexion between the eyeball and extraocular muscles, which may have released the superior and lateral rectus muscles from shifted positions back to normal positions, thereby reducing the dislocation and enabling some abduction. In pushing the eyeball by rubbing, pushing so as to turn the affected eye toward lateral supraduction is important for improvement of the nasal shift of the superior rectus muscle and inferior shift of the lateral rectus muscle. Subsequent improvements of the eye position and abduction cannot be obtained without acting on the lateral and superior rectus muscles during compression of the eyeball (see Figure 2-a,b, prior page).
necessary. Combination of the superior and lateral rectus muscles alone may be appropriate in cases in which sufficient abduction is obtained when the dislocation is reduced by pushing the eyeball, but in cases in which abduction is insufficient, medial rectus muscle recession may also be necessary, as in outpatient.

Therefore, in cases of progressive esotropia caused by high myopia, the “push test” should be used to investigate whether the dislocation can be temporarily reversed, and determination of the degree of abduction may be useful for selection of a surgical procedure. We plan to investigate this approach further in an increased number of cases.

CONCLUSION

We encountered a case of progressive esotropia caused by high myopia in which ocular dislocation could be temporarily reversed. In this disease, pushing of the eyeball (push test) can be used to determine whether dislocation can be temporarily reversed. If this is possible, determination of the degree of abduction may be useful for selection of an appropriate surgical procedure.

Figure 6 (Ohba et al): Postoperative CT of the orbit, axial & coronal views. CT detected the shifts of the lateral and superior rectus muscles and the ocular dislocation was improved.

In cases with severe contracture of the medial rectus muscle, reduction of the dislocation is difficult using this method. It is unclear if the method for temporary correction of dislocation is generally applicable because of the small number of cases examined, but we have obtained temporary improvements in eye position and abduction using this method in other patients.

Determination of the degree of abduction while temporarily reducing the dislocation by pushing the eyeball may be useful for selection of a surgical procedure. In severe myopia-associated progressive esotropia, improvement of abduction after surgery is generally poor. The current mainstream surgical procedure for this disease involves combination of the muscle bellies of the superior and lateral rectus muscles, as designed by Yokoyama et al (9); however, the postoperative maximum abduction angle is less than 20° in some cases after this procedure (including medial rectus muscle recession).

Thus, it remains to be determined if combination of the muscle bellies of the superior and lateral rectus muscles alone is sufficient or whether medial rectus muscle recession is also
REFERENCES


Case Report

A Case of Intracranial Hypertension and Papilledema Associated with Nephropathic Cystinosis and Ocular Involvement

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ABSTRACT: An 11-year-old boy with nephropathic cystinosis developed moderate to severe bilateral optic disc edema two months after he received a deceased donor renal allograft.

The bilateral optic disc edema was found to be a result of intracranial hypertension diagnosed by lumbar puncture. No etiology was found. He was treated with acetazolamide and his optic disc edema resolved over a period of eight months and did not recur after acetazolamide was discontinued. The mechanism of intracranial hypertension in patients with nephropathic cystinosis is not well understood, but may involve obstruction of cerebrospinal fluid outflow due to deposition of cystine crystals in arachnoid villi.

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INTRODUCTION

Intracranial hypertension (IH) has rarely been reported in patents with nephropathic cystinosis (1-4). Patients with nephropathic cystinosis may have more than one risk factor for the development of IH, including corticosteroid treatment, renal failure, and renal transplantation, making it difficult to determine the precise pathogenesis in each patient. We present a case of IH in an 11-year-old boy with nephropathic cystinosis who developed IH. Review of our case along with others in the literature strongly suggests that metabolic derangements due to nephropathic cystinosis per se may play a primary role in the development of IH, with or without other predisposing factors.

CASE REPORT

An 11-year-old boy and his identical twin brother were diagnosed with nephropathic cystinosis at 4 years of age. Both were followed in the pediatric ophthalmology clinic for corneal involvement with cystine crystals. At six years of age the index patient was found to have an accommodative esotropia, presumably unrelated to his cystinosis. He experienced moderate photophobia due to conjunctival and anterior corneal stromal crystals but his optic discs were normal at each visit. Since the time of his diagnosis, he had been treated with oral cysteamine, phosphate, potassium, and 1,25 dihydroxycholecalciferol. At 6 years of age hypothyroidism was diagnosed and treatment was begun with levothyroxine 0.0375 mcg daily. Shortly thereafter he was begun on recombinant human growth hormone (rHGH) (somatropin) 0.35 mg/kg per week.
The cystinosis was initially well controlled with multiple daily doses of cysteamine and the patient’s intracellular white cell cysteine concentrations averaged < 0.7 nmol ½ cystine/mg protein. At 10 years of age his creatinine had risen to 7.4 mg/dL (estimated glomerular filtration rate = 10 mL/minute/1.73 m²) and he received a preemptive deceased donor renal transplant. Anti-rejection medications at the time of transplant included a single dose of methylprednisolone, two doses of alemtuzumab as well as tacrolimus and mycophenolate mofetil. The kidney functioned well and he was discharged on post-op day 7 with a serum creatinine of 1.9 mg/dL. At that time he was receiving tacrolimus, mycophenolate mofetil, and a other medications including cysteamine, levothyroxine, sodium/potassium citrate, trimethoprim-sulfamethoxazole, valganciclovir, and oxybutynin. He was not receiving corticosteroids.

Two months post-transplant, at a routine ophthalmic follow up exam, he was found to have moderate to severe bilateral optic disc edema. An eye exam 6 months previously had shown normal optic discs. He was asymptomatic and cranial magnetic resonance imaging (MRI) and magnetic resonance venogram (MRV) were normal. A lumbar puncture revealed acellular cerebrospinal fluid with a normal composition. However, the opening pressure was elevated (400mm of H2O). He was diagnosed with intracranial hypertension, presumably due to cystinosis, and treated with acetazolamide 750 mg/day. The papilledema persisted for eight months then resolved and did not recur following the discontinuation of acetazolamide.

The patient’s identical twin brother had been transplanted approximately 1 year earlier and was discharged on essentially the same medications as the index case, with the addition of prednisone in the twin brother. Upon repeated ophthalmologic evaluations, that twin has never shown evidence of intracranial hypertension.

COMMENTS

A number of etiologic conditions may produce the clinical picture of intracranial hypertension (IH) in conjunction with normal ventricular size and normal cerebrospinal fluid (CSF) composition, as seen in our patient. These conditions include, but are not limited to Addison disease, corticosteroid withdrawal, hypoparathyroidism, and cerebral venous sinus thrombosis. In addition, several drugs have been implicated in the pathogenesis of intracranial hypertension (IH), including lithium, naladixic acid, and human growth hormone, as well as various tetracycline derivatives.

The nomenclature of "pseudotumor cerebri" and IH has created some confusion in the literature on this topic. Based on their review of the literature, Friedman and Jacobson offered this clarification (5) as well as a revised set of diagnostic criteria:

"The nomenclature for IH remains controversial. 'Benign intracranial hypertension' is no longer accepted, as significant visual morbidity may occur with this disorder (3). The term 'pseudotumor cerebri,' a historically popular and all-encompassing term, leaves the impression that IH is not a real disease. IH is currently the favored term for the primary (idiopathic) disorder. For those patients with an identified cause of intracranial hypertension without structural brain imaging or CSF constituent abnormalities, the appropriate diagnostic term would be 'intracranial hypertension secondary to (...)'."

According to the diagnostic criteria suggested, and now widely accepted, by Jacobson and Friedman (5), the term idiopathic intracranial hypertension is now applied only to patients in whom no known etiology can be found to explain the increased intracranial pressure. These criteria also provide that any signs or symptoms may only reflect generalized intracranial hypertension or papilledema. In addition, there must be a normal CSF composition and no evidence of hydrocephalus or a mass lesion on imaging. As a general guideline, IH affects primarily obese women of childbearing age. However, IH may occur in non-obese women as well as in men and children. The designation IH should not be applied to clinical syndromes in which the cause of IH is known, such as venous sinus thrombosis or IH associated with tetracycline use.

Several authors have reported IH in patients with nephropathic cystinosis. In some of these patients, IH has been associated with normal sized ventricles on neuroimaging. In other reports, IH
has been associated with ventricular enlargement. These cases were diagnosed as “communicating hydrocephalus” (2). It is not clear from these reports why increased ICP in some patients with cystinosis results in ventricular dilatation while in others it does not. One possible explanation is that there is a difference in ventricular compliance in these patients. If this were the case, however, one would expect a range of ventricular dilatation, rather than an all or none result. Another possibility is that there is more than one mechanism for the production of intracranial hypertension in patients with nephropathic cystinosis.

Cystinosis and IH are both rare disorders. Nephropathic cystinosis is estimated to affect one of every 100,000 to 200,000 children (6), while IH has an annual incidence of 0.9 per 100,000 in the population at large, presumably less in the pediatric population (7). If chance is taken into consideration, only one of 10 billion people should be stricken with both cystinosis and IH (1). However, the finding of many clinical cases with (IH) and cystinosis makes a chance association very unlikely.

Though our patient had other conditions that might have predisposed him to the development of IH, several lines of evidence suggest that cystinosis was a major contributing factor. Though the literature strongly supports an association between renal transplantation and the development of IH, the link between renal failure per se and IH is tenuous at best (8-11). In addition, IH has been reported in at least three cystinosis patients who were not transplanted, suggesting that cystinosis, rather than transplantation, may be the etiologic agent responsible for IH in our patient. Recombinant growth hormone intake has been implicated in the pathogenesis of IH in some patients and we cannot rule it out as a contributory factor in our patient (12,13). However, the reports of IH in patients receiving rHGH note that the development of IH occurred while rHGH was being administered. In our patient, rHGH had been stopped at the time of transplantation. We cannot rule out the possibility that IH developed while the patient was on rHGH, though his last eye exam was only 3 months before rHGH was discontinued. Anemia is another possible contributory factor. However, our patient had anemia secondary to chronic renal failure as opposed to iron deficiency anemia, the only type of anemia conclusively linked to the development of IH (14).

A number of reports have acknowledged that cystinosis may very well be etiologic in intracranial hypertension (1-3). A proposed mechanism by which cystinosis may cause intracranial hypertension involves a decrease in cerebrospinal fluid reabsorption. Several neuropathological reports have documented involvement of the central nervous system in cystinosis (2-4). In these cases, cystine deposition was found in the meninges, including the arachnoid granulations, choroid plexus, pineal gland, and brain parenchyma. Cystine deposition in the arachnoid villi may very well cause decreased cerebrospinal fluid reabsorption leading to increased CSF pressure. However, the mechanism of resolution of IH in patients with cystinosis is unclear. Though cystine accumulates in the intracellular compartment in these patients, plasma cystine remains normal. Intracellular accumulation of cystine is therefore not improved by amelioration of renal function. It is possible that other pathways for CSF outflow become more active when the arachnoid villi become dysfunctional. However, the exact mechanism of resolution of IH remains unknown.

If cystinosis was indeed causing increased intracranial pressure in our patient, then the appropriate diagnosis would be intracranial hypertension secondary to nephropathic cystinosis, as opposed to a diagnosis of IH. As noted above, the designation IH should be reserved for patients in whom the etiology of IH is unknown and is not related to a coexisting systemic disease which has been conclusively associated with IH.

CONCLUSION

Nephropathic cystinosis has been associated with IH in several reports. Although patients with renal failure of varying etiologies may have a variety of metabolic and pharmacologic causes for intracranial hypertension, including use of human growth hormone and corticosteroids, as well as renal transplantation, the preponderance of evidence suggests that cystinosis per se may be a contributory factor for the development of IH in these patients.
REFERENCES


Vision / Visual Acuity / Amblyopia


It is thought by cognitive scientists and typographers alike, that lower case text is more legible than upper case. Yet lower case letters are, on average, smaller in height and width than upper case characters, which suggests an upper case advantage. Using a single unaltered font and all upper, all lower, and mixed case text, we assessed size thresholds for words and random strings, and reading speeds for text with normal and visually impaired participants. Lower case thresholds were roughly 0.1 log unit higher than upper. Reading speeds were higher for upper than for mixed case text at sizes twice acuity size; at larger sizes, the upper case advantage disappeared. Results suggest that upper case is more legible than the other case styles, especially for visually impaired readers, because small letter sizes can be used than with the other case styles, with no diminution of legibility. (Dr. Arditi, Arlene R. Gordon Research Inst, Lighthouse International, 111 East 59th St, New York NY 10022. Fax: 212-751-9667)


Purpose: To determine this in preschool children.


Participants: 2545 Hispanic and 2178 African American children 6 to 72 months old.

Methods: Subjects were identified by door-to-door screening within previously identified contiguous census tracts. Pediatric ophthalmologists or optometrists performed comprehensive eye examinations of all subjects. Refractive error and keratometry measurements were attempted on all subjects with the Retinomax autorefractor after cycloplegia. Axial length measurements with the IOLMaster partial coherence interferometer were attempted on those subjects ages 30 to 72 months.

Main Outcome Measures: Ability to obtain high confidence autorefraction readings or axial length measurements on both eyes.

Results: Overall, 89% were testable in both eyes with the Retinomax device, and 91% of the children were testable with the IOLMaster. Testability rose sharply with age, so that by age 36 months 98% of the children were testable with the Retinomax device and 90% were testable with IOLMaster. There were no consistent gender or ethnicity related differences in testability overall or when stratified by age for either device.

Conclusions: Young children can be reliably tested with the Retinomax and IOLMaster devices. This may impact strategies for management of cataracts and refractive errors in preschool children. (Rohit Varma, MD, Doheny Eye Institute, 1450 San Pablo St, Room 4900, Los Angeles CA 90033-8224)


Crowding generally defined as the deleterious influence of nearby contours on visual discrimination, is ubiquitous in spatial vision. Crowding impairs the ability to recognize objects in clutter. It has been extensively studied over the last 80 years or so, and much of the renewed interest is the hope that studying crowding may lead to a better understanding of the processes involved in object recognition. Crowding also has important clinical implications for patients with macular degeneration, amblyopia and dyslexia.

There is no shortage of theories for crowding - from low-level receptive field models to high-level attention. The current picture is that crowding represents an essential bottleneck for object perception, impairing object perception in peripheral, amblyopic and possibly developing vision. Crowding is neither masking nor surround suppression. We can localize crowding to the cortex, perhaps as early as V1; however, there is a growing consensus for a two-stage model of crowding in which the first stage involved the detection of simple features (perhaps in V1), and a second stage is required for the integration or interpretation of the features as an object beyond V1. There is evidence of top-down effects in crowding, but the role of attention in this process remains unclear. The strong effect of learning in shrinking the spatial extent of crowding places strong constraints on possible models for crowding and for object recognition.

(UC Berkeley, School of Optometry and Helen Wills Neuroscience Institute, Berkeley, CA 94720. Fax: 510-642-7806)


To test whether first and second order stimuli are processed independently in amblyopic vision, we measured thresholds for identifying a target letter flanked by two letters for all combinations of first and second order targets and flankers. We found that (1) the magnitude of crowding is greater for second than for first order letters for target and flankers of the same order type; (2) substantial but asymmetric cross over crowding occurs such that stronger crowding is found for a second order letter flanked by first order letters than for the converse; (3) the spatial extend of crowding is independent of the order type of the letters. Our findings are consistent with the hypothesis that crowding results from an abnormal integration of target and flankers beyond the stage of feature detection, which takes place over a large distance in amblyopic vision. (Dr. Chung, College of Optometry & Center for Neuro-Engineering and Cognitive Science, University of Houston, Houston TX. Fax: 713-743-2053)


Objective: To compare the effectiveness of eyeglass treatment of astigmatism-related amblyopia in children younger than 8 years (range, 4.75-7.99 years) versus children 8 years of age and older (range, 8.00-13.53 years) over short (6 week) and long (1 year) treatment intervals.

Design: Prospective, interventionl, comparative case-control study.

Participants: Four hundred forty-six nonastigmatic (right and left eye, <0.75 diopters [D]) and 310 astigmatic

Effects of optical correction on best corrected grating acuity (vertical (V), horizontal (H), oblique (O)), vernier acuity (VHO), contrast sensitivity (1.5, 6.0 and 18.0 cd/deg spatial frequency, V and H), and stereoaucity were evaluated prospectively in 4 to 13 year old astigmats and a non-astigmatic age-matched control group. Measurements made at baseline (eyeglasses dispenses for astigmats), 6 weeks and 1 year showed greater improvement in astigmatism than non-astigmatic children for all measures. Treatment effects occurred by 6 weeks, and did not differ by cohort (<8 yrs vs >8 years), but astigmatic children did not attain normal levels of visual function. (Dr. Harvey, Dept Ophthalmology/Vision Science, The University of Arizona, 655 N Alvernon Way, Ste 108, Tucson AZ 85711)


Purpose: To compare pre- and post-cycloplegic autorefraction in two separate age samples of Australian school children.

Design: Population based cross sectional study of random cluster samples.

Methods: Autorefraction was performed before and after cycloplegia, using 1% cyclopentolate, in the right eyes of 2233 12 years old and 216 6 year old children.

Results: The mean spherical equivalent (SEQ) difference between these measures was 0.84 diopters (D) (95% confidence interval [CI] 0.81 to 0.87 D), more hyperopic in post than pre cycloplegic autorefractive assessments in the 12 year old children and 1.18 D (95% CI 1.05 to 1.30 D) more hyperopic in the 6 year old children. Precycloplegic autorefraction substantially overestimated the proportion of children with myopia, misclassifying 17.8% aged 12 years and 9.5% aged 6 years. Conversely, precycloplegic autorefraction did not detect moderate to high hyperopia in 2.28% of 12 year olds and 17.14% of 6 year olds.

Conclusions: Our findings reinforce the importance of using cycloplegic autorefraction in children up to age 12 years. (Dr. Mitchell, Centre for Vision Research, Dept Ophthalmology, Univ Sydney, Hawksbury Road, Westmead NSW 2145 Australia)


Purpose: In a prospective observational study, we previously reported that weaning (tapering or gradually reducing) treatment in children treated with 6 to 8 hours of daily patching for amblyopia resulted in a 4-fold reduction in odds of recurrence. We now report the association of additional factors with recurrence or regression of amblyopia in this same cohort.

Design: Prospective, nonrandomized, observational study.

Participants: Sixty-nine children aged <8 years with successfully treated anisometropic or strabismic amblyopia (improved >3 logarithm of the minimum angle of resolution [logMAR] lines).

Methods: Patients were enrolled at the time they stopped patching for amblyopia. Patients were classified according to whether patching was stopped abruptly or weaned before cessation. They were followed off treatment for 52 weeks to assess recurrence of amblyopia.

Main Outcome Measure: Recurrence of amblyopia defined as a >2-logMAR level reduction of visual acuity from enrollment (cessation of patching) confirmed by a second examination. Recurrence was also considered to have occurred if treatment was restarted with a >2-logMAR level reduction of visual acuity, even if it was not confirmed by a second examination.

Results: The risk of recurrence was higher with better visual acuity at the time of cessation of treatment (adjusted risk ratio [RR], 0.68 per line of worse visual acuity; 95% confidence interval [CI], 0.51-0.90), a greater number of lines improved during the previous treatment (adjusted RR, 1.5 per line increase; 95% CI, 1.1-2.0), and a history of recurrence (adjusted RR, 2.7, 95% CI, 1.5-4.9). Orthotropia or excellent stereoaucity at the time of patching cessation did not appear to have a protective effect on the risk of recurrence.

Conclusions: The higher risk of recurrence in the most successfully treated children with amblyopia and absence of protection from orthotropia and excellent random dot stereoaucity suggests that careful and prolonged followup is needed for all children who have been previously treated for amblyopia. (Dr. Holmes, Ophthalmology E7, Mayo Clinic, Rochester MN 55905)

Researchers mimicked the presence of a unilateral cataract in rats from birth to adulthood. Prior to removing the cataract, the rats were subjected to complete visual deprivation. This period of dark exposure restored ocular dominance plasticity in the adult rats and produced a rapid recovery in visual acuity after removal of the occlusion.

**Binocular Vision**


Binocular rivalry was studied using plaid images which were the sum of orthogonal diagonal gratings plus identical vertical gratings in the two eyes. The rivalry alternations sped up as the spatial frequency difference between the vertical and diagonal gratings was increased above about one octave, but slowed down for smaller differences. The interaction between depth and rivalry was studied using similar plaid but with depth introduced in the vertical components. Depth and rivalry coexisted when the spatial frequency difference between the vertical and diagonal gratings was greater than about one octave, but rivalry slowed down and depth perception was reduced for smaller differences. Plaid consisting of square wave gratings were used to compare: (1) added gratings; (2) vertical gratings superimposed on (i.e., occluding) diagonal gratings; (3) diagonal gratings superimposed on vertical gratings. Rivalry alternations were fastest in condition (3), indicating that grouping effects played a role. The final experiment indicated that depth and rivalry coexisted within a spatial frequency band if the orientation difference between the vertical and diagonal components was 60 to 70 degrees. These results place constraints on models of stereopsis and rivalry, indicating that depth and rivalry can coexist in different spatial frequency and orientation bands but that each interferes with the other in the same band. (Dr. Buckthought, Centre for Vision Research, Computer Science Bldg Room B0002E, York University, 4700 Keele St, Toronto, Ontario, Canada M3J 1P3, Fax: 416-736-5857)

**A Bias for Looming Stimuli to Predominate in Binocular Rivalry.** Parker A, Alais D. Vision Research 2007. [Authors Abstract]

Concentric gratings that expand outwardly are seen for a greater period of time relative to contracting gratings when engaged in binocular rivalry. During binocular rivalry (BR), which is a fluctuation in visual awareness between different images presented separately to each eye, equivalent images tend to be seen in equal proportion over the observation period. When one eye’s image is particularly salient, brighter, or moving, this equality is curtailed, and the stronger image predominates. Here a specific direction of motion is found to predominate over another of equal speed. This tendency is consistent with the ability of looming objects to orient attention, coupled with previous accounts of the role of stimulus driven attention in BR. (Dr. Parker, School of Psychology, Univ Sydney, Brennan MacCallum Bldg (A18), Sydney NSW 2006, Australia.

**Stereopsis**

**Stereoscopic Depth Perception in Peripheral Field and Global Processing of Horizontal Disparity Gradient**


This study investigates how the visual system detects a surface deviation from planar, induced by, crossed or uncrossed, horizontal disparities continuously increasing with eccentricity. Binocular disparities increased linearly and concentrically, between two given eccentricities. The thresholds of deformation detection were gathered using a method in which observers halted a dynamic stimulus. The thresholds are substantially higher than those measured by the control experiment using a method of constant stimuli. Results, using the adjustment method, highlight lower discrimination thresholds for uncrossed disparities than for crosses disparities. For the two directions of disparity, thresholds vary similarly as a function of eccentricity, however two observations can be pointed out: thresholds of peripheral start depend on disparity gradient and staring eccentricity; foveal start thresholds do not depend on disparity gradient alone. Data suggests that in peripheral field, the visual system is more sensitive to uncrossed disparities than crossed disparities, relative to the frontoparallel plane. According to a verbal report from observers, the reference used for the perceptive judgment appears not to be the screen plane but rather the peripheral stimulus. Moreover, in the deformation detection of planar surfaces, horizontal disparities processing depends on the eccentric location of the disparities. It could be global for the peripheral locations and could be based more on depth contrast for the central locations. (Dr. Celine Devisme, College de France, 11 Place Marcellin Berthelot, 75231 Paris, France. Fax: 33-1-55-96-4702)

**Binocular Vision / Binocular Motility**


**Purpose:** To analyze the response of normal emmetropic subjects to different ocular dominance tests and to analyze the influence of this response in surgically induced monovision.

**Design:** A prospective study of diagnostic accuracy was carried out to analyze the different tests to determine ocular dominance, without a gold standard test.

**Methods:** Nine different tests were carried out in a group of 51 emmetropic subjects to determine both motor and sensory ocular dominance. For analysis, patients were divided into two groups according to age. Normal ophthamologic examination results were the inclusion requirement, with normal binocular vision and good stereoaucity.

**Results:** A significant percentage of uncertain or ambiguous results in all tests performed was found, except in the hole-in-card and kaleidoscope tests. When the tests were compared, two by two, the correlation or equivalence found was low and as much lower if tests were compared three by three.

**Conclusions:** No clear ocular dominance was found in most studied subjects; instead, there must be a constant alternating balance between both eyes in more emmetropic persons, but not in those with pathologic features. This fact would explain the great variability both between and within different kinds of tests. Also, it would establish that the monovision technique is well tolerated in most patients, with unsuccessful results only in those patients with strong or clear
The Role of Binocular Stereopsis in Monoptic Depth Perception. Wilcox LM, Harris JM, McKee SP. Vision Research 2007; 47:2367-2377. [Authors Abstract]

In this study of depth from monocular elements, Kaye reported that monocular stimuli, briefly presented to one eye in a stereoscopic display, generate reliable depth percepts. Here we replicate and extend Kaye's findings in an effort to identify the mechanisms underlying the phenomenon. Our experiments show that the perceptions of depth is not a simple result of monocular local signal, for the percept of depth disappears when one eye is patched. In subsequent experiments we assess the possibility that the percept results from a very coarse stereoscopic match to either the centroid of the luminance distribution in the unstimulated eye or a simple match to the line of sight in the unstimulated eye. Our results consistently support the match-to-fovea account, and lead us to conclude that monoptic depth is a stereoscopic phenomenon. (Dr. Wilcox, Dept Psychology, Centre for Vision Research, York University, Toronto, Canada M3J 1P3, Canada. Fax: 416-736-5814)

Strabismus Pathophysiology


The role of eye movements in the perception of depth from motion was investigated in esotropia. Elevated motion parallax thresholds, have been shown in strabismus suggesting a global deficit in depth perception involving both stereopsis and motion. However, this motion parallax deficit in strabismus might be better explained by the role that eye movements play in motion parallax. Esotropia is associated with asymmetric pursuit and optokinetic response eye movements. The first experiment demonstrates that the motion parallax deficit in esotropia mirrors the pursuit eye movement asymmetry: in the direction of normal pursuit, esotropic observers had normal depth from motion parallax. A second set of experiments, conducted in normal observers, demonstrates that this motion parallax deficit is not a secondary problem due to the retinal slip created by inadequate pursuit. These results underscore the role of pursuit eye movements in the perception of depth from motion parallax. (Dr. Mark Nawrot, Center for Visual Neuroscience, Dept Psychology, North Dakota State University, 1210 Albrecht Blvd, Fargo ND 58105. Fax: 701-231-8426)


Purpose: As a first step in the development of a health related quality of life (HRQOL) instrument, we conducted in-depth interviews to identify the specific concerns of adults with strabismus.

Design: Prospective cross-sectional study.

Methods: Thirty adults with strabismus, 17 with diplopia and 13 without, were recruited. Individual interviews, using 11 open-ended questions, were audiotaped, transcribed and transcripts reviewed independently by three investigators. Phrases regarding how strabismus affected everyday life were grouped into topic areas and the frequency of each topic analyzed for subjects with and without diplopia.

Results: A total of 1508 phrases were extracted: 207 (14%) of 1508 were excluded because they did not pertain to HRQOL. From the remaining 1301 phrases, 48 topic areas were apparent. For patients with diplopia, the most frequently occurring topics were: nonspecific negative feeling (15/17; 88%) (“really hard”); general disability 15/17 (88%) (“affects everything”); and driving (14/17; 82%). In those without diplopia, the most frequently mentioned topics were appearance to others (12/13; 92%)(“people notice my eyes”) followed by problems with eye contact (10/13; 77%) and interpersonal relationships (10/13; 77%). Of the topics that were common to both groups (n=42), two of the most frequent were driving and nonspecific negative feeling.

Conclusions: Multiple individual interviews revealed many topics that negatively affect quality of life in patients with strabismus. The frequency and type of concerns confirm the importance of HRQOL assessment as an important aspect of strabismus management. (Dr. Holmes, Mayo Clinic, Ophthalmology, 200 First ST SW, Rochester MN 55905).


Purpose: To report the prevalent forms of childhood strabismus.

Design: Retrospective, population based cohort study.

Methods: The medical records of all Olmsted County, Minnesota, residents younger than 19 years diagnosed with esotropia, exotropia, or hypertropia from January 1 1985 through December 31, 1994 were reviewed.

Results: Six hundred twenty-seven new cases of childhood strabismus were identified during the 10 year study period, including 380 (60.1%) with esotropia, 205 (32.7%) with exotropia, and 42 (6.7%) with hypertropia. The five most common forms of strabismus included accommodative esotropia (27.9%) intermittent exotropia (16.9%), acquired nonaccommodative esotropia (10.2%), esotropia in children with an abnormal central nervous system (7.0%) and convergence insufficiency (4.7%).

Conclusions: This study provides population based data on the most prevalent forms of childhood strabismus. Accommodative esotropia, intermittent exotropia, and acquired nonaccommodative esotropia were the predominant forms of strabismus in this Western population. (Dept Ophthalmology, Mayo Clinic, 200 First Street Southwest, Rochester MN 55905)

Strabismus, Diagnosis

Age at Strabismus Diagnosis in an Incidence Cohort of Children. Mohney BG, Greenberg AE, Diehl NN. Am J Ophthalmol 2007; 144:467-469. [Authors Abstract]

Purpose: To compare the age at diagnosis of children with esotropia, exotropia and hypertropia.

Design: Retrospective, population-based cohort study.

Methods: The medical records of all Olmsted County, Minnesota, residents <19 years diagnosed with esotropia,
exotropia or hypertropia from January 1, 1985 through December 31, 1994 were reviewed.

Results: The median age at diagnosis of esotropia (n=380), esotropia (n=205) and hypertropia (n=42) was 3.1 years, 7.2 years and 6.1 years respectively (P=.001). In the first six years of life, esotropia had the highest incidence and was more likely to occur than either exotropia or hypertropia; exotropia predominated between age seven and 12 years; and each form was similarly likely to occur between 13 and 18 years of age (P=.001).

Conclusions: The age at diagnosis was significantly different for the various forms of strabismus in this population. Esotropia is the most common form in the first six years of life; beyond this age exotropia predominates until the teenage years when the three forms have a similar but decreased incidence. (Dr. Mohney, Mayo Clinic, Ophthalmology 200 First St SW, Rochester MN 55905)

Strabometry


Purpose: To describe the interobserver test-retest variability of both simultaneous prism and cover testing (SPCT) and alternate prism and cover testing (APCT) in horizontal deviations, and to calculate 95% limits of agreement that might be used to define real change.

Design: Prospective cohort study.

Methods: Twenty-three patients with sixth nerve palsy and three controls were independently examined by two experienced strabismus surgeons. SPCT and APCT were performed at distance and near fixation. Test-retest variability and agreement between tests were evaluated using Bland-Altman plots and 95% limits of agreement were calculated.

Results: For SPCT, the 95% limits of agreement half-widths were 6.3 prism diopters (pd) at distance fixation and 6.9 pd at near. For APCT, the 95% limits of agreement half-widths were 10.2 pd at distance and 9.2 pd at near.

Conclusions: Based on 95% limits of agreement half-widths between two examiners, a change in strabismus measurements of less than 10 pd may be attributable to test-retest variability. Changes of 10 pd or more are likely to represent real change and might be used as the threshold for management decisions. (Dr. Jonathan Holmes, Dept Ophthalmology, Mayo Clinic, 200 First St SW, Rochester MN 55905)

Strabismus Surgery, Complications


Purpose: To investigate the effects of preoperative brimonidine-purite 0.15% instillation on intraoperative bleeding and postoperative subconjunctival hemorrhage during strabismus surgery in adult patients.

Design: Randomized comparative interventional case series.

Methods: One hundred and eighteen eyes of 90 consecutive adult patients were instilled with either a single drop of brimonidine-purite 0.15% (42 eyes), phenylephrine 1% (38 eyes), or sodium hyaluronate 0.1% (38 eyes) 15 minutes prior to strabismus surgery. Intraoperative bleeding and postoperative subconjunctival hemorrhage were graded on a scale of one to three. The scores were compared among the study groups.

Results: Scores of the intraoperative bleeding and the postoperative subconjunctival hemorrhage of the treatment groups were significantly less than that of the control group (P<.001). The scores of the brimonidine group were similar to those of the phenylephrine group (intraoperative bleeding score, P=.405; subconjunctival hemorrhage score, P=.722).

Conclusions: Topical brimonidine administration before strabismus surgery may reduce intraoperative bleeding and postoperative subconjunctival hemorrhage in adult patients. (Dr. Sueng-Han Han, Inst Vision Research, Dept Ophthalmology, Yongdong Severance Hospital, Yonsei University College of Medicine, 146-92 Dogok-dong, Kangnam-gu, Seoul 135-720, Korea.

Myopia

Myopia Linked to Birth Month. Ophthalmology. As abstracted by the AAO Academy Express, August 29, 2007.

An Israeli study appearing in Ophthalmology finds that babies born in June and July had a 24 percent greater chance of becoming severely myopic that those born in December and January. The December and January children had the least number of severely myopic individuals.

This finally and undoubtedly proves that myopia is an environmental disease, not a genetic disease!!!! Go Atropine-per.

X

Miscellaneous

Venipuncture.


Topical ethyl chloride to reduce venipuncture pain was compared to a topical anesthetic and/or no analgesia - no significant differences were found. PERHAPS THE QUALITY OF THE PHLEBOTOMIST IS PARAMOUNT.
Stereoscopic 3D Stars on Film!!s; Hospital Bills on Steroids; How to Cure Society’s Current Hysteria about Medical Care (So-Called “Crisis”); $662,000 per year; REPs! U Forget VAIL!.

Stereoscopic 3D Movies are BACK!

Stereoscopic depth perception remains the epitome of binocular vision. Its good to see it is still in vogue, as in this recent news clipping: 3DTV SOON?

Clash of the 3-D Rock Stars

As More-Realistic Films Hit Theaters, U2 and Miley Cyrus Compete for Screens

BY SARAH MCBRIDE

IN THE NATION’S THEATERS, Hannah Montana has rocked U2—and delivered a lesson in both the promise and limitations of new 3-D film technology.

After some delays in postproduction, a concert movie called “U23D” was finally set to hit just about every screen enabled for 3-D in the country tonight. The film uses a series of U2 stadium concerts in Latin America to show how far the 3-D format has come since the days of gimmicky flicks like “Creature from the Black Lagoon” in the 1950s. In the new film, U2 singer Bono appears to almost reach out and brush the viewer’s cheek as he sings “Sunday Bloody Sunday,” and the neck of the Edge’s guitar seems to swoosh by your face.

But “U23D” has run into another 3-D concert movie: “Hannah Montana/Miley Cyrus: Best of Both Worlds Concert Tour.” The world of 3-D film exhibition, it turns out, isn’t big enough for both Hannah and Bono. Originally scheduled to run for just one week, the “tween”-oriented Hannah Montana film was extended by theater owners because of overwhelming popularity—sidelining Bono & Co. until Feb. 22 in most markets. For now, “U23D” remains largely at a few dozen Imax theaters.

The situation underscores the challenges of 3-D technology. The industry is touting 3-D as its best shot at combating increasingly so-
Continued from page W1

phisticated home-theater systems. Among the 3-D titles in the pipeline: “Toy Story 3D” from Disney’s Pixar; “Monsters vs. Aliens” from DreamWorks Animation; and “Avatar,” the next film from “Titanic” director James Cameron.

In decades past, old 3-D technology gave many viewers headaches or eyestrain. Now, editors have better postproduction tools, for example enabling them to move between distant and close-up shots more smoothly.

At the theater, projection techniques have improved too, allowing the left and right frames needed to create the 3-D effect to run in perfect synchronicity. The old glasses with red-and-blue lenses are gone, replaced by tinted, polarized lenses, which help give the images a more realistic hue. All this creates a better, less jarring experience for the filmgoer.

A number of companies are trying to ride the 3-D trend, from filming to setting up projection systems in theaters. “U23D,” for example, was filmed on cameras from 3ality and Pace.

But the industry has to overcome some hiccups—including technical and distribution hurdles—before the technology meets its full potential.

Only a few hundred theaters around the nation can handle a movie in 3-D, which requires a special projector or an add-on for a digital projector, at a cost of about $25,000-$50,000 either way. That means limited slots when a 3-D movie opens, potentially leading to snafus if two 3-D movies are competing for space at the same time.

That was the problem when “U23D” butted up against “Hannah Montana,” which has taken in $53.8 million so far, making theater owners reluctant to take it off screens. “It’s unbelievable grosses for this time of year,” says J. Wayne Anderson, chairman of R/C Theatres Management Corp., which has 3-D technology on a screen in Hanover, Pa. For “U23D,” he says, “it was a no-brainer that we had to push it back.” On his screen and others, the delay means “Hannah Montana” is likely scooping up ticket sales that could have gone to U2 this holiday weekend. And now, with such a big lag between its Imax release Jan. 23 and its release in 3-D-ready regular theaters Feb. 22, “U23D” could lose momentum.

But backers of “U23D” had little choice. They couldn’t push back their Imax release to match the Feb. 22 release date for regular theaters because many Imax theaters were already booked to run “The Spiderwick Chronicles.” Also, they wanted to open in regular theaters on the heels of January’s Sundance Film Festival, so they could ride the reviews the movie earned there.

The backers of the U2 movie say it will find its audience. “This is a movie with really long legs,” says Lisa Truitt, president of National Geographic Cinema Ventures, which is distributing the movie. In some ways, says producer and 3ality Digital Chief Executive Sandy Climan, “U23D” is benefiting from the publicity “Hannah Montana” is bringing to 3-D technology in general. “Our trailer plays on the head of “Hannah Montana,’” he says. “We are getting magnificent exposure.”

Currently, 3-D systems are in only about 700 regular theaters, but in a year’s time, 2,000 theaters should be up-
3D Models from computer printers

from The Wall Street Journal December 12, 2007 by Robert A. Guth. How 3-D Printing Figures To Turn Web Worlds Real. “... under $100 ... hikers, resorts and real-estate firms are likely customers for 3-D maps and models that show the topographic contours of ski slopes, golf courses and other landscapes. ... The expansion by 3-D printers into manufacturing is happening thanks to a steady drop in the price of printers, improvements in the materials they can handle and a proliferation in the amount of 3-D data that can be turned into objects. Historically, the printers cost hundreds of thousands of dollars and were made by a handful of small companies. ... now ... machines priced below $20,000, a change that has radically expanded sales. Desktop Factory Inc. has already taken 350 pre-orders for a $5000 3-D printer it plans to roll out next year. ... to expand to custom toys and jewelry. ... The figurines cost about $100 each., The service is also being marketed with Dell Inc., as part of a World of Warcraft-themes high end

notebook PC. Buyers of the PC get a voucher for a free FigurePrints figurine. ...” [like this:]
Current Visual Challenges: Instant Headaches or Eye Strain: Watching movies on your cell phone mini micro screen!!!!

from The Wall Street Journal January 2, 2008 by Lee Gomes. The Year in Technology: Pirates, Flash Memory and Hobbies - My, My! “... One of the things people are doing with those movies they are downloading, is watching them on their mobile phones. Not only will people, especially younger ones, watch movies on their PCs, something no one would have believed just a few years ago, but they will watch them in a matchbook-size display. ... So much about food and cooking is online that the ‘mainstream media’ of the food world are alarmed. ... It’s not only cooking, of course, it’s just about any other pastime you can think of. As a result, the Internet may make for a new golden age in hobbies. ...”

[Do you remember my commenting on a paper on aniseikonia at an AAPOS meeting in 2000? Do you remember my remarks regarding the future of binocular vision and that for emphasis I modeled headgear which mounted a micro mini TV directly in front of one eye with optical correction for such a very near viewing distance so that the micro screen appeared the size of a normal TV set? That is the way to
watch such movies!!! I am amazed that I have not yet seen such a device marketed as an accessory for any and all cellphones. And a teensy weensy screen like that costs next to nothing as they are now part of the cheapest cellphones.

The most expensive part will be the lens to focus the images at that distance—about 50 diopters but only a centimeter in diameter. Anyone who reads this probably has the know-how and even the parts and pieces to make their own such viewer!!

LEDs to OLEDs

from The Wall Street Journal December 27, 2007 by William M. Bulkeley. OLED: The Next Big Thing for Screens? Organic Light-Emitting Displays Could Challenge LCDs, Some Say. New displays could remake TV, cellphone, lighting markets within five years. “Even as plasma and LCD television screens flew off the shelves before Christmas, manufacturers were starting to roll out a new technology that they predict will produce the next generation of mass-market video displays. After decades of development, organic light-emitting diode displays, or OLEDs, are finally emerging in consumer products. Some big companies predict that within five years they will remake the television, cellphone, computer screen and lighting markets. OLEDs are difficult to make and involve temperamental chemistry. But they produce bright colors, consume less electricity, and make screens that are thinner and lighter than any competing technology. Currently, they are much more expensive than LCDs, or liquid crystal displays, but many people in the industry predict that as manufacturing efficiency improves, their cost could fall below LCDs. ... Nokia Corp, is using Samsung Corp OLEDs for the screens of its new Prism phones, which went on sale this year. A growing number of Asian cellphones use OLED screens from Chi Mei Optoelectronics Corp, a Taiwanese display maker, particularly for the small display on the outside of flip-phones. A Bellevue, Wash., company, eMagin Corp uses tiny OLEDs built on silicon chips as micro display screens a few inches from the viewer’s eyeball in its headsets that are designed for game players and soldiers. ... the key advantage of an OLED is that each pixel emits light, so OLED screens don’t require backlighting as LCD screens do. That cuts energy costs and means that screens can be far thinner and half the weight of LCD screens. OLEDs can be seen from a wide viewing angle, unlike LCDs, whose images are best viewed from directly in front and are unviewable from a short distance to the left or right. ... plastic that produce light using one-sixth the energy of an incandescent light bulb. The company says the panel could be almost invisibly stuck to a window or wall and turn on only when needed. ... an OLED light panel that produces 45 lumens, a measure of brightness, per watt of energy. That is more efficient than the 15 lumens per watt of incandescent bulbs, but well below the 90 lumens per watt of the most efficient fluorescent bulbs. ... OLED technology will eventually be able to produce 150 lumens per watt of energy. ...” [sounds perfect for my mini micro direct view TV/movie screen, doesn’t it...]

Security from SEEING

from The Wall Street Journal November 19, 2007 from The Boston Globe November 18, 2007. Security: Improving Ability to Spot Dangers in X-rays Is Crucial. “Improving the human mind’s difficulty in picking out dangerous objects in X-rays has become as urgent to security specialists as improving X-ray technology itself, writes Christopher Shear in the Boston Globe. The brain seems to have a few failings that make the task innately difficult and and psychologists are hoping to nail down what they are in the hopes of (continued)
correcting them. One theory is that the mind finds it hard to notice things that it rarely comes across, according to research led by J. Wolfe, a professor of ophthalmology at Harvard Medical School. Not everyone believes his approach will sufficiently improve performance. Stephen Mitross, a professor at Duke University, and Mathias Fleck, a Duke graduate student, are pursuing other avenues of research. **One study suggests people are much better at noticing uncommon threats in images if they play a lot of video games in which the player adopts the point of view of a shooter.** Another line of their research tries to tackle peoples’ tendency to stop their search once they have found something suspicious, even if there could be other problems.”
That last item is really remarkable. A contact lens!!! Now there’s an optical challenge. But anyone who can engineer the rest of that CL will probably be able to figure that out. The future is here and now and customers are waiting! This was in the March 3 issue of Business Week which we received as usual a week ahead on February 25. They must be using those OLEDs reported earlier.

Another optics tip: Remembering back to AAPOS 2000, in those days I was peddling and promoting a green laser pointer for lecturers since 10% of males with deficient color vision have trouble seeing the red laser pointers and the green lasers are much brighter than red too, aiding any and all other viewing problems, They were very expensive back then, in the range of $3-400. Like computers they too are much cheaper now and well under $100 from many sources.

**Good Financial Advice:**

The avoidance of taxes is the only intellectual pursuit that carries any reward.

—John Maynard Keynes

**NEXT:** We usually progress in Hyde Park from binocular vision and stereopsis through general ophthalmology to general medicine. We found nothing in the last category for this issue but our US presidential election campaign is certainly highlighting the insurance aspects of medical care as Barack and Hillary contest and debate this subject more than anything else.

We have always thought of the insurance business as being one of the biggest rip-offs of all and have avoided buying insurance as much as we can. After all, no insurance company ever created any money or any wealth. All their profits are YOUR money, literally all the excess and overcharges for what they sell you! And that’s a lot. Some of the consistently wealthiest people in our society are those who sell you insurance. Insurance companies make good profits for their stockholders. A recent ad says their first job is to insure their assets, not yours!

Recently several insurance company executives and CEOs have been among the very highest paid. You have to pay sooner or later for every cost you are insuring yourself against anyway. You are just paying some one else a large amount of your money to force you to save for these eventual expenses you must bear. That’s what you pay to protect yourself from having to occasionally suffer a loss 50% higher than the average loss in that area! Up to that level you would be ahead if you just paid for everything yourself...

So for “Elsewhere in Medicine” let’s clip some current opinions which support our own:

from BusinessWeek October 15, 2007 by Glen Whitman. Bad Medicine for Health Care. Laws that require people to buy insurance only drive up the cost of policies.

“...From Hillary Clinton and John Edwards to Mitt Romney and Arnold Schwarzenegger, politicians across the spectrum have tried or vowed to solve America’s health care woes by enacting an individual mandate - a law requiring every adult to purchase health insurance. Despite its bipartisan support, the individual mandate is bad policy, a vain attempt to command a better results while doing nothing to achieve it. ... supporters typically justify the policy by citing the problem of uncompensated care. When uninsured patients receive health services but don’t pay for them, the rest of us end up footing the bill one way or another.[This is unavoidable! The people must ultimately pay for everything anyway!!-Ed] So advocates of insurance mandates contend, plausibly enough, that we should make the free riders pay./have they never heard “you can’t get blood from a stone !? -Ed] But how big is the free rider problem really? ... uncompensated care for the uninsured constitutes less than 3% of all health...
expenditures. Even if the individual mandate works exactly as planned, that’s the effective upper boundary on the mandate’s impact. ... mandating something is not the same as making it happen. Some people will not comply: 47 states requires drivers to buy liability auto insurance, yet the median percentage of uninsured drivers in those states is 12%. ... if the real concern is making health insurance and health care available to those in need, we should focus on reducing health care prices and insurance premiums. The individual mandate is, at best, a distraction from that goal. ...A better approach to health reform would focus on removing mandates that drive up insurance premiums. States ought to repeal some or all of their mandated benefit laws, allowing firms to offer lower-priced catastrophic care policies to their customers. The federal government could assist by guaranteeing customers the right to buy insurance offered in any state, not just their own, enabling patients to patronize companies in states with fewer costly mandates. Indeed, removing mandates would do far more to expand health care coverage than adding new mandates ever could.” (Glen Whitman, associate professor of economics at California States University, Northridge, adapted this column from his earlier paper in Cato Policy Report).

Another Bad Solution to the Other Half of the Problem:

from The Wall Street Journal November 29, 2007 by John Carreyrou. Maxed Out. As Medical Costs Soar, The Insured Face Huge Tab. Jim Dawson hit cap after hospital padding: The $1.2 million bill. “...As spending on health care has climbed to almost $2 trillion a year, or 16% of the U.S. economy, the number of Americans burdened with massive medical bills has soared as well. According to a 2005 survey by the Commonwealth Fund, an estimated 34% of adults aged 19 to 64 face problems with medical bills or have accrued medical debt. A majority of those people - 62% - had health insurance, the survey found.

Million dollar medical bills like Mr. Dawson’s, while still unusual, are becoming more common as insurance policies once thought to provide catastrophic coverage prove inadequate when it comes to high cost illnesses. ... Health plans have been slow to raise their caps. ... The Segal Company, an employee benefits consulting firm, says the average health plan cap among companies it advises is $1 million a person - the same as it was in the 1970s, when the purchasing power of $1 million was the equivalent of nearly $6 million today. Another issue is the widespread practice of bill padding by hospitals and other health providers. While hospitals say bill padding is their only defense against the aggressive cost reduction efforts of insurers and government programs, the end result is that individuals can, with little warning, be left stuck with wildly inflated medical bills. For instance, CPMC charged Mr. Dawson $791 for stockings designed to improve blood circulation. The same paid can be purchased on the Internet for as little as $12. ... the charges on Mr. Dawson’s bill are ‘Disneyland numbers’ that health insurers and government programs like Medicare and Medicaid never pay. ... ‘I do not deny that our charges look insane’ says ... CPMCs CMO... But all hospitals operate the same way, he says. ‘It’s the reality of the industry.’ ...”

In my own sub-catastrophic uninsured situation, we (my wife and I) have $$Suffered hugely. ?”Professional Courtesy” has disappeared. Professional Persecution seems to have replaced it. Uninsured we’re billed the max. Its hard to get out of the ER for less than a grand or the hospital for less than ten grand. Discounts (only for cash) and aggressive counterattacks on showers of billing errors (by Judy) do work.
Far from a remedy, insurance for individuals is a world of pain

Imagine that shopping for a new car worked like this: If you really didn’t need the auto and lived two blocks from work, any dealer would sell you a car for a song. If the commute was 50 miles, much too far to walk, no one would sell you a car at any price.

You wouldn’t get to see a full contract until you plunked down your cash. Your monthly car payment would go up 20 to 30 percent every year, and, by the way, the steering wheel might be extra.

The auto industry doesn’t work like that, of course, but the market for people who buy their own health insurance does. 

CR INVESTIGATES HEALTH CARE

Do I put myself in the poorhouse, or do I drop my insurance?

Maggie Frazier, Cumming, Ga., who has rheumatoid arthritis

On their own

22 CONSUMER REPORTS JANUARY 2008

Far from a remedy, insurance for individuals is a world of pain

A person who could easily buy insurance in one state could be shut out of the market in another.

- In our survey, 76 percent of people without insurance said they couldn’t afford an individual plan. Indeed, only about 7 percent of adults have individual insurance. Yet any adult who hopes to retire early loses a job, is self-employed, or has an adult child leaving a group plan could face the prospect of trying to buy such a policy.

When CONSUMER REPORTS invited readers in September to share their insurance stories online, hundreds responded. More than half were trying to cope with the high costs and poor cover...
Insurers Stop Paying for Care Linked to Errors. Health plans say new rules improve safety and cut costs; Hospitals can’t dun patients. “Health insurers are taking a new tack in a bid to improve patient safety and reduce health care costs: refusing to pay - or let their patients be billed - for hospital errors. ... including operating on the wrong limb or giving a patient incompatible blood. The companies are following the lead of the federal Medicare program, which announced last summer that starting this October, it will no longer pay the extra cost of treating bed sores, falls and six other preventable injuries and infections that occur while a patient is in a hospital. The following year, it will add to the list hospital-acquired blood infections, blood clots in legs and lungs, and pneumonia contracted from a ventilator. ... new strategy could drive up medical costs in other ways as hospitals absorb or pass on the expense of introducing the safety and screening procedures needed to help avoid mistakes. ...”

And Your Government at Work:

Screwing Up and You Again Badly

from The Wall Street Journal February 26, 2008 by Jennifer Levitz and Kelly Greene. States Draw Fire for Pitching Citizens on Private Long Term Care Insurance. “This last year, six million letters bearing Gov. Arnold Schwarzenegger’s name and official state seal went out to Californians. The missives, sent by a direct mail company called Senior Direct Inc., were pitch letters, urging many low and middle income residents to buy long term care insurance to cover any future nursing home bills. Behind the plug: California, like many other states, is trying to curb the high costs of long term care paid under Medicaid, the joint federal-state health insurance program for low income people. Last year, total Medicaid expenditures for older adults’ nursing facility and other long term care bills hit $100 billion. So, more states are encouraging such citizens to buy private insurance. ... The state endorsements are ‘the single best thing that has happened to the long term care industry.’ ... Total premiums collected for long term care, or LTC, policies were $10 billion in 2007, up 21% from $8.2 billion in 2004. Critics are sounding alarm bells. They argue that the financial benefits of LTC insurance for many target customers are negligible to nonexistent. Their income and assets are so low that they would quickly qualify for free care under Medicaid. ... Of all the insurance types on the
market, long term care is among the most complex - and expensive- forms of coverage. ... ‘These policies are very difficult to use, and the payouts and benefits are difficult to get.’ ... LTC policies also carry some of the highest commissions in the insurance business. ... Agents often pocket between 30% and 65% of the first year’s total premium payments, then receive annual commissions between 3% and 5% for a set period after that. ...” [often for THEIR LIFE or at least the life of their defrauded customer... crime does pay ... and the State of California is a co-conspirator in this dumb-headed scheme to defraud its own citizens !!!! they say that “ignorance of the law is no excuse”. We say stupidity in elected office is no excuse!]

BTW, do you know how we got into the current Credit Crunch due to gross abuse of the subprime mortgage market, right? Answer: Back in the early years of the first Clinton Presidency, Henry Cisneros, Head of HUD, Hillary and Bill decided that what the US really needed was for everyone to be a homeowner and the best way to do that was to eliminate and destroy all the conventional requirements for fiscal assets and responsibility for home ownership such as downpayments and interest payments on the loan!. And they did! And that is why we are so screwed up here today! (You do know that our government was totally 100% responsible for the ‘29 Stock Market Crash and Depression of the 30’s, don’t you? - and that they got us into World War II to get us out of it?)

from BusinessWeek March 3, 2008 by Chad Terhune.. Wrangling Over ‘Reasonable’ Fees. It’s a no-holds-barred battle between health insurers and hospitals, with customers caught in the middle. “A new and fearsome player has joined the long-simmering battle between insurers and health care providers over how much should be paid for medical procedures. New York Attorney General Andrew Cuomo announced on Feb. 13 that a six month investigation by his office found the nation’s biggest health insurers have systematically defrauded consumers in the state by setting their reimbursement rates for out-of-net work care artificially low. He has issued subpoenas to 15 insurers and intends to sue industry giant UnitedHealth Group. ... ‘We have price anarchy in health care’. ... Hospitals for ‘deliberately rigging’ prices for medical procedures far beyond their actual costs. ... insurers’ traditional practice of comparing area hospital’s rates to determine what’s reasonable is wrong because ‘they all have consultants showing them how to raise prices’. Medical Savings says it cuts through the bloat by basing its reimbursements on what Medicare pays providers, plus 25%, and says it is introducing a new policy this month that will reimburse at Medicare plus 30%. ... hospitals routinely charge health plans three to four times their costs to offset low government payments and charity care. ... Absent more guidance from regulators, the courts have been left to decide. ... disputed in piecemeal fashion - and lately they’ve been finding in favor of hospitals. ... sharp discounts it had negotiated with other insurance plans didn’t make its full rates unreasonable. Whatever the outcome, Cuomo’s proof should add more clarity to this famously vexing issue. ‘This problem is difficult to address because it concerns behaviors that are hidden, complicated, and recurring.’ ... This is long overdue [BW]. (With Brian Grow in Atlanta).

from The Wall Street Journal February 23, 2008 by John C. Goodman.......... Markets and Medicare. The one-size-fits-all payment system is broken. Here’s how to fix it. “...Under a 2003 law, the Medicare trustees have certified that the program’s finances have deteriorated so much that they ‘trigger’ a required presidential response. Sadly, Washington’s response is not new. The White House proposed across-the-board cuts, in
payments to doctors and hospitals in the budget earlier this month. Such measures do not improve care, and have not worked to contain costs in the past. ... Medicare’s unfunded liability is $74 trillion - five times that of Social Security. ...

1. Free the doctors
2. Free the Patients.
3. Free the Entrepreneurs. ...”

(Mr. Goodman in the president of the National Center for Policy Analysis) [In this half full page op-ed, we found not one great idea].

?What to do? To quote the bard, “First let’s kill all the lawyers!” I’ll bet that would cut medical costs a third right there! Cutting medical costs per se any further is sinful, irrational, insane, impossible and already has gone too far. Look at the OUTsourcing of surgery to Asia. Look at the INsourcing of MDs from India and the rest of Asia. Improved technology and drugs cost money. Better care and better results are NOT FREE! They are not free even under socialism or dictatorships!. No one is applying to US medical school anymore. It used to be only the best and the brightest were to be trusted to be our doctors. Never More? Is there any question why? Society seems to expect and demand perfect M.D. robots with perfect bedside manners for free. ? Like It’s A Right?

My Rx: AS I said above first let’s kill all the lawyers! Then let’s Outlaw less than catastrophic medical insurance for most of society: eliminating the cost of that third party that adds 50% to our bills will cut out a third of the cost of medical care; patients making choices out of your own pocket will cut out another third of the cost. (Hey we’re up to four thirds!! eliminated, even better than free!) Yes, for those who are too poor to pay at all, the govt (= us via taxation) will have to foot the bill but with no profit incentive, that has to be cheaper than private greed driven insurance.

Is the Canadian system any alternative?

How about this evaluation:

**Healthy Choice**

Canadian doctors, once quiet on the issue of private health care, elected Brian Day as president of their national association. Dr. Day is a leading critic of Canadian medicare; he opened a private surgery hospital and then challenged the government to shut it down. “This is a country,” Dr. Day said by way of explanation, “in which dogs can get a hip replacement in under a week and in which humans can wait two to three years.”

—DAVID GRATZER, M.D., Manhattan Institute, Wall Street Journal

**SURGEONS! RU READY 4 THIS INTERROGATION** by all your patients?

from The Wall Street Journal January 9, 2008, “The Informed Patient” by Laura Landro. **Learning to Ask Tough Questions of Your Surgeon.** “…patients are often too intimidated to ask how qualified a surgeon is, or what safety procedures are in place. But as complications and errors dog some surgical procedures, experts say it is increasingly crucial for patients to vet their surgeons and take an active role in preventing mistakes. … new efforts are spurred in part by the sharp rise in surgeries performed in outpatient facilities; including doctor’s offices and surgical centers, where patients aren’t guaranteed the same access to care as in a hospital should something go wrong. A rash of recent news has highlighted the risks, such as the death of rap mogul Kanye West’s mother after an office cosmetic procedure by a surgeon who was facing disciplinary action at the state medical board and two malpractice suits that ended in significant payouts. …In a new book to be published this month, ‘I Need an Operation ... Now what? A Patient’s Guide to Safe and Successful Outcome’ Dr. Russell provides patients with lists of questions for surgeons:
including their success rates, how many operations they perform in a year and whether they have any health issues of their own that would interfere with their ability to do the procedure. Avoid those [SURGEONS] who are unresponsive, distracted or rushed. ... [it may seem] offensive to ask whether a doctor had a good safety record or used recreational drugs or alcohol. With a checklist, such as that devised by Dr. Russell, ‘You can simply say I have this list of questions recommended to me and I’m just going down the list,’ she says. ‘It’s not a personal attack.’ ... the American Board of Medical specialties, whose 24 member boards certify about 85% of U.S. physicians, recently began airing a televised public service announcement about the importance of board certification ... Its abms.org Web site allows patients to search by name and specialty to verify a physician’s certification. Consumers can also use state medical boards’ Web sites to see whether a surgeon’s license is current and whether there are any disciplinary actions pending: for a $9 fee, the Federation of State Medical Boards (www.fsmb.org) will also run a search. ... wrong site surgeries - term that includes the wrong procedure, wrong site or wrong person - continue to bedevil safety experts. The Joint Commission in 2004 issued a protocol for all hospitals that includes a final safety check and requires the marking of the procedure site with an indelible marker. But the number of reported cases of wrong-site surgery have actually increased, at a rate of about five to eight new cases per month - for a total of nearly 550 since 1996. ...

Chiropractors

from Summit Daily News “Health & Fitness Adverotrials by the Chiropractors of Summit County. [Chiropractic spinal manipulation now recommended by some MDs] “...The American College of Physicians has published guidelines for the treatment of low back pain. The new guidelines now included spinal manipulation. Previous discussions of low back pain by the medical community have shied away from spinal manipulation due to a lack of controlled studies. Chiropractors, osteopaths and their patients have known clinically that there was benefit in spinal manipulation but getting funding and designing studies proved difficult. Those studies are now starting to be done. As a result the medical community is now including manipulation as a treatment in low back pain. ... recommendations [were] printed in the Annals of Internal Medicine October 2, 2007. Recommendation 7: For patients who do not improve with self-care options, clinicians should consider the addition of non-pharmacologic therapy with proven benefits - for acute low back pain, spinal manipulation; for chronic or subacute low back pain, intensive interdisciplinary rehabilitation, exercise therapy, acupuncture, massage therapy, spinal manipulation, yoga, cognitive-behavioral therapy, or progressive relaxation.

P.S. Here’s a followup on those 3D movies reported on the first three pages 46-48 of this Hyde Park:
Careers and MONEY MONEY MONEY

When Tuition Rises Faster Than Inflation

The overall economy hasn't much hurt noted private colleges, recent bond-rating shifts hint.—W.P.B.

<table>
<thead>
<tr>
<th>INSTITUTION</th>
<th>CHANGE</th>
<th>STATED REASONS INCLUDE...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haverford College</td>
<td>▲</td>
<td>doubling of financial resources in 4 years</td>
</tr>
<tr>
<td>Lehigh University</td>
<td>▲</td>
<td>operating surplus for 3 years, major fundraising</td>
</tr>
<tr>
<td>Skidmore College</td>
<td>▲</td>
<td>17% operating surplus, strengthened market position</td>
</tr>
<tr>
<td>Syracuse University</td>
<td>▲</td>
<td>24% rise in per-student net tuition since 2003</td>
</tr>
<tr>
<td>University of Cincinnati</td>
<td>▼</td>
<td>expectations of continued deficits and thin cash flow</td>
</tr>
<tr>
<td>Wellesley College</td>
<td>▲</td>
<td>23% endowment return, big fundraising</td>
</tr>
<tr>
<td>Williams College</td>
<td>▲</td>
<td>selective acceptance, $930,000 endowment per student</td>
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Sources: Moody’s Investor Service; Standard & Poor’s.

EDUCATION

$1 million

Yearly salary of presidents at 12 private universities for the 2005-06 academic year. Of the 68 community-college presidents surveyed by the Chronicle of Higher Education, about half made less than $250,000 per year.

81

Number of private-college presidents earning more than $500,000 per year. Only three earned that much a decade ago.

For the year, Goldman reported record net of $24.73 a share, or $11.6 billion, a 22% increase from a year earlier. Revenue for the year rose 22% to $45.99 billion.

Tucked in the earnings release was some good news for the firm’s 30,522 employees: Compensation for the year topped that of 2006, translating to an average distribution of about $662,000 per employee, 6% higher than last year.

Actual compensation varies substantially among traders, bankers and mailroom employees, of course, but the figure has become a widely watched, if rough, indicator of Wall Street economics. Goldman’s figure is the highest per-employee payout so far on Wall Street, and no firm is on track to surpass it.
Alternate Careers - NOT

from *The Wall Street Journal* December 13, 2007 by Sue Shellenbarger. **Even Lawyers Get the Blues: Opening Up About Depression.** “... lawyers are among the most miserable of men - and women - is well known. Some 19% of lawyers suffer depression at any given time, compared with 6.7% of the population as a whole. ... one in five lawyers is a problem drinker, twice the national rate. ... 19% of associate attorneys quit law firms every year ... Two-thirds of 1500 Oregon attorneys surveyed by the Oregon Attorney Assistance Program said they’d had no exposure before law school to the day-to-day life of a lawyer; if allowed to start over, 30% said they’d choose a different field. ...”

How about another medical specialty? These are the currently popular ones. Ophthalmology didn’t even make the list?
The foregoing Editorial is from a recent issue of Forbes magazine. Things Change! See that (on prior pages) average salary on Wall Street of $662,000? No wonder the portion of Harvard MBAs going into “Financial Services has doubled! The wealthiest MD doctor I know is that McGuire fellow who made his billions from health insurance. Somehow that seems to me to violate the Hippocratic Oath pretty badly... But while telling a falsehood (is that not the very most common wrongdoing in the entire world for its entire history...) is now become a serious federal crime worthy of big fines and hard time, morality otherwise seems be disintegrating.

Why you feel like you are not getting anywhere; YOU’RE NOT ! See:

### The Greenback’s Fall

Changes in the price of West Texas Intermediate crude oil this decade in dollars, euros and gold.

<table>
<thead>
<tr>
<th>Year</th>
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<th>Euros</th>
<th>Gold</th>
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<tr>
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<tr>
<td>2007</td>
<td>9.5</td>
<td>7.5</td>
<td>5.5</td>
</tr>
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</table>

Source: Bloomberg

### Nothing to See Here

Want to go sightseeing in Great Britain? Don’t tell the British government. An investigation of the agency that issues visas found that one excuse given to those who had been denied tourist visas was “you plan a holiday for no particular purpose other than sightseeing.” Another common reason given for rejecting visas was “You have never previously undertaken any foreign travel before and I can see little reason for this trip.”

—CHARLES OLIVER, Reason.com

<table>
<thead>
<tr>
<th>City</th>
<th>Local Currency</th>
<th>USD</th>
<th>GBP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manila</td>
<td>281 pesos</td>
<td>$6.58</td>
<td></td>
</tr>
<tr>
<td>Jakarta</td>
<td>73,000 rupiah</td>
<td>7.95</td>
<td>1.99 GBR</td>
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<tr>
<td>Sydney</td>
<td>A$99.95</td>
<td>893</td>
<td>16,900 yen</td>
</tr>
<tr>
<td>Bangkok</td>
<td>340 baht</td>
<td>10.74</td>
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<tr>
<td>Hong Kong</td>
<td>HK$100</td>
<td>12.94</td>
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<tr>
<td>Shangai</td>
<td>102.67 yuan</td>
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<td>Frankfurt</td>
<td>€9.50</td>
<td>138.7</td>
<td>€18.90</td>
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Note: Prices, including taxes, as provided by centrally located retailers in each city, averaged and converted to the nearest U.S. dollar.

TRAVEL

ARBITRAGE | Retail prices around the world
Above: Stock traders trading stocks! Love that display. Hope to have something like it in my home office someday. See also my reply to BJK on page 20 this issue.

Rest of this page: Below: Excellent strategy for life in general, especially getting others to agree with your ideas. Gentle REPS! It does work. Nothing works better based on my 73 years of mistakes not doing this too often.

below: Someone older than me, and bad example!

IN MY HUMBLE POPULAR OPINION

Hoping to convince the boss that your opinion on an issue is widely accepted? Just keep repeating it. In a study recently published in The Journal of Personality & Social Psychology, researchers at the University of Michigan, Stanford University, and Virginia Tech had about 1,000 students read fake opinions—about, say, land use in New Jersey or who should be Napster’s next CEO. Some of the undergrads were exposed to a viewpoint voiced once by three different people. Others read the same opinion reiterated three times by one person. The result? A viewpoint repeated by a single person was as likely (90%) to be considered “popular” as an opinion expressed by three people, “The message becomes separated from the source,” explains Michigan public policy professor Stephen Garcia, one of the study’s authors. —Ben Levisohn

OLDEST ANIMALS

405

Estimated age, in years, of a quahog clam found off the coast of Iceland. It is the longest-lived animal on record, breaking the record previously held by a 374-year-old clam.
MEMORIES of, on the two year anniversary of the Keystone AAPOS meeting.

*We hope you have lots of good memories and none of delays on departure on I-70 as in this cartoon. We did warn you, remember? Do Drop In Again Anytime.*

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**Doctors are being priced out of Vail, developer says**

**By EDWARD STONER**

EAGLE COUNTY CORRESPONDENT

VAIL — A developer plans to build worker housing, stores, restaurants and offices on a strip of town-owned land near Vail Village's Covered Bridge.

The proposal calls for up to 45 deed-restricted condos stretching from Bridge Street east. The offices, stores and restaurants would be from Bridge Street west. The 1-acre parcel would be leased to the developer at $1 a year.

The Maryland-based developer needs Vail's approval to build the $45 million project on the town land between the Vail Transportation Center and East Meadow Drive. The one-, two- and three-bedroom condos would range in price from $500,000 to $1 million, Virostek said, adding that free-market units would perhaps sell for five times as much.

Professionals, such as doctors, are now priced out of Vail, he said. "Affordable is a relative term," he said.

The plan is at a...
Website of the Aniseikonia Inspector: http://www.opticaldiagnostics.com/products/ai